

**NORFOLK COUNTY  
CONTRIBUTORY RETIREMENT SYSTEM**

December 31, 2020 Actuarial Valuation Report

GASB 67 & 68

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## **Introduction**

This report presents the Governmental Accounting Standards Statements 67 & 68 based on the findings of an actuarial valuation as of January 1, 2020, of the Norfolk County Contributory Retirement System. Liabilities were rolled forward assuming all actuarial assumptions were realized.

The actuarial valuation is based on:

- Provisions of Chapter 32 of the Massachusetts General Laws, "M.G.L", as of January 1, 2020.
- 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, 2020

The valuation and appropriation forecast are prepared in accordance with Chapter 32 of the M.G.L. as of January 1, 2020.

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 35 years ending as of December 31, 2019 was 8.59%. The average return for the past 10 years ending December 31, 2019 was 8.59%.

## Net Position Restricted for Pensions

The Net Position Restricted for Pensions as of December 31, 2020 is \$1,200,764,127. The 2020 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, 2019 Net Position	1,070,461,310
Employer Contributions	80,090,560
Employee Contributions	33,847,164
Other Payments	4,146,800
Benefit Payments	(110,709,576)
Expenses	(1,165,174)
Investment Income	<u>124,093,043</u>
December 31, 2020 Net Position	1,200,764,127

**Pension Liability as of December 31, 2020**

The following presents the changes in the pension liability during 2020.

December 31, 2019 Liability	1,657,574,687
Service Cost	37,495,594
Interest on Liability and Service Cost	127,157,997
Change in Plan Provisions	0
Experience (Gain) and Loss	0
Change in Assumptions	0
Benefit Payments	(110,709,576)
Other	<u>0</u>
December 31, 2020 Liability	1,711,518,701

**Net Pension Liability as of December 31, 2020**

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:

	<b>1% Decrease (6.75%)</b>	<b>Current Discount Rate (7.75%)</b>	<b>1% Increase (8.75%)</b>
Total Pension Liability	1,888,375,226	1,711,518,701	1,558,634,203
Plan Fiduciary Net Position	<u>1,200,764,127</u>	<u>1,200,764,127</u>	<u>1,200,764,127</u>
Net Pension Liability	687,611,099	510,754,574	357,870,076

The Plan Fiduciary Net Position as a percentage of the Total Pension Liability is 70.2%.

		<b>1% Decrease (6.75%)</b>	<b>Current Discount Rate (7.75%)</b>	<b>1% Increase (8.75%)</b>
Avon Housing Auth.	AHA	118,269	87,850	61,554
Town of Avon	AVO	12,190,657	9,055,168	6,344,679
Town of Bellingham	BEL	30,578,066	22,713,256	15,914,482
Bellingham Hous. Auth.	BHA	287,422	213,496	149,590
Town of Canton	CAN	51,786,055	38,466,459	26,952,269
Canton Housing Auth.	CHA	840,949	624,653	437,675
Cohasset Housing Auth.	CHH	161,589	120,027	84,100
Town of Cohasset	COH	22,635,470	16,813,530	11,780,725
Charles Riv. Poll. Cont.	CRP	1,621,387	1,204,359	843,858
County of Norfolk	CTY	35,090,170	26,064,827	18,262,826
Town of Dover	DOV	13,067,361	9,706,380	6,800,963
Dover/Shearborne Schl.	DSR	8,095,933	6,013,624	4,213,562
Foxboro Housing Auth.	FHA	739,870	549,572	385,068
Franklin Housing Auth.	FHH	844,387	627,207	439,465
Town of Foxboro	FOX	44,523,506	33,071,869	23,172,445
Town of Franklin	FRA	53,009,315	39,375,092	27,588,920
Holbrook Housing Auth	HHA	387,125	287,555	201,481
Town of Holbrook	HOL	19,677,367	14,616,264	10,241,168
Massachusetts Respiratory	HOS	0	0	0
King Phillip Reg School	KPR	6,906,366	5,130,019	3,594,447
Town of Medway	MDW	24,167,467	17,951,491	12,578,060
Town of Medfield	MED	25,511,747	18,950,016	13,277,696
Medfield Housing Auth.	MHA	139,585	103,683	72,648
Medway Housing Auth.	MHH	831,322	617,502	432,665
Town of Millis	MIL	16,720,639	12,420,019	8,702,327
Millis Housing Auth.	MLH	414,630	307,985	215,796
Norfolk Housing Auth.	NHA	320,427	238,012	166,768
Norfolk Cnty Mos. Con.	NMC	1,930,125	1,433,688	1,004,541
Town of Norfolk	NOR	20,769,981	15,427,853	10,809,824
Town of Plainville	PLA	18,126,116	13,464,001	9,433,813
Town of Randolph	RAN	57,350,891	42,599,996	29,848,511
Norfolk County Ret BD	RET	0	0	0
Randolph Housing Auth	RHA	917,273	681,347	477,399
Town of Sharon	SHA	40,778,089	30,289,789	21,223,127
Sharon Housing Auth.	SHH	124,458	92,447	64,775
Stoughton Hous. Auth.	STH	765,311	568,470	398,309
Town of Stoughton	STO	54,136,309	40,212,218	28,175,469
Town of Walpole	WAL	46,769,932	34,740,505	24,341,607
Town of Westwood	WES	49,688,153	36,908,147	25,860,407
Walpole Housing Auth.	WHA	532,899	395,835	277,349
Town of Wrentham	WRE	19,735,126	14,659,167	10,271,229
Wrentham Hous. Auth.	WRH	265,418	197,151	138,138
Dedham-Westwood Water Dist	DWW	5,053,942	3,754,046	2,630,345
Metacomet Emergency Comm	MEC	-	-	-

**Employer Contributions during 2020**

	<u>Unit</u>	<u>Contribution</u>	<u>Portion</u>
Avon Housing Auth.	AHA	13,811	0.000172
Town of Avon	AVO	1,419,905	0.017729
Town of Bellingham	BEL	3,561,600	0.044470
Bellingham Hous. Auth.	BHA	33,493	0.000418
Town of Canton	CAN	6,031,916	0.075313
Canton Housing Auth.	CHA	97,919	0.001223
Cohasset Housing Auth.	CHH	18,855	0.000235
Town of Cohasset	COH	2,636,498	0.032919
Charles Riv. Poll. Cont.	CRP	188,839	0.002358
County of Norfolk	CTY	4,087,217	0.051032
Town of Dover	DOV	1,522,061	0.019004
Dover/Shearborne Schl.	DSR	942,974	0.011774
Foxboro Housing Auth.	FHA	86,172	0.001076
Franklin Housing Auth.	FHH	98,327	0.001228
Town of Foxboro	FOX	5,185,943	0.064751
Town of Franklin	FRA	6,174,365	0.077092
Holbrook Housing Auth	HHA	45,116	0.000563
Town of Holbrook	HOL	2,291,969	0.028617
Massachusetts Respiratory	HOS	-	-
King Phillip Reg School	KPR	804,463	0.010044
Town of Medway	MDW	2,814,941	0.035147
Town of Medfield	MED	2,971,533	0.037102
Medfield Housing Auth.	MHA	16,240	0.000203
Medway Housing Auth.	MHH	96,823	0.001209
Town of Millis	MIL	1,947,583	0.024317
Millis Housing Auth.	MLH	48,259	0.000603
Norfolk Housing Auth.	NHA	37,313	0.000466
Norfolk Cnty Mos. Con.	NMC	224,786	0.002807
Town of Norfolk	NOR	2,419,197	0.030206
Town of Plainville	PLA	2,111,287	0.026361
Town of Randolph	RAN	6,680,046	0.083406
Norfolk County Ret BD	RET	-	-
Randolph Housing Auth	RHA	106,828	0.001334
Town of Sharon	SHA	4,749,665	0.059304
Sharon Housing Auth.	SHH	14,523	0.000181
Stoughton Hous. Auth.	STH	89,119	0.001113
Town of Stoughton	STO	6,305,587	0.078731
Town of Walpole	WAL	5,447,572	0.068018
Town of Westwood	WES	5,787,533	0.072262
Walpole Housing Auth.	WHA	62,051	0.000775
Town of Wrentham	WRE	2,298,647	0.028701
Wrentham Hous. Auth.	WRH	30,919	0.000386
Dedham-Westwood Water Dist	DWW	588,665	0.007350
Metacomet Emergency Comm	MEC	-	0.000000



**Pension Expense for 2020**

Service Cost	37,495,594
Interest	127,157,997
Difference in Experience - Amortization	24,485,949
Change in Assumptions - Amortization	8,479,441
Changes in Plan Provisions	0
Employee Contributions	(33,847,164)
Projected Earnings	(83,196,890)
Administration Expense	1,165,174
Other Changes in Fiduciary Net Position	0
Asset (Gain) / Loss Amortization	<u>(12,917,032)</u>
Total Expense	68,823,068

**Reconciliation of Net Pension Liability for 2020**

NPL Beginning	587,113,377
Expense*	68,823,068
Contribution	(80,090,560)
Deferred Outflow changes	(58,510,169)
Deferred Inflow changes	(2,434,342)
Revenue	<u>(4,146,800)</u>
NPL Ending	510,754,574

\*Due to rounding, the Town of Canton's portion was reduced by .000001 so that the sum of the Unit NPL's equaled the total. This adjustment also impacted the Expense by Unit. The selection of Canton was purely arbitrary.

**Schedules of Required Supplementary Information**

	<u>2020</u>
Total Pension Liability – Beginning	1,657,574,687
Total Pension Liability – Ending (a)	1,711,518,701
Plan Fiduciary Net Position – Beginning	1,070,461,310
Plan Fiduciary Net Position – Ending (b)	1,200,764,127
Net Pension Liability – Ending (a) – (b)	510,754,574
Plan Fiduciary Net Positions as a percentage of the Total Pension Liability	70.2%
Covered-employee payroll	323,819,272
Net Pension Liability as a percentage of Covered-employee Payroll	157.7%

**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>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
2020	(40,896,153)	5	(8,183,748)	(8,179,231)	(8,179,231)	(8,179,231)	(8,179,229)
2019	(85,246,700)	5	(17,049,340)	(17,049,340)	(17,049,340)	(17,049,340)	
2018	127,723,896	5	25,544,779	25,544,779	25,544,780		
2017	(58,699,395)	5	(11,739,879)	(11,739,879)			
2016	(7,466,805)	5	(1,493,361)				

**Experience**

<u>Year</u>	<u>(Gain) / Loss</u>	<u>Period</u>	<u>Increase (Decrease) arising from (Gains) or Losses</u>				
			<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
2019	41,916,868	4.19	10,004,026	10,004,026	10,004,026	1,900,764	
2017	61,837,812	4.27	14,481,923	3,910,120			

Assumptions

<u>Year</u>	<u>(Gain) / Loss</u>	<u>Period</u>	<u>Increase (Decrease) arising from (Gains) or Losses</u>				
			<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
2017	36,207,214	4.27	8,479,441	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	87,850	9,055,168	22,713,256	213,495	38,466,459	624,653
Deferred Outflows of Resources						
Differences between Expected and Actual Experience	4,441	457,744	1,148,168	10,793	1,944,501	31,577
Net Asset Loss	8,788	905,766	2,271,952	21,356	3,847,708	62,482
Changes in Assumptions	394	40,590	101,812	957	172,425	2,800
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	180	13,752	33,390	11	112,027	0
Total Deferred Outflows	13,803	1,417,852	3,555,322	33,117	6,076,661	96,859
Deferred Inflows of Resources						
Differences between Expected and Actual Experience	0	0	0	0	0	0
Net Asset Gain	16,443	1,694,978	4,251,547	39,964	7,200,286	116,924
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	45,485	237,010	100,946	3,715	52,403	63,119
Total Deferred Inflows	61,928	1,931,988	4,352,493	43,679	7,252,689	180,043
Pension Expense						
Proportionate share of plan Pension Expense	11,838	1,220,164	3,060,562	28,768	5,183,272	84,171
Net Amortization from changes in Share Proportions	(22,875)	(207,428)	(1,813)	(20,533)	(75,661)	(57,415)
Total Employer Pension Expense	(11,037)	1,012,736	3,058,749	8,235	5,107,611	26,756
Revenue	713	73,519	184,408	1,733	312,308	5,072

	<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	120,027	16,813,530	1,204,359	26,064,827	9,706,380	6,013,624
Deferred Outflows of Resources						
Differences between Expected and Actual Experience	6,068	849,934	60,881	1,317,592	490,663	303,992
Net Asset Loss	12,006	1,681,818	120,470	2,607,202	970,906	601,528
Changes in Assumptions	538	75,366	5,399	116,835	43,509	26,956
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	0	22,476	11,929	779,115	25,340	190,752
Total Deferred Outflows	18,612	2,629,594	198,679	4,820,744	1,530,418	1,123,228
Deferred Inflows of Resources						
Differences between Expected and Actual Experience	0	0	0	0	0	0
Net Asset Gain	22,467	3,147,214	225,436	4,878,905	1,816,874	1,125,651
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	1,591	904,415	1,623	642,268	13,257	7,756
Total Deferred Inflows	24,058	4,051,629	227,059	5,521,173	1,830,131	1,133,407
Pension Expense						
Proportionate share of plan Pension Expense	16,173	2,265,587	162,285	3,512,179	1,307,914	810,323
Net Amortization from changes in Share Proportions	(2,925)	(185,406)	(5,656)	2,054,489	(72,487)	93,520
Total Employer Pension Expense	13,248	2,080,181	156,629	5,566,668	1,235,427	903,843
Revenue	974	136,509	9,778	211,619	78,806	48,824

	<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	549,572	627,207	33,071,869	39,375,092	287,555	14,616,264
Deferred Outflows of Resources						
Differences between Expected and Actual Experience	27,781	31,706	1,671,802	1,990,433	14,536	738,860
Net Asset Loss	54,972	62,738	3,308,100	3,938,596	28,764	1,462,030
Changes in Assumptions	2,463	2,811	148,244	176,498	1,289	65,517
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	72,109	384	601,559	733,624	0	17,857
Total Deferred Outflows	157,325	97,639	5,729,705	6,839,151	44,589	2,284,264
Deferred Inflows of Resources						
Differences between Expected and Actual Experience	0	0	0	0	0	0
Net Asset Gain	102,870	117,403	6,190,508	7,370,367	53,826	2,735,923
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	8,578	7,089	43,817	52,103	48,042	316,591
Total Deferred Inflows	111,448	124,492	6,234,325	7,422,470	101,868	3,052,514
Pension Expense						
Proportionate share of plan Pension Expense	74,054	84,515	4,456,362	5,305,708	38,747	1,969,510
Net Amortization from changes in Share Proportions	14,675	(964)	81,991	(12,264)	(8,228)	(324,965)
Total Employer Pension Expense	88,729	83,551	4,538,353	5,293,444	30,519	1,644,545
Revenue	4,462	5,092	268,509	319,685	2,335	118,669

	<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	5,130,019	17,951,491	18,950,016	103,683	617,502
Deferred Outflows of Resources						
Differences between Expected and Actual Experience	0	259,325	907,458	957,934	5,242	31,215
Net Asset Loss	0	513,144	1,795,644	1,895,524	10,372	61,768
Changes in Assumptions	0	22,995	80,467	84,943	465	2,768
Changes in Proportion and Differences between Employer						
Contributions and proportionate share of contributions	0	9,806	43,792	291,714	394	1,252
Total Deferred Outflows	0	805,270	2,827,361	3,230,115	16,473	97,003
Deferred Inflows of Resources						
Differences between Expected and Actual Experience	0	0	0	0	0	0
Net Asset Gain	0	960,256	3,360,223	3,547,131	19,408	115,587
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer						
Contributions and proportionate share of contributions	0	282,735	24,493	25,256	6,354	28,147
Total Deferred Inflows	0	1,242,991	3,384,716	3,572,387	25,762	143,734
Pension Expense						
Proportionate share of plan Pension Expense	0	691,259	2,418,924	2,553,473	13,971	83,207
Net Amortization from changes in Share Proportions	0	(124,366)	173,643	132,695	(15,200)	(19,442)
Total Employer Pension Expense	0	566,893	2,592,567	2,686,168	(1,229)	63,765
Revenue	0	41,650	145,748	153,855	842	5,013

	<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	12,420,019	307,985	238,012	1,433,688	15,427,853	13,464,001
Deferred Outflows of Resources						
Differences between Expected and Actual Experience	627,839	15,568	12,032	72,473	779,887	680,613
Net Asset Loss	1,242,344	30,808	23,808	143,408	1,543,212	1,346,772
Changes in Assumptions	55,673	1,381	1,067	6,426	69,155	60,352
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	23,857	13,894	2,582	1,489	8,452	16,597
Total Deferred Outflows	1,949,713	61,651	39,489	223,796	2,400,706	2,104,334
Deferred Inflows of Resources						
Differences between Expected and Actual Experience	0	0	0	0	0	0
Net Asset Gain	2,324,822	57,650	44,552	268,361	2,887,838	2,520,240
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	140,050	352	32	8,916	65,232	79,329
Total Deferred Inflows	2,464,872	58,002	44,584	277,277	2,953,070	2,599,569
Pension Expense						
Proportionate share of plan Pension Expense	1,673,571	41,500	32,072	193,186	2,078,870	1,814,245
Net Amortization from changes in Share Proportions	(253,510)	25,023	12,237	4,683	(84,555)	114,325
Total Employer Pension Expense	1,420,061	66,523	44,309	197,869	1,994,315	1,928,570
Revenue	100,838	2,501	1,932	11,640	125,258	109,314



	<u>Town of Randolph</u>	<u>Norfolk County Ret BD</u>	<u>Randolph Housing Auth</u>	<u>Town of Sharon</u>	<u>Sharon Housing Auth.</u>	<u>Stoughton Hous. Auth.</u>
Net Pension Liability	42,599,996	0	681,347	30,289,789	92,447	568,470
Deferred Outflows of Resources						
Differences between Expected and Actual Experience	2,153,454	0	34,442	1,531,167	4,673	28,736
Net Asset Loss	4,261,176	0	68,154	3,029,816	9,248	56,862
Changes in Assumptions	190,954	0	3,054	135,774	414	2,548
Changes in Proportion and Differences between Employer						
Contributions and proportionate share of contributions	687,257	0	116,110	194,110	1,224	16,598
Total Deferred Outflows	7,292,841	0	221,760	4,890,867	15,559	104,744
Deferred Inflows of Resources						
Differences between Expected and Actual Experience	0	0	0	0	0	0
Net Asset Gain	7,974,016	0	127,537	5,669,748	17,305	106,408
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer						
Contributions and proportionate share of contributions	56,715	0	1,949	40,998	53,830	74
Total Deferred Inflows	8,030,731	0	129,486	5,710,746	71,135	106,482
Pension Expense						
Proportionate share of plan Pension Expense	5,740,257	0	91,810	4,081,483	12,457	76,600
Net Amortization from changes in Share Proportions	157,654	0	8,143	(428,482)	(26,184)	(39,375)
Total Employer Pension Expense	5,897,911	0	99,953	3,653,001	(13,727)	37,225
Revenue	345,868	0	5,532	245,922	751	4,615

	<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	40,212,218	34,740,505	36,908,147	395,835	14,659,167	197,151
Deferred Outflows of Resources						
Differences between Expected and Actual Experience	2,032,751	1,756,152	1,865,728	20,009	741,030	9,967
Net Asset Loss	4,022,332	3,475,010	3,691,834	39,594	1,466,322	19,720
Changes in Assumptions	180,251	155,724	165,440	1,774	65,710	884
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	470,009	38,331	43,508	1,091	279,967	4,625
Total Deferred Outflows	6,705,343	5,425,217	5,766,510	62,468	2,553,029	35,196
Deferred Inflows of Resources						
Differences between Expected and Actual Experience	0	0	0	0	0	0
Net Asset Gain	7,527,064	6,502,849	6,908,595	74,094	2,743,953	36,904
Changes in Assumptions	0	0	0	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	53,927	977,097	120,107	6,335	19,388	265
Total Deferred Inflows	7,580,991	7,479,946	7,028,702	80,429	2,763,341	37,169
Pension Expense						
Proportionate share of plan Pension Expense	5,418,509	4,681,207	4,973,293	53,338	1,975,291	26,566
Net Amortization from changes in Share Proportions	(137,344)	(870,114)	266,212	(22,640)	57,574	(3,237)
Total Employer Pension Expense	5,281,165	3,811,093	5,239,505	30,698	2,032,865	23,329
Revenue	326,482	282,057	299,656	3,214	119,017	1,601

	<u>Dedham- Westwood Water Dist</u>	<u>Metacomet Emergency Comm</u>	<u>Total</u>
Net Pension Liability	3,754,046	0	510,754,574
Deferred Outflows of Resources			
Differences between Expected and Actual Experience	189,770	0	25,818,937
Net Asset Loss	375,508	0	51,089,562
Changes in Assumptions	16,827	0	2,289,449
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	7,549	0	4,888,713
Total Deferred Outflows	589,654	0	84,086,661
Deferred Inflows of Resources			
Differences between Expected and Actual Experience	0	0	0
Net Asset Gain	702,696	0	95,604,824
Changes in Assumptions	0	0	0
Changes in Proportion and Differences between Employer Contributions and proportionate share of contributions	347,313	0	4,888,702
Total Deferred Inflows	1,050,009	0	100,493,526
Pension Expense			
Proportionate share of plan Pension Expense	505,850	0	68,823,071
Net Amortization from changes in Share Proportions	(173,790)	0	(0)
Total Employer Pension Expense	332,060	0	68,823,071
Revenue	30,479	0	4,146,800

**EXHIBITS**

[https://shermanactuary-my.sharepoint.com/personal/dan\\_shermanactuary\\_com/Documents/Recovered Data/Norfolk/Val20/Report\[ACT1.xlsx\]Actives](https://shermanactuary-my.sharepoint.com/personal/dan_shermanactuary_com/Documents/Recovered%20Data/Norfolk/Val20/Report[ACT1.xlsx]Actives)

Exhibit 1 - Age/Service Distribution with Salary as of January 1, 2020

Attained Age	Average Salary <5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
< 20	2 21,317	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	2 21,317
20-24	212 34,359	1 48,369	0 0	0 0	0 0	0 0	0 0	0 0	0 0	213 34,425
25-29	389 42,641	49 59,282	4 25,816	1 33,886	0 0	0 0	0 0	0 0	0 0	443 44,310
30-34	263 48,126	174 63,705	28 77,556	0 0	0 0	0 0	0 0	0 0	0 0	465 55,728
35-39	203 45,417	117 64,509	112 76,403	38 85,423	1 31,052	0 0	0 0	0 0	0 0	471 60,725
40-44	210 36,918	93 58,196	76 74,495	82 81,959	25 85,475	2 71,414	0 0	0 0	0 0	488 57,023
45-49	217 38,090	113 46,822	79 63,781	76 77,018	93 92,351	32 92,629	3 66,193	0 0	0 0	613 59,054
50-54	261 39,683	160 43,012	123 46,708	111 62,808	123 82,174	79 96,983	45 90,202	0 0	0 0	902 57,410
55-59	196 35,443	148 45,550	171 45,968	153 51,726	119 63,981	62 79,501	51 98,278	20 86,232	1 78,998	921 53,009
60-64	96 39,233	72 41,939	112 46,840	155 46,861	138 57,058	41 68,354	53 79,658	15 101,544	7 116,397	689 53,021
65-69	33 35,142	27 53,790	36 45,151	51 45,179	58 48,930	23 61,240	21 58,959	2 94,627	5 67,890	256 49,042
70+	12 26,014	15 43,720	22 49,413	13 31,984	18 54,268	15 43,519	12 55,041	6 54,325	3 84,070	116 46,027
Total Employees	2,094	969	763	680	575	254	185	43	16	5,579
Average Salary	40,283	52,673	56,483	59,887	69,855	80,951	83,191	87,512	92,840	53,877

## Exhibit 2 - Retiree Distribution as of January 1, 2020

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	2	0	2	34730.4	0	34,730
35-39	3	1	4	21,465	6,180	27,645
40-44	3	2	5	53,669	35,391	89,060
45-49	5	1	6	70,929	24,412	95,341
50-54	11	14	25	192,326	451,275	643,601
55-59	52	82	134	734,452	3,501,130	4,235,581
60-64	187	168	355	3,152,398	7,559,807	10,712,205
65-69	358	302	660	7,731,755	12,975,596	20,707,351
70-74	398	278	676	8,644,612	10,889,187	19,533,800
75-79	294	209	503	6,189,735	7,423,253	13,612,989
80-84	232	121	353	4,879,563	3,897,363	8,776,926
85-89	176	79	255	3,118,068	2,048,333	5,166,400
90-94	92	30	122	1,294,997	696,024	1,991,021
95+	36	10	46	347,587	252,529	600,116
Total	1849	1297	3146	36,466,289	49,760,477	86,226,766
Average (Age/Payment)	74.61	71.98	73.53	19,722	38,366	27,408
Frequency Percent	58.8	41.2	100	42.3	57.7	100

## Exhibit 3 - Disabled Retiree Distribution as of January 1, 2020

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	6,008	0	6,008
35-39	0	2	2	0	87,120	87,120
40-44	1	2	3	54,693	103,488	158,180
45-49	2	10	12	59,181	410,318	469,499
50-54	4	34	38	168,831	1,401,850	1,570,681
55-59	16	34	50	495,959	1,506,354	2,002,313
60-64	9	36	45	195,503	1,520,263	1,715,767
65-69	10	53	63	253,270	2,264,788	2,518,058
70-74	12	49	61	282,290	1,882,529	2,164,818
75-79	7	35	42	206,366	1,184,475	1,390,841
80-84	3	24	27	84,596	716,048	800,644
85-89	3	8	11	55,147	213,343	268,490
90-94	2	1	3	32,598	17,394	49,992
95-99	0	0	0	0	0	0
Total	70	288	358	1,894,441	11,307,969	13,202,411
Average (Age/Payment)	66.24	66.95	66.81	27,063	39,264	36,878
Frequency Percent	19.6	80.4	100	14.3	85.7	100

## **EXHIBIT 4 – SUMMARY OF PLAN PROVISIONS:**

This summary is prepared in accordance with Chapter 32 as of January 1, 2020, 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:

<b><u>Date of Hire</u></b>	<b><u>Member Contribution Rate</u></b>
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, 2020.

### 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:

<b><u>Age</u></b>	<b><u>Male General Employees</u></b>	<b><u>Female General Employees</u></b>	<b><u>Male and Female Police and Fire Employees</u></b>
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 2019 is \$1,775,000 and is anticipated to increase at 4.0% per year.

## CERTIFICATION:

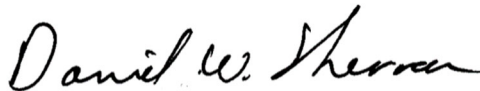
This report fairly represents the actuarial position of the Norfolk County Retirement System as of December 31, 2020, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued 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



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Daniel W. Sherman, ASA, MAAA

July, 2021