



HAMPSHIRE COUNTY RETIREMENT SYSTEM

FINANCIAL REPORTING AND DISCLOSURES UNDER

GASB 67 and GASB 68

as of

December 31, 2018

Prepared by:

KMS Actuarial, LLC
814 Elm Street, Suite 204
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July, 2019



July 11, 2019

Mr. Patrick E. Brock
Chairman
Hampshire County Retirement System
99 Industrial Drive, Suite 2
Northampton, MA 01060-2326

Dear Patrick:

We are pleased to present the enclosed report providing financial reporting and disclosures under Governmental Accounting Standards Board (GASB) Statement No. 67, Financial Reporting for Pension Plans (GASB 67), and GASB Statement No. 68, Accounting and Financial Reporting for Pensions (GASB 68) for the Hampshire County Retirement System and participating employers as of December 31, 2018. Results are based on liabilities developed in an actuarial valuation performed as of January 1, 2018 and rolled forward to the plan's measurement date of December 31, 2018.

The Principal Valuation Results are provided in Section 1. The Notes to the Financial Statements and the Required Supplementary Information are provided in Sections 2 and 3, respectively. Employer Reporting Amounts Under GASB 68 are provided in Section 4. Finally, a Glossary of Terms is provided in Section 5.

The financial reporting and disclosures contained in this report are based on the member data provided by the Hampshire County Retirement Board, asset information reported to the Public Employee Retirement Administration Commission (PERAC) by the Retirement Board and plan provisions contained in Chapter 32 of the Massachusetts General Laws. Although we did not audit the data used in the valuation and disclosure calculations, we believe that the information is complete and reliable.

Liabilities presented in this report are based on a long-term investment return rate of 7.45%, net of investment expense, compounded annually.

This report was completed in accordance with generally accepted actuarial standards and procedures, and conforms to the Code of Professional Conduct of the American Academy of Actuaries. The actuarial assumptions used in the determination of costs are reasonably related to the experience of the Plan and to reasonable expectations, and represent our best estimate of anticipated long-term experience under the Plan.

K M S A C T U A R I E S

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Mr. Patrick E. Brock

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Future actuarial valuation results may differ significantly from the current results presented in this report. Examples of potential sources of volatility include plan experience differing from that anticipated by the economic or demographic assumptions, the effect of new entrants, changes in economic or demographic assumptions, the effect of law changes and the delayed effect of smoothing techniques.

Our valuation follows generally accepted actuarial methods and we perform such tests as we consider necessary to assure the accuracy of the results. The amounts presented in this report have been appropriately determined according to the actuarial assumptions and methods stated herein.

This report is intended for the sole use of the Hampshire County Retirement System and participating employers and is intended to provide information to comply with the stated purpose of the report. It may not be appropriate for other purposes.

The undersigned credentialed actuaries are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinion contained herein. They are available to answer any questions with regard to this report.

Respectfully submitted,



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INTRODUCTION

GASB 67 and GASB 68

In June 2012, the GASB approved two related Statements that significantly change the way pension plans and governments account and report pension liabilities. The Hampshire County Retirement System implemented GASB Statement No. 67, Financial Reporting for Pension Plans for the fiscal year ending December 31, 2014.

GASB 67 requires defined benefit pension plans, such as the Hampshire County Retirement System, to present a statement of fiduciary net position (pension plan assets) and a statement of changes in fiduciary net position. Further, the statement requires that notes to financial statements include descriptive information such as the types of benefits provided, the classes of plan members covered and the composition of the pension plan's retirement board. Finally, GASB 67 requires pension plans to present in required supplementary information the sources of the changes in the net pension liability and information about the actuarially determined contributions compared with the actual contributions made to the plan and related ratios.

GASB 67 and GASB 68 require projected benefit payments be discounted to their actuarial present value using the single rate that reflects:

- (1) a long-term expected rate of return on pension plan investments *to the extent that the pension plan's assets are sufficient to pay benefits and pension plan assets are expected to be invested using a strategy to achieve that return and*
- (2) a tax-exempt, high-quality municipal bond rate *to the extent that the conditions for use of the long-term expected rate of return are not met.*

The pension plan's fiduciary net position was projected to be available to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

GASB 68 establishes standards for measuring and recognizing liabilities, deferred outflows of resources, deferred inflows of resources and pension expense by state and local governments.

Fiduciary Net Position

Pension plan investments are reported at market value as of the measurement date. The fiduciary net position as of the current and prior measurement dates are shown in Exhibit 1.1.

INTRODUCTION

Total Pension Liability

The Total Pension Liability is based on liabilities developed in an actuarial valuation performed as of January 1, 2018 and rolled forward to the plan's measurement date of December 31, 2018. The Total Pension Liability is developed in Exhibit 1.2.

Benefit Changes

All benefit provisions remained the same from the prior measurement date.

Assumption Changes

All actuarial assumptions and methods remained the same from the prior measurement date.

Pension Expense

The Pension Expense for the fiscal year ending December 31, 2018 is \$27,764,540 and is developed in Exhibit 4.2. Pension Expense, as well as the Net Pension Liability and Deferred Outflows of Resources and Deferred Inflows of Resources, are developed for each member unit and is shown in Appendix C. Amounts by employer are developed using a proportionate share, the proportion of each employer's contribution to the aggregate amount of employer contributions, as shown in Exhibit 4.3.

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.1 - Plan Assets

Asset information was provided by the Hampshire County Retirement System. The Trust Fund Composition, Asset Activity and the Computed Rate of Return for the current and prior fiscal years are as follows:

Fiscal Year Ended December 31	<u>2018</u>	<u>2017</u>
Trust Fund Composition at Fiscal Year-End		
Domestic Equity	\$ 54,517,916	\$ 60,890,908
International Equity	74,876,798	87,217,586
Domestic Fixed Income	61,179,320	59,610,648
International Fixed Income	27,745,694	27,610,015
Real Estate	47,917,632	42,776,536
Alternatives, Private Equity and Hedge Funds	34,004,506	31,017,750
Accounts Receivable	763,485	791,665
Cash	8,021,407	8,213,746
Accounts Payable	(596)	(1,273)
Total Market Value of Assets	<u><u>\$ 309,026,161</u></u>	<u><u>\$ 318,127,580</u></u>
Asset Activity		
Market value as of beginning of year	\$ 318,127,580	\$ 275,385,223
Contributions - employer	22,597,993	21,331,218
Contributions - member	8,378,578	7,689,443
Net investment income	(9,664,404)	43,201,653
Benefit payments, including refunds of member contributions	(29,543,223)	(28,662,890)
Administrative expenses	(870,363)	(817,067)
Other	0	0
Market Value as of end of year	<u><u>\$ 309,026,161</u></u>	<u><u>\$ 318,127,580</u></u>
Money-Weighted Rate of Return	-3.02%	15.77%
(Gain) / Loss on Pension Plan Investments		
Projected earnings	\$ 23,721,476	\$ 20,636,668
Actual earnings	(9,664,404)	43,201,653
(Gain) / Loss on pension plan investments	<u><u>\$ 33,385,880</u></u>	<u><u>\$ (22,564,985)</u></u>

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.2 - Actuarial Liabilities

The Total Pension Liability, developed using the Entry Age Normal funding method, is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service. The total pension liability as of the December 31, 2018 measurement date was developed from an actuarial valuation as of January 1, 2018 and rolled forward to the pension plan's fiscal year-end.

The Service Cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year. Only active employees who have not reached the age at which the probability of retirement is 100% incur a service cost.

Actuarial gains and losses arise from the difference between estimates and actual experience, excluding amounts related to benefit changes and changes in assumptions or other inputs.

The development of the Total Pension Liability from the beginning of the measurement period, December 31, 2017 to the end of the measurement period, December 31, 2018 is shown below:

<u>Measurement Date</u>	<u>December 31, 2018</u>
1. Total Pension Liability, beginning of year:	
a. Actives	\$ 225,096,192
b. Retired and Disabled Members and Beneficiaries	272,903,768
c. Inactive Members	5,968,602
d. Total Pension Liability at 7.45% (a. + b. + c.)	\$ 503,968,562
2. Service Cost	\$ 12,771,414
3. Benefit Payments	\$ (29,543,223)
4. Interest [7.45% x (1.c. + 2. + .5 x 3)]	\$ 37,396,643
5. Changes of benefit terms	\$ -
6. Differences between expected and actual experience	\$ -
7. Changes of assumptions or other inputs	\$ -
8. Total Pension Liability, end of year (1.d. + 2. + 3. + 4. + 5. + 6. + 7.)	
a. Actives	\$ 255,588,743
b. Retired and Disabled Members and Beneficiaries	262,591,390
c. Inactive Members	6,413,263
d. Total Pension Liability at 7.45% (a. + b. + c.)	\$ 524,593,396

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.1 - Plan Description

Plan administration:

The Hampshire County Retirement System (the "System") is a cost-sharing, multiple-employer defined benefit pension plan that provides pensions for eligible employees of 37 participating employers. The System is a member of the Massachusetts Contributory Retirement System and is governed by Chapter 32 of the Massachusetts General Laws. The System does not have the authority to amend benefit provisions.

The System is governed by a Retirement Board made up of five elected and appointed members.

Plan membership:

At December 31, 2018, pension plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefits	1,308
Inactive plan members entitled to but not yet receiving benefits	671
Active plan members	<u>2,008</u>
	<u><u>3,987</u></u>

Benefits provided:

The System provides retirement, disability and death benefits. Retirement benefits are determined as a percentage of the member's 3-year (5-year for members hired after April 1, 2012) final average compensation times the member's years of service. The percentage is based on the age of the member at retirement and his or her Group classification. Cost-of-living adjustments of 3% of the first \$13,000 of the annual retirement allowance are provided at the discretion of the System's Retirement Board. A summary of the benefits is outlined in the January 1, 2018 actuarial valuation report.

Contributions:

Plan members are required to contribute a percentage of their annual compensation that varies according to their membership date, as follows:

Prior to 1975:	5% of Salary
1975 - 1983:	7% of Salary
1984 - June 30, 1996:	8% of Salary
July 1, 1996 - present:	9% of Salary
1979 - present:	An additional 2% of Salary in excess of \$30,000.
Group 1 members hired on or after April 2, 2012:	6% of Salary with 30 or more years of creditable service.

Employer contributions are determined in accordance with the requirements set forth in Section 22D and Section 22F of Chapter 32 of the Massachusetts General Laws ("M.G.L."). The appropriation is comprised of the annual employer normal cost and amortization payments to pay the unfunded actuarial accrued liability.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net Pension Liability

The components of the Net Pension Liability at December 31, 2018, were as follows:

Total Pension Liability	\$ 524,593,396
Fiduciary Net Position	(309,026,161)
Net Pension Liability	<u>\$ 215,567,235</u>

Fiduciary Net Position as a percentage of the Total Pension Liability 58.91%

Actuarial assumptions:

The Total Pension Liability was determined by an actuarial valuation as of January 1, 2018, rolled forward to the measurement date of December 31, 2018 using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3% per year
Salary increases	Group 1: 6% - 4.25%, based on service Group 4: 7% - 4.75%, based on service
Investment rate of return	7.45%, net of pension plan investment expense, including inflation

Mortality rates were based on the RP-2000 Mortality Table (base year 2009) with full generational mortality improvement using Scale BB. For disabled lives, the mortality rates were based on the RP-2000 Mortality Table (base year 2012) with full generational mortality improvement using Scale BB.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net Pension Liability

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of geometric real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2018 (see the discussion of the pension plan's investment policy) are summarized in the following table:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rates of Return¹</u>
Domestic Equity	20.5%	4.82%
International Equity	16.5%	5.00%
Emerging Markets Equity	8.0%	6.50%
Domestic Fixed Income	10.0%	1.25%
Emerging Fixed Income	6.0%	4.00%
Global Fixed Income	3.0%	-0.25%
Opportunistic Fixed Income	9.0%	2.75%
Private Debt	3.0%	5.36%
Private Equity	10.0%	8.40%
Real Estate	12.0%	3.50%
Cash	2.0%	0.25%
Total	100.0%	

¹ Provided by NEPC, LLC. Inflation of 2.75% is added to the long-term expected real rates of return to approximate the long-term expected rate of return.

Discount rate:

The discount rate used to measure the Total Pension Liability is 7.45%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current contribution rates and that contributions from participating employers will be made in accordance with Sections 22D and 22F of Chapter 32 of the Massachusetts General Laws. Based on those assumptions, the pension plan's Fiduciary Net Position was projected to be available to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net Pension Liability

Sensitivity of the Net Pension Liability to changes in the discount rate:

The following presents the Net Pension Liability calculated using the discount rate of 7.45%, as well as what the Net Pension Liability would be if it were calculated using a discount rate 1-percentage point lower (6.45%) or 1-percentage point higher (8.45%) than the current rate:

	1% Decrease (6.45%)	Current Discount Rate (7.45%)	1% Increase (8.45%)
Net Pension Liability	\$ 275,455,356	\$ 215,567,235	\$ 164,896,357

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.1 - Changes in Net Pension Liability and Related Ratios

Fiscal Year Ended December 31	2018	2017	2016	2015	2014
Total Pension Liability					
Service cost	\$ 12,771,414	\$ 11,029,438	\$ 10,605,229	\$ 10,269,070	\$ 9,850,427
Interest	37,396,643	36,888,260	34,627,268	34,842,587	33,371,689
Changes of benefit terms	-	-	-	-	-
Differences between expected and actual experience	-	(434,874)	(4,348,735)	-	-
Changes of assumptions	-	(9,996,849)	16,610,091	-	-
Benefit payments, including refunds of member contributions	(29,543,223)	(28,662,890)	(26,880,118)	(25,512,793)	(24,412,587)
Net change in Total Pension Liability	\$ 20,624,834	\$ 8,823,085	\$ 30,613,735	\$ 19,598,864	\$ 18,809,529
Total Pension Liability—beginning	\$ 503,968,562	\$ 495,145,477	\$ 464,531,742	\$ 444,932,878	\$ 426,123,349
Total Pension Liability—ending (a)	\$ 524,593,396	\$ 503,968,562	\$ 495,145,477	\$ 464,531,742	\$ 444,932,878
Fiduciary Net Position					
Contributions—employer	\$ 22,597,993	\$ 21,331,218	\$ 19,693,436	\$ 18,620,753	\$ 17,440,375
Contributions—member	8,378,578	7,689,443	7,446,905	7,322,347	7,559,814
Net investment income	(9,664,404)	43,201,653	19,015,995	(1,011,243)	12,016,956
Benefit payments, including refunds of member contributions	(29,543,223)	(28,662,890)	(26,880,118)	(25,512,793)	(24,412,587)
Administrative expenses	(870,363)	(817,067)	(796,827)	(929,899)	(841,318)
Other	-	-	-	-	-
Net change in Fiduciary Net Position	\$ (9,101,419)	\$ 42,742,357	\$ 18,479,391	\$ (1,510,834)	\$ 11,763,240
Fiduciary Net Position—beginning	318,127,580	275,385,223	256,905,832	258,416,666	246,653,426
Fiduciary Net Position—ending (b)	\$ 309,026,161	\$ 318,127,580	\$ 275,385,223	\$ 256,905,832	\$ 258,416,666
Net Pension Liability—ending (a) – (b)	\$ 215,567,235	\$ 185,840,982	\$ 219,760,254	\$ 207,625,910	\$ 186,516,212
Fiduciary Net Position as a percentage of the Total Pension Liability	58.91%	63.12%	55.62%	55.30%	58.08%
Covered Payroll	\$ 84,192,999	\$ 76,767,518	\$ 78,914,925	\$ 80,914,245	\$ 77,139,934
Net Pension Liability as a percentage of Covered Payroll	256.04%	242.08%	278.48%	256.60%	241.79%

Hampshire County Retirement System
Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.2 - Schedule of Employer Contributions

Fiscal Year Ended December 31	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Actuarially Determined Contribution	\$22,597,993	\$21,331,218	\$19,693,436	\$18,620,753	\$17,349,877
Contributions in relation to the Actuarially Determined Contribution	<u>22,597,993</u>	<u>21,331,218</u>	<u>19,693,436</u>	<u>18,620,753</u>	<u>17,349,877</u>
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
 Covered Payroll	 \$84,192,999	 \$76,767,518	 \$78,914,925	 \$80,914,245	 \$77,139,934
Contributions as a percentage of Covered Payroll	26.84%	27.79%	24.96%	23.01%	22.49%

The contribution shown above, \$22,597,993, represents the actual contributions made by member units of the Hampshire County Retirement System for the 2019 fiscal year.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.3 - Investment Returns

Fiscal Year Ended December 31	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Annual money-weighted rate of return, net of investment expense	-3.02%	15.77%	7.43%	-0.68%	4.84%

The money-weighted rate of return considers the changing amounts actually invested during a period and weights the amount of pension plan investments by the proportion of time they are available to earn a return during that period. The rate of return is then calculated by solving, through an iterative process, for the rate that equates the sum of the weighted external cash flows into and out of the pension plan investments to the ending fair value of pension plan investments.

Appendix A shows the details of the calculation of the money-weighted rate of return for the current fiscal year.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.4 - Notes to the Required Supplementary Information

Changes of benefit terms:

None.

Changes of assumptions:

None.

Methods and assumptions used in calculations of Actuarially Determined Contributions:

The Actuarially Determined Contributions in the schedule of employers' contributions are calculated as of July 1 of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine contributions reported in that schedule:

Actuarial cost method	Entry Age Normal
Amortization method	UAAL: Increasing dollar amount at 4% to reduce the Unfunded Actuarial Accrued Liability to zero on or before June 30, 2033. 2002 & 2003 ERI Level dollar amount to reduce the 2002 and 2003 ERI Actuarial Accrued Liability to zero on or before June 30, 2028.
Asset valuation method	The Actuarial Value of Assets is the market value of assets as of the valuation date reduced by the sum of: a) 80% of gains and losses of the prior year, b) 60% of gains and losses of the second prior year, c) 40% of gains and losses of the third prior year and d) 20% of gains and losses of the fourth prior year. Investment gains and losses are determined by the excess or deficiency of the expected return over the actual return on the market value. The actuarial valuation of assets is further constrained to be not less than 90% or more than 110% of market value.
Inflation	3% per year
Salary increases	Group 1: 6% - 4.25%, based on service Group 4: 7% - 4.75%, based on service
Payroll growth	4% per year
Investment rate of return	7.45%, net of pension plan investment expense, including inflation.

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.1 - Deferred Outflows of Resources and Deferred Inflows of Resources

Deferred Outflows of Resources and Deferred Inflows of Resources arising from differences between expected and actual experience are recognized in Pension Expense over the average expected remaining service life of all active and inactive members.

Year	Experience Losses	Experience Gains	Amounts Recognized in Pension Expense through December 31, 2018	Balances at December 31, 2018	
	(a)	(b)	(c)	Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2014	\$ -	\$ -	\$ -	\$ -	\$ -
2015	-	-	-	-	-
2016	-	4,348,735	(2,558,079)	-	1,790,656
2017	-	434,874	(128,092)	-	306,782
2018	-	-	-	-	-
				\$ -	\$ 2,097,438

Deferred Outflows of Resources and Deferred Inflows of Resources arising from changes of assumptions are recognized in Pension Expense over the average expected remaining service life of all active and inactive members.

Year	Increases in the Total Pension Liability	Decreases in the Total Pension Liability	Amounts Recognized in Pension Expense through December 31, 2018	Balances at December 31, 2018	
	(a)	(b)	(c)	Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2014	\$ -	\$ -	\$ -	\$ -	\$ -
2015	-	-	-	-	-
2016	16,610,091	-	9,770,643	6,839,448	-
2017	-	9,996,849	(2,944,580)	-	7,052,269
2018	-	-	-	-	-
				\$ 6,839,448	\$ 7,052,269

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.1 - Deferred Outflows of Resources and Deferred Inflows of Resources

Deferred Outflows of Resources and Deferred Inflows of Resources arising from differences between projected and actual earnings on Pension Plan investments are recognized in Pension Expense over five years.

Year	Investment Earnings Less Than Projected	Investment Earnings Greater Than Projected	Amounts Recognized in Pension Expense through December 31, 2018	Balances at December 31, 2018	
	(a)	(b)	(c)	Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
	(a)	(b)	(c)	(a) - (c)	(b) - (c)
2014	\$ 7,397,011	\$ -	\$ 7,397,011	\$ -	\$ -
2015	21,341,884	-	17,073,507	\$ 4,268,377	\$ -
2016	231,820	-	139,092	\$ 92,728	\$ -
2017	-	22,564,985	(9,025,994)	\$ -	\$ 13,538,991
2018	33,385,880	-	6,677,176	\$ 26,708,704	\$ -
Subtotal				\$ 31,069,809	\$ 13,538,991
Net				\$ 17,530,818	\$ -

Deferred Outflows of Resources and Deferred Inflows of Resources arising from changes in proportion and differences between employer contributions and proportionate share of contributions are recognized in Pension Expense over the average expected remaining service life of all active and inactive members.

Year	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (Outflows)	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (Inflows)	Amounts Recognized in Pension Expense through December 31, 2018	Balances at December 31, 2018	
	(a)	(b)	(c)	Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
	(a)	(b)	(c)	(a) - (c)	(b) - (c)
2015	\$ 3,057,911	\$ 3,057,911	\$ 2,307,856	\$ 750,055	\$ 750,055
2016	\$ 2,001,045	\$ 2,001,045	\$ 1,177,085	\$ 823,960	\$ 823,960
2017	\$ 2,338,865	\$ 2,338,865	\$ 688,915	\$ 1,649,950	\$ 1,649,950
2018	\$ 2,185,181	\$ 2,185,181	\$ 321,823	\$ 1,863,358	\$ 1,863,358
				\$ 3,223,965	\$ 3,223,965

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.1 - Deferred Outflows of Resources and Deferred Inflows of Resources

Amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources will be recognized in Pension Expense as follows:

Year ended December 31		
2019	\$	7,346,772
2020	\$	3,078,395
2021	\$	868,259
2022	\$	5,140,840
2023	\$	(1,213,707)
Thereafter	\$	-

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.2 - Pension Expense

The Pension Expense and deferred outflows and inflows of resources primarily result from changes in the components of the net pension liability (NPL). Most changes in the NPL are included in the Pension Expense in the period of the change, including service cost, interest on total pension liability, changes in benefit terms and projected earnings on the pension plan's investments. Other changes in the net pension liability are included in Pension Expense over the current and future periods. These include the effects on the total pension liability of changes of economic and demographic assumptions and differences between expected and actual experience. In addition, the effect on the net pension liability of differences between the projected earnings on pension plan investments and actual experience with regard to those earnings are included in Pension Expense over the current and future periods. The Pension Expense for the reporting period ending December 31, 2018 is presented below:

Fiscal Year Ended December 31	2018
1. Service cost	\$ 12,771,414
2. Interest on the total pension liability	
a. Total Pension Liability, beginning of year	503,968,562
b. Service cost, beginning of year	12,771,414
c. Benefit payments, including refunds of employee contributions	(29,543,223)
d. Interest on Total Pension Liability	\$ 37,396,643
3. Differences between expected and actual experience	\$ (916,739)
4. Changes of benefit terms	\$ -
5. Changes of assumptions	\$ 1,784,591
6. Employee contributions	\$ (8,378,578)
7. Projected earnings on pension plan investments	
a. Fiduciary Net Position, beginning of year	318,127,580
b. Employer contributions	22,597,993
c. Employee contributions	8,378,578
d. Benefit payments, including refunds of employee contributions	(29,543,223)
e. Administrative expenses and other	(870,363)
f. Total projected earnings	\$ (23,721,476)
8. Differences between projected and actual earnings on plan investments	\$ 7,958,322
9. Pension plan administrative expenses	\$ 870,363
10. Other changes in Fiduciary Net Position	\$ -
11. Total Pension Expense	\$ 27,764,540

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.3 - Proportionate Share of Contributions

The basis of an employer's allocation of the collective pension amount is consistent with the manner in which contributions to the plan are made. The schedule of employer allocations for 2018 and 2017, based on employer contributions made for the 2019 fiscal year and 2018 fiscal year, respectively, shows the proportionate relationship of each employer to all employers and each employer's allocation percentage.

Entity	2018		2017	
	Employer Contribution	Proportionate Share of Total Employer Contribution	Employer Contribution	Proportionate Share of Total Employer Contribution
Hampshire Council of Governments	282,659	1.250815%	264,297	1.239015%
Amherst	6,211,314	27.486131%	5,761,136	27.008003%
Amherst-Pelham Regional School District	1,358,348	6.010923%	1,260,318	5.908326%
Amherst Housing Authority	189,499	0.838566%	149,532	0.701001%
Belchertown	2,907,783	12.867439%	2,736,162	12.827031%
Belchertown Housing Authority	30,848	0.136508%	29,075	0.136303%
Belchertown Water District	41,866	0.185264%	39,460	0.184987%
Chesterfield	83,732	0.370528%	83,073	0.389443%
Chesterfield-Goshen Regional School District	81,529	0.360780%	80,996	0.379706%
Cumington	57,291	0.253523%	43,614	0.204461%
Foothills Health District	13,221	0.058505%	12,461	0.058417%
Gateway Regional School District	568,500	2.515710%	548,282	2.570327%
Goshen	70,511	0.312023%	60,228	0.282347%
Granby	980,077	4.337009%	908,063	4.256967%
Granby Housing Authority	28,645	0.126759%	26,999	0.126570%
Hadley	1,105,022	4.889912%	1,057,117	4.955727%
Hadley Housing Authority	8,815	0.039008%	8,307	0.038943%
Hampshire County Regional Housing Authority	6,610	0.029250%	8,307	0.038943%
Hampshire Regional School District	485,682	2.149226%	474,128	2.222695%
Hatfield	583,924	2.583964%	552,436	2.589801%
Hatfield Housing Authority	13,221	0.058505%	12,461	0.058417%
Huntington	105,436	0.466572%	118,405	0.555078%
Middlefield	48,477	0.214519%	43,614	0.204461%
Pelham	185,093	0.819068%	199,376	0.934668%
Plainfield	70,511	0.312023%	66,459	0.311557%
Quabbin Health District	58,870	0.260510%	53,661	0.251561%
Southampton	745,799	3.300289%	674,546	3.162248%
South Hadley	2,869,344	12.697340%	2,787,457	13.067500%
South Hadley Housing Authority	57,291	0.253523%	53,998	0.253141%
South Hadley-Granby-Eton Veteran's District	15,424	0.068254%	14,538	0.068154%

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.3 - Proportionate Share of Contributions

The basis of an employer's allocation of the collective pension amount is consistent with the manner in which contributions to the plan are made. The schedule of employer allocations for 2018 and 2017, based on employer contributions made for the 2019 fiscal year and 2018 fiscal year, respectively, shows the proportionate relationship of each employer to all employers and each employer's allocation percentage.

Entity	2018		2017	
	Employer Contribution	Proportionate Share of Total Employer Contribution	Employer Contribution	Proportionate Share of Total Employer Contribution
South Hadley Fire District No.1	555,279	2.457205%	531,667	2.492436%
South Hadley Fire District No.2	229,162	1.014081%	249,220	1.168335%
Ware	1,900,394	8.409570%	1,808,411	8.477767%
Ware Housing Authority	56,311	0.249186%	53,271	0.249733%
Westhampton	200,517	0.887322%	186,914	0.876246%
Williamsburg	276,992	1.225737%	257,132	1.205426%
Worthington	113,996	0.504452%	116,097	0.544259%
Total	22,597,993	100.000000%	21,331,218	100.000000%

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.4 - Pension Amounts by Employer

The schedule of Pension Amounts by Employer is provided in Appendix C. The schedule shows the Net Pension Liability, the various categories of Deferred Outflows of Resources and Deferred Inflows of Resources and Pension Expense for each employer. The schedule includes the differences between expected and actual economic experience, differences between projected and actual investment earnings and changes of assumptions. Further, each employer is required to recognize Deferred Outflows of Resources and Deferred Inflows of Resources related to (1) the net impact from changes in proportion between periods and (2) differences between actual contributions made by an employer and their proportionate share of contributions.

Each employer's allocation of Pension Expense and Net Pension Liability can be based on the proportion of its contributions to the aggregate amount of employer contributions.

Under GASB 68, gains and losses (investment, experience or assumption changes) and changes in employer's proportionate shares related to pensions are recognized in Pension Expense systematically over time.

The first amortized amounts are recognized in Pension Expense for the year the gain or loss occurs. The remaining amounts are categorized as Deferred Inflows and Deferred Outflows to be recognized in future Pension Expense.

The amortization period differs depending on the source of the gain or loss:

Difference between projected and actual earnings	5 year straight-line amortization
All other amounts	Straight-line amortization over the average expected remaining service lives of all members that are provided with benefits (actives, inactives and retirees) as of the beginning of the measurement period

For 2018:

- ◆ Net Pension Liability, Deferred Outflows of Resources, Deferred Inflows of Resources and Pension Expense are allocated to each employer based on its proportionate share of Total Employer Contribution shown in Exhibit 4.3. Note that for 2016, the proportionate share of the Net Pension Liability is based on those disclosed in the report prepared by Stone Consulting.
- ◆ The difference between expected and actual experience is amortized over the average of the expected future service lives of all participants, with the first amortized amount recognized in Pension Expense in the current year. Similar Deferred Outflows of Resources and Deferrred Inflows of Resources were established during prior years, with the fist amortized amount recognized in Pension Expense in 2016.
- ◆ Net difference between projected and actual investment earnings (loss on pension plan investments for 2018) is amortized over 5 years, with the first amortized amount recognized in Pension Expense in the current year. Similar Deferred Outflows of Resources and Deferred Inflows of Resources were established during prior years, with the first amortized amount recognized in Pension Expense in 2014.

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.4 - Pension Amounts by Employer

For 2018 (continued):

- ◆ The change in Total Pension Liability as a result of changes in assumptions is amortized over the average of the expected future service lives of all participants, with the first amortized amount recognized in Pension Expense in the current year. Similar Deferred Outflows of Resources and Deferred Inflows of Resources were established during prior years, with the first amortized amount recognized in Pension Expense in 2016.

- ◆ There are no differences between employer contributions and the proportionate share of contributions because the Plan utilizes employer contributions as the method of allocation.

- ◆ The net effect of the change in the employer's proportionate shares of the collective Net Pension Liability, collective Deferred Outflows and Deferred Inflows is amortized over the average expected remaining service lives of all members, with the first amortized amount recognized in Pension Expense in the current year. Similar Deferred Outflows of Resources and Deferred Inflows of Resources were established during prior years, with the first amortized amount recognized in 2015.

- ◆ No adjustments have been made for employer contributions made subsequent to the measurement date as defined in paragraph 57 of GASB 68.

SECTION 5 - GLOSSARY OF TERMS

Actuarial Assumptions – Assumptions, based upon past experience or standard tables, used to predict the occurrence of future events affecting the commencement, amount and duration of pension benefits, such as: changes in compensation, mortality, withdrawal, disablement and retirement; rates of investment earnings and asset appreciation or depreciation; and any other relevant items.

Actuarial Cost Method (or Funding Method) – A procedure for allocating the Actuarial Present Value of projected benefit payments to the current year (Service Cost) and the past (Total Pension Liability).

Actuarial Gain or Loss (or Experience Gain or Loss) – A measure of the difference between actual experience and that expected based upon the set of Actuarial Assumptions during the period between the valuation date and the most recent immediately preceding valuation date.

Actuarial Present Value of Projected Benefit Payments – The dollar value on the valuation date of all benefits expected to be paid to current members based upon the Actuarial Assumptions and the terms of the Plan.

Actuarially Determined Contribution – A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

Actuarial Valuation Date – The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

Deferred Inflow of Resources – Acquisition of resources by a government that is applicable to future reporting periods. Under GASB 68, deferred inflows of resources are made up of experience gains, assumption changes reducing the Total Pension Liability and investment gains that are recognized in future reporting periods.

Deferred Outflow of Resources – Consumption of resources by a government that is applicable to future reporting periods. Under GASB 68, deferred outflows of resources are made up of experience losses, assumption changes increasing the Total Pension Liability and investment losses that are recognized in future reporting periods.

Discount Rate – Single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the sum of:

- (1) a long-term expected rate of return on pension plan investments *to the extent that the pension plan's assets are sufficient to pay benefits and pension plan assets are expected to be invested using a strategy to achieve that return and*
- (2) a tax-exempt, high-quality municipal bond rate *to the extent that the conditions for use of the long-term expected rate of return are not met.*

Entry Age Normal Actuarial Cost Method – A method under which the actuarial present value of the projected benefits of each individual in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age.

SECTION 5 - GLOSSARY OF TERMS

Fiduciary Net Position – The fair market value of assets as of the measurement date.

Funded Ratio – The Actuarial Value of Assets expressed as a percentage of the Actuarial Accrued Liability.

GASB – Governmental Accounting Standards Board.

Long-Term Expected Rate of Return – Long-term expected rate of return on pension plan investments expected to be used to finance the payment of benefits, net of investment expenses.

Measurement Date – The date as of which the Total Pension Liability and Fiduciary Net Position are measured.

Municipal Bond Rate – Yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.

Net Pension Liability – The liability of the employer for benefits provided through a defined benefit pension plan. It is calculated as the Total Pension Liability less the Fiduciary Net Position.

Present Value of Future Benefits – The actuarial present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value of money and the probabilities of payment.

APPENDIX A - CALCULATION OF MONEY-WEIGHTED RATE OF RETURN

	Plan Investments/ Net External Cash Flows (a)	Periods Invested (b)	Period Weight (c)=(b)÷12	(d)=(a) x (1+r _{mw}) ^(c)
Beginning value - January 1, 2018	\$ 318,127,580	12	1.00	\$ 308,518,752
Monthly net external cash flows:				
January	(2,272,845)	11	0.92	(2,209,836)
February	(1,776,751)	10	0.83	(1,731,916)
March	(1,404,286)	9	0.75	(1,372,353)
April	(1,631,890)	8	0.67	(1,598,862)
May	(2,261,864)	7	0.58	(2,221,757)
June	(872,190)	6	0.50	(858,917)
July	18,874,038	5	0.42	18,634,379
August	(1,887,995)	4	0.33	(1,868,792)
September	(1,803,349)	3	0.25	(1,789,575)
October	(1,702,059)	2	0.17	(1,693,381)
November	(1,936,679)	1	0.08	(1,931,736)
December	(849,845)	0	0.00	(849,845)
Ending value - December 31, 2018				\$ 309,026,161
Money-weighted rate of return				-3.02%

Note: Beginning and ending values are based on amounts reported in the System's 2018 Annual Statement and monthly cash flows are based on amounts provided by the Retirement System.

APPENDIX B - SCHEDULE OF DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES

Year	Differences between		Recognition Period (Years)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
	Expected and Actual Experience												
2014	\$	-	5.30	-	-	-	-	-	-	-	-	-	-
2015	\$	-	5.30	-	-	-	-	-	-	-	-	-	-
2016	\$	(4,348,735)	5.10	-	-	(852,693)	(852,693)	(852,693)	(852,693)	(852,693)	(85,270)	-	-
2017	\$	(434,874)	6.79	-	-	-	(64,046)	(64,046)	(64,046)	(64,046)	(64,046)	(64,046)	(50,598)
2018	\$	-	6.79	-	-	-	-	-	-	-	-	-	-
Net Increase (Decrease) in Pension Expense				-	-	(852,693)	(916,739)	(916,739)	(916,739)	(916,739)	(149,316)	(64,046)	(50,598)

Year	Changes of		Recognition Period (Years)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
	Assumptions												
2014	\$	-	5.30	-	-	-	-	-	-	-	-	-	-
2015	\$	-	5.30	-	-	-	-	-	-	-	-	-	-
2016	\$	16,610,091	5.10	-	-	3,256,881	3,256,881	3,256,881	3,256,881	3,256,881	325,686	-	-
2017	\$	(9,996,849)	6.79	-	-	-	(1,472,290)	(1,472,290)	(1,472,290)	(1,472,290)	(1,472,290)	(1,472,290)	(1,163,109)
2018	\$	-	6.79	-	-	-	-	-	-	-	-	-	-
Net Increase (Decrease) in Pension Expense				-	-	3,256,881	1,784,591	1,784,591	1,784,591	1,784,591	(1,146,604)	(1,472,290)	(1,163,109)

Year	Differences between		Recognition Period (Years)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
	Projected and Actual Earnings on Pension Plan Investments												
2014	\$	7,397,011	5	1,479,402	1,479,402	1,479,402	1,479,402	1,479,403	-	-	-	-	-
2015	\$	21,341,884	5	-	4,268,377	4,268,377	4,268,377	4,268,376	4,268,377	-	-	-	-
2016	\$	231,820	5	-	-	46,364	46,364	46,364	46,364	46,364	-	-	-
2017	\$	(22,564,985)	5	-	-	-	(4,512,997)	(4,512,997)	(4,512,997)	(4,512,997)	(4,512,997)	-	-
2018	\$	33,385,880	5	-	-	-	-	6,677,176	6,677,176	6,677,176	6,677,176	6,677,176	-
Net Increase (Decrease) in Pension Expense				-	1,479,402	5,747,779	5,794,143	1,281,146	7,958,322	6,478,920	2,210,543	2,164,179	6,677,176

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Hampshire Council of Governments
◆ Current Proportionate Share		1.250815%
◆ Prior Proportionate Share		1.239015%
<i>Beginning Net Pension Liability</i>	\$ 185,840,982	\$ 2,302,598
<i>Ending Net Pension Liability</i>	\$ 215,567,235	\$ 2,696,346
<i>Total Deferred Outflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	219,278
◆ Changes of Assumptions	6,839,448	85,549
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	200,343
◆ Total Deferred Outflows of Resources	<u><u>\$ 27,594,231</u></u>	<u><u>\$ 505,170</u></u>
<i>Total Deferred Inflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 26,235
◆ Changes of Assumptions	7,052,269	\$ 88,211
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 69,023
◆ Total Deferred Inflows of Resources	<u><u>\$ 12,373,672</u></u>	<u><u>\$ 183,469</u></u>
<i>Employer Pension Expense:</i>		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 347,283
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(1,127)
◆ Total Employer Pension Expense	<u><u>\$ 27,764,540</u></u>	<u><u>\$ 346,156</u></u>
<i>Covered Payroll:</i>	\$ 84,192,999	\$ 1,101,782
<i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i>		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 2,696,346
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 3,445,436
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 2,062,548
<i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i>		
◆ 2019	\$ 7,346,772	\$ 90,766
◆ 2020	\$ 3,078,395	\$ 74,544
◆ 2021	\$ 868,259	\$ 45,439
◆ 2022	\$ 5,140,840	\$ 96,950
◆ 2023	\$ (1,213,707)	\$ 11,323
◆ Thereafter	\$ -	\$ 2,679

Hampshire County Retirement System
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APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Amherst
◆ Current Proportionate Share		27.486131%
◆ Prior Proportionate Share		27.008003%
<i>Beginning Net Pension Liability</i>	\$ 185,840,982	\$ 50,191,937
<i>Ending Net Pension Liability</i>	\$ 215,567,235	\$ 59,251,093
<i>Total Deferred Outflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	4,818,543
◆ Changes of Assumptions	6,839,448	1,879,898
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	1,212,815
◆ Total Deferred Outflows of Resources	\$ 27,594,231	\$ 7,911,256
<i>Total Deferred Inflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 576,505
◆ Changes of Assumptions	7,052,269	\$ 1,938,397
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 247,266
◆ Total Deferred Inflows of Resources	\$ 12,373,672	\$ 2,762,168
<i>Employer Pension Expense:</i>		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 7,631,397
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	137,704
◆ Total Employer Pension Expense	\$ 27,764,540	\$ 7,769,101
<i>Covered Payroll:</i>	\$ 84,192,999	\$ 22,499,658
<i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i>		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 59,251,093
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 75,712,020
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 45,323,629
<i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i>		
◆ 2019	\$ 7,346,772	\$ 2,157,049
◆ 2020	\$ 3,078,395	\$ 954,106
◆ 2021	\$ 868,259	\$ 439,852
◆ 2022	\$ 5,140,840	\$ 1,625,991
◆ 2023	\$ (1,213,707)	\$ (136,488)
◆ Thereafter	\$ -	\$ 108,578

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Amherst-Pelham Regional School District
◆ Current Proportionate Share		6.010923%
◆ Prior Proportionate Share		5.908326%
Beginning Net Pension Liability	\$ 185,840,982	\$ 10,980,092
Ending Net Pension Liability	\$ 215,567,235	\$ 12,957,581
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	1,053,764
◆ Changes of Assumptions	6,839,448	411,114
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	170,755
◆ Total Deferred Outflows of Resources	<u><u>\$ 27,594,231</u></u>	<u><u>\$ 1,635,633</u></u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 126,075
◆ Changes of Assumptions	7,052,269	\$ 423,906
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 21,317
◆ Total Deferred Inflows of Resources	<u><u>\$ 12,373,672</u></u>	<u><u>\$ 571,298</u></u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 1,668,905
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	18,981
◆ Total Employer Pension Expense	<u><u>\$ 27,764,540</u></u>	<u><u>\$ 1,687,886</u></u>
Covered Payroll:	\$ 84,192,999	\$ 5,169,325
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 12,957,581
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 16,557,410
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 9,911,793
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 460,590
◆ 2020	\$ 3,078,395	\$ 206,498
◆ 2021	\$ 868,259	\$ 80,289
◆ 2022	\$ 5,140,840	\$ 337,734
◆ 2023	\$ (1,213,707)	\$ (44,074)
◆ Thereafter	\$ -	\$ 23,298

Hampshire County Retirement System
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APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Amherst Housing Authority
◆ Current Proportionate Share		0.838566%
◆ Prior Proportionate Share		0.701001%
<i>Beginning Net Pension Liability</i>	\$ 185,840,982	\$ 1,302,747
<i>Ending Net Pension Liability</i>	\$ 215,567,235	\$ 1,807,673
<i>Total Deferred Outflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	147,007
◆ Changes of Assumptions	6,839,448	57,353
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	228,956
◆ Total Deferred Outflows of Resources	<u><u>\$ 27,594,231</u></u>	<u><u>\$ 433,316</u></u>
<i>Total Deferred Inflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 17,588
◆ Changes of Assumptions	7,052,269	\$ 59,138
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 134,011
◆ Total Deferred Inflows of Resources	<u><u>\$ 12,373,672</u></u>	<u><u>\$ 210,737</u></u>
<i>Employer Pension Expense:</i>		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 232,824
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(1,584)
◆ Total Employer Pension Expense	<u><u>\$ 27,764,540</u></u>	<u><u>\$ 231,240</u></u>
<i>Covered Payroll:</i>	\$ 84,192,999	\$ 633,206
<i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i>		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 1,807,673
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 2,309,874
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 1,382,764
<i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i>		
◆ 2019	\$ 7,346,772	\$ 60,024
◆ 2020	\$ 3,078,395	\$ 31,664
◆ 2021	\$ 868,259	\$ 24,990
◆ 2022	\$ 5,140,840	\$ 61,783
◆ 2023	\$ (1,213,707)	\$ 12,879
◆ Thereafter	\$ -	\$ 31,239

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Belchertown
◆ Current Proportionate Share		12.867439%
◆ Prior Proportionate Share		12.827031%
Beginning Net Pension Liability	\$ 185,840,982	\$ 23,837,881
Ending Net Pension Liability	\$ 215,567,235	\$ 27,737,983
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	2,255,767
◆ Changes of Assumptions	6,839,448	880,062
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	282,706
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 3,418,535</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 269,887
◆ Changes of Assumptions	7,052,269	\$ 907,446
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 165,134
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 1,342,467</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 3,572,585
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(5,370)
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 3,567,215</u>
Covered Payroll:	\$ 84,192,999	\$ 10,923,691
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 27,737,983
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 35,444,050
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 21,217,938
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 939,972
◆ 2020	\$ 3,078,395	\$ 472,508
◆ 2021	\$ 868,259	\$ 130,825
◆ 2022	\$ 5,140,840	\$ 670,336
◆ 2023	\$ (1,213,707)	\$ (146,749)
◆ Thereafter	\$ -	\$ 9,176

Hampshire County Retirement System
Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Belchertown Housing Authority
◆ Current Proportionate Share		0.136508%
◆ Prior Proportionate Share		0.136303%
Beginning Net Pension Liability	\$ 185,840,982	\$ 253,306
Ending Net Pension Liability	\$ 215,567,235	\$ 294,266
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	23,931
◆ Changes of Assumptions	6,839,448	9,336
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	40,716
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 73,983</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 2,863
◆ Changes of Assumptions	7,052,269	\$ 9,627
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ -
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 12,490</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 37,901
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	24,109
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 62,010</u>
Covered Payroll:	\$ 84,192,999	\$ 118,495
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 294,266
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 376,018
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 225,096
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 34,140
◆ 2020	\$ 3,078,395	\$ 13,445
◆ 2021	\$ 868,259	\$ 3,819
◆ 2022	\$ 5,140,840	\$ 9,627
◆ 2023	\$ (1,213,707)	\$ 415
◆ Thereafter	\$ -	\$ 47

Hampshire County Retirement System
Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Belchertown Water District
◆ Current Proportionate Share		0.185264%
◆ Prior Proportionate Share		0.184987%
Beginning Net Pension Liability	\$ 185,840,982	\$ 343,782
Ending Net Pension Liability	\$ 215,567,235	\$ 399,369
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	32,478
◆ Changes of Assumptions	6,839,448	12,671
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	38,493
◆ Total Deferred Outflows of Resources	\$ 27,594,231	\$ 83,642
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 3,886
◆ Changes of Assumptions	7,052,269	\$ 13,065
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 68,647
◆ Total Deferred Inflows of Resources	\$ 12,373,672	\$ 85,598
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 51,438
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	3,860
◆ Total Employer Pension Expense	\$ 27,764,540	\$ 55,298
Covered Payroll:	\$ 84,192,999	\$ 195,717
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 399,369
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 510,320
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 305,494
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 17,468
◆ 2020	\$ 3,078,395	\$ 9,563
◆ 2021	\$ 868,259	\$ (10,831)
◆ 2022	\$ 5,140,840	\$ (4,728)
◆ 2023	\$ (1,213,707)	\$ (13,491)
◆ Thereafter	\$ -	\$ 63

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Chesterfield
◆ Current Proportionate Share		0.370528%
◆ Prior Proportionate Share		0.389443%
Beginning Net Pension Liability	\$ 185,840,982	\$ 723,745
Ending Net Pension Liability	\$ 215,567,235	\$ 798,738
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	64,957
◆ Changes of Assumptions	6,839,448	25,342
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	45,313
◆ Total Deferred Outflows of Resources	\$ 27,594,231	\$ 135,612
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 7,772
◆ Changes of Assumptions	7,052,269	\$ 26,131
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 63,691
◆ Total Deferred Inflows of Resources	\$ 12,373,672	\$ 97,594
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 102,876
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(18,482)
◆ Total Employer Pension Expense	\$ 27,764,540	\$ 84,394
Covered Payroll:	\$ 84,192,999	\$ 314,250
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 798,738
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 1,020,641
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 610,988
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 8,739
◆ 2020	\$ 3,078,395	\$ 10,267
◆ 2021	\$ 868,259	\$ 5,872
◆ 2022	\$ 5,140,840	\$ 21,297
◆ 2023	\$ (1,213,707)	\$ (3,862)
◆ Thereafter	\$ -	\$ (4,295)

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Chesterfield-Goshen Regional School District
◆ Current Proportionate Share		0.360780%
◆ Prior Proportionate Share		0.379706%
Beginning Net Pension Liability	\$ 185,840,982	\$ 705,650
Ending Net Pension Liability	\$ 215,567,235	\$ 777,723
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	63,248
◆ Changes of Assumptions	6,839,448	24,675
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	68,316
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 156,239</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 7,567
◆ Changes of Assumptions	7,052,269	\$ 25,443
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 75,405
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 108,415</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 100,169
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(9,506)
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 90,663</u>
Covered Payroll:	\$ 84,192,999	\$ 336,211
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 777,723
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 993,787
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 594,913
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 16,999
◆ 2020	\$ 3,078,395	\$ (877)
◆ 2021	\$ 868,259	\$ 8,903
◆ 2022	\$ 5,140,840	\$ 26,408
◆ 2023	\$ (1,213,707)	\$ 689
◆ Thereafter	\$ -	\$ (4,298)

Hampshire County Retirement System
Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Cummington
◆ Current Proportionate Share		0.253523%
◆ Prior Proportionate Share		0.204461%
Beginning Net Pension Liability	\$ 185,840,982	\$ 379,972
Ending Net Pension Liability	\$ 215,567,235	\$ 546,511
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	44,445
◆ Changes of Assumptions	6,839,448	17,340
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	82,236
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 144,021</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 5,317
◆ Changes of Assumptions	7,052,269	\$ 17,879
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 6,384
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 29,580</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 70,389
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	10,468
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 80,857</u>
Covered Payroll:	\$ 84,192,999	\$ 231,690
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 546,511
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 698,341
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 418,049
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 29,093
◆ 2020	\$ 3,078,395	\$ 20,749
◆ 2021	\$ 868,259	\$ 15,960
◆ 2022	\$ 5,140,840	\$ 26,766
◆ 2023	\$ (1,213,707)	\$ 10,732
◆ Thereafter	\$ -	\$ 11,141

Hampshire County Retirement System
Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Foothills Health District
◆ Current Proportionate Share		0.058505%
◆ Prior Proportionate Share		0.058417%
Beginning Net Pension Liability	\$ 185,840,982	\$ 108,562
Ending Net Pension Liability	\$ 215,567,235	\$ 126,118
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	10,256
◆ Changes of Assumptions	6,839,448	4,001
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	17,784
◆ Total Deferred Outflows of Resources	<u><u>\$ 27,594,231</u></u>	<u><u>\$ 32,041</u></u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 1,227
◆ Changes of Assumptions	7,052,269	\$ 4,126
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ -
◆ Total Deferred Inflows of Resources	<u><u>\$ 12,373,672</u></u>	<u><u>\$ 5,353</u></u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 16,244
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	6,324
◆ Total Employer Pension Expense	<u><u>\$ 27,764,540</u></u>	<u><u>\$ 22,568</u></u>
Covered Payroll:	\$ 84,192,999	\$ 53,235
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 126,118
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 161,156
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 96,473
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 10,621
◆ 2020	\$ 3,078,395	\$ 5,646
◆ 2021	\$ 868,259	\$ 3,234
◆ 2022	\$ 5,140,840	\$ 5,724
◆ 2023	\$ (1,213,707)	\$ 1,443
◆ Thereafter	\$ -	\$ 20

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Gateway Regional School District
◆ Current Proportionate Share		2.515710%
◆ Prior Proportionate Share		2.570327%
<i>Beginning Net Pension Liability</i>	\$ 185,840,982	\$ 4,776,720
<i>Ending Net Pension Liability</i>	\$ 215,567,235	\$ 5,423,047
<i>Total Deferred Outflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	441,025
◆ Changes of Assumptions	6,839,448	172,061
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	-
◆ Total Deferred Outflows of Resources	<u><u>\$ 27,594,231</u></u>	<u><u>\$ 613,086</u></u>
<i>Total Deferred Inflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 52,765
◆ Changes of Assumptions	7,052,269	\$ 177,415
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 446,172
◆ Total Deferred Inflows of Resources	<u><u>\$ 12,373,672</u></u>	<u><u>\$ 676,352</u></u>
<i>Employer Pension Expense:</i>		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 698,475
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(152,492)
◆ Total Employer Pension Expense	<u><u>\$ 27,764,540</u></u>	<u><u>\$ 545,983</u></u>
<i>Covered Payroll:</i>	\$ 84,192,999	\$ 2,104,457
<i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i>		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 5,423,047
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 6,929,658
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 4,148,314
<i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i>		
◆ 2019	\$ 7,346,772	\$ 32,332
◆ 2020	\$ 3,078,395	\$ (37,883)
◆ 2021	\$ 868,259	\$ (39,191)
◆ 2022	\$ 5,140,840	\$ 72,558
◆ 2023	\$ (1,213,707)	\$ (78,679)
◆ Thereafter	\$ -	\$ (12,403)

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Goshen
◆ Current Proportionate Share		0.312023%
◆ Prior Proportionate Share		0.282347%
Beginning Net Pension Liability	\$ 185,840,982	\$ 524,716
Ending Net Pension Liability	\$ 215,567,235	\$ 672,620
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	54,700
◆ Changes of Assumptions	6,839,448	21,341
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	57,722
◆ Total Deferred Outflows of Resources	\$ 27,594,231	\$ 133,763
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 6,544
◆ Changes of Assumptions	7,052,269	\$ 22,005
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 33,881
◆ Total Deferred Inflows of Resources	\$ 12,373,672	\$ 62,430
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 86,632
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	2,845
◆ Total Employer Pension Expense	\$ 27,764,540	\$ 89,477
Covered Payroll:	\$ 84,192,999	\$ 242,621
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 672,620
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 859,485
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 514,515
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 25,769
◆ 2020	\$ 3,078,395	\$ 14,927
◆ 2021	\$ 868,259	\$ 5,524
◆ 2022	\$ 5,140,840	\$ 18,459
◆ 2023	\$ (1,213,707)	\$ (85)
◆ Thereafter	\$ -	\$ 6,739

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Granby
◆ Current Proportionate Share		4.337009%
◆ Prior Proportionate Share		4.256967%
Beginning Net Pension Liability	\$ 185,840,982	\$ 7,911,190
Ending Net Pension Liability	\$ 215,567,235	\$ 9,349,170
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	760,313
◆ Changes of Assumptions	6,839,448	296,627
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	133,218
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 1,190,158</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 90,966
◆ Changes of Assumptions	7,052,269	\$ 305,858
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 284,113
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 680,937</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 1,204,151
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(78,821)
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 1,125,330</u>
Covered Payroll:	\$ 84,192,999	\$ 3,489,832
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 9,349,170
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 11,946,524
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 7,151,570
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 239,808
◆ 2020	\$ 3,078,395	\$ 91,857
◆ 2021	\$ 868,259	\$ 18,068
◆ 2022	\$ 5,140,840	\$ 204,054
◆ 2023	\$ (1,213,707)	\$ (62,743)
◆ Thereafter	\$ -	\$ 18,177

Hampshire County Retirement System
Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Granby Housing Authority
◆ Current Proportionate Share		0.126759%
◆ Prior Proportionate Share		0.126570%
<i>Beginning Net Pension Liability</i>	\$ 185,840,982	\$ 235,220
<i>Ending Net Pension Liability</i>	\$ 215,567,235	\$ 273,251
<i>Total Deferred Outflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	22,222
◆ Changes of Assumptions	6,839,448	8,670
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	672
◆ Total Deferred Outflows of Resources	\$ 27,594,231	\$ 31,564
<i>Total Deferred Inflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 2,659
◆ Changes of Assumptions	7,052,269	\$ 8,939
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 1,103
◆ Total Deferred Inflows of Resources	\$ 12,373,672	\$ 12,701
<i>Employer Pension Expense:</i>		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 35,194
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(7)
◆ Total Employer Pension Expense	\$ 27,764,540	\$ 35,187
<i>Covered Payroll:</i>	\$ 84,192,999	\$ 101,476
<i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i>		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 273,251
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 349,165
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 209,021
<i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i>		
◆ 2019	\$ 7,346,772	\$ 9,308
◆ 2020	\$ 3,078,395	\$ 3,897
◆ 2021	\$ 868,259	\$ 941
◆ 2022	\$ 5,140,840	\$ 6,340
◆ 2023	\$ (1,213,707)	\$ (1,666)
◆ Thereafter	\$ -	\$ 43

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Hadley
◆ Current Proportionate Share		4.889912%
◆ Prior Proportionate Share		4.955727%
Beginning Net Pension Liability	\$ 185,840,982	\$ 9,209,772
Ending Net Pension Liability	\$ 215,567,235	\$ 10,541,048
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	857,242
◆ Changes of Assumptions	6,839,448	334,443
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	379,831
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 1,571,516</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 102,563
◆ Changes of Assumptions	7,052,269	\$ 344,850
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 270,170
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 717,583</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 1,357,662
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	25,149
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 1,382,811</u>
Covered Payroll:	\$ 84,192,999	\$ 4,443,467
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 10,541,048
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 13,469,525
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 8,063,287
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 384,403
◆ 2020	\$ 3,078,395	\$ 136,036
◆ 2021	\$ 868,259	\$ 79,816
◆ 2022	\$ 5,140,840	\$ 296,389
◆ 2023	\$ (1,213,707)	\$ (27,765)
◆ Thereafter	\$ -	\$ (14,946)

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Hadley Housing Authority
◆ Current Proportionate Share		0.039008%
◆ Prior Proportionate Share		0.038943%
Beginning Net Pension Liability	\$ 185,840,982	\$ 72,372
Ending Net Pension Liability	\$ 215,567,235	\$ 84,088
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	6,838
◆ Changes of Assumptions	6,839,448	2,668
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	218
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 9,724</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 818
◆ Changes of Assumptions	7,052,269	\$ 2,751
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 342
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 3,911</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 10,830
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	-
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 10,830</u>
Covered Payroll:	\$ 84,192,999	\$ 35,738
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 84,088
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 107,449
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 64,323
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 2,865
◆ 2020	\$ 3,078,395	\$ 1,201
◆ 2021	\$ 868,259	\$ 292
◆ 2022	\$ 5,140,840	\$ 1,951
◆ 2023	\$ (1,213,707)	\$ (511)
◆ Thereafter	\$ -	\$ 15

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Hampshire County Regional Housing Authority
◆ Current Proportionate Share		0.029250%
◆ Prior Proportionate Share		0.038943%
Beginning Net Pension Liability	\$ 185,840,982	\$ 72,372
Ending Net Pension Liability	\$ 215,567,235	\$ 63,054
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	5,128
◆ Changes of Assumptions	6,839,448	2,001
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	13,147
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 20,276</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 614
◆ Changes of Assumptions	7,052,269	\$ 2,063
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 16,133
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 18,810</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 8,121
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(20)
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 8,101</u>
Covered Payroll:	\$ 84,192,999	\$ 32,673
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 63,054
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 80,572
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 48,233
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 2,130
◆ 2020	\$ 3,078,395	\$ 880
◆ 2021	\$ 868,259	\$ 199
◆ 2022	\$ 5,140,840	\$ 1,444
◆ 2023	\$ (1,213,707)	\$ (986)
◆ Thereafter	\$ -	\$ (2,201)

Hampshire County Retirement System
Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Hampshire Regional School District
◆ Current Proportionate Share		2.149226%
◆ Prior Proportionate Share		2.222695%
Beginning Net Pension Liability	\$ 185,840,982	\$ 4,130,679
Ending Net Pension Liability	\$ 215,567,235	\$ 4,633,028
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	376,777
◆ Changes of Assumptions	6,839,448	146,995
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	28,070
◆ Total Deferred Outflows of Resources	\$ 27,594,231	\$ 551,842
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 45,079
◆ Changes of Assumptions	7,052,269	\$ 151,569
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 148,210
◆ Total Deferred Inflows of Resources	\$ 12,373,672	\$ 344,858
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 596,723
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(6,423)
◆ Total Employer Pension Expense	\$ 27,764,540	\$ 590,300
Covered Payroll:	\$ 84,192,999	\$ 1,781,153
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 4,633,028
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 5,920,159
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 3,543,996
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 151,475
◆ 2020	\$ 3,078,395	\$ 47,349
◆ 2021	\$ 868,259	\$ (7,629)
◆ 2022	\$ 5,140,840	\$ 83,954
◆ 2023	\$ (1,213,707)	\$ (51,481)
◆ Thereafter	\$ -	\$ (16,684)

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Hatfield
◆ Current Proportionate Share		2.583964%
◆ Prior Proportionate Share		2.589801%
<i>Beginning Net Pension Liability</i>	\$ 185,840,982	\$ 4,812,911
<i>Ending Net Pension Liability</i>	\$ 215,567,235	\$ 5,570,180
<i>Total Deferred Outflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	452,990
◆ Changes of Assumptions	6,839,448	176,729
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	300,328
◆ Total Deferred Outflows of Resources	\$ 27,594,231	\$ 930,047
<i>Total Deferred Inflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 54,197
◆ Changes of Assumptions	7,052,269	\$ 182,228
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 17,898
◆ Total Deferred Inflows of Resources	\$ 12,373,672	\$ 254,323
<i>Employer Pension Expense:</i>		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 717,426
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	80,335
◆ Total Employer Pension Expense	\$ 27,764,540	\$ 797,761
<i>Covered Payroll:</i>	\$ 84,192,999	\$ 1,975,590
<i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i>		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 5,570,180
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 7,117,667
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 4,260,862
<i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i>		
◆ 2019	\$ 7,346,772	\$ 270,174
◆ 2020	\$ 3,078,395	\$ 137,580
◆ 2021	\$ 868,259	\$ 74,420
◆ 2022	\$ 5,140,840	\$ 185,213
◆ 2023	\$ (1,213,707)	\$ 9,663
◆ Thereafter	\$ -	\$ (1,326)

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Hatfield Housing Authority
◆ Current Proportionate Share		0.058505%
◆ Prior Proportionate Share		0.058417%
Beginning Net Pension Liability	\$ 185,840,982	\$ 108,562
Ending Net Pension Liability	\$ 215,567,235	\$ 126,118
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	10,256
◆ Changes of Assumptions	6,839,448	4,001
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	7,787
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 22,044</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 1,227
◆ Changes of Assumptions	7,052,269	\$ 4,126
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 510
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 5,863</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 16,244
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	3,557
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 19,801</u>
Covered Payroll:	\$ 84,192,999	\$ 47,075
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 126,118
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 161,156
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 96,473
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 7,854
◆ 2020	\$ 3,078,395	\$ 5,358
◆ 2021	\$ 868,259	\$ 792
◆ 2022	\$ 5,140,840	\$ 2,925
◆ 2023	\$ (1,213,707)	\$ (768)
◆ Thereafter	\$ -	\$ 20

Hampshire County Retirement System
Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Huntington
◆ Current Proportionate Share		0.466572%
◆ Prior Proportionate Share		0.555078%
Beginning Net Pension Liability	\$ 185,840,982	\$ 1,031,563
Ending Net Pension Liability	\$ 215,567,235	\$ 1,005,777
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	81,794
◆ Changes of Assumptions	6,839,448	31,911
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	29,513
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 143,218</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 9,786
◆ Changes of Assumptions	7,052,269	\$ 32,904
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 147,305
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 189,995</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 129,542
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(8,327)
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 121,215</u>
Covered Payroll:	\$ 84,192,999	\$ 440,364
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 1,005,777
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 1,285,199
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 769,361
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 25,951
◆ 2020	\$ 3,078,395	\$ (3,875)
◆ 2021	\$ 868,259	\$ (19,456)
◆ 2022	\$ 5,140,840	\$ 367
◆ 2023	\$ (1,213,707)	\$ (29,665)
◆ Thereafter	\$ -	\$ (20,099)

Hampshire County Retirement System
Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Middlefield
◆ Current Proportionate Share		0.214519%
◆ Prior Proportionate Share		0.204461%
Beginning Net Pension Liability	\$ 185,840,982	\$ 379,972
Ending Net Pension Liability	\$ 215,567,235	\$ 462,433
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	37,607
◆ Changes of Assumptions	6,839,448	14,672
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	17,320
◆ Total Deferred Outflows of Resources	\$ 27,594,231	\$ 69,599
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 4,499
◆ Changes of Assumptions	7,052,269	\$ 15,128
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 6,384
◆ Total Deferred Inflows of Resources	\$ 12,373,672	\$ 26,011
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 59,560
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(744)
◆ Total Employer Pension Expense	\$ 27,764,540	\$ 58,816
Covered Payroll:	\$ 84,192,999	\$ 170,072
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 462,433
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 590,904
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 353,734
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 15,015
◆ 2020	\$ 3,078,395	\$ 8,337
◆ 2021	\$ 868,259	\$ 4,411
◆ 2022	\$ 5,140,840	\$ 13,548
◆ 2023	\$ (1,213,707)	\$ (7)
◆ Thereafter	\$ -	\$ 2,284

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Pelham
◆ Current Proportionate Share		0.819068%
◆ Prior Proportionate Share		0.934668%
Beginning Net Pension Liability	\$ 185,840,982	\$ 1,736,996
Ending Net Pension Liability	\$ 215,567,235	\$ 1,765,643
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	143,589
◆ Changes of Assumptions	6,839,448	56,020
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	34,303
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 233,912</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 17,179
◆ Changes of Assumptions	7,052,269	\$ 57,763
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 213,964
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 288,906</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 227,411
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(18,701)
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 208,710</u>
Covered Payroll:	\$ 84,192,999	\$ 712,769
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 1,765,643
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 2,256,168
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 1,350,614
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 41,475
◆ 2020	\$ 3,078,395	\$ 1,559
◆ 2021	\$ 868,259	\$ (29,425)
◆ 2022	\$ 5,140,840	\$ 4,375
◆ 2023	\$ (1,213,707)	\$ (46,727)
◆ Thereafter	\$ -	\$ (26,251)

Hampshire County Retirement System
Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Plainfield
◆ Current Proportionate Share		0.312023%
◆ Prior Proportionate Share		0.311557%
Beginning Net Pension Liability	\$ 185,840,982	\$ 579,001
Ending Net Pension Liability	\$ 215,567,235	\$ 672,620
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	54,700
◆ Changes of Assumptions	6,839,448	21,341
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	39,615
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 115,656</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 6,544
◆ Changes of Assumptions	7,052,269	\$ 22,005
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 2,718
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 31,267</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 86,632
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	24,803
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 111,435</u>
Covered Payroll:	\$ 84,192,999	\$ 227,126
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 672,620
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 859,485
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 514,515
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 47,729
◆ 2020	\$ 3,078,395	\$ 22,018
◆ 2021	\$ 868,259	\$ 3,030
◆ 2022	\$ 5,140,840	\$ 15,607
◆ 2023	\$ (1,213,707)	\$ (4,101)
◆ Thereafter	\$ -	\$ 106

Hampshire County Retirement System
Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Quabbin Health District
◆ Current Proportionate Share		0.260510%
◆ Prior Proportionate Share		0.251561%
Beginning Net Pension Liability	\$ 185,840,982	\$ 467,503
Ending Net Pension Liability	\$ 215,567,235	\$ 561,574
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	45,670
◆ Changes of Assumptions	6,839,448	17,817
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	26,179
◆ Total Deferred Outflows of Resources	<u><u>\$ 27,594,231</u></u>	<u><u>\$ 89,666</u></u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 5,464
◆ Changes of Assumptions	7,052,269	\$ 18,372
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 1,451
◆ Total Deferred Inflows of Resources	<u><u>\$ 12,373,672</u></u>	<u><u>\$ 25,287</u></u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 72,329
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	4,237
◆ Total Employer Pension Expense	<u><u>\$ 27,764,540</u></u>	<u><u>\$ 76,566</u></u>
Covered Payroll:	\$ 84,192,999	\$ 215,238
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 561,574
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 717,588
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 429,571
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 23,375
◆ 2020	\$ 3,078,395	\$ 12,258
◆ 2021	\$ 868,259	\$ 7,121
◆ 2022	\$ 5,140,840	\$ 18,321
◆ 2023	\$ (1,213,707)	\$ 1,272
◆ Thereafter	\$ -	\$ 2,032

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Southampton
◆ Current Proportionate Share		3.300289%
◆ Prior Proportionate Share		3.162248%
Beginning Net Pension Liability	\$ 185,840,982	\$ 5,876,755
Ending Net Pension Liability	\$ 215,567,235	\$ 7,114,341
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	578,568
◆ Changes of Assumptions	6,839,448	225,722
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	273,606
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 1,077,896</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 69,222
◆ Changes of Assumptions	7,052,269	\$ 232,745
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 127,835
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 429,802</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 916,310
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(17,430)
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 898,880</u>
Covered Payroll:	\$ 84,192,999	\$ 2,835,078
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 7,114,341
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 9,090,822
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 5,442,056
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 225,034
◆ 2020	\$ 3,078,395	\$ 94,075
◆ 2021	\$ 868,259	\$ 72,280
◆ 2022	\$ 5,140,840	\$ 218,501
◆ 2023	\$ (1,213,707)	\$ 6,857
◆ Thereafter	\$ -	\$ 31,347

Hampshire County Retirement System
Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	South Hadley
◆ Current Proportionate Share		12.697340%
◆ Prior Proportionate Share		13.067500%
Beginning Net Pension Liability	\$ 185,840,982	\$ 24,284,771
Ending Net Pension Liability	\$ 215,567,235	\$ 27,371,305
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	2,225,948
◆ Changes of Assumptions	6,839,448	868,428
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	545,382
◆ Total Deferred Outflows of Resources	\$ 27,594,231	\$ 3,639,758
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 266,319
◆ Changes of Assumptions	7,052,269	\$ 895,451
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 1,414,675
◆ Total Deferred Inflows of Resources	\$ 12,373,672	\$ 2,576,445
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 3,525,358
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	111,986
◆ Total Employer Pension Expense	\$ 27,764,540	\$ 3,637,344
Covered Payroll:	\$ 84,192,999	\$ 11,261,996
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 27,371,305
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 34,975,503
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 20,937,451
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 1,044,830
◆ 2020	\$ 3,078,395	\$ 272,428
◆ 2021	\$ 868,259	\$ (157,288)
◆ 2022	\$ 5,140,840	\$ 379,624
◆ 2023	\$ (1,213,707)	\$ (392,222)
◆ Thereafter	\$ -	\$ (84,059)

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	South Hadley Housing Authority
◆ Current Proportionate Share		0.253523%
◆ Prior Proportionate Share		0.253141%
Beginning Net Pension Liability	\$ 185,840,982	\$ 470,439
Ending Net Pension Liability	\$ 215,567,235	\$ 546,511
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	44,445
◆ Changes of Assumptions	6,839,448	17,340
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	19,998
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 81,783</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 5,317
◆ Changes of Assumptions	7,052,269	\$ 17,879
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 4,602
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 27,798</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 70,389
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	2,796
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 73,185</u>
Covered Payroll:	\$ 84,192,999	\$ 218,756
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 546,511
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 698,341
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 418,049
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 21,422
◆ 2020	\$ 3,078,395	\$ 13,076
◆ 2021	\$ 868,259	\$ 5,037
◆ 2022	\$ 5,140,840	\$ 15,483
◆ 2023	\$ (1,213,707)	\$ (1,120)
◆ Thereafter	\$ -	\$ 87

Hampshire County Retirement System
Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	South Hadley- Granby-Eton Veteran's District
◆ Current Proportionate Share		0.068254%
◆ Prior Proportionate Share		0.068154%
Beginning Net Pension Liability	\$ 185,840,982	\$ 126,657
Ending Net Pension Liability	\$ 215,567,235	\$ 147,133
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	11,965
◆ Changes of Assumptions	6,839,448	4,668
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	361
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 16,994</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 1,432
◆ Changes of Assumptions	7,052,269	\$ 4,813
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 594
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 6,839</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 18,950
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(3)
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 18,947</u>
Covered Payroll:	\$ 84,192,999	\$ 53,098
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 147,133
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 188,009
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 112,548
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 5,011
◆ 2020	\$ 3,078,395	\$ 2,098
◆ 2021	\$ 868,259	\$ 507
◆ 2022	\$ 5,140,840	\$ 3,413
◆ 2023	\$ (1,213,707)	\$ (897)
◆ Thereafter	\$ -	\$ 23

Hampshire County Retirement System
Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	South Hadley Fire District No.1
◆ Current Proportionate Share		2.457205%
◆ Prior Proportionate Share		2.492436%
Beginning Net Pension Liability	\$ 185,840,982	\$ 4,631,968
Ending Net Pension Liability	\$ 215,567,235	\$ 5,296,929
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	430,768
◆ Changes of Assumptions	6,839,448	168,059
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	14,873
◆ Total Deferred Outflows of Resources	\$ 27,594,231	\$ 613,700
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 51,538
◆ Changes of Assumptions	7,052,269	\$ 173,289
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 250,491
◆ Total Deferred Inflows of Resources	\$ 12,373,672	\$ 475,318
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 682,232
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(48,256)
◆ Total Employer Pension Expense	\$ 27,764,540	\$ 633,976
Covered Payroll:	\$ 84,192,999	\$ 2,106,356
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 5,296,929
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 6,768,503
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 4,051,841
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 132,270
◆ 2020	\$ 3,078,395	\$ 32,341
◆ 2021	\$ 868,259	\$ (26,216)
◆ 2022	\$ 5,140,840	\$ 78,062
◆ 2023	\$ (1,213,707)	\$ (70,074)
◆ Thereafter	\$ -	\$ (8,001)

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	South Hadley Fire District No.2
◆ Current Proportionate Share		1.014081%
◆ Prior Proportionate Share		1.168335%
<i>Beginning Net Pension Liability</i>	\$ 185,840,982	\$ 2,171,244
<i>Ending Net Pension Liability</i>	\$ 215,567,235	\$ 2,186,027
<i>Total Deferred Outflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	177,777
◆ Changes of Assumptions	6,839,448	69,358
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	118,600
◆ Total Deferred Outflows of Resources	<u><u>\$ 27,594,231</u></u>	<u><u>\$ 365,735</u></u>
<i>Total Deferred Inflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 21,270
◆ Changes of Assumptions	7,052,269	\$ 71,516
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 316,551
◆ Total Deferred Inflows of Resources	<u><u>\$ 12,373,672</u></u>	<u><u>\$ 409,337</u></u>
<i>Employer Pension Expense:</i>		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 281,555
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(34,736)
◆ Total Employer Pension Expense	<u><u>\$ 27,764,540</u></u>	<u><u>\$ 246,819</u></u>
<i>Covered Payroll:</i>	\$ 84,192,999	\$ 884,132
<i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i>		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 2,186,027
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 2,793,341
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 1,672,183
<i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i>		
◆ 2019	\$ 7,346,772	\$ 39,764
◆ 2020	\$ 3,078,395	\$ 28,691
◆ 2021	\$ 868,259	\$ (29,370)
◆ 2022	\$ 5,140,840	\$ 8,461
◆ 2023	\$ (1,213,707)	\$ (56,119)
◆ Thereafter	\$ -	\$ (35,029)

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Ware
◆ Current Proportionate Share		8.409570%
◆ Prior Proportionate Share		8.477767%
<i>Beginning Net Pension Liability</i>	\$ 185,840,982	\$ 15,755,166
<i>Ending Net Pension Liability</i>	\$ 215,567,235	\$ 18,128,277
<i>Total Deferred Outflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	1,474,266
◆ Changes of Assumptions	6,839,448	575,168
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	159,887
◆ Total Deferred Outflows of Resources	<u><u>\$ 27,594,231</u></u>	<u><u>\$ 2,209,321</u></u>
<i>Total Deferred Inflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 176,386
◆ Changes of Assumptions	7,052,269	\$ 593,065
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 269,957
◆ Total Deferred Inflows of Resources	<u><u>\$ 12,373,672</u></u>	<u><u>\$ 1,039,408</u></u>
<i>Employer Pension Expense:</i>		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 2,334,878
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(80,684)
◆ Total Employer Pension Expense	<u><u>\$ 27,764,540</u></u>	<u><u>\$ 2,254,194</u></u>
<i>Covered Payroll:</i>	\$ 84,192,999	\$ 6,818,155
<i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i>		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 18,128,277
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 23,164,610
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 13,867,074
<i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i>		
◆ 2019	\$ 7,346,772	\$ 537,150
◆ 2020	\$ 3,078,395	\$ 262,440
◆ 2021	\$ 868,259	\$ 71,192
◆ 2022	\$ 5,140,840	\$ 425,886
◆ 2023	\$ (1,213,707)	\$ (111,268)
◆ Thereafter	\$ -	\$ (15,487)

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Ware Housing Authority
◆ Current Proportionate Share		0.249186%
◆ Prior Proportionate Share		0.249733%
Beginning Net Pension Liability	\$ 185,840,982	\$ 464,105
Ending Net Pension Liability	\$ 215,567,235	\$ 537,163
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	43,684
◆ Changes of Assumptions	6,839,448	17,043
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	50,315
◆ Total Deferred Outflows of Resources	\$ 27,594,231	\$ 111,042
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 5,227
◆ Changes of Assumptions	7,052,269	\$ 17,573
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 910
◆ Total Deferred Inflows of Resources	\$ 12,373,672	\$ 23,710
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 69,185
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	27,532
◆ Total Employer Pension Expense	\$ 27,764,540	\$ 96,717
Covered Payroll:	\$ 84,192,999	\$ 205,461
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 537,163
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 686,396
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 410,898
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 45,839
◆ 2020	\$ 3,078,395	\$ 20,335
◆ 2021	\$ 868,259	\$ 5,716
◆ 2022	\$ 5,140,840	\$ 16,057
◆ 2023	\$ (1,213,707)	\$ (491)
◆ Thereafter	\$ -	\$ (124)

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Westhampton
◆ Current Proportionate Share		0.887322%
◆ Prior Proportionate Share		0.876246%
Beginning Net Pension Liability	\$ 185,840,982	\$ 1,628,425
Ending Net Pension Liability	\$ 215,567,235	\$ 1,912,776
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	155,555
◆ Changes of Assumptions	6,839,448	60,688
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	91,615
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 307,858</u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 18,611
◆ Changes of Assumptions	7,052,269	\$ 62,576
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 72,392
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 153,579</u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 246,361
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(8,274)
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 238,087</u>
Covered Payroll:	\$ 84,192,999	\$ 722,247
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 1,912,776
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 2,444,176
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 1,463,162
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 56,917
◆ 2020	\$ 3,078,395	\$ 11,607
◆ 2021	\$ 868,259	\$ 19,837
◆ 2022	\$ 5,140,840	\$ 61,195
◆ 2023	\$ (1,213,707)	\$ 2,208
◆ Thereafter	\$ -	\$ 2,515

Hampshire County Retirement System
Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Williamsburg
◆ Current Proportionate Share		1.225737%
◆ Prior Proportionate Share		1.205426%
<i>Beginning Net Pension Liability</i>	\$ 185,840,982	\$ 2,240,175
<i>Ending Net Pension Liability</i>	\$ 215,567,235	\$ 2,642,288
<i>Total Deferred Outflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	214,882
◆ Changes of Assumptions	6,839,448	83,834
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	149,505
◆ Total Deferred Outflows of Resources	<u>\$ 27,594,231</u>	<u>\$ 448,221</u>
<i>Total Deferred Inflows of Resources:</i>		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 25,709
◆ Changes of Assumptions	7,052,269	\$ 86,442
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 108,025
◆ Total Deferred Inflows of Resources	<u>\$ 12,373,672</u>	<u>\$ 220,176</u>
<i>Employer Pension Expense:</i>		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 340,320
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(40,324)
◆ Total Employer Pension Expense	<u>\$ 27,764,540</u>	<u>\$ 299,996</u>
<i>Covered Payroll:</i>	\$ 84,192,999	\$ 1,003,264
<i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i>		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 2,642,288
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 3,376,359
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 2,021,196
<i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i>		
◆ 2019	\$ 7,346,772	\$ 49,726
◆ 2020	\$ 3,078,395	\$ 32,095
◆ 2021	\$ 868,259	\$ 38,561
◆ 2022	\$ 5,140,840	\$ 93,007
◆ 2023	\$ (1,213,707)	\$ 10,043
◆ Thereafter	\$ -	\$ 4,613

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2018	Hampshire County Retirement System	Worthington
◆ Current Proportionate Share		0.504452%
◆ Prior Proportionate Share		0.544259%
Beginning Net Pension Liability	\$ 185,840,982	\$ 1,011,456
Ending Net Pension Liability	\$ 215,567,235	\$ 1,087,433
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	17,530,818	88,435
◆ Changes of Assumptions	6,839,448	34,502
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	206,824
◆ Total Deferred Outflows of Resources	<u><u>\$ 27,594,231</u></u>	<u><u>\$ 329,761</u></u>
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 2,097,438	\$ 10,581
◆ Changes of Assumptions	7,052,269	\$ 35,575
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	3,223,965	\$ 80,058
◆ Total Deferred Inflows of Resources	<u><u>\$ 12,373,672</u></u>	<u><u>\$ 126,214</u></u>
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 27,764,540	\$ 140,059
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	46,625
◆ Total Employer Pension Expense	<u><u>\$ 27,764,540</u></u>	<u><u>\$ 186,684</u></u>
Covered Payroll:	\$ 84,192,999	\$ 487,545
Sensitivity of the Net Pension Liability to changes in the discount rate:		
◆ Current discount rate: 7.45%	\$ 215,567,235	\$ 1,087,433
◆ 1% decrease in the discount rate: 6.45%	\$ 275,455,356	\$ 1,389,540
◆ 1% increase in the discount rate: 8.45%	\$ 164,896,357	\$ 831,823
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:		
◆ 2019	\$ 7,346,772	\$ 83,688
◆ 2020	\$ 3,078,395	\$ 69,588
◆ 2021	\$ 868,259	\$ 20,743
◆ 2022	\$ 5,140,840	\$ 37,755
◆ 2023	\$ (1,213,707)	\$ 813
◆ Thereafter	\$ -	\$ (9,040)

Hampshire County Retirement System
 Financial Reporting and Disclosures Under GASB 67 and GASB 68 as of December 31, 2018

APPENDIX D - CALCULATION OF SINGLE DISCOUNT RATE

Under GASB 67, a series of projections and calculations are used to determine the discount rate for the purpose of the measurement of the Total Pension Liability. The discount rate is the single rate that reflects (1) the long-term expected rate of return on pension plan investments that are expected to be used to finance the payment of benefits, to the extent that the pension plan's Fiduciary Net Position is projected to be sufficient to make projected benefit payments and pension plan assets are expected to be invested using a strategy to achieve that return, and (2) a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher, to the extent that the conditions for use of the long-term expected rate of return are not met.

Projected cash flows into and out of the pension plan are assumed to be contributions to the pension plan, benefit payments, pension plan administrative expenses and pension plan investment earnings. These projected cash flows are used to project the pension plan's Fiduciary Net Position at the beginning of each period. The pension plan's projected Fiduciary Net Position at the beginning of each period is compared to the amount of benefit payments projected to occur in that period.

It is assumed that the pension plan's Fiduciary Net Position is expected to always be invested using a strategy to achieve the long-term expected rate of return on pension plan investments.

The benefit payments that are projected to occur in a period are discounted using the long-term expected rate of return on pension plan investments if the amount of the pension plan's beginning Fiduciary Net Position is projected to be sufficient to make the benefit payments in that period. In periods in which benefit payments are projected to be greater than the amount of the pension plan's Fiduciary Net Position, they are discounted using a municipal bond rate as required by GASB 67.

For purposes of this valuation, the long-term expected rate of return on pension plan investments is 7.45%; the municipal bond rate is 4.1%, based on the December 2018 Bond Buyer Index as published by the Federal Reserve. For each period, the pension plan's Fiduciary Net Position is projected to be sufficient to make the benefit payments in that period, therefore, the resulting single discount rate is based solely on the long-term expected rate of return of 7.45%.