



**CITY OF CLEARWATER FIREFIGHTERS'
RELIEF AND PENSION FUND
ACTUARIAL REPORT**

OCTOBER 1, 2020



ACTUARIES AND PENSION ADMINISTRATORS

January 13, 2021

Board of Trustees
City of Clearwater Firefighters' Relief and Pension Fund
P. O. Box 4748
Clearwater, FL 33758

Dear Trustees:

We are pleased to present the attached Report as of October 1, 2020 covering the actuarial aspects of the Firefighters' Relief and Pension Fund for the Plan Year starting October 1, 2020 and ending September 30, 2021 and the City's fiscal year ending September 30, 2021.

A brief overview of the progress of the Plan can be obtained by looking at the following figures for the past three valuations.

<u>Item</u>	<u>2018 Plan Year</u>	<u>2019 Plan Year</u>	<u>2020 Plan Year</u>
Participants	15	14	12
Covered Payroll	\$ na	\$ na	\$ na
Fiscal Funding Cost	\$0	\$0	\$0
Cost as % of 1 Mill	0%	0%	0%

We feel that these results support our conclusion that the Plan is funded at a level which can reasonably be expected to support the benefits promised by the Plan on an adequate and timely basis.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Glenn Mouton".

Glenn F. Mouton, FSA
Consulting Actuary

GFM/nm
Enclosures



ACTUARIES AND PENSION ADMINISTRATORS

January 13, 2021

ACTUARIAL REPORT

PLAN: City of Clearwater Firefighters' Relief and Pension Fund

PLAN YEAR: October 1, 2020 through September 30, 2021

SPONSOR FISCAL YEAR: October 1, 2020 through September 30, 2021

VALUATION DATE: October 1, 2020

This report presents the results of the Actuarial Valuation as of October 1, 2019 of the plan. The principal purposes of this report are

- To present the financial condition of the Plan
- To satisfy the requirements of Chapter 112 of the Florida Statutes
- To present the contributions required to adequately fund the Plan during the current year, according to the plan's current funding scheme
- To present disclosures required by Governmental Accounting Standards Board, Statements #67 and #68

Mouton and Company, Inc. was retained by the Board of Trustees of the Plan for this report. This actuarial valuation and/or cost determination was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material increase in plan costs or required contribution rates have been taken into account in the valuation. Nonetheless, these future unanticipated events may cause future results to differ materially from those shown in this report.

The undersigned credentialed actuary meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Mar 16, 2021

Date

Glenn F. Mouton

Glenn F. Mouton

Enrollment #20-2773

On Behalf of Mouton & Company, Inc.

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND
Actuarial Valuation as of October 1, 2020

TABLE OF CONTENTS

EXHIBIT 1	VALUATION RESULTS	
Schedule A - Development of Current Year's Costs		1
Schedule B - Experience Gains and Losses since the last valuation		2
Schedule C - Cash Flow Analysis Assumptions		3
Schedule D - Cash Flow Analysis - Before and After Changes		4
Schedule E - Participant Data		5
Schedule F - Assets		5
Schedule G - Liabilities		5
Schedule H - Actuarial Present Value of Accrued Benefits		6
Schedule I - Statement of Changes in Total Actuarial Present Value of All Accrued Benefits		6
Schedule J - Pension Cost		7
Schedule K - Past Contributions		7
Schedule L - Schedule Illustrating the Amortization of Unfunded Liabilities as they Exist This Date		7
Schedule M - Comparison of Annual Benefit Increase Factors		8
Schedule N - Comparison of Actual to Assumed Earnings		9
EXHIBIT 2	PARTICIPANT DEMOGRAPHICS	
Schedule A - Coverage		10
Schedule B - Participant Reconciliation		11
EXHIBIT 3	PLAN FIDUCIARY NET POSITION	
Schedule A - Statement of Plan Fiduciary Net Position at Market Values		12
Schedule B - Statement of Changes in Plan Fiduciary Net Position		13
EXHIBIT 4	PLAN SUMMARY	14
EXHIBIT 5	COST METHOD AND ASSUMPTIONS	17
EXHIBIT 6	PENSION COST RATIONALE	18
EXHIBIT 7	GASB 67 and 68 INFORMATION	19

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 1 of 28

CURRENT VALUATION RESULTS
EXHIBIT 1
Development of Current Year's Costs
Schedule A

	Original 01-Oct-2019	Mortality Chg Only 01-Oct-2020	Mortality and Interest 01-Oct-2020
A. Present Value of Future Obligations:			
1. Active Members	0	0	0
2. Retired Members	909,463	869,613	899,832
3. Survivors on Benefit	1,232,173	1,042,063	1,004,148
4. Disabled Members	213,162	203,872	198,306
	<hr/>	<hr/>	<hr/>
Total Actuarial Accrued Liability:	2,354,798	2,115,548	2,102,286
	<hr/>	<hr/>	<hr/>
B. Less Present Value of:			
1. Member Contributions	0	0	0
2. Florida Premium Tax Rebates	0	0	0
	<hr/>	<hr/>	<hr/>
C. Less Actuarial Plan Assets	3,598,272	3,481,098	3,481,098
	<hr/>	<hr/>	<hr/>
D. Amount to be Funded by City (A-B-C) (Unfunded Actuarial Accrued Liability)	<u>(1,243,474)</u>	<u>(1,365,550)</u>	<u>(1,378,812)</u>
	<u><hr/></u>	<u><hr/></u>	<u><hr/></u>
E. Current Value of 1 Mill	na	na	na
F. Maximum Authorized Current Contribution (authorized contribution capped at .6 mill)	0	0	0
G. Years Left in Funding Period	none	none	none
H. Increasing Funding Annuity Factor	n/a	n/a	n/a
I. Minimum Required Increasing Contribution (mid-yr)	none	none	none
J. Cash Flow Analysis Recommended Contribution	none	none	none
K. GASB 67, 68 EAN level \$ amortization period in years	n/a	n/a	n/a
L. GASB 67, 68 EAN level \$ amortization factor	n/a	n/a	n/a
M. GASB 67, 68 EAN level \$ amortization	0	0	0
N. Unadjusted Scheduled Funding Method Contribution	0	0	0
	<hr/>	<hr/>	<hr/>
O. Current Recommended Contribution =(larger of I, J or N, but not more than F)	0	0	0
P. General Expenses*	<u>2,500</u>	<u>2,500</u>	<u>2,500</u>
	<u><hr/></u>	<u><hr/></u>	<u><hr/></u>
Q. Total (O + P)	<u>2,500</u>	<u>2,500</u>	<u>2,500</u>
	<u><hr/></u>	<u><hr/></u>	<u><hr/></u>
R. Interest Adjustment	0	0	0
	<hr/>	<hr/>	<hr/>
S. Interest Adjusted Normal Cost (@ 9/30/2020)	<u>2,500</u>	<u>2,500</u>	<u>2,500</u>
	<u><hr/></u>	<u><hr/></u>	<u><hr/></u>
T. Valuation Interest Rate	<u>3.00%</u>	<u>3.00%</u>	<u>3.00%</u>
	<u><hr/></u>	<u><hr/></u>	<u><hr/></u>

* If not paid directly by the Trust

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 2 of 28

CURRENT VALUATION RESULTS

EXHIBIT 1

Experience gains and losses since the last valuation	Annual			2.50%		Schedule B	
	Actives Liability +	Retired Liability +	Survivors Liability +	Disabled Liability +	Total Liability +	Actuarial Assets -	Unfunded Liability
a. Beginning balances 10/01/19	0	909,463	1,232,173	213,162	2,354,798	3,598,272	(1,243,474)
b. Interest	0	22,737	30,804	5,329	58,870	89,957	(31,087)
c. Benefit Accruals	0	0	0	0	0	0	0
d. Interest	0	0	0	0	0	0	0
e. Contributions							
1. City (none)	0	0	0	0	0	0	0
2. State (none)	0	0	0	0	0	0	0
3. Employee (none)	0	0	0	0	0	0	0
f. Interest	0	0	0	0	0	0	0
g. Benefits Paid 09/30/20	0	(121,809)	(107,596)	(33,243)	(262,649)	(262,649)	0
h. Interest	0	(3,045)	(2,690)	(831)	(6,566)	(6,566)	0
i. Expenses Paid	0	0	0	0	0	(2,500)	0
j. Interest	0	0	0	0	0	(63)	0
k. Expected Values as of 09/30/20	0	807,346	1,152,691	184,417	2,144,453	3,416,451	(1,274,561)
l. Interest Assumption Changes	0	(26,421)	(37,635)	(4,760)	(68,816)	0	(68,816)
m. Mortality Changes	0	(30,219)	37,915	5,566	13,262	0	13,262
m. Actual Values as of 09/30/20	0	927,891	1,038,578	202,765	2,169,234	3,481,098	(1,311,864)
n. Experience Gains	0	(177,185)	114,393	(17,542)	(80,335)	(64,647)	(18,251)

CURRENT VALUATION RESULTS

EXHIBIT 1

Cash Flow Analysis Assumptions

Schedule C

The following cash flow illustration (Page 4) covers the scenario under the current actuarial assumptions as of 01-Oct-20.

MORTALITY:

Healthy Inactive Mortality

- Male : Headcount Weighted Safety Below Median Healthy Retiree Male Table, set forward 1 year
- Female: Headcount Weighted General Below Median Healthy Retiree Female Table

Disabled Mortality

- Male: 80% Headcount Weighted General Disabled Retiree Male Table; 20% Headcount Weighted Safety Disabled Retiree Male Table

These mortality assumptions are prescribed assumptions as defined by Actuarial Standard of Practice No. 27 (ASOP 27).

MORTALITY prior year 2019:

Healthy Inactive Mortality

- Male Non-Disabled (Special Risk): RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB
- Female Non-Disable: RP2000 Generational, 100% Annuitant White Collar, Scale BB

Disabled Mortality

- Male Disabled (Special Risk): 60% RP2000 Disable Male setback four years / 40% Annuitant White Collar with no setback, no projection scale

INVESTMENT YIELD:

2.50%. The prior valuation used 3.0% investment yield. At their September 2020 meeting, the Trustees determined that the investment yield should be 2.50%. We have reviewed the information provided to the Trustees in this regard by the City Finance Department and in our professional judgment this assumption is acceptable.

OTHER DEMOGRAPHIC ASSUMPTIONS:

There are no other demographic assumptions. We believe that we have all relevant personal information on all members and beneficiaries, given the long-term closed nature of the plan.

CURRENT VALUATION RESULTS

EXHIBIT 1

Cash Flow Analysis Assumptions

Schedule C

MODELING:

We have designed, developed and continually maintained and modified, as necessary, a computer model used to project the expected cash flows under the plan, which are the basis of this valuation. It is our professional judgment that the capability of the model is consistent with this purpose. We are aware of no material inconsistencies among the assumptions used in the model.

Assumptions are not aggregated. We know of no material limitations or weaknesses of the model. We have not relied on models developed by others. We have relied upon the financial exhibits and analyses prepared by the City Finance Department, considering them to be experts in this area.

Contribution Increase Rate n/a

Future Benefit Increase Rate 2.0%

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

REQUERED CONTRIBUTION

ERS Assumption/New Methodology

Adequate Present Value of Funding

EXHIBIT 1

Page 4 of 28

Flow Analysis (net of plan expenses)										Adequate Present Value of Funding: Avoid any Negative Asset Years:			
mt Value of 1 Mill: ave Increase Rate: tribution Increase Rate:			#N/A	#N/A	Present Value of 1 Mill: Funding Required (pres val): 5.00%			#N/A (1,311,864)	test1: pass test2: pass				
Beginning of Year			Contributions by Source			Earnings on Plan Assets			Benefit Payments by Recipient Group				
Calendar Year	City	Members & State	City	Members & State	Total	Disabled	for Current Survivors	for "old" Retirees	for "new" Retirees	Total Benefit Payments	Net Increase in Plan Assets	Assumed Investment Yield	
2020	3,481,098	0	0	83,923	33,243	109,015	0	106,096	106,096	246,359	3,316,666	2.50%	
2021	3,160,666	0	0	79,959	30,004	104,654	0	101,952	236,609	3,160,016	3,160,016	2.50%	
2022	3,160,016	0	0	76,204	26,827	99,985	0	96,885	233,697	3,012,524	3,012,524	2.50%	
2023	3,012,524	0	0	72,650	23,747	95,019	0	91,052	209,817	2,875,397	2,875,397	2.50%	
2024	2,875,397	0	0	69,441	20,794	89,786	0	84,976	195,516	2,749,322	2,749,322	2.50%	
2025	2,749,322	0	0	66,471	17,997	84,331	0	78,618	180,946	2,634,847	2,634,847	2.50%	
2026	2,634,847	0	0	63,793	15,381	78,698	0	72,173	166,252	2,532,388	2,532,388	2.50%	
2027	2,532,388	0	0	61,415	12,967	72,917	0	65,678	151,562	2,442,240	2,442,240	2.50%	
2028	2,442,240	0	0	59,343	10,770	67,028	0	59,220	137,018	2,364,566	2,364,566	2.50%	
2029	2,364,566	0	0	57,581	8,802	60,964	0	52,882	122,658	65,077	2,299,489	2.50%	
2030	2,299,489	0	0	56,128	7,061	54,892	0	46,783	108,736	52,608	2,246,881	2.50%	
2031	2,246,881	0	0	54,978	5,553	49,038	0	40,969	95,560	40,583	2,206,299	2.50%	
2032	2,206,299	0	0	54,117	4,279	43,430	0	35,513	83,222	29,105	2,177,194	2.50%	
2033	2,177,194	0	0	53,532	3,228	38,111	0	30,465	71,805	18,272	2,158,922	2.50%	
2034	2,158,922	0	0	53,206	2,381	33,146	0	25,858	61,385	8,179	2,150,742	2.50%	
2035	2,150,742	0	0	53,118	1,716	28,585	0	21,707	52,008	1,110	2,151,853	2.50%	
2036	2,151,853	0	0	53,250	1,205	24,467	0	18,008	43,679	9,571	2,161,424	2.50%	
2037	2,161,424	0	0	53,581	824	20,798	0	14,745	36,367	17,214	2,178,637	2.50%	
2038	2,178,637	0	0	54,091	547	17,566	0	11,908	30,022	24,069	2,202,706	2.50%	
2039	2,202,706	0	0	54,760	353	14,745	0	9,483	24,381	30,180	2,232,886	2.50%	
2040	2,232,886	0	0	55,573	220	12,305	0	7,445	19,970	35,602	2,268,488	2.50%	
2041	2,268,488	0	0	56,511	133	10,206	0	5,763	16,102	40,409	2,308,897	2.50%	
2042	2,308,897	0	0	57,561	78	8,398	0	4,399	12,876	44,685	2,353,582	2.50%	
2043	2,353,582	0	0	58,712	45	6,842	0	3,314	10,200	48,512	2,402,094	2.50%	
2044	2,402,094	0	0	59,952	25	5,507	0	2,463	7,995	51,958	2,454,052	2.50%	
2045	2,454,052	0	0	61,274	13	4,369	0	1,809	6,191	55,083	2,509,135	2.50%	
2046	2,509,135	0	0	62,669	7	3,412	0	1,317	4,736	57,934	2,567,068	2.50%	
2047	2,567,068	0	0	64,132	3	2,618	0	953	3,575	60,557	2,627,626	2.50%	
2048	2,627,626	0	0	65,657	2	1,971	0	689	2,662	62,996	2,690,621	2.50%	
2049	2,690,621	0	0	67,241	1	1,455	0	496	1,952	65,289	2,755,911	2.50%	
2050	2,755,911	0	0	68,880	0	1,049	0	370	1,419	67,461	2,823,371	2.50%	
2051	2,823,371	0	0	70,572	0	737	0	1,017	69,555	78,958	2,892,926	2.50%	
2052	2,892,926	0	0	72,314	0	505	0	215	720	71,594	2,964,520	2.50%	
2053	2,964,520	0	0	74,107	0	336	0	170	506	73,601	3,038,121	2.50%	
2054	3,038,121	0	0	75,949	0	217	0	137	354	75,594	3,113,715	2.50%	
2055	3,113,715	0	0	77,840	0	136	0	114	250	77,590	3,191,305	2.50%	
2056	3,191,305	0	0	79,780	0	82	0	100	183	79,598	3,270,903	2.50%	
2057	3,270,903	0	0	81,771	0	48	0	99	147	81,624	3,352,526	2.50%	
2058	3,352,526	0	0	83,812	0	27	0	98	126	83,686	3,436,212	2.50%	
2059	3,436,212	0	0	85,904	0	15	0	98	114	85,790	3,522,002	2.50%	
2060	3,522,002	0	0	88,050	0	9	0	0	9	88,041	3,610,044	2.50%	
	0	0	0	2,699,843	0	0	0	0	0	0	0	1,092,270	1,092,270
	0	0	0	228,207	0	0	0	0	0	0	0	2,570,887	2,570,887

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 5 of 28

CURRENT VALUATION RESULTS

EXHIBIT 1

Participant Data

Schedule E

	01-Oct-2018	01-Oct-2019	01-Oct-2020
Number Included	~~~~~	~~~~~	~~~~~
Active Members	0	0	0
Retired Members	4	4	4
Current Beneficiaries	10	9	7
Disabled Members	1	1	1
Total Annual Payroll of Actives	0	0	0
 Total Annual Benefits:			
to Retired Members	106,096	106,096	106,096
to Current Beneficiaries	169,150	131,349	109,015
to Disabled Members	33,243	33,243	33,243

Assets

Schedule F

Actuarial Value	3,566,898	3,598,272	3,481,098
Market Value (as reported by the City of Clearwater)	3,566,898	3,598,272	3,481,098

Liabilities

Schedule G

	01-Oct-2018	01-Oct-2019	01-Oct-2020
Present Value of Benefits	~~~~~	~~~~~	~~~~~
Active Members	0	0	0
Retired Members	950,291	909,463	927,891
Current Beneficiaries	1,536,022	1,232,173	1,038,578
Disabled Members	222,738	213,162	202,765
 Total	2,709,051	2,354,798	2,169,234
 Less Present Value			
Future Member Contributions	0	0	0
Future State Contributions	0	0	0
 Actuarial Accrued Liability	2,709,051	2,354,798	2,169,234
less Actuarial Plan Assets	(3,566,898)	(3,598,272)	(3,481,098)
 Unfunded Actuarial Accrued Liability	(857,847)	(1,243,474)	(1,311,864)

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 6 of 30

CURRENT VALUATION RESULTS

EXHIBIT 1

Actuarial Present Value of Accrued Benefits

Schedule H

	01-Oct-2018 ~~~~~	01-Oct-2019 ~~~~~	01-Oct-2020 ~~~~~
Vested Accrued Benefits			
Inactive Members & Beneficiaries	2,709,051	2,354,798	2,169,234
Active Members	0	0	0
Total	2,709,051	2,354,798	2,169,234
Nonvested Accrued Benefits			
Total	2,709,051	2,354,798	2,169,234

**Statement of Changes in Total Actuarial Present Value
of All Accrued Benefits**

Schedule I

Schedule I

	01-Oct-2018 ~~~~~	01-Oct-2019 ~~~~~	01-Oct-2020 ~~~~~
Present Value of Accrued Benefits at Beginning of Year	3,162,699	2,709,051	2,354,798
Increase (Decrease) During Year Attributable to (where applicable):			
Plan Amendment	0	0	0
Changes in Actuarial Assumptions	0	0	(55,554)
Increase (Decrease) due to Survivorship	(57,756)	(14,310)	179,735
Increase for less Interest Discount	0	0	0
Benefits Accrued	0	0	0
Benefits Paid	(332,638)	(285,762)	(262,649)
Other Changes - pay/benefit/deaths	(63,254)	(54,181)	(47,096)
Net Increase (Decrease)	(453,648)	(354,253)	(185,564)
Actuarial Present Value of Accrued Benefits at End of Year	2,709,051	2,354,798	2,169,234

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 7 of 28

CURRENT VALUATION RESULTS**EXHIBIT 1****Pension Cost****Schedule J**

	01-Oct-2018	01-Oct-2019	01-Oct-2020
Required Funding Costs	0	0	0
Administrative Expense *	2,500	2,500	2,500
Interest Adjustment	0	0	0
Total Required City Contribution	2,500	2,500	2,500
As % of Payroll	N/A	N/A	N/A
Estimated Participant Contributions	0	0	0
As % of Payroll	N/A	N/A	N/A
Estimated Premium Tax Refund	0	0	0
As % of Payroll	N/A	N/A	N/A
Remaining Amount to be Contributed by City	2,500	2,500	2,500
As % of Payroll	N/A	N/A	N/A

* if not paid directly by the Trust

Past Contributions**Schedule K**

For the fiscal year ended 09/30/2020	
Total Contribution Required	2,500
Actual Contribution Made By:	
State	0
City	0
Participants	0

	0

**Schedule Illustrating the Amortization of Unfunded Liabilities
As They Exist This Date****Schedule L**

See the Cash Flow Analysis contained in this report.

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 8 of 28

CURRENT VALUATION RESULTS

EXHIBIT 1

Comparison of Annual Benefit Increase Factors

Schedule M

Valuation Date	(Continuing in pay status members only)			Prior Valuation			Current Valuation			Actual Experience Uncapped	3 Year Average	Assumed Factor
	Annual Benefits		Annual Benefits	Annual Benefits	Annual Benefits							
	Total	Capped	Uncapped	Total	Capped	Uncapped	Total	Capped	Uncapped			
01-Jan-1988	854,614				885,809					3.65%	NA	7.00%
01-Jan-1989	902,468				959,895					6.36%	5.01%	7.00%
01-Jan-1990	941,416				996,378					5.84%	5.28%	7.00%
01-Jan-1991	963,577				1,010,080					4.83%	5.68%	6.50%
01-Jan-1992	1,011,328				1,050,715					3.89%	4.85%	6.50%
01-Jan-1993	992,093				1,011,545					1.96%	3.56%	4.00%
01-Jan-1994	973,472				991,798					1.88%	2.58%	4.00%
01-Jan-1995	948,520				948,520					0.00%	1.28%	4.00%
01-Jan-1996	948,520				964,863					1.72%	1.20%	4.00%
01-Jan-1997	964,863				980,928					1.67%	1.13%	4.00%
01-Jan-1998	964,200				964,200					0.00%	1.13%	4.00%
01-Jan-1999	964,329				1,001,984					3.90%	1.86%	2.00%
01-Jan-2000	965,592				975,683					1.05%	1.65%	2.00%
01-Jan-2001	941,439				980,708					4.17%	3.04%	2.00%
01-Jan-2002	921,467				933,799					1.34%	2.19%	2.00%
01-Jan-2003	934,391				938,034					0.39%	1.97%	2.00%
01-Jan-2004	923,932				923,932					0.00%	0.58%	2.00%
01-Jan-2005	909,774				909,774					0.00%	0.13%	2.00%
01-Jan-2006	901,492	518,034	383,458		940,077	518,034	422,043			10.06%	3.35%	2.00%
01-Jan-2007	901,796	504,310	397,486		919,204	504,593	414,610			4.31%	4.79%	2.00%
01-Jan-2008	887,516	594,228	293,287		887,516	594,228	293,287			0.00%	4.79%	2.00%
01-Jan-2010	793,692	567,832	201,133		793,692	567,832	201,133			0.00%	1.44%	2.00%
01-Jan-2012	682,146	465,936	201,133		691,736	467,928	208,707			3.77%	1.26%	2.00%
01-Jan-2014	534,299	324,639	133,534		539,420	326,028	136,873			2.50%	2.09%	2.00%
01-Oct-2014	444,676	270,022	136,873		444,676	270,022	136,873			0.00%	2.09%	2.00%
01-Oct-2015	437,314	255,296	136,873		437,314	255,296	136,873			0.00%	0.83%	2.00%
01-Oct-2016	364,043	200,607	95,622		369,731	202,462	99,454			4.01%	1.34%	2.00%
01-Oct-2017	352,483	202,462	99,454		357,956	203,985	102,434			3.00%	2.34%	2.00%
01-Oct-2018	308,682	203,985	71,675		308,682	203,985	71,675			0.00%	2.34%	2.00%
01-Oct-2019	270,926	203,985	33,243		271,622	203,985	33,243			0.00%	1.00%	2.00%
01-Oct-2020	246,044	178,407	33,243		246,761	178,407	33,243			0.00%	0.00%	2.00%

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 9 of 28

CURRENT VALUATION RESULTS

EXHIBIT 1

Comparison of Actual to Assumed Earnings

Schedule N

(Assuming uniform income and disbursements, Employer Contributions assumed at End of Year)

Valuation Date	Beginning Assets	Ending Assets	Investment Earnings	Other Income	Benefits and Expenses
01-Jan-1998	3,626,850	3,963,395	300,824	1,011,742	976,021
01-Jan-1999	3,963,395	4,092,298	64,512	1,048,296	983,904
01-Jan-2000	4,092,299	4,668,572	426,660	1,098,990	949,376
01-Jan-2001	4,668,573	5,213,993	341,619	1,153,732	949,929
01-Jan-2002	5,213,995	5,741,450	257,977	1,211,210	941,731
01-Jan-2003	5,741,451	6,190,744	138,177	1,271,562	960,446
01-Jan-2004	6,190,744	6,744,043	138,857	1,331,045	916,603
01-Jan-2005	6,744,043	7,445,172	241,043	1,397,390	937,304
01-Jan-2006	7,445,172	8,375,505	387,938	1,467,259	924,865
01-Jan-2007	8,375,504	8,063,338	580,213	0	892,380
01-Jan-2008	8,063,337	7,561,246	366,551	0	868,643
01-Jan-2009	7,561,245	7,069,681	329,806	0	821,371
01-Jan-2010	7,069,680	6,661,881	363,961	0	771,761
01-Jan-2011	6,661,880	6,341,468	396,483	0	716,896
01-Jan-2012	6,341,467	5,849,998	169,814	0	661,284
01-Jan-2013	5,849,997	5,008,891	(244,425)	0	596,682
01-Jan-2014	5,008,890	4,860,303	239,542	0	388,130
01-Oct-2014	4,860,302	4,615,299	199,776	0	444,780
01-Oct-2015	4,615,298	4,361,517	172,434	0	426,216
01-Oct-2016	4,361,516	3,842,781	(150,082)	0	368,654
01-Oct-2017	3,842,780	3,566,898	59,255	0	335,138
01-Oct-2018	3,566,897	3,598,272	319,636	0	288,262
01-Oct-2019	3,598,271	3,481,098	147,975	0	265,149
01-Oct-2020	3,481,097	#N/A	#N/A	0	#N/A

Valuation Date	Net Increase	Expected Earnings	Actual Experience	3 Year Average	5 Year Average	Assumed Factor
01-Jan-1998	336,545	204,284	9.57%	8.70%	8.70%	6.50%
01-Jan-1999	128,904	190,929	1.86%	5.72%	5.72%	5.50%
01-Jan-2000	576,274	198,969	11.79%	7.74%	7.74%	5.50%
01-Jan-2001	545,422	230,648	8.15%	7.27%	7.84%	5.50%
01-Jan-2002	527,456	260,872	5.44%	8.46%	7.36%	5.50%
01-Jan-2003	449,293	236,755	2.63%	5.41%	5.97%	4.50%
01-Jan-2004	553,299	287,908	2.17%	3.41%	6.04%	4.50%
01-Jan-2005	701,129	313,834	3.46%	2.75%	4.37%	4.50%
01-Jan-2006	930,332	347,237	5.03%	3.55%	3.75%	4.50%
01-Jan-2007	(312,167)	356,819	7.32%	5.27%	4.12%	4.50%
01-Jan-2008	(502,092)	343,306	4.80%	5.72%	4.56%	4.50%
01-Jan-2009	(491,565)	321,775	4.61%	5.58%	5.04%	4.50%
01-Jan-2010	(407,800)	300,771	5.45%	4.95%	5.44%	4.50%
01-Jan-2011	(320,413)	283,654	6.29%	5.45%	5.69%	4.50%
01-Jan-2012	(491,470)	150,271	2.83%	4.86%	4.80%	2.50%
01-Jan-2013	(841,107)	138,791	-4.40%	1.57%	2.96%	2.50%
01-Jan-2014	(148,588)	120,371	4.98%	1.14%	3.03%	2.50%
01-Oct-2014	(245,004)	139,137	4.31%	1.63%	2.80%	3.00%
01-Oct-2015	(253,782)	132,066	3.92%	4.40%	2.33%	3.00%
01-Oct-2016	(518,736)	125,316	-3.59%	1.55%	1.04%	3.00%
01-Oct-2017	(275,883)	110,256	1.61%	0.65%	2.25%	3.00%
01-Oct-2018	31,374	102,683	9.34%	2.45%	3.12%	3.00%
01-Oct-2019	(117,174)	103,971	4.27%	5.07%	3.11%	3.00%
01-Oct-2020	#N/A	#N/A	#N/A	#N/A	#N/A	2.50%

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 10 of 28

PARTICIPANT DEMOGRAPHICS

EXHIBIT 2

Coverage

Schedule A

This valuation includes the following 12 persons covered by the plan as of October 1, 2020.

Category	Number	Amount
Active Participants	0	0 *
Other Inactive Participants	0	0 **
Retirees on Benefit	4	106,096 **
Survivors on Benefit	7	109,015 **
Participants on Disability Benefit	1	33,243 **
Terminated Vested Participants	0	0 **
TOTAL	12	N/A

* Annual covered pay only

** Annual Benefit

No persons (included in the data furnished to us) were ineligible for participation as of the valuation date. Participant data was furnished by the City of Clearwater and was as of September 30, 2020.

For all Participants, the following items were determined:

2018	Disabled	Survivor	Retiree	Active
Average Attained Age	81.98	83.01	85.23	na
Average Retirement Age	51.73	44.91	49.57	na
Average Monthly Benefit	2,770	1,410	2,210	na
Benefit Increase Ratio	100.00%	100.00%	100.00%	na
2019				
Average Attained Age	82.98	83.28	86.23	na
Average Retirement Age	51.73	45.24	49.57	na
Average Monthly Benefit	2,770	1,216	2,210	na
Benefit Increase Ratio	100.00%	86.00%	100.00%	na
2020				
Average Attained Age	83.98	82.84	87.23	na
Average Retirement Age	51.73	38.37	49.57	na
Average Monthly Benefit	2,770	1,298	2,210	na
Benefit Increase Ratio	100.00%	107.00%	100.00%	na

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 11 of 28

PARTICIPANT DEMOGRAPHICS

EXHIBIT 2

Participant Reconciliation

Schedule B

	Active (all past NRD)	Retired on Benefit	Survivor on Benefit	Disabled	With Vested Benefit	Total
Participants at 01-Oct-2019	0	4	9	1	0	14
New	0					0
Retirement	0					0
Death	0		-2			(2)
Disability	0					0
Vested Termination	0					0
Lump Sum Settlement	0					0
New Survivors	0					0
Data Corrections	0					0
Participants at 01-Oct-2020	0	4	7	1	0	12

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 12 of 28

PLAN ASSET INFORMATION

EXHIBIT 3

Statement of Plan Fiduciary Net Position*	30-Sep-2018	30-Sep-2019	Schedule A 30-Sep-2020
Market Value			
Interest Receivable - Pooled Cash	27,732.00	24,990.00	0.00
Interest Receivable - Investments	0.00	0.00	0.00
Cash and cash equivalents	1,610,360.00	1,454,685.00	2,292,432.00
Agency Bonds	1,928,806.00	2,118,597.00	1,167,534.00
Accrued Earnings	0.00	0.00	21,132.00
	-----	-----	-----
	3,566,898.00	3,598,272.00	3,481,098.00
	-----	-----	-----
Liabilities			
Accounts Payable	0.00	0.00	0.00
	-----	-----	-----
	0.00	0.00	0.00
	-----	-----	-----
Plan Fiduciary Net Position	3,566,898.00	3,598,272.00	3,481,098.00
	=====	=====	=====

* As reported by the City

Actuarial Assets = Plan Fiduciary Net Position at Market Value

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 13 of 28

PLAN ASSET INFORMATION

EXHIBIT 3

Statement of Changes in Plan Fiduciary Net Position Plan Year Ending:	30-Sep-2018	30-Sep-2019	Schedule B 30-Sep-2020
INCREASES			
Earnings on Investments	103,933.00	110,143.00	92,583.00
Unrealized Appreciation (Depreciation)	(44,678.00)	209,493.00	55,392.00
State Insurance Contributions	0.00	0.00	0.00
Employee Contributions	0.00	0.00	0.00
Employer Contributions:	0.00	0.00	0.00
Accrued	0.00	0.00	0.00
	-----	-----	-----
	0.00	0.00	0.00
	-----	-----	-----
	59,255.00	319,636.00	147,975.00
	-----	-----	-----
DECREASES			
Expenses			
Professional Fees	(2,500.00)	(2,500.00)	(2,500.00)
Other expenses	0.00	0.00	0.00
Bad debt write-off	0.00	0.00	0.00
	-----	-----	-----
	(2,500.00)	(2,500.00)	(2,500.00)
Paid to Participants			
Retirees	(129,159.92)	(120,040.00)	(121,809.36)
Survivors	(170,234.72)	(132,478.64)	(107,596.28)
Disabled	(33,243.36)	(33,243.36)	(33,243.36)
	-----	-----	-----
	(332,638.00)	(285,762.00)	(262,649.00)
	-----	-----	-----
	(335,138.00)	(288,262.00)	(265,149.00)
	-----	-----	-----
Net Increase/(Decrease)	(275,883.00)	31,374.00	(117,174.00)
Plan Fiduciary Net Position			
Beginning of Year	3,842,781.00	3,566,898.00	3,598,272.00
End of Year	3,566,898.00	3,598,272.00	3,481,098.00
	=====	=====	=====

PLAN SUMMARY

EXHIBIT 4

1. General Information

- (a) Plan Name: City of Clearwater Firefighters' Relief and Pension Fund
- (b) Plan Year: January 1 through December 31
- (c) Plan Sponsor: City of Clearwater, Florida
- (d) Sponsor Fiscal Year: October 1 through September 30
- (e) Plan Administrator: Board of Trustees
- (f) Effective Date: December 20, 1955
- (g) The Plan was last amended by the passing of HB 1089 (Laws of Florida Chapter 30658) providing for administrative changes not having an actuarial impact.

2. Eligibility for Participation

All firemen regularly employed in the City's Fire Department prior to July 1, 1963 who have been certified to permanent status, excluding secretaries, stenographers and other civilian employees shall participate. This is now a closed group.

3. Contributions

- (a) Municipality: A tax not to exceed six-tenths (6/10) of one mill commencing 10/01/72 for a period of 35 years. This period has expired.
- (b) Active Participants: 6% of basic compensation. There are no active participants.
- (c) State of Florida: N/A

4. Normal Retirement Benefit

- (a) Eligibility: The completion of 20 years of service.

PLAN SUMMARY

EXHIBIT 4

- (b) Benefit: A benefit in the amount of 50% of compensation plus 2% of compensation for each year of service in excess of 20 years, up to a maximum of 60%. Compensation is the prevailing wage for the lowest rank held in the three years immediately preceding retirement. Service shall mean the period during which an employee is an active member of the Fire Department, including a pro rata share for any partial year.
- (c) Form of Benefit: A joint and 50% contingent annuity with automatic cost of living increases equal to the increase in the prevailing wage for rank at which the Fireman retired, not to exceed the rank of Captain.
- (d) Maximum Benefit: For those participants who retire 4/20/72 or later, there is a 100% limitation on total increases due to cost of living adjustments.

5. Service Connected Disability Benefit

- (a) Eligibility: Permanent disability from a service connected cause leaving the Participant unable to serve as a Fireman.
- (b) Benefit: A monthly retirement income for the life of the participant in the amount of 60% of the prevailing wage for rank held at the time of disability. At the time of death, the spouse shall receive 50% of the prevailing wage for rank held at the time of disability, plus 7.5% of such wage for each child under the age of 18, provided the total benefit shall not exceed 60% of such wage.

6. Non-Service Connected Disability Benefit

- (a) Eligibility: Total and permanent disability other than from a service connected cause before 20 years of service.
- (b) Benefit: A life annuity in the amount of 2.5% of the prevailing wage for rank held at the time of disability multiplied by years and months of service to date (maximum 20 years) plus 7.5% of such prevailing wage for each child under the age of 18, subject to a maximum of 50%. At the time of death, the spouse shall receive the same pension, not to exceed 25% of the prevailing wage for rank held when pensioned, plus 7.5% of such wage for each child under the age of 18, subject to a maximum of 50%.

PLAN SUMMARY

EXHIBIT 4

7. Vesting Benefits

- (a) Eligibility: Termination of employment (other than retirement) upon completion of 12 years of service.
- (b) Benefit: The same as provided for a non-service connected disability.

8. Service Connected Death Benefits

- (a) Eligibility: Death of a participant while performing his duties.
- (b) Benefit: A benefit equal to 50% of the prevailing wage held at the time of death, plus 7.5% of such wage for each child under the age of 18, provided the total benefit shall not exceed 60%.

9. Non-Service Connected Death Benefits

- (a) Eligibility: Death of a participant while not performing his duties.
- (b) Benefit: If the participant has less than 20 years of service, the benefit shall be 25% of the prevailing wage at the time of death, plus 7.5% of such wage for each child under the age of 18, provided the total benefit shall not exceed 50% of such wage. If the participant has more than 20 years of service, the benefit shall be 50% of the pension the participant would have been entitled to receive, plus 7.5% of the prevailing wage at the date of death for each child under the age of 18, provided the total benefit shall not exceed the pension to which the participant was entitled.

COST METHOD AND ASSUMPTIONS

EXHIBIT 5

COST METHOD: A variation of the aggregate actuarial cost method was used during the funding period of the plan. The plan currently has only inactives; therefore the funding method could be described as either aggregate, accrued benefit or entry age normal, all of which normally converge after the end of the active participant phase. The present value of the projected benefits is calculated using the provisions of the plan and the actuarial assumptions, but in prior year, based upon annuities certain for the expectation of life (these are the values used to produce the cash flows shown in Exhibit 1, Pages 4, 4a and 4b). The current year changed the method to use standard annuity values. The actuarial value of assets includes only the value of assets. No future funding is required according to the governing Florida Law. The City may elect to contribute should future valuations show an actuarial need for such. Should such a situation arise, a new funding method would be chosen. Ultimately, the City is responsible for all benefits.

RETIREMENT PATTERN: There are no remaining active members.

INVESTMENT YIELD: We have assumed a 2.50% annually compounded yield. The prior valuation used 3.0%. The City approved a lowering of the discount rate during the September 2020 Trustees' meeting.

MORTALITY PATTERN:

Healthy Inactive Mortality

- Male Male : Headcount Weighted Safety Below Median Healthy Retiree Male Table, set forward 1 year
- Female: Headcount Weighted General Below Median Healthy Retiree Female Table

Disabled Mortality

- Male: 80% Headcount Weighted General Disabled Retiree Male Table; 20% Headcount Weighted Safety Disabled Retiree Male Table

These mortality assumptions are prescribed assumptions as defined by Actuarial Standard of Practice No. 27 (ASOP 27).

DISABILITY RATES: There are no remaining active members.

ASSET VALUATION: We have used the market value of the trust fund (as reported by the City).

WITHDRAWAL PATTERN: There are no remaining active members.

CONTRIBUTION INCREASE RATES: We have assumed no future contributions other than payment of expenses, not otherwise paid directly by the Trust.

PENSION COST RATIONALE

EXHIBIT 6

When one speaks of pension costs, one must distinguish between "true" costs and "actuarial" costs.

The true cost of a pension plan depends on its experience and is equal to:

$$\begin{aligned} & \text{Total Benefits Paid} \\ & + \\ & \text{Total Expense to Run the Plan} \\ & - \\ & \text{Investment Earnings} \end{aligned}$$

Because this true cost is not apparent until many years into the future, and then only in retrospect, the actuary scientifically estimates what the true cost will be and then assesses a share against the current year's operations.

In order to estimate the true cost elements, the actuary must try to predict the future happenings which will affect them -- such as death, employee turnover, expenses, investment earnings, etc. The assessment to each current year is made using a particular "cost method", selected by the actuary considering tax implications to the Employer, future cost versus future earnings patterns, present and projected makeup of employee force, etc. Based on these considerations, the actuarial costs are found to be as shown in this report.

It is important to remember that these annual costs are estimates of the actuary, which, if his projections are realized, will accumulate according to certain future patterns, as dictated by the cost method, to meet the true costs on an adequate and timely basis.

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 19 of 28

GASB 67, 68 Notes to the Financial Statements

EXHIBIT 7

- a. (1) The above PERS administrator is a single-employer with only one contributing municipality employer and no nonemployer contribution and no other contributors.

- (2) All firemen regularly employed in the City's Fire Department prior to July 1, 1963 who have been certified to permanent status, excluding secretaries, stenographers and other civilian employees shall participate.

Inactive Participants by category:

Retirees currently receiving benefits	5
Beneficiaries currently receiving benefits	7
Terminated employees entitled to benefits	0

	12
	=====

Active Participants by category:

Fully vested and past normal retirement date	0
Partially vested	0
Non-vested	0

	0
	=====

- (3) The benefit provisions are a monthly benefit in the amount of 50% of compensation plus 2% of compensation for each year of service in excess of 20 years, up to a maximum of 60%.
- (4) Employee eligibility requirements are membership in the covered group, being all firemen regularly employed in the City's Fire Department prior to July 1, 1963 who have been certified to permanent status, excluding secretaries, stenographers and other civilian employees. Eligibility for vesting is completion of 12 years of service. There are no remaining active members.

The authority under which benefit provisions are established is Article IV, Section 26.50 of the Clearwater Code, as provided in Florida Statutes, Chapters 112 and 175.

The employer obligation to contribute is as described in the Clearwater Code: a tax not to exceed six-tenths (6/10) of one mill commencing October 1, 1972 for a period of 35 years.

The funding period has expired.

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 20 of 28

GASB 67, 68 Notes to the Financial Statements

EXHIBIT 7

The authority under which those obligations are established is the Clearwater Code, Subpart B, Article 1, Section 1.

- b. (1) The accounting policies include the Accrual basis of accounting, and assets are reported at Market Value. Exchanges or "swaps" of securities are accounted for in the income. In previous years statement values of assets were used.
- (2) We are aware of no investments (other than U.S. government and U.S. government-guaranteed obligations) which represented more than 5% of net assets available for benefits.
- (3) We are aware of no investments in, loans to, or leases with any PERS official, government employer official, party related to a PERS official or governmental employer official, nonemployer contributor, or organization included in the reporting entity.

The Actuarial Present Value of credited projected benefits, is a standardized disclosure measure of the present value of pension benefits, adjusted for the effects of projected salary increases and any step-rate benefits, estimated to be payable in the future as a result of employee service to date.

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 21 of 28

GASB 67, 68 Notes to the Financial Statements

EXHIBIT 7

The significant actuarial assumptions used to compute the pension benefit obligation were:

Investment Yield: This report assumes a 2.50% yield for both present and future. The prior valuation used a 3.0% yield.

Mortality Pattern:

Healthy Inactive Mortality:

Male: Headcount Weighted Safety Below Median Healthy Retiree Male Table, set forward 1 year

Female: Headcount Weighted General Below Median Healthy Retiree Female Table

Disabled Mortality:

Male: 80% Headcount Weighted General Disable Retiree Male Table; 20% Headcount Weighted Safety Disable Retiree Male Table

Female: Headcount Weighted General Disabled Retiree Female Table, set forward 3 years

Salary Benefit Increases: A projection of 2.0% due to a combination of both seniority and inflation is assumed

There are no longer any active members in this plan.

Post Retirement Benefit Increases: An increase of 2.0% has been assumed. Some participants have benefits capped.

Rate of future contribution increases: No future contributions are assumed.

The System's funding policy, as mandated by ordinance, provides for actuarially determined periodic contributions at rates that, expressed as percentages of 1 mill of assessed property value, are sufficient to accumulate sufficient assets, over the mandated contribution period, to pay benefits when due.

A variation of the aggregate actuarial cost method was used during the funding period of the plan. The plan currently has only inactives; therefore, the funding method could be described as either aggregate or entry age normal, both of which normally converge after the end of the active participant phase. The present value of the projected benefits is calculated using the provisions of the plan and the actuarial assumptions, but based upon annuities certain for the expectation of life (these are the values used to produce the cash flows show in Exhibit 1, Schedule D). The actuarial value of assets includes only the value of assets. No future funding is required according to the governing Ordinance. The City may elect to contribute should future valuations show an actuarial need for such. Should such a situation arise, a new funding method would be chosen. This City is ultimately responsible for all benefits.

The GASB 67 and 68 Actuarial Funding Method is the Entry Age Normal (EAN) Method. For actuarial

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND
 Actuarial Valuation as of October 1, 2020

GASB 67, 68 Schedules of Funding Progress

Page 22 of 28

EXHIBIT 7

The actuarially determined normal cost as of
 Contributions actually made by employees and employer were:

Employer
 Employees

The State contributed an additional amount of:

	01-Oct-2020			\$0			% of Annual Payroll			
	Amount			0	0	na	na	0	0.00%	
Summary of Fund Progress by Plan Years										
10/1/2019 to 10/1/2018 to 10/1/2017 to 10/1/2016 to 10/1/2015 to 10/1/2014 to 10/1/2013 to 10/1/2012 to 10/1/2011 to 12/31/2011 to 12/31/2010 to										
Increases to funds										
Employer Contribution	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Employee Contribution	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
State Contribution	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Contributions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Investment Income	147,975.00	319,636.00	59,255.00	(150,082.00)	172,434.00	199,776.00	239,542.00	(244,425.00)	169,814.00	396,483.00
Other Income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Increases	147,975.00	319,636.00	59,255.00	(150,082.00)	172,434.00	199,776.00	239,542.00	(244,425.00)	169,814.00	396,483.00
Decreases to Funds										
Benefit payments	(262,649.00)	(285,762.00)	(332,638.00)	(365,154.00)	(423,458.00)	(442,775.00)	(382,332.00)	(596,682.00)	(655,986.00)	(716,896.00)
Admin expenses	(2,500.00)	(2,500.00)	(2,500.00)	(3,500.00)	(2,758.00)	(2,005.00)	(5,808.00)	0.00	(5,298.00)	(716,000.00)
Total Decreases	(265,149.00)	(288,262.00)	(335,138.00)	(368,654.00)	(426,216.00)	(444,780.00)	(388,130.00)	(596,682.00)	(661,284.00)	(716,896.00)
Net Increase/Decrease	(117,174.00)	31,374.00	(275,883.00)	(518,736.00)	(253,782.00)	(245,004.00)	(148,588.00)	(441,107.00)	(491,470.00)	(320,413.00)

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 23 of 28

GASB 67, 68 Schedules of Funding Progress

EXHIBIT 7

	Actuarial Valuation Date	Actuarial Value of Assets (a)	EAN Actuarial Accrued Liability (AAL)			Unfunded AAL (UAAL)	Funded Ratio (a/b)	Projected Covered Payroll (c)	UALL as a % of Covered Payroll ((b-a)/c)
			Actives	Inactives	Total (b)	(b-a)			
Before Changes	1-Jan-1999	3,963,395	0	10,261,010	10,261,010	6,297,615	38.63%	0	na
After Changes	1-Jan-1999	3,963,395	0	10,473,888	10,473,888	6,510,493	37.84%	0	na
	1-Jan-2000	4,092,298	0	9,746,671	9,746,671	5,654,373	41.99%	0	na
	1-Jan-2001	4,668,572	0	9,527,303	9,527,303	4,858,731	49.00%	0	na
	1-Jan-2002	5,213,993	0	8,907,427	8,907,427	3,693,434	58.54%	0	na
Before Changes	1-Jan-2003	5,741,450	0	8,963,776	8,963,776	3,222,326	64.05%	0	na
After Changes	1-Jan-2003	5,741,450	0	10,483,967	10,483,967	4,742,517	54.78%	0	na
	1-Jan-2004	6,190,744	0	9,974,824	9,974,824	3,784,080	62.06%	0	na
	1-Jan-2005	6,744,043	0	8,938,022	8,938,022	2,193,979	75.45%	0	na
	1-Jan-2006	7,445,172	0	8,773,238	8,773,238	1,328,066	84.88%	0	na
	1-Jan-2007	8,375,505	0	8,320,672	8,320,672	-54,833	100.66%	0	na
	1-Jan-2008	8,063,338	0	7,815,729	7,815,729	-247,609	103.17%	0	na
	1-Jan-2010	7,069,681	0	6,752,633	6,752,633	-317,048	104.70%	0	na
Before Changes	1-Jan-2012	6,341,468	0	5,387,227	5,387,227	-954,241	117.71%	0	na
After Changes	1-Jan-2012	6,341,468	0	5,659,565	5,659,565	-681,903	112.05%	0	na
Before Changes	1-Jan-2014	5,008,891	0	4,402,912	4,402,912	-605,979	113.76%	0	na
After Changes	1-Jan-2014	5,008,891	0	4,513,458	4,513,458	-495,433	110.98%	0	na
	1-Oct-2014	4,860,303	0	3,797,780	3,797,780	-1,062,523	127.98%	0	na
Before Changes	1-Oct-2015	4,615,299	0	3,569,913	3,569,913	-1,045,386	129.28%	0	na
After Changes	1-Oct-2015	4,615,299	0	3,771,835	3,771,835	-843,464	122.36%	0	na
Before Changes	1-Oct-2016	4,361,517	0	3,152,321	3,152,321	-1,209,196	138.36%	0	na
After Changes	1-Oct-2016	4,361,517	0	3,360,997	3,360,997	-1,000,520	129.77%	0	na
	1-Oct-2017	3,842,781	0	3,162,699	3,162,699	-680,082	121.50%	0	na
	1-Oct-2018	3,566,898	0	2,709,051	2,709,051	-857,847	131.67%	0	na
	1-Oct-2019	3,598,272	0	2,354,798	2,354,798	-1,243,474	152.81%	0	na
	1-Oct-2020	3,481,098	0	2,169,234	2,169,234	-1,311,864	160.48%	0	na

GASB 67 and 68

Actuarial Valuation Date	Unfunded AAL (UAAL)	Actual Plan Contributions					
		Amortization Period I	Amortization Factor	Minimum ARC	Employer	Employee	Total
01-Jan-1999	6,510,493	40, 5.5%	16.92866	384,584	1,003,758	4,718	3,266 1,011,742
01-Jan-2000	5,654,373	40, 5.5%	16.92866	334,012	1,046,856	(1,645) 3,085	1,048,296
01-Jan-2001	4,858,731	40, 5.5%	16.92866	287,012	1,098,990	0 0	1,098,990
01-Jan-2002	3,693,434	40, 5.5%	16.92866	218,176	1,153,732	0 0	1,153,732
01-Jan-2003	4,742,517	40, 4.5%	16.92866	280,147	1,211,210	0 0	1,211,210
01-Jan-2004	3,784,080	40, 4.5%	16.92866	223,531	1,271,562	0 0	1,271,562
01-Jan-2005	2,193,979	40, 4.5%	16.92866	129,601	1,331,045	0 0	1,331,045
01-Jan-2006	1,328,066	30, 4.5%	17.02189	78,021	1,397,390	0 0	1,397,390
01-Jan-2007	-54,833	30, 4.5%	17.02189	-3,221	1,467,259	0 0	1,467,259
01-Jan-2008	-247,609	30, 4.5%	17.02189	-14,546	0 0	0 0	0 0
01-Jan-2010	-317,048	30, 4.5%	17.02189	-18,626	0 0	0 0	0 0
01-Jan-2012	-681,903	30, 4.5%	17.02189	-40,060	0 0	0 0	0 0
01-Jan-2014	-495,433	30, 4.5%	17.02189	-29,106	0 0	0 0	0 0
01-Oct-2014	-1,062,523	30, 4.5%	17.02189	-62,421	0 0	0 0	0 0
01-Oct-2015	-843,464	30, 4.5%	17.02189	-49,552	0 0	0 0	0 0
01-Oct-2016	-1,000,520	30, 4.5%	17.02189	-58,778	0 0	0 0	0 0
01-Oct-2017	-680,082	30, 4.5%	17.02189	-39,953	0 0	0 0	0 0
01-Oct-2018	-857,847	30, 4.5%	17.02189	-50,397	0 0	0 0	0 0
01-Oct-2019	-1,243,474	30, 4.5%	17.02189	-73,051	0 0	0 0	0 0
01-Oct-2020	-1,311,864	30, 4.5%	17.02189	-77,069	0 0	0 0	0 0

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 24 of 28

GASB 67,68 Schedules of Funding Progress

EXHIBIT 8

GASB 67,68 Schedules of Funding Progress

Summary of Fund Progress by Plan Years --
Individual Entry Age Normal Method

	10/1/2017 to <u>9/30/2018</u>	10/1/2018 to <u>9/30/2019</u>	10/1/2019 to <u>9/30/2020</u>
Total Liability			
Service Cost	2,500	2,500	2,500
Interest	0	0	0
Changes of benefit terms	0	0	0
Differences between expected and actual experience	157,363	359,892	(18,251)
Changes in Assumptions	0	0	0
Benefit payments, including refunds of member contributions	(332,638)	(285,762)	(262,649)
	<hr/>	<hr/>	<hr/>
Net change in total pension liability	(172,775)	76,630	(278,400)
Plan Fiduciary net position			
Total pension liability -- beginning	<u>3,162,699</u>	<u>2,709,051</u>	<u>2,354,798</u>
Total pension liability -- ending (a)	<u>\$2,709,051</u>	<u>\$2,354,798</u>	<u>\$2,169,234</u>
	<hr/>	<hr/>	<hr/>
Employer Contribution	0	0	0
Employee Contribution	0	0	0
State Contribution	0	0	0
Investment Income	59,255	319,636	147,975
Other Income	0	0	0
Net Benefit payments	(332,638)	(285,762)	(262,649)
Admin expenses	(2,500)	(2,500)	(2,500)
	<hr/>	<hr/>	<hr/>
Net Pension Liability (asset) -- ending (a) - (b)			
Plan fiduciary net position -- beginning	<u>3,842,781</u>	<u>3,566,898</u>	<u>3,598,272</u>
Plan fiduciary net position -- ending (b)	<u>\$3,566,898</u>	<u>\$3,598,272</u>	<u>\$3,481,098</u>
	<hr/>	<hr/>	<hr/>
	<u><u>(\\$857,847)</u></u>	<u><u>(\\$1,243,474)</u></u>	<u><u>(\\$1,311,864)</u></u>
Plan fiduciary net position as a percentage of the total pension liability	131.67%	152.81%	160.48%
Covered employee payroll	#N/A	#N/A	#N/A
Net pension liability (asset) as a percentage of payroll	#N/A	#N/A	#N/A

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 25 of 28

GASB 67,68 Schedules of Funding Progress -- Plan Funding Method representing discount rate 1.0% lower

(i = 1.50%)

EXHIBIT

Development of Current Year's Costs

Schedule A

	01-Oct-2018	01-Oct-2019	01-Oct-2020
A. Present Value of Future Obligations:			
1. Active Members	0	0	0
2. Retired Members	1,014,691	968,670	989,002
3. Survivors on Benefit	1,648,000	1,323,733	1,114,153
4. Disabled Members	234,325	223,789	212,275
Total Actuarial Accrued Liability:	<u>2,897,016</u>	<u>2,516,192</u>	<u>2,315,430</u>
B. Less Present Value of:			
1. Member Contributions	0	0	0
2. Florida Premium Tax Rebates	0	0	0
	<u>0</u>	<u>0</u>	<u>0</u>
C. Less Actuarial Plan Assets	<u>3,566,898</u>	<u>3,598,272</u>	<u>3,481,098</u>
D. Amount to be Funded by City (A-B-C) (Unfunded Actuarial Accrued Liability)	<u>(669,882)</u>	<u>(1,082,080)</u>	<u>(1,165,668)</u>
E. Current Value of 1 Mill	na	na	na
F. Maximum Authorized Current Contribution (authorized contribution capped at .6 mill)	0	0	0
G. Years Left in Funding Period	none	none	none
H. Increasing Funding Annuity Factor	n/a	n/a	n/a
I. Minimum Required Increasing Contribution (mid-yr)	none	none	none
J. Cash Flow Analysis Recommended Contribution	none	none	none
K. GASB 67, 68 EAN level \$ amortization period in years	n/a	n/a	n/a
L. GASB 67, 68 EAN level \$ amortization factor	n/a	n/a	n/a
M. GASB 67, 68 EAN level \$ amortization	0	0	0
N. Unadjusted Scheduled Funding Method Contribution	0	0	0
O. Current Recommended Contribution =(larger of I, J or N, but not more than F)	<u>0</u>	<u>0</u>	<u>0</u>
P. General Expenses*	<u>2,500</u>	<u>2,500</u>	<u>2,500</u>
Q. Total (O + P)	<u>2,500</u>	<u>2,500</u>	<u>2,500</u>
R. Interest Adjustment	0	0	0
S. Interest Adjusted Normal Cost (@ 9/30/2015)	<u>2,500</u>	<u>2,500</u>	<u>2,500</u>
T. Valuation Interest Rate	2.00%	2.00%	1.50%

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

EXHIBIT

Adequate Present Value of Funding:

Min assets: 1,733,221

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

Page 27 of 28

GASB 67,68 Schedules of Funding Progress -- Plan Funding Method representing discount rate 1.0% higher

(*i* = 3.50%)

EXHIBIT 1

Development of Current Year's Costs

Schedule A

	01-Oct-2018	01-Oct-2019	01-Oct-2020
A. Present Value of Future Obligations:			
1. Active Members	0	0	0
2. Retired Members	892,915	856,533	873,278
3. Survivors on Benefit	1,437,333	1,151,555	971,723
4. Disabled Members	212,180	203,448	194,029
	<hr/>	<hr/>	<hr/>
Total Actuarial Accrued Liability:	2,542,428	2,211,536	2,039,030
B. Less Present Value of:			
1. Member Contributions	0	0	0
2. Florida Premium Tax Rebates	0	0	0
	<hr/>	<hr/>	<hr/>
C. Less Actuarial Plan Assets	3,566,898	3,598,272	3,481,098
D. Amount to be Funded by City (A-B-C) (Unfunded Actuarial Accrued Liability)	<hr/>	<hr/>	<hr/>
E. Current Value of 1 Mill	na	na	na
F. Maximum Authorized Current Contribution (authorized contribution capped at .6 mill)	0	0	0
G. Years Left in Funding Period	none	none	none
H. Increasing Funding Annuity Factor	n/a	n/a	n/a
I. Minimum Required Increasing Contribution (mid-yr)	none	none	none
J. Cash Flow Analysis Recommended Contribution	none	none	none
K. GASB 67, 68 EAN level \$ amortization period in years	n/a	n/a	n/a
L. GASB 67, 68 EAN level \$ amortization factor	n/a	n/a	n/a
M. GASB 67, 68 EAN level \$ amortization	0	0	0
N. Unadjusted Scheduled Funding Method Contribution	0	0	0
O. Current Recommended Contribution =(larger of I, J or N, but not more than F)	<hr/>	<hr/>	<hr/>
P. General Expenses*	2,500	2,500	2,500
Q. Total (O + P)	<hr/>	<hr/>	<hr/>
R. Interest Adjustment	0	0	0
S. Interest Adjusted Normal Cost (@ 9/30/2015)	<hr/>	<hr/>	<hr/>
T. Valuation Interest Rate	4.00%	4.00%	3.50%

* If not paid directly by the Trust

CITY OF CLEARWATER FIREFIGHTERS' RELIEF AND PENSION FUND

Actuarial Valuation as of October 1, 2020

GASB 67,68 Schedules of Funding Progress -- Plan Funding Method representing discount rate 1.0% higher

(i = 3.50%)

Adequate Present Value of Funding:
Avoid any Negative Asset Years:

pass
pass

Page 28 of 28
EXHIBIT 1

Schedule D

Cash Flow Analysis (net of plan expenses)			Present Value of 1 Mill: Funding Required (pres val): 5.00%			#N/A (1,442,068)			test1: fail test2: pass			Required Millage Funding Schedule:			#N/A	0		
Beginning Plan Assets			Members & City			Earnings on Plan Assets			Benefit Payments by Recipient Group			Total Benefit Payments			Net Increase in Plan Assets		Assumed Investment Yield	
Calendar Year	Year	Year	City	State	Total	Disables	Current Survivors	for "old" Retirees	for "new" Retirees	109,015	106,096	248,355	(130,863)	3,350,235	3.50%			
2020	3,481,098	0	0	0	0	117,492	33,243	0	0	104,654	101,952	236,609	(123,492)	3,226,744	3.50%			
2021	3,350,235	0	0	0	0	113,118	30,004	0	0	99,985	96,885	223,697	(114,675)	3,112,069	3.50%			
2022	3,226,744	0	0	0	0	109,021	26,827	0	0	95,019	91,052	209,817	(104,566)	3,007,502	3.50%			
2023	3,112,069	0	0	0	0	105,251	23,747	0	0	89,786	84,937	195,516	(93,675)	2,913,827	3.50%			
2024	3,007,502	0	0	0	0	101,381	20,794	0	0	84,331	80,946	180,946	(82,129)	2,831,698	3.50%			
2025	2,913,827	0	0	0	0	98,817	17,997	0	0	78,698	72,173	166,252	(70,052)	2,761,646	3.50%			
2026	2,831,698	0	0	0	0	96,200	15,381	0	0	72,917	65,678	151,562	(57,557)	2,704,089	3.50%			
2027	2,761,646	0	0	0	0	94,005	12,967	0	0	67,028	60,720	137,018	(44,772)	2,659,316	3.50%			
2028	2,704,089	0	0	0	0	92,245	10,770	0	0	68,802	62,892	122,658	(31,728)	2,621,588	3.50%			
2029	2,659,316	0	0	0	0	90,930	8,802	0	0	60,964	54,892	108,736	(18,673)	2,608,915	3.50%			
2030	2,627,588	0	0	0	0	90,063	7,061	0	0	54,892	46,783	95,560	(5,920)	2,602,995	3.50%			
2031	2,608,915	0	0	0	0	89,640	5,553	0	0	49,038	40,969	95,560	(5,920)	2,602,995	3.50%			
2032	2,602,995	0	0	0	0	89,468	43,430	0	0	55,513	43,430	83,222	6,426	2,609,421	3.50%			
2033	2,609,421	0	0	0	0	90,073	3,228	38,111	0	30,465	71,805	18,269	2,627,690	3.50%				
2034	2,627,690	0	0	0	0	90,895	2,381	33,146	0	25,858	61,385	29,510	2,657,199	3.50%				
2035	2,657,199	0	0	0	0	92,092	1,716	28,585	0	21,707	40,084	40,084	2,697,283	3.50%				
2036	2,697,283	0	0	0	0	93,641	1,205	24,467	0	18,008	43,679	49,951	2,747,244	3.50%				
2037	2,747,244	0	0	0	0	95,517	824	20,798	0	14,745	36,367	59,150	2,806,394	3.50%				
2038	2,806,394	0	0	0	0	97,698	547	17,566	0	11,908	30,022	67,676	2,874,071	3.50%				
2039	2,874,071	0	0	0	0	100,162	353	14,745	0	9,483	24,581	52,981	2,946,552	3.50%				
2040	2,949,652	0	0	0	0	102,888	220	12,305	0	7,445	19,970	82,918	3,032,570	3.50%				
2041	3,032,570	0	0	0	0	105,858	133	10,206	0	5,763	16,102	89,756	3,122,327	3.50%				
2042	3,122,327	0	0	0	0	109,056	78	8,398	0	4,399	12,876	12,876	3,192,506	3.50%				
2043	3,218,506	0	0	0	0	112,469	45	6,842	0	3,314	10,200	102,269	3,320,776	3.50%				
2044	3,320,776	0	0	0	0	116,087	25	5,507	0	2,463	7,995	108,093	3,428,868	3.50%				
2045	3,428,868	0	0	0	0	119,902	13	4,369	0	1,809	6,191	11,711	3,542,579	3.50%				
2046	3,542,579	0	0	0	0	123,907	7	3,412	0	1,317	4,736	11,972	3,661,751	3.50%				
2047	3,661,751	0	0	0	0	128,099	3	2,618	0	953	3,575	124,524	3,786,275	3.50%				
2048	3,786,275	0	0	0	0	132,473	2	1,971	0	689	2,662	129,812	3,916,087	3.50%				
2049	3,916,087	0	0	0	0	137,029	1	1,455	0	496	1,952	135,077	4,051,164	3.50%				
2050	4,051,164	0	0	0	0	141,166	0	1,049	0	370	1,419	140,346	4,191,510	3.50%				
2051	4,191,510	0	0	0	0	146,685	0	737	0	215	1,017	145,668	4,337,178	3.50%				
2052	4,337,178	0	0	0	0	151,789	0	505	0	170	506	151,059	4,488,247	3.50%				
2053	4,488,247	0	0	0	0	157,080	0	336	0	170	506	156,574	4,644,820	3.50%				
2054	4,644,820	0	0	0	0	162,663	0	217	0	137	354	162,208	4,807,028	3.50%				
2055	4,807,028	0	0	0	0	168,242	0	136	0	114	250	167,992	4,975,020	3.50%				
2056	4,975,020	0	0	0	0	174,123	0	82	0	100	183	173,940	5,148,960	3.50%				
2057	5,148,960	0	0	0	0	180,211	0	48	0	99	147	180,064	5,329,024	3.50%				
2058	5,329,024	0	0	0	0	186,514	0	27	0	98	126	186,388	5,515,412	3.50%				
2059	5,515,412	0	0	0	0	193,037	0	15	0	98	114	192,924	5,708,336	3.50%				
2060	5,708,336	0	0	0	0	199,792	0	9	0	0	9	199,783	5,908,119	3.50%				
41	0	0	0	0	0	4,997,918	228,207	1,247,421	0	1,095,270	0	2,570,897	2,427,021					
Min assets:	2,731,645																	