

**NORFOLK COUNTY
CONTRIBUTORY RETIREMENT SYSTEM**

December 31, 2021 Actuarial Valuation Report

GASB 67 & 68

TABLE OF CONTENTS

	<u>Page</u>
REPORT SUMMARY	
Introduction	1
GASB Statements No. 67 & No. 68	2
EXHIBITS	
1 Age/Service Distribution with Salary	19
2 Retiree Distribution	20
3 Disabled Retiree Distribution	21
4 Summary of Plan Provisions	22
5 Actuarial Methods and Assumptions	31
CERTIFICATION	36

Introduction

This report presents the Governmental Accounting Standards Statements 67 & 68 based on the findings of an actuarial valuation as of January 1, 2022, of the Norfolk County Contributory Retirement System.

The actuarial valuation is based on:

- Provisions of Chapter 32 of the Massachusetts General Laws, "M.G.L", as of January 1, 2022.
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employee Retirement Administration Commission by the Norfolk County Contributory Retirement System
- Actuarial assumptions approved by the Retirement Board
- Assets as of December 31, 2021

The valuation and appropriation forecast are prepared in accordance with Chapter 32 of the M.G.L. as of January 1, 2022.

The valuation and forecast do not account for:

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

GASB Statements No. 67 and No. 68

Effective for periods beginning after June 15, 2013, the Governmental Accounting Standards Board (GASB) requires the disclosure of pension related liabilities for public employer financial statements in accordance with Statements 67 and 68. These statements, which amend GASB Statements No. 25 and No. 27, must be adhered to by any public employee retirement system that follows Generally Accepted Accounting Principles (GAAP).

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

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

The statement requires the system to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position. The statement of fiduciary net position presents the following items as of the end of the plan’s reporting period, as applicable:

- Assets
- Deferred outflows of resources (consumption of net assets by the employers that is applicable to a future reporting period)
- Liabilities
- Deferred inflows of resources (acquisition of net assets by the employers that is applicable to a future reporting period)
- Fiduciary net position (Assets + Deferred outflows – Liabilities – Deferred inflows)

The system is considered a cost-sharing multiple-employer pension plan since pension obligations exist for employees of more than one employer and plan assets can be used to pay the benefits of the employees of any employer.

This report does not include all items required under GASB Statements No. 67 and No. 68. Rather, it provides all items required that are not readily available from other sources such as the Annual Statement of the Financial Condition prepared by the Board, Chapter 32 of the Massachusetts General Laws and investment reports prepared by the plan’s investment consultant.

Discount Rate

The discount rate, and all other actuarial assumptions, are the as those described in Exhibit 5. The discount rate was selected based on a projection of employer and employee contributions, benefit payments, expenses and the long term expected rate of return on trust assets. Under Chapter 32 of the Massachusetts Laws, employers are required to make the necessary contributions to the trust such that the plan reaches a full funding status by 2040. In addition, Chapter 32 also gives the Retirement Board the right to go directly to the Assessors of the community and add an additional property tax to bills for amounts not paid by employer.

Based on these laws and assumptions, the pensions plan's Fiduciary Net Position was projected to be available to make all projected future 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.

The Board selected 7.75% as the long term expectation of investment returns. The average return for the 37 years ending as of December 31, 2021 was 8.94%. The average return for the past 10 years ending December 31, 2021 was 10.14%.

Net Position Restricted for Pensions

The Net Position Restricted for Pensions as of December 31, 2021 is \$1,424,456,980. The 2021 Annual Statement of the Financial Condition contains the values for previous years and the changes in Net Position Restricted for Pensions. Investments are reported at fair value.

December 31, 2020 Net Position	1,200,764,127
Employer Contributions	85,675,573
Employee Contributions	35,368,123
Other Payments	3,818,150
Benefit Payments	(121,950,438)
Expenses	(1,422,126)
Investment Income	<u>222,203,571</u>
December 31, 2021 Net Position	1,424,456,980

Pension Liability as of December 31, 2021

The following presents the changes in the pension liability during 2021.

December 31, 2020 Liability	1,711,518,701
Service Cost	38,807,940
Interest on Liability and Service Cost	131,012,909
Change in Plan Provisions	0
Experience (Gain) and Loss	33,610,962
Change in Assumptions	0
Benefit Payments	(121,950,438)
Other	<u>0</u>
December 31, 2021 Liability	1,793,000,074

Net Pension Liability as of December 31, 2021

The following presents the net pension liability of the system calculated using the discount rate of 7.75%, as well as what the system's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.75%) or 1-percentage-point higher (8.75%) than the current rate:

	1% Decrease (6.75%)	Current Discount Rate (7.75%)	1% Increase (8.75%)
Total Pension Liability	1,980,079,348	1,793,000,074	1,634,011,967
Plan Fiduciary Net Position	<u>1,424,456,980</u>	<u>1,424,456,980</u>	<u>1,424,456,980</u>
Net Pension Liability	555,622,368	368,543,094	209,554,987

The Plan Fiduciary Net Position as a percentage of the Total Pension Liability is 79.4%.

		1% Decrease (6.75%)	Current Discount Rate (7.75%)	1% Increase (8.75%)
Avon Housing Auth.	AHA	104,886	63,021	44,815
Town of Avon	AVO	11,171,303	6,712,275	4,773,165
Town of Bellingham	BEL	23,585,907	14,171,588	10,077,554
Bellingham Hous. Auth.	BHA	358,208	215,229	153,052
Town of Canton	CAN	46,248,692	27,788,518	19,760,686
Canton Housing Auth.	CHA	793,087	476,526	338,862
Cohasset Housing Auth.	CHH	140,462	84,396	60,015
Town of Cohasset	COH	22,883,599	13,749,606	9,777,479
Charles Riv. Poll. Cont.	CRP	1,206,498	724,924	515,501
County of Norfolk	CTY	30,431,113	18,284,529	13,002,307
Town of Dover	DOV	10,572,654	6,352,577	4,517,380
Dover/Shearborne Schl.	DSR	5,860,748	3,521,429	2,504,123
Foxboro Housing Auth.	FHA	810,875	487,214	346,463
Franklin Housing Auth.	FHH	754,445	453,308	322,352
Town of Foxboro	FOX	39,186,353	23,545,113	16,743,159
Town of Franklin	FRA	47,920,738	28,793,166	20,475,102
Holbrook Housing Auth	HHA	414,638	249,135	177,162
Town of Holbrook	HOL	17,178,033	10,321,418	7,339,661
Massachusetts Respiratory	HOS	-	-	-
King Phillip Reg School	KPR	6,280,293	3,773,513	2,683,382
Town of Medway	MDW	23,415,390	14,069,133	10,004,698
Town of Medfield	MED	22,226,066	13,354,528	9,496,535
Medfield Housing Auth.	MHA	123,901	74,446	52,939
Medway Housing Auth.	MHH	570,434	342,745	243,729
Town of Millis	MIL	15,765,443	9,472,663	6,736,103
Millis Housing Auth.	MLH	413,411	248,398	176,638
Norfolk Housing Auth.	NHA	281,537	169,161	120,292
Norfolk Cnty Mos. Con.	NMC	1,731,543	1,040,397	739,837
Town of Norfolk	NOR	18,505,979	11,119,314	7,907,053
Town of Plainville	PLA	17,136,937	10,296,726	7,322,102
Town of Randolph	RAN	50,393,232	30,278,764	21,531,524
Norfolk County Ret BD	RET	-	-	-
Randolph Housing Auth	RHA	820,075	492,742	350,394
Town of Sharon	SHA	35,328,871	21,227,345	15,094,972
Sharon Housing Auth.	SHH	293,804	176,532	125,534
Stoughton Hous. Auth.	STH	818,849	492,005	349,870
Town of Stoughton	STO	47,996,183	28,838,497	20,507,337
Town of Walpole	WAL	42,753,712	25,688,559	18,267,385
Town of Westwood	WES	43,867,591	26,357,834	18,743,313
Walpole Housing Auth.	WHA	483,335	290,412	206,515
Town of Wrentham	WRE	17,233,850	10,354,955	7,363,510
Wrentham Hous. Auth.	WRH	226,947	136,361	96,968
Dedham-Westwood Water Dist	DWW	4,472,079	2,687,048	1,910,786
Metacomet Emergency Comm	MEC	2,608,048	1,567,045	1,114,341

Employer Contributions during 2021

	<u>Unit</u>	<u>Contribution</u>	<u>Portion</u>
Avon Housing Auth.	AHA	14,625	0.000171
Town of Avon	AVO	1,560,397	0.018213
Town of Bellingham	BEL	3,294,448	0.038453
Bellingham Hous. Auth.	BHA	50,042	0.000584
Town of Canton	CAN	6,460,105	0.075401
Canton Housing Auth.	CHA	110,816	0.001293
Cohasset Housing Auth.	CHH	19,592	0.000229
Town of Cohasset	COH	3,196,405	0.037308
Charles Riv. Poll. Cont.	CRP	168,551	0.001967
County of Norfolk	CTY	4,250,660	0.049613
Town of Dover	DOV	1,476,817	0.017237
Dover/Shearborne Schl.	DSR	818,615	0.009555
Foxboro Housing Auth.	FHA	113,243	0.001322
Franklin Housing Auth.	FHH	105,417	0.001230
Town of Foxboro	FOX	5,473,537	0.063887
Town of Franklin	FRA	6,693,600	0.078127
Holbrook Housing Auth	HHA	57,884	0.000676
Town of Holbrook	HOL	2,399,401	0.028006
Massachusetts Respiratory	HOS	-	-
King Phillip Reg School	KPR	877,257	0.010239
Town of Medway	MDW	3,270,645	0.038175
Town of Medfield	MED	3,104,509	0.036236
Medfield Housing Auth.	MHA	17,312	0.000202
Medway Housing Auth.	MHH	79,669	0.000930
Town of Millis	MIL	2,202,128	0.025703
Millis Housing Auth.	MLH	57,703	0.000674
Norfolk Housing Auth.	NHA	39,297	0.000459
Norfolk Cnty Mos. Con.	NMC	241,892	0.002823
Town of Norfolk	NOR	2,584,928	0.030171
Town of Plainville	PLA	2,393,709	0.027939
Town of Randolph	RAN	7,038,967	0.082158
Norfolk County Ret BD	RET	-	-
Randolph Housing Auth	RHA	114,539	0.001337
Town of Sharon	SHA	4,934,782	0.057598
Sharon Housing Auth.	SHH	41,045	0.000479
Stoughton Hous. Auth.	STH	114,413	0.001335
Town of Stoughton	STO	6,704,071	0.078250
Town of Walpole	WAL	5,971,806	0.069703
Town of Westwood	WES	6,127,415	0.071519
Walpole Housing Auth.	WHA	67,471	0.000788
Town of Wrentham	WRE	2,407,240	0.028097
Wrentham Hous. Auth.	WRH	31,673	0.000370
Dedham-Westwood Water Dist	DWW	624,629	0.007291
Metacomet Emergency Comm	MEC	364,318	0.004252

Pension Expense for 2021

Service Cost	38,807,940
Interest	131,012,909
Difference in Experience - Amortization	22,152,127
Change in Assumptions - Amortization	2,289,450
Changes in Plan Provisions	0
Employee Contributions	(35,368,123)
Projected Earnings	(93,115,853)
Administration Expense	1,422,126
Other Changes in Fiduciary Net Position	0
Asset (Gain) / Loss Amortization	<u>(37,241,215)</u>
Total Expense	29,959,361

Reconciliation of Net Pension Liability for 2021

NPL Beginning	510,754,574
Expense*	29,959,361
Contribution	(85,675,573)
Deferred Outflow changes	(16,375,394)
Deferred Inflow changes	(66,301,724)
Revenue	<u>(3,818,150)</u>
NPL Ending	368,543,094

Schedules of Required Supplementary Information

	<u>2021</u>
Total Pension Liability – Beginning	1,711,518,701
Total Pension Liability – Ending (a)	1,793,000,074
Plan Fiduciary Net Position – Beginning	1,200,764,127
Plan Fiduciary Net Position – Ending (b)	1,424,456,980
Net Pension Liability – Ending (a) – (b)	368,543,094
Plan Fiduciary Net Positions as a percentage of the Total Pension Liability	79.4%
Covered-employee payroll	339,571,217
Net Pension Liability as a percentage of Covered-employee Payroll	108.5%

Schedule of Net Position Restricted for Pensions Amortization Recognition

Below is the schedule of amortization adjustments to the Pension Expense for the coming years. A positive number indicates that the actual return was less than the expected return and will be added to the Pension Expense.

Investment Return

<u>Year</u>	<u>(Gain) / Loss</u>	<u>Period</u>	<u>Increase (Decrease) arising from (Gains) or Losses</u>				
			<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
2021	(129,087,718)	5	(25,817,544)	(25,817,544)	(25,817,544)	(25,817,544)	(25,817,542)
2020	(40,896,153)	5	(8,183,748)	(8,179,231)	(8,179,231)	(8,179,229)	
2019	(85,246,700)	5	(17,049,340)	(17,049,340)	(17,049,340)		
2018	127,723,896	5	25,544,779	25,544,780			
2017	(58,699,395)	5	(11,739,879)				

Experience

<u>Year</u>	<u>(Gain) / Loss</u>	<u>Period</u>	<u>Increase (Decrease) arising from (Gains) or Losses</u>				
			<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
2021	33,610,962	4.08	8,237,981	8,237,981	8,237,981	8,237,981	659,038
2019	41,916,868	4.19	10,004,026	10,004,026	1,900,764		
2017	61,837,812	4.27	3,910,120				

Assumptions

<u>Year</u>	<u>(Gain) / Loss</u>	<u>Period</u>	<u>Increase (Decrease) arising from (Gains) or Losses</u>				
			<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
2017	36,207,214	4.27	2,289,450				

	<u>Avon</u> <u>Housing</u> <u>Auth.</u>	<u>Town of</u> <u>Avon</u>	<u>Town of</u> <u>Bellingham</u>	<u>Bellingham</u> <u>Hous. Auth.</u>	<u>Town of</u> <u>Canton</u>	<u>Canton</u> <u>Housing Auth.</u>
Net Pension Liability	63,021	6,712,275	14,171,588	215,229	27,788,518	476,526
Deferred Outflows of Resources						
Differences between Expected and Actual Experience	6,375	678,940	1,433,442	21,770	2,810,782	48,200
Net Asset Loss	4,368	465,247	982,273	14,918	1,926,102	33,029
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer						
Contributions and proportionate share of contributions	51	196,666	18,553	64,829	96,994	27,361
Total Deferred Outflows	10,794	1,340,853	2,434,268	101,517	4,833,878	108,590
Deferred Inflows of Resources						
Differences between Expected and Actual Experience	0	0	0	0	0	0
Net Asset Gain	27,686	2,948,804	6,225,792	94,553	12,207,914	209,346
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer						
Contributions and proportionate share of contributions	25,109	121,763	2,387,345	1,652	0	33,635
Total Deferred Inflows	52,795	3,070,567	8,613,137	96,205	12,207,914	242,981
Pension Expense						
Proportionate share of plan Pension Expense	5,123	545,650	1,152,027	17,496	2,258,966	38,737
Net Amortization from changes in Share Proportions	(20,798)	(43,028)	(870,730)	20,636	9,099	(19,903)
Total Employer Pension Expense	(15,675)	502,622	281,297	38,132	2,268,065	18,834
Revenue	653	69,540	146,819	2,230	287,892	4,937

	<u>Cohasset Housing Auth.</u>	<u>Town of Cohasset</u>	<u>Charles Riv. Poll. Cont.</u>	<u>County of Norfolk</u>	<u>Town of Dover</u>	<u>Dover/Shearb orne Schl.</u>
Net Pension Liability	84,396	13,749,606	724,924	18,284,529	6,352,577	3,521,429
Deferred Outflows of Resources						
Differences between Expected and Actual Experience	8,536	1,390,759	73,326	1,849,463	642,556	356,189
Net Asset Loss	5,850	953,025	50,247	1,267,353	440,315	244,080
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	0	1,726,162	6,553	65,137	13,622	103,656
Total Deferred Outflows	14,386	4,069,946	130,126	3,181,953	1,096,493	703,925
Deferred Inflows of Resources						
Differences between Expected and Actual Experience	0	0	0	0	0	0
Net Asset Gain	37,076	6,040,411	318,471	8,032,669	2,790,783	1,547,018
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	3,264	477,807	152,649	914,666	689,922	866,441
Total Deferred Inflows	40,340	6,518,218	471,120	8,947,335	3,480,705	2,413,459
Pension Expense						
Proportionate share of plan Pension Expense	6,861	1,117,724	58,930	1,486,374	516,410	286,262
Net Amortization from changes in Share Proportions	(1,519)	183,441	(49,689)	238,370	(243,084)	(224,005)
Total Employer Pension Expense	5,342	1,301,165	9,241	1,724,744	273,326	62,257
Revenue	874	142,448	7,510	189,430	65,813	36,482

	<u>Foxboro Housing Auth.</u>	<u>Franklin Housing Auth.</u>	<u>Town of Foxboro</u>	<u>Town of Franklin</u>	<u>Holbrook Housing Auth</u>	<u>Town of Holbrook</u>
Net Pension Liability	487,214	453,308	23,545,113	28,793,166	249,135	10,321,418
Deferred Outflows of Resources						
Differences between Expected and Actual Experience	49,281	45,852	2,381,565	2,912,401	25,200	1,044,002
Net Asset Loss	33,770	31,420	1,631,979	1,995,737	17,268	715,407
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	135,221	1,071	328,215	803,036	44,098	10,109
Total Deferred Outflows	218,272	78,343	4,341,759	5,711,174	86,566	1,769,518
Deferred Inflows of Resources						
Differences between Expected and Actual Experience	0	0	0	0	0	0
Net Asset Gain	214,040	199,144	10,343,724	12,649,274	109,450	4,534,353
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	5,632	3,330	337,371	0	25,999	399,385
Total Deferred Inflows	219,672	202,474	10,681,095	12,649,274	135,449	4,933,738
Pension Expense						
Proportionate share of plan Pension Expense	39,606	36,850	1,914,014	2,340,635	20,253	839,042
Net Amortization from changes in Share Proportions	63,604	(3,358)	111,412	424,121	(6,604)	(231,585)
Total Employer Pension Expense	103,210	33,492	2,025,426	2,764,756	13,649	607,457
Revenue	5,048	4,696	243,930	298,301	2,581	106,931

	<u>Massachusetts</u> <u>Respiratory</u>	<u>King Phillip</u> <u>Reg School</u>	<u>Town of</u> <u>Medway</u>	<u>Town of</u> <u>Medfield</u>	<u>Medfield</u> <u>Housing Auth.</u>	<u>Medway</u> <u>Housing Auth.</u>
Net Pension Liability	0	3,773,513	14,069,133	13,354,528	74,446	342,745
Deferred Outflows of Resources						
Differences between Expected and Actual Experience	0	381,687	1,423,080	1,350,797	7,530	34,669
Net Asset Loss	0	261,553	975,172	925,641	5,160	23,757
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer						
Contributions and proportionate share of contributions	0	81,312	1,205,850	158,340	268	645
Total Deferred Outflows	0	724,552	3,604,102	2,434,778	12,958	59,071
Deferred Inflows of Resources						
Differences between Expected and Actual Experience	0	0	0	0	0	0
Net Asset Gain	0	1,657,760	6,180,783	5,866,845	32,705	150,574
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer						
Contributions and proportionate share of contributions	0	149,472	0	338,161	3,839	123,735
Total Deferred Inflows	0	1,807,232	6,180,783	6,205,006	36,544	274,309
Pension Expense						
Proportionate share of plan Pension Expense	0	306,754	1,143,699	1,085,607	6,052	27,862
Net Amortization from changes in Share Proportions	0	(101,950)	409,672	(10,278)	(2,910)	(50,891)
Total Employer Pension Expense	0	204,804	1,553,371	1,075,329	3,142	(23,029)
Revenue	0	39,094	145,758	138,354	771	3,551

	<u>Town of Millis</u>	<u>Millis Housing Auth.</u>	<u>Norfolk Housing Auth.</u>	<u>Norfolk Cnty Mos. Con.</u>	<u>Town of Norfolk</u>	<u>Town of Plainville</u>
Net Pension Liability	9,472,663	248,398	169,161	1,040,397	11,119,314	10,296,726
Deferred Outflows of Resources						
Differences between Expected and Actual Experience	958,150	25,125	17,110	105,235	1,124,707	1,041,503
Net Asset Loss	656,577	17,217	11,725	72,113	770,712	713,696
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	553,904	35,241	1,410	7,150	5,803	625,617
Total Deferred Outflows	2,168,631	77,583	30,245	184,498	1,901,222	2,380,816
Deferred Inflows of Resources						
Differences between Expected and Actual Experience	0	0	0	0	0	0
Net Asset Gain	4,161,484	109,125	74,315	457,062	4,884,882	4,523,506
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	66,717	80	2,755	3,783	37,575	33,038
Total Deferred Inflows	4,228,201	109,205	77,070	460,845	4,922,457	4,556,544
Pension Expense						
Proportionate share of plan Pension Expense	770,045	20,193	13,751	84,575	903,904	837,035
Net Amortization from changes in Share Proportions	127,276	15,767	178	(2,330)	(43,447)	176,567
Total Employer Pension Expense	897,321	35,960	13,929	82,245	860,457	1,013,602
Revenue	98,138	2,573	1,753	10,779	115,197	106,675

	<u>Town of</u>	<u>Norfolk</u>	<u>Randolph</u>	<u>Town of</u>	<u>Sharon</u>	<u>Stoughton</u>
	<u>Randolph</u>	<u>County Ret</u>	<u>Housing Auth</u>	<u>Sharon</u>	<u>Housing Auth.</u>	<u>Hous. Auth.</u>
		<u>BD</u>				
Net Pension Liability	30,278,764	0	492,742	21,227,345	176,532	492,005
Deferred Outflows of Resources						
Differences between Expected and Actual Experience	3,062,667	0	49,840	2,147,125	17,856	49,766
Net Asset Loss	2,098,708	0	34,153	1,471,328	12,236	34,102
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer						
Contributions and proportionate share of contributions	376,905	0	64,255	105,190	116,634	95,784
Total Deferred Outflows	5,538,280	0	148,248	3,723,643	146,726	179,652
Deferred Inflows of Resources						
Differences between Expected and Actual Experience	0	0	0	0	0	0
Net Asset Gain	13,301,918	0	216,470	9,325,492	77,552	216,145
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer						
Contributions and proportionate share of contributions	487,269	0	475	666,094	29,107	0
Total Deferred Inflows	13,789,187	0	216,945	9,991,586	106,659	216,145
Pension Expense						
Proportionate share of plan Pension Expense	2,461,401	0	40,056	1,725,599	14,351	39,996
Net Amortization from changes in Share Proportions	83,042	0	51,954	(185,279)	16,967	37,804
Total Employer Pension Expense	2,544,443	0	92,010	1,540,320	31,318	77,800
Revenue	313,692	0	5,105	219,918	1,829	5,097

	<u>Town of Stoughton</u>	<u>Town of Walpole</u>	<u>Town of Westwood</u>	<u>Walpole Housing Auth.</u>	<u>Town of Wrentham</u>	<u>Wrentham Hous. Auth.</u>
Net Pension Liability	28,838,497	25,688,559	26,357,834	290,412	10,354,955	136,361
Deferred Outflows of Resources						
Differences between Expected and Actual Experience	2,916,986	2,598,373	2,666,069	29,375	1,047,394	13,792
Net Asset Loss	1,998,879	1,780,548	1,826,937	20,129	717,732	9,452
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	256,648	679,982	24,928	5,654	151,998	2,522
Total Deferred Outflows	5,172,513	5,058,903	4,517,934	55,158	1,917,124	25,766
Deferred Inflows of Resources						
Differences between Expected and Actual Experience	0	0	0	0	0	0
Net Asset Gain	12,669,188	11,285,372	11,579,394	127,582	4,549,088	59,906
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	187,843	503,919	327,888	3,137	235,828	6,268
Total Deferred Inflows	12,857,031	11,789,291	11,907,282	130,719	4,784,916	66,174
Pension Expense						
Proportionate share of plan Pension Expense	2,344,320	2,088,257	2,142,664	23,608	841,768	11,085
Net Amortization from changes in Share Proportions	93,670	(226,600)	(165,337)	(950)	26,019	(354)
Total Employer Pension Expense	2,437,990	1,861,657	1,977,327	22,658	867,787	10,731
Revenue	298,770	266,137	273,070	3,009	107,279	1,413

	<u>Dedham- Westwood Water Dist</u>	<u>Metacomet Emergency Comm</u>	<u>Total</u>
Net Pension Liability	2,687,048	1,567,045	368,543,094
Deferred Outflows of Resources			
Differences between Expected and Actual Experience	271,791	158,505	37,277,770
Net Asset Loss	186,247	108,616	25,544,778
Changes in Assumptions	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	3,897	1,660,254	9,861,525
Total Deferred Outflows	461,935	1,927,375	72,684,073
Deferred Inflows of Resources			
Differences between Expected and Actual Experience	0	0	0
Net Asset Gain	1,180,462	688,427	161,906,546
Changes in Assumptions	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	208,561	0	9,861,514
Total Deferred Inflows	1,389,023	688,427	171,768,060
Pension Expense			
Proportionate share of plan Pension Expense	218,434	127,387	29,959,363
Net Amortization from changes in Share Proportions	(166,233)	581,263	(1)
Total Employer Pension Expense	52,201	708,650	29,959,362
Revenue	27,838	16,235	3,818,150

EXHIBITS

Exhibit 1 - Age/Service Distribution with Salary as of January 1, 2022

Attained Age	Average Salary	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
< 20	8	0	0	0	0	0	0	0	0	8
	28,689	0	0	0	0	0	0	0	0	28,689
20-24	234	0	0	0	0	0	0	0	0	234
	36,395	0	0	0	0	0	0	0	0	36,395
25-29	458	46	0	0	0	0	0	0	0	506
	45,998	59,049	0	0	0	0	0	0	0	47,240
30-34	346	158	38	0	1	0	0	0	0	545
	48,623	66,731	71,971	0	32,222	0	0	0	0	55,528
35-39	211	172	93	44	2	0	0	0	0	525
	47,715	65,179	83,342	80,368	66,002	0	0	0	0	62,408
40-44	197	106	81	87	24	1	0	0	0	497
	42,445	55,440	73,677	92,365	91,425	183,557	0	0	0	61,761
45-49	234	93	51	72	80	22	1	0	0	555
	39,072	52,480	76,175	83,495	95,545	97,646	78,307	0	0	60,976
50-54	243	172	111	91	115	102	32	2	0	870
	39,327	46,989	51,730	71,360	84,779	104,739	100,892	104,224	0	61,827
55-59	212	184	127	134	114	79	46	18	0	915
	38,033	46,107	50,036	54,923	69,019	92,624	97,768	91,262	0	56,418
60-64	194	80	94	132	137	67	41	18	4	768
	35,654	42,549	49,493	51,547	61,458	68,272	97,884	105,641	143,487	53,756
65-69	31	34	25	53	71	25	13	2	5	259
	45,931	48,966	48,862	46,540	54,346	65,508	55,398	77,431	83,117	52,370
70+	12	25	12	20	24	8	10	6	2	119
	29,317	37,402	53,801	45,059	52,471	33,574	67,225	49,596	60,420	45,817
Total Employees	2,380	1,070	632	633	568	304	143	46	11	5,801
Average Salary	42,236	54,016	61,637	65,733	72,460	88,200	92,377	91,416	100,943	56,184

Exhibit 2 - Retiree Distribution as of January 1, 2022

Attained Age	Number of Employees			Total Payments		
	Female	Male	Total	Female	Male	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	1	0	1	32,741.88	0	32,742
35-39	3	1	4	13,353	6,467	19,820
40-44	5	0	5	71,024	0	71,024
45-49	5	5	10	55,122	117,300	172,422
50-54	12	18	30	287,865	684,439	972,305
55-59	58	86	144	837,737	4,343,047	5,180,783
60-64	201	164	365	3,647,261	7,743,615	11,390,876
65-69	399	292	691	8,685,288	13,053,534	21,738,822
70-74	436	303	739	9,759,375	12,319,472	22,078,847
75-79	342	227	569	7,991,473	8,871,393	16,862,866
80-84	228	128	356	4,805,267	4,136,220	8,941,487
85-89	186	69	255	3,581,794	2,143,011	5,724,805
90-94	89	30	119	1,450,528	770,541	2,221,068
95+	37	7	44	419,282	206,880	626,163
Total	2002	1330	3332	41,638,110	54,395,920	96,034,030
Average (Age/Payment)	74.38	72.01	73.43	20,798	40,899	28,822
Frequency Percent	60.1	39.9	100	43.4	56.6	100

Exhibit 3 - Disabled Retiree Distribution as of January 1, 2022

Attained Age	Number of Employees			Total Payments		
	Female	Male	Total	Female	Male	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	1	0	1	6,287	0	6,287
35-39	0	1	1	0	53,513	53,513
40-44	2	2	4	13,742	88,630	102,373
45-49	5	3	8	145,706	151,963	297,669
50-54	5	38	43	188,807	1,699,792	1,888,599
55-59	11	42	53	421,060	2,062,565	2,483,625
60-64	15	41	56	329,370	1,920,271	2,249,642
65-69	12	45	57	286,578	2,106,692	2,393,270
70-74	8	56	64	199,396	2,289,342	2,488,738
75-79	9	37	46	262,689	1,355,845	1,618,534
80-84	4	29	33	151,849	922,204	1,074,053
85-89	3	7	10	58,460	261,621	320,081
90-94	1	3	4	15,231	55,142	70,374
95-99	1	0	1	18,871	0	18,871
Total	77	304	381	2,098,047	12,967,580	15,065,627
Average (Age/Payment)	65.75	67.39	67.05	27,247	42,657	39,542
Frequency Percent	20.2	79.8	100	13.9	86.1	100

EXHIBIT 4 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2022, and does not take into account any subsequent changes.

1. Administration

Each of the 104 contributory retirement systems for public employees of the Commonwealth of Massachusetts are guided by the applicable provisions of Chapter 32 of the Massachusetts General Laws and other applicable statutes. Although these boards operate semi-independently, there is a uniform set of rules governing benefits, eligibility, contributions, financing, and accounting.

2. Participation

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

There are four classes of membership as follows:

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

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

Chapter 176 of the Acts of 2011 created different plan provisions within these groups for those hired on or after April 2, 2012.

3. **Salary**

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

4. **Member Contributions**

Member contributions vary depending upon date hired as follows:

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

For Group 1 employees who become members on or after April 2, 2012, the Contribution Rate shall be 6% after the completion of 30 years of service.

5. **Average Salary**

Average salary is used to determine a participant's benefit. It is defined as the average salary during the three consecutive-year period that produces the highest average. (Alternatively, if a greater amount results, it is the average rate of salary earned during the period or periods, whether or not consecutive, that constitutes the last three years preceding retirement.). For employees who become members on or after April 2, 2012, the averaging period shall be five years.

6. **Creditable Service**

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

7. Service Retirement

a. Eligibility:

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

- (i) completion of 20 years of service
- (ii) for an employee hired prior to January 1, 1978, attainment of age 55 as an active member
- (iii) for an employee hired on or after January 1, 1978, attainment of age 55 as an active member and completion of ten years of service
- (iv) for a Group 1 employee hired on or after April 2, 2012, attainment of age 60 and completion of ten years of service

b. Benefit Amount:

The retirement allowance is determined as a product of the participant's Benefit Rate times Average Salary times Creditable Service, where Benefit Rate is determined from the following table for those hired prior to April 2, 2012:

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

For those hired after April 1, 2012 who retire with less than 30 years of service, the following rates are applied:

<u>Age at Retirement</u>	<u>Percentage of Average Salary</u>		
	<u>Group 1</u>	<u>Group 2</u>	<u>Group 4</u>
67 or Over	.0250	.0250	.0250
66	.0235	.0250	.0250
65	.0220	.0250	.0250
64	.0205	.0250	.0250
63	.0190	.0250	.0250
62	.0175	.0250	.0250
61	.0160	.0235	.0250
60	.0145	.0220	.0250
59		.0205	.0250
58		.0190	.0250
57		.0175	.0250
56		.0160	.0235
55		.0145	.0220
54			.0205
53			.0190
52			.0175
51			.0160
50			.0145

For those hired after April 1, 2012 who retire with at least 30 years of service, the following rates are applied:

Age at Retirement	Percentage of Average Salary		
	Group 1	Group 2	Group 4
67 or Over	.02500	.02500	.02500
66	.02375	.02500	.02500
65	.02250	.02500	.02500
64	.02125	.02500	.02500
63	.02000	.02500	.02500
62	.01875	.02500	.02500
61	.01750	.02375	.02500
60	.01625	.02250	.02500
59		.02125	.02500
58		.02000	.02500
57		.01875	.02500
56		.01750	.02375
55		.01625	.02250
54			.02125
53			.02000
52			.01875
51			.01750
50			.01625

8. Deferred Vested Retirement

a. Eligibility:

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

b. Benefit Amount:

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

c. Refund of Contributions:

In lieu of the deferred pension benefit, a member may elect to receive a refund of their accumulated contributions, with interest.

9. Accidental Disability

a. Eligibility:

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

b. Benefit Amount:

The accidental disability amount is 72% of annual salary plus \$871.56 per year for each child plus an additional annuity based upon accumulated Member Contributions with credited interest.

10. Ordinary Disability

a. Eligibility:

An ordinary disability occurs when a member becomes permanently and totally disabled due to sickness or injury that is not job related. In order to be eligible for an ordinary disability benefit, a member must have ten years of service (and be less than age 55 or age 60 if hired on or after April 2, 2012).

b. Benefit Amount:

The ordinary disability amount is equal to the accrued retirement benefit as if the member were age 55 (age 60 if hired on or after April 2, 2012). If the member was a veteran, the benefit is 50% of the member's final rate of Salary during the preceding 12 months, plus an annuity based upon accumulated Member Contributions plus credited interest. If the participant is over age 55 (age 60 if hired on or after April 2, 2012), he will receive not less than the superannuation allowance to which he is entitled.

11. Survivor Benefits**a. Occupational Death:**

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

b. Non-Occupational Death:

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

c. Refund of Contributions:

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

12. Cost-of-Living Increases

In accordance with the adoption of Chapter 17 of the Acts of 1997, the granting of a cost-of-living adjustment will be determined by an annual vote by the Retirement Board. The amount of increase will be based upon the Consumer Price Index, limited to a maximum of 3.0%, beginning on July 1. All retirees, disabled retirees, and beneficiaries who have been receiving benefits payments for at least one year as of July 1 are eligible for the adjustment. The maximum amount of pension benefit subject to a COLA is \$18,000. All COLAs granted to members after 1981 and prior to July 1, 1998 are deemed to be an obligation of the State and are not the liability of the Retirement System.

13. Postretirement Death Benefits

Any benefits following the death of a member after retirement are based upon the form of

benefit the participant elected at the time of retirement. There are three available forms as follows:

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

EXHIBIT 5 – ACTUARIAL METHODS AND ASSUMPTIONS:

The actuarial cost method, factors, and assumptions used in determining cost estimates are presented below. They are based on the 2015 Experience Study conducted by Sherman Actuarial Services, LLC.

1. Member Data

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

2. Valuation Date

January 1, 2022.

3. Actuarial Cost Method

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

4. Rate of Investment Return

It is assumed that the assets of the fund will accumulate at a compound annual rate of 7.75% per annum. This includes a 3% inflation assumption.

5. Salary Scale

It is assumed that salaries including longevity will increase at the following rates.

<u>Service</u>	<u>Rate</u>
0 - 1	5.50%
2	5.00%
3 - 4	4.50%
5	4.00%
6 +	3.50%

6. Cost-of-Living Increases

Cost-of-living increases have been assumed to be 3.0% of the lesser of the pension amount and \$18,000 per year.

7. Value of Investments

Assets held by the fund are valued at market value as reported to the Public Employees' Retirement Administration Commission (PERAC).

8. Annual Rate of Withdrawal Prior to Retirement

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

<u>Service</u>	<u>General Employees</u>	<u>Police and Fire Employees</u>
0	0.2080	0.0150
5	0.1020	0.0150
10	0.0650	0.0150
15	0.0417	0.0150
20	0.0400	0.0000
30	0.0000	0.0000

9. Annual Rate of Mortality

It is assumed that both pre-retirement mortality and beneficiary mortality is represented by the RP-2014 Blue Collar Mortality with Scale MP-2014, fully generational. Mortality for retired members for Group 1 and 2 is represented by the RP-2014 Blue Collar Mortality Table set forward five years for males and 3 years for females, fully generational. Mortality for retired members for Group 4 is represented by the RP-2014 Blue Collar Mortality Table set forward three years for males, and six years for females, fully generational. Mortality for disabled members for Group 1 and 2 is represented by the RP-2000 Mortality Table set forward six years. Mortality for disabled members for Group 4 is represented by the RP-2000 Mortality Table set forward two years. Generational adjusting is based on Scale MP-2014

Service Retirement

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages for those hired prior to April 2, 2012:

<u>Age</u>	<u>Male General Employees</u>	<u>Female General Employees</u>	<u>Male and Female Police and Fire Employees</u>
50	0.0360	0.1019	0.0144
51	0.0405	0.0714	0.0144
52	0.0437	0.0562	0.0123
53	0.0366	0.0448	0.0210
54	0.0451	0.0488	0.0569
55	0.0477	0.0469	0.0879
56	0.0574	0.0518	0.0931
57	0.0632	0.0509	0.0897
58	0.0765	0.0552	0.0846
59	0.0917	0.0645	0.1022
60	0.1057	0.0774	0.1455
61	0.1224	0.1038	0.1844
62	0.1473	0.1168	0.2741
63	0.1777	0.1440	0.1984
64	0.2136	0.1708	0.4139
65	0.2615	0.1939	1.00000
66	0.2682	0.1959	1.00000
67	0.2500	0.2000	1.00000
68	0.2500	0.2000	1.00000
69	0.2500	0.2000	1.00000
70 to 76	0.2500	0.2500	1.00000
77 to 79	0.3500	0.2500	1.00000
80	1.0000	1.0000	1.00000

10. Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages for those hired on or after April 2, 2012:

<u>Age</u>	<u>Male General Employees</u>	<u>Female General Employees</u>	<u>Male and Female Police and Fire Employees</u>
50	0.0000	0.0000	0.0072
51	0.0000	0.0000	0.0072
52	0.0000	0.0000	0.0062
53	0.0000	0.0000	0.0105
54	0.0000	0.0000	0.0105
55	0.0000	0.0000	0.0389
56	0.0000	0.0000	0.0631
57	0.0000	0.0000	0.0897
58	0.0000	0.0000	0.0846
59	0.0000	0.0000	0.1022
60	0.0477	0.0469	0.1455
61	0.0574	0.0518	0.1844
62	0.0632	0.0509	0.2741
63	0.0765	0.0552	0.1984
64	0.0917	0.0645	0.4139
65	0.1057	0.0774	1.0000
66	0.1224	0.1038	1.0000
67	0.1473	0.1168	1.0000
68	0.1777	0.1440	1.0000
69	0.2136	0.1708	1.0000
70	0.2615	0.1939	1.0000
70 to 76	0.2682	0.1959	1.0000
77 to 79	0.2500	0.2000	1.0000
80	1.0000	1.0000	1.0000

12. Annual Rate of Disability Prior to Retirement

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

<u>Attained Age</u>	<u>General Employees</u>	<u>Police and Fire Employees</u>
20	0.000100	0.000500
30	0.000152	0.000967
40	0.000663	0.002500
50	0.001271	0.007634

In addition, it is assumed for the general employees that 20% of all disabilities are ordinary (80% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

13. Family Composition

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

14. Administrative Expenses

The normal cost is increased by an amount equal to the anticipated administrative expenses for the upcoming fiscal year. The amount for fiscal year 2023 is \$1,775,000 and is anticipated to increase at 4.0% per year.

CERTIFICATION:

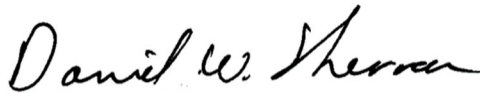
This report fairly represents the actuarial position of the Norfolk County Retirement System as of December 31, 2021, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal cost are reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

The funded status measure is appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations. The funded status measure is appropriate for assessing the need for or the amount of future contributions. The funded status measure would be different if the measure reflected the market value of assets rather than the actuarial value of assets.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such future measurements.

The report was prepared under the supervision of Daniel Sherman, an Associate of the Society of Actuaries and a Member of the American Academy of Actuaries, who takes responsibility for the overall appropriateness of the analysis, assumptions and results. Daniel Sherman is deemed to meet the General Qualification Standard and the basic education and experience requirement in the pension area. Based on over thirty years of performing valuations of similar complexity, Mr. Sherman is qualified by experience. Daniel Sherman has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sherman Actuarial Services, LLC



Daniel W. Sherman, ASA, MAAA

September, 2022