

CITY OF EDGEWATER  
FIREFIGHTERS' PENSION FUND

ACTUARIAL VALUATION  
AS OF OCTOBER 1, 2019

CONTRIBUTIONS APPLICABLE TO THE  
PLAN/FISCAL YEAR ENDING SEPTEMBER 30, 2021

GASB 67/68 DISCLOSURE INFORMATION  
AS OF SEPTEMBER 30, 2019



**FOSTER & FOSTER**  
ACTUARIES AND CONSULTANTS

March 9, 2020

Board of Trustees  
City of Edgewater  
Firefighters' Pension Fund

Re: City of Edgewater Firefighters' Pension Fund

Dear Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the City of Edgewater Firefighters' Pension Fund. Included are the related results for GASB Statements No. 67 and No. 68. The funding valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year. The calculation of the liability for GASB results was performed for the purpose of satisfying the requirements of GASB Statements No. 67 and No. 68. Use of the results for other purposes may not be applicable and may produce significantly different results.

The valuations have been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflect laws and regulations issued to date pursuant to the provisions of Chapters 112 and 175, Florida Statutes, as well as applicable federal laws and regulations. In our opinion, the assumptions used in the valuations, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuations, we did not perform an analysis of the potential range of such future measurements.

In conducting the valuations, we have relied on personnel, plan design, and asset information supplied by the City of Edgewater, financial reports prepared by the custodian bank, and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

The total pension liability, net pension liability, and certain sensitivity information shown in this report are based on an actuarial valuation performed as of October 1, 2018. The total pension liability was rolled-forward from the valuation date to the plan's fiscal year ending September 30, 2019 using generally accepted actuarial principles. It is our opinion that the assumptions used for this purpose are internally consistent, reasonable, and comply with the requirements under GASB No. 67 and No. 68.


The undersigned are familiar with the immediate and long-term aspects of pension valuations, and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the City of Edgewater, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the Firefighters' Pension Fund. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact us at 239-433-5500.

Respectfully submitted,

Foster & Foster, Inc.

By:   
\_\_\_\_\_  
Douglas H. Lozen, EA, MAAA  
Enrolled Actuary #17-7778

By:   
\_\_\_\_\_  
Amanda M. Brown, ASA, MAAA

Enclosures

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SUMMARY OF REPORT

The regular annual actuarial valuation of the City of Edgewater Firefighters' Pension Fund, performed as of October 1, 2019, has been completed and the results are presented in this Report. The contribution amounts set forth herein are applicable to the plan/fiscal year ending September 30, 2021.

The contribution requirements, compared with those set forth in the October 7, 2019 actuarial impact statement, are as follows:

Valuation Date Applicable to Fiscal Year Ending	10/1/2019 <u>9/30/2021</u>	10/1/2018 <u>9/30/2020</u>
Minimum Required Contribution % of Projected Annual Payroll	29.5%	36.9%
Member Contributions (Est.) % of Projected Annual Payroll	6.0%	6.0%
City And State Required Contribution with Application of Normal Cost Minimum % of Projected Annual Payroll	23.6%	30.9%
State Contribution (Est.) <sup>1</sup> % of Projected Annual Payroll	\$55,292 3.6%	\$55,292 3.6%
City Required Contribution <sup>2</sup> % of Projected Annual Payroll	20.0%	27.3%

<sup>1</sup> The City may use up to \$55,292 (plus any Supplemental Distribution up to \$11,654) in State Contributions, as affirmed with the latest Collective Bargaining Agreement, for determining its minimum funding requirements; excess amounts are allocated to the Share Plan.

<sup>2</sup> The required contribution from the combination of City and State sources for the year ending September 30, 2021, is 23.6% of the actual payroll realized in that year. As a budgeting tool, the City may contribute 20.0% of each Member’s Salary and then make a one-time adjustment to account for the actual State Monies received. Please note that the City has access to a prepaid contribution of \$41,715.26 that is available to offset a portion of the above stated requirements for the fiscal year ending September 30, 2020.

The Minimum Required Contribution reflects a decrease compared to the results determined in the October 7, 2019 actuarial impact statement. The decrease is largely attributable to an expiring amortization base and offset in part by assumption and method changes approved as a result of an experience study dated December 6, 2019. Plan experience was favorable overall on the basis of the plan's actuarial assumptions. Sources of actuarial gain included an investment return of 10.71% (Actuarial Asset Basis) which exceeded the 7.50% assumption and an average salary increase of 3.83% which fell short of the 5.90% assumption. There were no significant sources of actuarial loss.

## CHANGES SINCE PRIOR VALUATION

### Plan Changes

1. Effective October 1, 2018, the definition of Average Final Compensation was changed from the five best of the last ten years to the three best of the last five years of Credited Service. The Actuarial Impact Statement dated October 7, 2019 (item 2 below) includes this benefit change.
2. Chapter 2019-21, Laws of Florida was signed into effect granting certain disability benefits to firefighters participating in an employer-sponsored retirement plan. Effective July 1, 2019, "the retirement plan must consider the firefighter totally and permanently disabled in the line of duty if he or she meets the retirement plan's definition of totally and permanently disabled due to the diagnosis of cancer or circumstances that arise out of the treatment of cancer." For this purpose, "cancer" is as defined in Section 112.1816(1), Florida Statutes.
  - Please note that the benefit changes only relate to the disability benefits for the Pension Fund and do not provide for other additional benefits that are provided for in Florida Statutes Section 112.1816.

### Actuarial Assumption/Method Changes

Change to the plan's Unfunded Actuarial Accrued Liability (UAAL) method to amortize future layers of UAAL over a 15-year period. Additionally, all current layers have been consolidated into a single base.

Effective October 1, 2019 as a result of an Experience Study dated December 6, 2019, the Board approved the following changes as outlined in the Actuarial Assumptions and Funding Methods section of this report:

- i. The investment rate of return assumption was decreased from 7.50% to 7.25% per year compounded annually, net of investment related expenses.
- ii. Based on a study of actual versus expected experience for the 10-year period ending September 30, 2018, the following changes to demographic assumptions were made:
  - o Updates to the future salary increase assumption
  - o Updates to assumed rates of retirement
  - o Updates to assumed rates of withdrawal

Actuarial Assumption/Method Changes (cont.)

Effective October 1, 2018 as outlined in the Actuarial Impact Statement dated October 7, 2019, the assumed percentage of disabilities in line-of-duty was increased from 75% to 90%, as a result of the plan change described in item 2. above.

## CONTRIBUTION IMPACT OF ANNUAL CHANGES

(1) Contribution Determined as of October 1, 2018	27.3%
(2) Summary of Contribution Impact by component:	
Change in State Contribution Percentage	0.0%
Change in Normal Cost Rate	0.3%
Change in Administrative Expense Percentage	0.1%
Expiring Amortization Base	-7.9%
Investment Return (Actuarial Asset Basis)	-3.0%
Salary Increases	-1.0%
Active Decrements	0.4%
Inactive Mortality	0.0%
Assumption and Method Changes	3.2%
Application of Normal Cost Minimum Contribution Requirement	0.1%
Other	<u>0.5%</u>
Total Change in Contribution	-7.3%
(3) Contribution Determined as of October 1, 2019	20.0%



COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	New Asmp/Mthd <u>10/1/2019</u>	Old Asmp/Mthd <u>10/1/2019</u>	<u>10/1/2018</u>
<b>A. Participant Data</b>			
Actives	30	30	30
Service Retirees	11	11	10
Beneficiaries	0	0	0
Disability Retirees	1	1	1
Terminated Vested	<u>2</u>	<u>2</u>	<u>2</u>
Total	44	44	43
Total Annual Payroll	\$1,772,453	\$1,786,452	\$1,767,470
Payroll Under Assumed Ret. Age	1,541,929	1,554,544	1,541,668
Annual Rate of Payments to:			
Service Retirees	444,912	444,912	393,917
Beneficiaries	0	0	0
Disability Retirees	11,532	11,532	11,532
Terminated Vested	16,302	16,302	16,302
<b>B. Assets</b>			
Actuarial Value (AVA) <sup>1</sup>	14,843,506	14,843,506	13,330,180
Market Value (MVA) <sup>1</sup>	15,294,146	15,294,146	14,681,238
<b>C. Liabilities</b>			
<b>Present Value of Benefits</b>			
<b>Actives</b>			
Retirement Benefits	10,417,327	8,984,419	8,816,187
Disability Benefits	129,439	115,284	126,795
Death Benefits	35,258	31,186	35,381
Vested Benefits	115,699	669,006	673,568
Refund of Contributions	12,549	12,557	11,001
Service Retirees	5,756,748	5,608,526	4,979,923
Beneficiaries	0	0	0
Disability Retirees	157,353	152,951	153,368
Terminated Vested	43,921	40,757	37,956
Share Plan Balances <sup>1</sup>	<u>1,165,777</u>	<u>1,165,777</u>	<u>1,044,005</u>
Total	17,834,071	16,780,463	15,878,184

C. Liabilities - (Continued)	New Asmp/Mthd <u>10/1/2019</u>	Old Asmp/Mthd <u>10/1/2019</u>	<u>10/1/2018</u>
Present Value of Future Salaries	12,469,654	11,648,424	11,981,705
Present Value of Future Member Contributions	748,179	698,905	718,902
Normal Cost (Retirement)	357,698	283,140	275,056
Normal Cost (Disability)	12,920	12,420	12,442
Normal Cost (Death)	2,082	1,842	1,967
Normal Cost (Vesting)	11,731	48,872	48,970
Normal Cost (Refunds)	<u>3,559</u>	<u>3,570</u>	<u>3,497</u>
Total Normal Cost	387,990	349,844	341,932
Present Value of Future Normal Costs	3,011,844	2,474,893	2,508,858
Accrued Liability (Retirement)	7,578,975	6,928,198	6,732,996
Accrued Liability (Disability)	45,599	41,201	45,803
Accrued Liability (Death)	20,422	19,102	21,296
Accrued Liability (Vesting)	50,301	345,981	351,330
Accrued Liability (Refunds)	3,131	3,077	2,649
Accrued Liability (Inactives)	5,958,022	5,802,234	5,171,247
Share Plan Balances <sup>1</sup>	<u>1,165,777</u>	<u>1,165,777</u>	<u>1,044,005</u>
Total Actuarial Accrued Liability (EAN AL)	14,822,227	14,305,570	13,369,326
Unfunded Actuarial Accrued Liability (UAAL)	(21,279)	(537,936)	39,146
Funded Ratio (AVA / EAN AL)	100.1%	103.8%	99.7%

D. Actuarial Present Value of Accrued Benefits	New Asmp/Mthd <u>10/1/2019</u>	Old Asmp/Mthd <u>10/1/2019</u>	<u>10/1/2018</u>
Vested Accrued Benefits			
Inactives + Share Plan Balances <sup>1</sup>	7,123,799	6,968,011	6,215,252
Actives	4,048,274	3,883,065	3,763,895
Member Contributions	<u>1,119,141</u>	<u>1,119,141</u>	<u>1,073,712</u>
Total	12,291,214	11,970,217	11,052,859
Non-vested Accrued Benefits	<u>995,929</u>	<u>816,559</u>	<u>729,593</u>
Total Present Value			
Accrued Benefits (PVAB)	13,287,143	12,786,776	11,782,452
Funded Ratio (MVA / PVAB)	115.1%	119.6%	124.6%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:			
Plan Amendments	0	0	
Assumption Changes	500,367	0	
Plan Experience	0	650,195	
Benefits Paid	0	(510,414)	
Interest	0	864,543	
Other	<u>0</u>	<u>0</u>	
Total	500,367	1,004,324	

	New Asmp/Mthd	Old Asmp/Mthd	
Valuation Date	10/1/2019	10/1/2019	10/1/2018
Applicable to Fiscal Year Ending	<u>9/30/2021</u>	<u>9/30/2021</u>	<u>9/30/2020</u>

#### E. Pension Cost

Normal Cost (with interest)			
% of Total Annual Payroll <sup>2</sup>	26.1	23.3	23.0
Administrative Expenses (with interest)			
% of Total Annual Payroll <sup>2</sup>	3.5	3.4	3.3
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 15 years (as of 10/1/2019, with interest)			
% of Total Annual Payroll <sup>2</sup>	(0.1)	(0.4)	10.6
Minimum Required Contribution			
% of Total Annual Payroll <sup>2</sup>	29.5	26.3	36.9
Expected Member Contributions			
% of Total Annual Payroll <sup>2</sup>	6.0	6.0	6.0
Expected City and State Contribution			
% of Total Annual Payroll <sup>2</sup>	23.5	20.3	30.9
Expected City and State Contribution with application of Normal Cost Minimum	23.6	20.7	30.9

#### F. Past Contributions

Plan Years Ending:	<u>9/30/2019</u>
Total Required Contribution	528,371
City and State Requirement	423,048
Actual Contributions Made:	
Members (excluding buyback)	105,323
City	367,756
State	<u>55,292</u>
Total	528,371

G. Net Actuarial (Gain)/Loss (462,339)

<sup>1</sup> The asset values and liabilities include accumulated Share Plan Balances as of 9/30/2019 and 9/30/2018.

<sup>2</sup> Contributions developed as of 10/1/2019 are expressed as a percentage of total annual payroll at 10/1/2019 of \$1,541,929 after assumption changes and of \$1,554,544 before assumption changes.

H. Schedule Illustrating the Amortization of the Total Unfunded Actuarial Accrued Liability as of:

<u>Year</u>	<u>Projected Unfunded Actuarial Accrued Liability</u>
2019	(21,279) <sup>1</sup>

I. (i) 5 Year Comparison of Actual and Assumed Salary Increases

		<u>Actual</u>	<u>Assumed</u>
Year Ended	9/30/2019	3.83%	5.90%
Year Ended	9/30/2018	2.74%	5.97%
Year Ended	9/30/2017	0.93%	5.91%
Year Ended	9/30/2016	11.91%	5.84%
Year Ended	9/30/2015	5.31%	5.88%

(ii) 5 Year Comparison of Investment Return on Market Value and Actuarial Value

		<u>Market Value</u>	<u>Actuarial Value</u>	<u>Assumed</u>
Year Ended	9/30/2019	3.61%	10.71%	7.50%
Year Ended	9/30/2018	12.44%	8.24%	7.50%
Year Ended	9/30/2017	15.51%	8.52%	7.50%
Year Ended	9/30/2016	11.64%	7.26%	7.50%
Year Ended	9/30/2015	-5.33%	9.24%	7.50%

(iii) Average Annual Payroll Growth

(a) Payroll as of:	10/1/2019	\$1,541,929
	10/1/2009	1,475,963
(b) Total Increase		4.47%
(c) Number of Years		10.00
(d) Average Annual Rate		0.44%

<sup>1</sup> Based on current State law and the existing UAAL bases, the UAAL will never be positive.

STATEMENT BY ENROLLED ACTUARY

This actuarial valuation 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.



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Douglas H. Lozen, EA, MAAA  
Enrolled Actuary #17-7778

Please let us know when the report is approved by the Board and unless otherwise directed we will provide copies of the report to the following offices to comply with Chapter 112, Florida Statutes:

Mr. Keith Brinkman  
Bureau of Local  
Retirement Systems  
Post Office Box 9000  
Tallahassee, FL 32315-9000

Mr. Steve Bardin  
Municipal Police and Fire  
Pension Trust Funds  
Division of Retirement  
Post Office Box 3010  
Tallahassee, FL 32315-3010

RECONCILIATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES  
(Before Method Change)

(1)	Unfunded Actuarial Accrued Liability as of October 1, 2018	\$39,146
(2)	Sponsor Normal Cost developed as of October 1, 2018	249,432
(3)	Expected administrative expenses for the year ended September 30, 2019	49,647
(4)	Expected interest on (1), (2) and (3)	23,505
(5)	Sponsor contributions to the System during the year ended September 30, 2019	423,048
(6)	Expected interest on (5)	14,279
(7)	Expected Unfunded Actuarial Accrued Liability as of September 30, 2019 (1)+(2)+(3)+(4)-(5)-(6)	(75,597)
(8)	Change to UAAL due to Assumption Change	516,657
(9)	Change to UAAL due to Actuarial (Gain)/Loss	(462,339)
(10)	Unfunded Actuarial Accrued Liability as of October 1, 2019	(21,279)

Type of <u>Base</u>	Date <u>Established</u>	Years <u>Remaining</u>	10/1/2019 <u>Amount</u>	Amortization <u>Amount</u>
Method Change	10/1/2004	15	357,472	37,175
Experience Loss	10/1/2004	9	281,393	40,700
Experience Loss	10/1/2005	9	7,499	1,085
Experience Gain	10/1/2006	9	(117,653)	(17,017)
Experience Loss	10/1/2007	9	31,868	4,609
Method Change	10/1/2008	9	(136,504)	(19,743)
Experience Loss	10/1/2010	1	90,994	90,994
Assumption	10/1/2010	11	84,737	10,668
Experience Loss	10/1/2011	2	208,297	107,792
Experience Gain	10/1/2012	3	(31,037)	(11,078)
Assumption	10/1/2012	13	(483,992)	(54,763)
Experience Gain	10/1/2013	4	(211,374)	(58,514)
Benefit Change	10/1/2013	24	(15,523)	(1,290)
Experience Gain	10/1/2014	5	(384,676)	(88,063)
Reconciliation Base	10/1/2015	16	(75,312)	(7,557)
Experience Gain	10/1/2015	6	(255,784)	(50,422)
Reconciliation Base	10/1/2016	17	(144,840)	(14,073)
Assumption	10/1/2016	17	211,575	20,557
Experience Loss	10/1/2016	7	479,265	83,642
Experience Gain	10/1/2017	8	(219,652)	(34,631)
Experience Gain	10/1/2018	9	(250,455)	(36,225)
Benefits Change	10/1/2018	29	448,867	34,932
Benefits Change	10/1/2018	29	(2,331)	(181)
Reconciliation Base	10/1/2019	20	51,569	4,627
Actuarial Gain	10/1/2019	15	(462,339)	(48,081)
Asmp/Mthd Change	10/1/2019	15	<u>516,657</u>	<u>53,730</u>
			(21,279)	48,873

RECONCILIATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES  
(After Method Change)

(1)	Unfunded Actuarial Accrued Liability as of October 1, 2018	\$39,146
(2)	Sponsor Normal Cost developed as of October 1, 2018	249,432
(3)	Expected administrative expenses for the year ended September 30, 2019	49,647
(4)	Expected interest on (1), (2) and (3)	23,505
(5)	Sponsor contributions to the System during the year ended September 30, 2019	423,048
(6)	Expected interest on (5)	14,279
(7)	Expected Unfunded Actuarial Accrued Liability as of September 30, 2019 (1)+(2)+(3)+(4)-(5)-(6)	(75,597)
(8)	Change to UAAL due to Assumption Change	516,657
(9)	Change to UAAL due to Actuarial (Gain)/Loss	(462,339)
(10)	Unfunded Actuarial Accrued Liability as of October 1, 2019	(21,279)

Type of <u>Base</u>	Date <u>Established</u>	Years <u>Remaining</u>	10/1/2019 <u>Amount</u>	Amortization <u>Amount</u>
Consolidation Base	10/1/2019	15	(21,279)	(2,213)



DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1) Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2018	\$39,146
(2) Expected UAAL as of October 1, 2019	(75,597)
(3) Summary of Actuarial (Gain)/Loss, by component:	
Investment Return (Actuarial Asset Basis)	(429,239)
Salary Increases	(145,333)
Active Decrements	54,940
Inactive Mortality	6,813
Other	<u>50,480</u>
Increase in UAAL due to (Gain)/Loss	(462,339)
Assumption Changes	<u>516,657</u>
(4) Actual UAAL as of October 1, 2019	(\$21,279)

## ACTUARIAL ASSUMPTIONS AND METHODS

### Mortality Rate

#### *Healthy Active Lives:*

**Female:** RP2000 Generational, 100% Combined Healthy White Collar, Scale BB

**Male:** RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB

#### *Healthy Inactive Lives:*

**Female:** RP2000 Generational, 100% Annuitant White Collar, Scale BB

**Male:** RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB

#### *Disabled Lives:*

**Female:** 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale

**Male:** 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2018 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

### Interest Rate

7.25% (prior year 7.50%) per year compounded annually, net of investment related expenses. This is supported by the target asset allocation of the trust and the expected long-term return by asset class.

### Salary Increases

<u>Credited Service</u>	<u>Current Year Assumption</u>	<u>Prior Year Assumption</u>
Less than 10 Years	5.5%	6.5%
10-14 Years	5.0%	6.0%
15 Years and Greater	4.5%	5.0%

This assumption was approved in conjunction with an actuarial experience study dated December 6, 2019.

### Final Salary Load

<u>Years of Credited Service as of October 1, 2012</u>	<u>Salary Load Assumption</u>
0	No Load
Less than 10 years	10%
10 or more years	20%

Payroll Growth

0.00% for purposes of amortizing the Unfunded Actuarial Accrued Liability. This assumption cannot exceed the ten-year average payroll growth, in compliance with Part VII of Chapter 112, Florida Statutes.

Administrative Expenses

\$51,616 annually, based on the average of actual expenses incurred in the prior two fiscal years. Previously, the actual expense in the prior fiscal year was used. Using a two-year average results in a less volatile estimate than the prior method.

Termination Rates

<u>Credited Service</u>	<u>Current Year Assumption</u>	<u>Prior Year Assumption</u>
Less than 5 years	7.5%	7.5%
5-14 Years	2.0%	4.0%
15 Years and Greater	0.0%	4.0%

This assumption was approved in conjunction with an actuarial experience study dated December 6, 2019.

Normal Retirement

<u>Years Eligible for Normal Retirement</u>	<u>Retirement Probability</u>
First Eligible	60%
1 – 4 Years	0%
5 Years	100%

In addition to the table, 100% Retirement is assumed upon the attainment of age 55 with 5 years of Credited Service. This assumption was reviewed in conjunction with an actuarial experience study dated December 6, 2019.

Early Retirement

Upon attaining eligibility for Early Retirement, members are assumed to retire with an immediate benefit at the rate of 10% per year (prior year 5% per year). This assumption was approved in conjunction with an actuarial experience study dated December 6, 2019.

Disability Rates

This assumption was reviewed in conjunction with an actuarial experience study dated December 6, 2019. See table below for sample rates of disability:

<u>Age</u>	<u>Probability of Disability</u>
20	0.06%
30	0.08%
40	0.14%
50	0.36%

90% (prior year 75%) of Disability Retirements are assumed to be service-incurred.

This assumption was reviewed in conjunction with an actuarial experience study dated December 6, 2019.

Funding Method

Entry Age Normal Actuarial Cost Method.

Amortization Method

New UAAL amortization bases are amortized over 15 years. Previously, they were amortized over 10 years for experience, 20 years for assumption/method changes, and 30 years for benefit changes.

Asset Smoothing Methodology

The Actuarial Value of Assets is brought forward using the historical four-year geometric average of Market Value Returns (net-of-fees). Over time, this may result in a negligible bias that is above or below the Market Value of Assets.

## GLOSSARY

Entry Age Normal Cost Method - Under this method, the normal cost is the sum of the individual normal costs for all active participants. For an active participant, the normal cost is the participant's normal cost accrual rate, multiplied by the participant's current compensation.

- (a) The normal cost accrual rate equals:
  - (i) the present value of future benefits for the participant, determined as of the participant's entry age, divided by
  - (ii) the present value of the compensation expected to be paid to the participant for each year of the participant's anticipated future service, determined as of the participant's entry age.
- (b) In calculating the present value of future compensation, the salary scale is applied both retrospectively and prospectively to estimate compensation in years prior to and subsequent to the valuation year based on the compensation used for the valuation.
- (c) The accrued liability is the sum of the individual accrued liabilities for all participants and beneficiaries. A participant's accrued liability equals the present value, at the participant's attained age, of future benefits less the present value at the participant's attained age of the individual normal costs payable in the future. A beneficiary's accrued liability equals the present value, at the beneficiary's attained age, of future benefits. The unfunded accrued liability equals the total accrued liability less the actuarial value of assets.
- (d) Under this method, the entry age used for each active participant is the participant's age at the time he or she would have commenced participation if the plan had always been in existence under current terms, or the age as of which he or she first earns service credits for purposes of benefit accrual under the current terms of the plan.

Normal (Current Year's) Cost is determined for each participant as the present value of future benefits, determined as of the Member's entry age, amortized as a level percentage of compensation over the anticipated number of years of participation, determined as of the entry age.

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current Members, Retirees, Beneficiaries, Disability Retirees and Vested Terminations.

Total Annual Payroll is the projected annual rate of pay for the fiscal year beginning as of the valuation date of all covered Members.

Total Required Contribution is equal to the Normal Cost plus an amount sufficient to amortize the Unfunded Accrued Liability over no more than 30 years. The required amount is adjusted for interest according to the timing of contributions during the year.

Unfunded Actuarial Accrued Liability (UAAL) is a liability which arises when a pension plan is initially established or improved and such establishment or improvement is applicable to all years of past service. Under the Entry Age Normal Actuarial Cost Method, there is also a new UAAL created each year equal to the actuarial gain or loss for that year.

## DISCUSSION OF RISK

ASOP No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions, states that the actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition.

Throughout this report, actuarial results are determined using various actuarial assumptions. These results are based on the premise that all future plan experience will align with the plan's actuarial assumptions; however, there is no guarantee that actual plan experience will align with the plan's assumptions. It is possible that actual plan experience will differ from anticipated experience in an unfavorable manner that will negatively impact the plan's funded position.

Below are examples of ways in which plan experience can deviate from assumptions and the potential impact of that deviation. Typically, this results in an actuarial gain or loss representing the current-year financial impact on the plan's unfunded liability of the experience differing from assumptions; this gain or loss is amortized over a period of time determined by the plan's amortization method. When assumptions are selected that adequately reflect plan experience, gains and losses typically offset one another in the long term, resulting in a relatively low impact on the plan's contribution requirements associated with plan experience. When assumptions are too optimistic, losses can accumulate over time and the plan's amortization payment could potentially grow to an unmanageable level.

- Investment Return: When the rate of return on the Actuarial Value of Assets falls short of the assumption, this produces a loss representing assumed investment earnings that were not realized. Further, it is unlikely that the plan will experience a scenario that matches the assumed return in each year as capital markets can be volatile from year to year. Therefore, contribution amounts can vary in the future.
- Salary Increases: When a plan participant experiences a salary increase that was greater than assumed, this produces a loss representing the cost of an increase in anticipated plan benefits for the participant as compared to the previous year. The total gain or loss associated with salary increases for the plan is the sum of salary gains and losses for all active participants.
- Demographic Assumptions: Actuarial results take into account various potential events that could happen to a plan participant, such as retirement, termination, disability, and death. Each of these potential events is assigned a liability based on the likelihood of the event and the financial consequence of the event for the plan. Accordingly, actuarial liabilities reflect a blend of financial consequences associated with various possible outcomes (such as retirement at one of various possible ages). Once the outcome is known (e.g. the participant retires) the liability is adjusted to reflect the known outcome. This adjustment produces a gain or loss depending on whether the outcome was more or less favorable than other outcomes that could have occurred.

### Impact of Plan Maturity on Risk

For newer pension plans, most of the participants and associated liabilities are related to active members who have not yet reached retirement age. As pension plans continue in operation and active members reach retirement ages, liabilities begin to shift from being primarily related to active members to being shared amongst active and retired members. Plan maturity is a measure of the extent to which this shift has occurred. It is important to understand that plan maturity can have an impact on risk tolerance and the overall risk characteristics of the plan. For example, closed plans with a large amount of retired liability do not have as long of a time horizon to recover from losses (such as losses on investments due to lower than expected investment returns) as plans where the majority of the liability is attributable to active members. For this reason, less tolerance for investment risk may be warranted for highly mature closed plans with a substantial inactive liability. Similarly, mature closed plans paying substantial retirement benefits resulting in a small positive or net negative cash flow can be more sensitive to near term investment volatility, particularly if the size of the fund is shrinking, which can result in less assets being available for investment in the market.

To assist with determining the maturity of the plan, we have provided some relevant metrics in the table following titled “Plan Maturity Measures and Other Risk Metrics”. Highlights of this information are discussed below:

- The Support Ratio, determined as the ratio of active to inactive members, has decreased from 457.1% on October 1, 2016 to 230.8% on October 1, 2019, indicating that the plan has experienced a significant growth in active population.
- The Accrued Liability Ratio, determined as the ratio of the Inactive Accrued Liability, which is the liability associated with members who are no longer employed but are due a benefit from the plan, to the Total Accrued Liability, is 40.2%. With a plan of this maturity, losses due to lower than expected investment returns or demographic factors may result in lower volatility in contribution requirements when compared to a more mature plan. Please note Chapter 112, Florida Statutes, requires that the plan sponsor contributes the minimum required contribution; thus, there is minimal solvency risk to the plan.
- The Funded Ratio, determined as the ratio of the Actuarial Value of Assets to the Total Accrued Liability, has increased from 97.8% to 100.1% during the period October 1, 2016 to October 1, 2019. This was largely due to paying off the plan’s Unfunded Actuarial Accrued Liability.
- The Net Cash Flow Ratio, determined as the ratio of the Net Cash Flow (contributions minus benefit payments and administrative expenses) to the Market Value of Assets, decreased from 2.3% on October 1, 2016 to 0.5% on October 1, 2019. The current Net Cash Flow Ratio of 0.5% indicates that contributions are generally covering the plan's benefit payments and administrative expenses.

It is important to note that the actuary has identified the risks in this section as the most significant risks based on the characteristics of the plan and the nature of the project, however, it is not an exhaustive list of potential risks that could be considered. Additional advanced modeling, as well as the identification of additional risks, can be provided at the request of the audience addressed on page 2 of this report.

PLAN MATURITY MEASURES AND OTHER RISK METRICS

	<u>10/1/2016</u>	<u>10/1/2017</u>	<u>10/1/2018</u>	<u>10/1/2019</u>
<u>Support Ratio</u>				
Total Actives	32	30	30	30
Total Inactives <sup>1</sup>	7	10	12	13
Actives / Inactives <sup>1</sup>	457.1%	300.0%	250.0%	230.8%
<u>Asset Volatility Ratio</u>				
Market Value of Assets (MVA)	11,124,407	13,051,251	14,681,238	15,294,146
Total Annual Payroll	1,957,327	1,820,199	1,767,470	1,772,453
MVA / Total Annual Payroll	568.3%	717.0%	830.6%	862.9%
<u>Accrued Liability (AL) Ratio</u>				
Inactive Accrued Liability	3,405,104	4,459,007	5,171,247	5,958,022
Total Accrued Liability (EAN)	11,409,997	12,280,573	13,369,326	14,822,227
Inactive AL / Total AL	29.8%	36.3%	38.7%	40.2%
<u>Funded Ratio</u>				
Actuarial Value of Assets (AVA)	11,153,347	12,303,744	13,330,180	14,843,506
Total Accrued Liability (EAN)	11,409,997	12,280,573	13,369,326	14,822,227
AVA / Total Accrued Liability (EAN)	97.8%	100.2%	99.7%	100.1%
<u>Net Cash Flow Ratio</u>				
Net Cash Flow <sup>2</sup>	260,919	192,274	11,950	81,193
Market Value of Assets (MVA)	11,124,407	13,051,251	14,681,238	15,294,146
Ratio	2.3%	1.5%	0.1%	0.5%

<sup>1</sup> Excludes terminated participants awaiting a refund of member contributions.

<sup>2</sup> Determined as total contributions minus benefit payments and administrative expenses.



PARTIAL HISTORY OF PREMIUM TAX REFUNDS

<u>Received During Fiscal Year</u>	<u>Amount</u>	<u>Increase from Previous Year</u>
1996	23,899.69	_____%
1997	25,299.42	5.9%
1998	47,642.95	88.3%
1999	41,330.46	-13.2%
2000	13,141.01	-68.2%
2001	99,059.22	653.8%
2002	59,783.17	-39.6%
2003	62,787.48	5.0%
2004	74,704.18	19.0%
2005	76,405.86	2.3%
2006	89,820.32	17.6%
2007	98,797.85	10.0%
2008	126,392.81	27.9%
2009	149,161.09	18.0%
2010	125,314.59	-16.0%
2011	163,191.25	30.2%
2012	164,655.18	0.9%
2013	129,102.65	-21.6%
2014	155,381.68	20.4%
2015	150,763.30	-3.0%
2016	139,526.94	-7.5%
2017	147,551.12	5.8%
2018	151,679.78	2.8%
2019	154,258.24	1.7%

SUPPLEMENTAL CHAPTER 175 SHARE PLAN ACTIVITY  
October 1, 2018 through September 30, 2019

9/30/2018 Balance (est.)	1,044,005.00
Prior Year Adjustment	(12,924.33)
Plus Additions	98,966.66
Investment Return Earned	41,611.85
Administrative Fees	0.00
Less Distributions	(5,882.43)
9/30/2019 Balance	1,165,776.75

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2019

<u>ASSETS</u>	COST VALUE	MARKET VALUE
Cash and Cash Equivalents:		
Short Term Investments	596,140.13	596,140.13
Cash	3,995.00	3,995.00
Total Cash and Equivalents	600,135.13	600,135.13
Receivables:		
Investment Income	31,989.62	31,989.62
Total Receivable	31,989.62	31,989.62
Investments:		
U. S. Bonds and Bills	234,660.80	245,988.23
Corporate Bonds	2,985,913.65	3,048,087.91
Municipal Obligations	66,750.00	74,503.50
Stocks	8,248,916.53	11,437,081.90
Total Investments	11,536,240.98	14,805,661.54
Total Assets	12,168,365.73	15,437,786.29
<u>LIABILITIES</u>		
Payables:		
Share Distributions	76,055.26	76,055.26
Investment Expenses	21,103.66	21,103.66
Administrative Expenses	4,765.70	4,765.70
Prepaid City Contribution	41,715.26	41,715.26
Total Liabilities	143,639.88	143,639.88
NET POSITION RESTRICTED FOR PENSIONS	12,024,725.85	15,294,146.41

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
FOR THE YEAR ENDED SEPTEMBER 30, 2019  
Market Value Basis

ADDITIONS

Contributions:		
Member		105,323.09
Buy-Back		17,854.35
City		367,756.16
State		154,258.24
Total Contributions		645,191.84
Investment Income:		
Net Realized Gain (Loss)	950,809.32	
Unrealized Gain (Loss)	(613,920.54)	
Net Increase in Fair Value of Investments		336,888.78
Interest & Dividends		280,795.57
Less Investment Expense <sup>1</sup>		(85,968.11)
Net Investment Income		531,716.24
Total Additions		1,176,908.08

DEDUCTIONS

Distributions to Members:		
Benefit Payments		418,198.14
Lump Sum DROP Distributions		0.00
Lump Sum Share Distributions		81,937.69
Refunds of Member Contributions		10,277.96
Total Distributions		510,413.79
Administrative Expense		53,585.40
Total Deductions		563,999.19
Net Increase in Net Position		612,908.89
NET POSITION RESTRICTED FOR PENSIONS		
Beginning of the Year		14,681,237.52
End of the Year		15,294,146.41

<sup>1</sup>Investment related expenses include investment advisory, custodial and performance monitoring fees.

ACTUARIAL ASSET VALUATION  
SEPTEMBER 30, 2019

Actuarial Assets for funding purposes are developed by increasing the Actuarial Assets used in the most recent actuarial valuation of the Fund by the average annual market value rate of return (net of investment related expenses) for the past four years. Actuarial Assets shall not be less than 80% nor greater than 120% of Market Value of Assets.

Details of the derivation are set forth as follows:

Plan Year End	Rate of Return <sup>1</sup>	
09/30/2016	11.64%	
09/30/2017	15.51%	
09/30/2018	12.44%	
09/30/2019	3.61%	
Annualized Rate of Return for prior four (4) years:		10.71%
(A) 10/01/2018 Actuarial Assets:		\$13,330,179.51
(I) Net Investment Income:		
1. Interest and Dividends	280,795.57	
2. Realized Gains (Losses)	950,809.32	
3. Unrealized Gains (Losses)	(613,920.54)	
4. Change in Actuarial Value	900,417.57	
5. Investment Related Expenses	(85,968.11)	
Total		1,432,133.81
(B) 10/01/2019 Actuarial Assets:		\$14,843,505.97
Actuarial Asset Rate of Return = 2I/(A+B-I):		10.71%
10/01/2019 Limited Actuarial Assets:		\$14,843,505.97
10/01/2019 Market Value of Assets:		\$15,294,146.41
Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis)		\$429,238.99

<sup>1</sup>Market Value Basis, net of investment related expenses.

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS  
 SEPTEMBER 30, 2019  
 Actuarial Asset Basis

REVENUES

Contributions:		
Member	105,323.09	
Buy-Back	17,854.35	
City	367,756.16	
State	154,258.24	
 Total Contributions		 645,191.84
Earnings from Investments:		
Interest & Dividends	280,795.57	
Net Realized Gain (Loss)	950,809.32	
Unrealized Gain (Loss)	(613,920.54)	
Change in Actuarial Value	900,417.57	
 Total Earnings and Investment Gains		 1,518,101.92

EXPENDITURES

Distributions to Members:		
Benefit Payments	418,198.14	
Lump Sum DROP Distributions	0.00	
Lump Sum Share Distributions	81,937.69	
Refunds of Member Contributions	10,277.96	
 Total Distributions		 510,413.79
Expenses:		
Investment related <sup>1</sup>	85,968.11	
Administrative	53,585.40	
 Total Expenses		 139,553.51
 Change in Net Assets for the Year		 1,513,326.46
 Net Assets Beginning of the Year		 13,330,179.51
 Net Assets End of the Year <sup>2</sup>		 14,843,505.97

<sup>1</sup>Investment related expenses include investment advisory, custodial and performance monitoring fees.

<sup>2</sup>Net Assets may be limited for actuarial consideration.

RECONCILIATION OF CITY'S SHORTFALL/(PREPAID) CONTRIBUTION  
FOR THE FISCAL YEAR ENDED (FYE) SEPTEMBER 30, 2019

(1)	Total Required Contribution Rate	30.1%
(2)	Pensionable Payroll Derived from Member Contributions	\$1,755,384.83
(3)	Total Required Contribution (1) x (2)	528,370.83
(4)	Less Actual Member Contributions	(105,323.09)
(5)	Less Allowable State Contribution	<u>(55,291.58)</u>
(6)	Equals Required City Contribution for Fiscal 2019	367,756.16
(7)	Less 2018 Prepaid Contribution	0.00
(8)	Less Actual City Contributions	<u>0.00</u>
(9)	Equals City's Shortfall/(Prepaid) Contribution as of September 30, 2019	\$367,756.16

## STATISTICAL DATA

	<u>10/1/2016</u>	<u>10/1/2017</u>	<u>10/1/2018</u>	<u>10/1/2019</u>
<u>Actives</u>				
Number	32	30	30	30
Average Current Age	39.7	38.8	39.3	39.2
Average Age at Employment	28.6	27.7	28.1	28.1
Average Past Service	11.1	11.1	11.2	11.1
Average Annual Salary	\$61,166	\$60,673	\$58,916	\$59,082
<u>Service Retirees</u>				
Number	6	9	10	11
Average Current Age	51.6	52.7	53.1	53.6
Average Annual Benefit	\$41,601	\$37,429	\$39,392	\$40,447
<u>Beneficiaries</u>				
Number	0	0	0	0
Average Current Age	N/A	N/A	N/A	N/A
Average Annual Benefit	N/A	N/A	N/A	N/A
<u>Disability Retirees</u>				
Number	1	1	1	1
Average Current Age	39.3	40.3	41.3	42.3
Average Annual Benefit	\$11,532	\$11,532	\$11,532	\$11,532
<u>Terminated Vested</u>				
Number	0	1	2	2
Average Current Age <sup>1</sup>	N/A	N/A	31.9	32.9
Average Annual Benefit <sup>2</sup>	N/A	N/A	\$16,302	\$16,302

<sup>1</sup> Effective 10/1/2018, the Average Current Age excludes participants awaiting a refund of contributions.

<sup>2</sup> The Average Annual Benefit excludes participants awaiting a refund of contributions.



## AGE AND SERVICE DISTRIBUTION

### PAST SERVICE

AGE	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30+	Total
15 - 19												0
20 - 24	2	1		1								4
25 - 29			1	1	1	2						5
30 - 34												0
35 - 39						2	1	3				6
40 - 44		1					2	3				6
45 - 49							2		1			3
50 - 54								2		2		4
55 - 59							1					1
60 - 64					1							1
65+												0
<b>Total</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>6</b>	<b>8</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>30</b>

## VALUATION PARTICIPANT RECONCILIATION

### 1. Active lives

a. Number in prior valuation 10/1/2018	30
b. Terminations	
i. Vested (partial or full) with deferred annuity	0
ii. Vested in refund of member contributions only	0
iii. Refund of member contributions	(1)
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	0
e. Retired	(1)
f. Continuing participants	28
g. New entrants	<u>2</u>
h. Total active life participants in valuation	30

### 2. Non-Active lives (including beneficiaries receiving benefits)

	Service Retirees, Vested Receiving <u>Benefits</u>	Receiving Death <u>Benefits</u>	Receiving Disability <u>Benefits</u>	Vested (Deferred Annuity)	Vested (Due Refund)	<u>Total</u>
a. Number prior valuation	10	0	1	1	1	13
Retired	1	0	0	0	0	1
Vested (Deferred Annuity)	0	0	0	0	0	0
Vested (Due Refund)	0	0	0	0	0	0
Hired/Terminated in Same Year	0	0	0	0	0	0
Death, With Survivor	0	0	0	0	0	0
Death, No Survivor	0	0	0	0	0	0
Disabled	0	0	0	0	0	0
Refund of Contributions	0	0	0	0	0	0
Rehires	0	0	0	0	0	0
Expired Annuities	0	0	0	0	0	0
Data Corrections	0	0	0	0	0	0
b. Number current valuation	11	0	1	1	1	14

SUMMARY OF CURRENT PLAN  
(Through Ordinance 2019-O-26)

<u>Eligibility</u>	Full-time firefighters shall participate in the system as a condition of employment (Fire Chief may opt out).
<u>Salary</u>	Prior to October 1, 2012 – Total Compensation.  On and after October 1, 2012 – Fixed monthly remuneration, including overtime up to 300 hours per year. Accruals of sick and vacation time on and after October 1, 2012 are not pensionable.
<u>Average Final Compensation (AFC)</u>	Average Salary for the highest 3 years during the 5 years immediately preceding retirement or termination. (Prior year was 5 years during the 10 years immediately preceding retirement or termination).
<u>Credited Service</u>	Total years and fractional parts of years of service with the City as a Firefighter.
<u>Contributions</u>	Member: 6.0% of Salary. City and State: Remaining amount necessary to pay current costs and amortize past service cost, if any, as provided in Part VII of Florida Statutes, Chapter 112.
<u>Normal Retirement</u>	
Date	The earlier of: 1) age 55 and the completion of 5 years of Credited Service, or 2) the completion of 20 years of Credited Service, regardless of age.
Benefit	3.0% of AFC times Credited Service.
Form of Benefit	Ten Year Certain and Life Annuity (options available).
<u>Early Retirement</u>	
Date	Age 50 and 10 years of Credited Service.
Benefit	Determined as for Normal Retirement and reduced 3.0% per year preceding Normal Retirement.
<u>Termination of Employment</u>	
Benefit	
Less than 5 years	Refund of accumulated contributions without interest.
5 or more	Refund of Contributions or Accrued benefit payable at retirement age.
<u>Board of Trustees</u>	a. Two Council appointees, b. Two Members of the Department elected by the Membership, and c. 5 <sup>th</sup> Member elected by other 4, appointed by Council.

Disability Benefit

Eligibility	
Service Incurred	Covered from Date of Employment.
Non-Service Incurred	5 years of Credited Service.
Exclusions	Disability resulting from use of drugs, illegal participation in riots, service in military, etc.
Benefit	Benefit accrued to date of disability. Minimum benefit for Service Incurred is 42% of AFC, for Non-Service Incurred is 25% of AFC. For Disability purposes only, the greater of AFC or Compensation at the time of Disability is used.
Duration	Payable for life (with 120 monthly payments guaranteed), or until recovery (as determined by the Board).

Death Benefits

Pre-Retirement	
Vested	Monthly accrued benefit payable to designated beneficiary for 10 years.
Not Vested	Refund of accumulated contributions without interest.
Post-Retirement	According to optional form of benefit selected.

Deferred Retirement Option Plan

Eligibility	Eligibility for Normal Retirement.
Participation	Not to exceed 60 months.
Rate of Return	Actual net rate of investment return (total return net of brokerage commissions, management fees and transaction costs) credited each fiscal quarter.
Form of Distribution	Cash lump sum at termination of employment.

Chapter 175 Share Accounts

Allocation	The City may use up to \$55,292 (plus any Supplemental Distribution up to \$11,654) in State Contributions, as affirmed with the latest Collective Bargaining Agreement, for determining its minimum funding requirements; excess amounts are allocated to the Share Plan.
Investment Earnings	Net rate of investment return, based on days worked.
Distribution	Lump sum payment at retirement, termination, disability, or death.
Vesting Schedule	Same as for other benefits (see above).

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2019

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Short Term Investments	596,140
Cash	3,995
Total Cash and Equivalents	600,135
Receivables:	
Investment Income	31,990
Total Receivable	31,990
Investments:	
U. S. Bonds and Bills	245,988
Corporate Bonds	3,048,088
Municipal Obligations	74,504
Stocks	11,437,082
Total Investments	14,805,662
Total Assets	15,437,787
<u>LIABILITIES</u>	
Payables:	
Share Distributions	76,055
Investment Expenses	21,104
Administrative Expenses	4,766
Total Liabilities	101,925
NET POSITION RESTRICTED FOR PENSIONS	15,335,862

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
FOR THE YEAR ENDED SEPTEMBER 30, 2019  
Market Value Basis

ADDITIONS

## Contributions:

Member	105,323	
Buy-Back	17,854	
City	409,471	
State	154,258	
 Total Contributions		 686,906
 Investment Income:		
Net Increase in Fair Value of Investments	336,890	
Interest & Dividends	280,795	
Less Investment Expense <sup>1</sup>	(85,968)	
 Net Investment Income		 531,717
 Total Additions		 1,218,623

DEDUCTIONS

## Distributions to Members:

Benefit Payments	418,198	
Lump Sum DROP Distributions	0	
Lump Sum Share Distributions	81,938	
Refunds of Member Contributions	10,278	
 Total Distributions		 510,414
 Administrative Expense		 53,585
 Total Deductions		 563,999
 Net Increase in Net Position		 654,624

## NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year		14,681,238
 End of the Year		 15,335,862

<sup>1</sup>Investment related expenses include investment advisory, custodial and performance monitoring fees.

**NOTES TO THE FINANCIAL STATEMENTS**  
(For the Year Ended September 30, 2019)

*Plan Administration*

The Plan is a single-employer defined benefit pension plan administered by the Plan's Board of Trustees comprised of:

- a. Two Council appointees,
- b. Two Members of the Department elected by the Membership, and
- c. Fifth Member elected by the other 4 and appointed by Council.

*Plan Membership as of October 1, 2018:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	11
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2
Active Plan Members	30
	43

*Benefits Provided*

The Plan provides retirement, termination, disability and death benefits.

A summary of the benefit provisions can be found in the October 1, 2018 Actuarial Valuation Report for the City of Edgewater Firefighters' Pension Fund prepared by Foster & Foster Actuaries and Consultants.

Incorporated are the benefit changes for measurement date 09/30/2019 as noted under the Notes to Schedule of Changes in Net Pension Liability and Related Ratios.

*Contributions*

Member: 6.0% of Salary.

City and State Contributions: Remaining amount necessary to pay current costs and amortize past service cost, if any, as provided in Part VII of Florida Statutes, Chapter 112.

**Investments**

*Investment Policy:*

The following was the Board's adopted asset allocation policy as of September 30, 2019:

Asset Class	Target Allocation
Domestic Equity	50.0%
International Equity	15.0%
Domestic Fixed Income	35.0%
Total	100.0%

*Concentrations:*

The Plan did not hold investments in any one organization that represent 5 percent or more of the Pension Plan's Fiduciary Net Position.

*Rate of Return:*

For the year ended September 30, 2019, the annual money-weighted rate of return on Pension Plan investments, net of Pension Plan investment expense, was 3.61 percent.

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Deferred Retirement Option Program

Eligibility: for Normal Retirement.

Participation: Not to exceed 60 months.

Rate of Return: Actual net rate of investment return (total return net of brokerage commissions, management fees and transaction costs) credited each fiscal quarter.

The DROP balance as September 30, 2019 is \$0.

NET PENSION LIABILITY OF THE SPONSOR

The components of the Net Pension Liability of the Sponsor on September 30, 2019 were as follows:

Total Pension Liability	\$ 14,756,367
Plan Fiduciary Net Position	<u>\$ (15,335,862)</u>
Sponsor's Net Pension Liability	<u>\$ (579,495)</u>
Plan Fiduciary Net Position as a percentage of Total Pension Liability	103.93%

*Actuarial Assumptions:*

The Total Pension Liability was determined by an actuarial valuation as of October 1, 2018 updated to September 30, 2019 using the following actuarial assumptions:

Inflation	2.50%
Salary Increases	Service based
Discount Rate	7.25%
Investment Rate of Return	7.25%

*Mortality Rate Healthy Active Lives:*

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.

Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.

*Mortality Rate Healthy Inactive Lives:*

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

*Mortality Rate Disabled Lives:*

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.

Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2018 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

The most recent actuarial experience study used to review the other significant assumptions was dated December 6, 2019.

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.

For 2019 the inflation rate assumption of the investment advisor was 2.50%.

These ranges are combined to produce the Long-Term Expected Rate of Return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

Best estimates of geometric real rates of return for each major asset class included in the Pension Plan's target asset allocation as of September 30, 2019 are summarized in the following table:

<u>Asset Class</u>	<u>Long Term Expected Real Rate of Return</u>
Domestic Equity	7.50%
International Equity	8.50%
Domestic Fixed Income	2.50%



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### Discount Rate:

The Discount Rate used to measure the Total Pension Liability was 7.25 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Pension 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.

	1% Decrease	Current Discount Rate	1% Increase
	6.25%	7.25%	8.25%
Sponsor's Net Pension Liability	\$ 1,182,348	\$ (579,495)	\$ (2,028,117)

## SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

	09/30/2019	09/30/2018	09/30/2017
Total Pension Liability			
Service Cost	349,645	354,548	358,456
Interest	1,011,898	922,206	825,460
Share Plan Allocation	98,967	96,388	92,260
Changes of benefit terms	437,981	-	-
Differences between Expected and Actual Experience	(172,618)	(89,479)	473,491
Changes of assumptions	563,502	-	-
Contributions - Buy Back	17,854	17,703	8,544
Benefit Payments, including Refunds of Employee Contributions	(510,414)	(566,702)	(362,003)
Net Change in Total Pension Liability	1,796,815	734,664	1,396,208
Total Pension Liability - Beginning	12,959,552	12,224,888	10,828,680
Total Pension Liability - Ending (a)	<u>\$ 14,756,367</u>	<u>\$ 12,959,552</u>	<u>\$ 12,224,888</u>
Plan Fiduciary Net Position			
Contributions - Employer	409,471	358,424	317,000
Contributions - State	154,258	151,680	147,551
Contributions - Employee	105,323	91,166	117,483
Contributions - Buy Back	17,854	17,703	8,544
Net Investment Income	531,717	1,618,036	1,734,571
Benefit Payments, including Refunds of Employee Contributions	(510,414)	(566,702)	(362,003)
Administrative Expense	(53,585)	(49,647)	(44,046)
Net Change in Plan Fiduciary Net Position	654,624	1,620,660	1,919,100
Plan Fiduciary Net Position - Beginning	14,681,238	13,060,578	11,141,478
Plan Fiduciary Net Position - Ending (b)	<u>\$ 15,335,862</u>	<u>\$ 14,681,238</u>	<u>\$ 13,060,578</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ (579,495)</u>	<u>\$ (1,721,686)</u>	<u>\$ (835,690)</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	103.93%	113.29%	106.84%
Covered Payroll <sup>1</sup>	\$ 1,755,385	\$ 1,674,877	\$ 1,802,605
Net Pension Liability as a percentage of Covered Payroll	-33.01%	-102.79%	-46.36%

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS  
Last 10 Fiscal Years

	09/30/2016	09/30/2015
Total Pension Liability		
Service Cost	322,776	317,342
Interest	752,753	715,242
Share Plan Allocation	84,235	90,777
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	(45,934)	(367,566)
Changes of assumptions	147,249	-
Contributions - Buy Back	9,721	-
Benefit Payments, including Refunds of Employee Contributions	(312,107)	(210,052)
Net Change in Total Pension Liability	958,693	545,743
Total Pension Liability - Beginning	9,869,987	9,324,244
Total Pension Liability - Ending (a)	<u>\$ 10,828,680</u>	<u>\$ 9,869,987</u>
Plan Fiduciary Net Position		
Contributions - Employer	358,086	354,899
Contributions - State	139,527	150,763
Contributions - Employee	107,966	93,950
Contributions - Buy Back	9,721	-
Net Investment Income	1,143,088	(536,507)
Benefit Payments, including Refunds of Employee Contributions	(312,107)	(210,052)
Administrative Expense	(58,960)	(48,746)
Net Change in Plan Fiduciary Net Position	1,387,321	(195,693)
Plan Fiduciary Net Position - Beginning	9,754,157	9,949,850
Plan Fiduciary Net Position - Ending (b)	<u>\$ 11,141,478</u>	<u>\$ 9,754,157</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ (312,798)</u>	<u>\$ 115,830</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	102.89%	98.83%
Covered Payroll <sup>1</sup>	\$ 1,799,429	\$ 1,579,650
Net Pension Liability as a percentage of Covered Payroll	-17.38%	7.33%

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS  
Last 10 Fiscal Years

	09/30/2014	09/30/2013
Total Pension Liability		
Service Cost	323,511	300,940
Interest	652,070	601,821
Share Plan Allocation	88,962	-
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	-	-
Changes of assumptions	-	-
Contributions - Buy Back	-	-
Benefit Payments, including Refunds of Employee Contributions	(222,096)	(288,611)
Net Change in Total Pension Liability	842,447	614,150
Total Pension Liability - Beginning	8,481,797	7,867,647
Total Pension Liability - Ending (a)	<u>\$ 9,324,244</u>	<u>\$ 8,481,797</u>
Plan Fiduciary Net Position		
Contributions - Employer	392,863	469,302
Contributions - State	155,382	129,103
Contributions - Employee	88,869	87,309
Contributions - Buy Back	-	-
Net Investment Income	1,160,776	766,338
Benefit Payments, including Refunds of Employee Contributions	(222,096)	(288,611)
Administrative Expense	(44,645)	(18,869)
Net Change in Plan Fiduciary Net Position	1,531,149	1,144,572
Plan Fiduciary Net Position - Beginning	8,418,701	7,274,129
Plan Fiduciary Net Position - Ending (b)	<u>\$ 9,949,850</u>	<u>\$ 8,418,701</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ (625,606)</u>	<u>\$ 63,096</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	106.71%	99.26%
Covered Payroll <sup>1</sup>	\$ 1,467,330	\$ 1,455,154
Net Pension Liability as a percentage of Covered Payroll	-42.64%	4.34%

**Notes to Schedule of Changes in Net Pension Liability and Related Ratios**

<sup>1</sup> The Covered Payroll numbers shown are in compliance with GASB 82.

*Changes in benefit terms:*

For measurement date 09/30/2019, amounts reported as changes of benefit terms resulted from the provisions of Chapter 112.1816, Florida Statutes. The Statutes state that, effective July 1, 2019, a death or disability (under the Plan's definition of total and permanent disability) for a Firefighter due to the diagnosis of cancer or circumstances that arise out of the treatment of cancer will be treated as duty-related.

Additionally, the definition of Average Final Compensation was changed from the five best of the last ten years to the three best of the last five years of Credited Service.

*Changes of assumptions:*

For measurement date 09/30/2019, as a result of an Experience Study dated December 6, 2019, the Board approved the following changes:

- The investment rate of return assumption was decreased from 7.50% to 7.25% per year compounded annually, net of investment related expenses.
- Based on a study of actual versus expected experience for the 10-year period ending September 30, 2018, the following changes to demographic assumptions were made:
  - o Updates to the future salary increase assumption
  - o Updates to assumed rates of retirement
  - o Updates to assumed rates of withdrawal

For measurement date 09/30/2016, as a result of Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the assumptions used by the Florida Retirement System for special risk employees.

The inflation assumption rate was lowered from 3.00% to 2.50%, matching the long-term inflation assumption utilized by the Plan's investment consultant.

**SCHEDULE OF CONTRIBUTIONS**  
Last 10 Fiscal Years

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll <sup>1</sup>	Contributions as a percentage of Covered Payroll
09/30/2019	\$ 423,048	\$ 464,763	\$ (41,715)	\$ 1,755,385	26.48%
09/30/2018	\$ 413,695	\$ 413,716	\$ (21)	\$ 1,674,877	24.70%
09/30/2017	\$ 389,363	\$ 372,292	\$ 17,071	\$ 1,802,605	20.65%
09/30/2016	\$ 430,063	\$ 413,378	\$ 16,685	\$ 1,799,429	22.97%
09/30/2015	\$ 407,550	\$ 414,885	\$ (7,335)	\$ 1,579,650	26.26%
09/30/2014	\$ 432,862	\$ 459,283	\$ (26,421)	\$ 1,467,330	31.30%
09/30/2013	\$ 534,041	\$ 534,041	\$ -	\$ 1,455,154	36.70%

<sup>1</sup> The Covered Payroll numbers shown are in compliance with GASB 82.

Notes to Schedule

Valuation Date: 10/01/2017

Actuarially determined contribution rates are calculated as of October 1, two years prior to the end of the fiscal year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Mortality Rate:

*Healthy Active Lives:*

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.

Male: RP2000 Generational, 10% Combined Healthy White Collar / 90%

Combined Healthy Blue Collar, Scale BB.

*Healthy Inactive Lives:*

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue

Collar, Scale BB.

*Disabled Lives:*

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.

Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2016 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

Interest Rate:

7.5% per year compounded annually, net of investment related expenses. This is supported by the target asset class allocation of the trust and the expected long-term return by asset class.

Salary Increases:

Credited Service	Assumption
Less than 10 Years	6.5%
10-15 Years	6.0%
15 Years and Greater	5.0%

This assumption is based on the results of an experience study for the period 1999 – 2012.

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Final Salary Load:	Years of Credited Service as of	
	October 1, 2012	Assumption
	0	No Load
	Less than 10 years	10%
	10 or more years	20%

Normal Retirement:	Years Eligible	
	for Normal Retirement	Retirement Probability
	0	60%
	1	0%
	2	0%
	3	0%
	4	0%
5	100%	

In addition to the table, 100% Retirement is assumed upon the attainment of age 55 with 5 years of Credited Service. This assumption is based on the results of an experience study for the period 1999 – 2012.

Disability Rates: See table below for sample rates. 75% of Disability Retirements are assumed to be service-incurred.

	<u>% Becoming Disabled</u>
<u>Age</u>	<u>During the Year</u>
20	0.06%
30	0.08%
40	0.14%
50	0.36%

This assumption is based on the results of an experience study examining Disability Retirements from plan inception through 2012.

Payroll Growth: 1.9% per year, consistent with the Plan’s actual ten-year payroll growth.  
 Funding Method: Entry Age Normal Actuarial Cost Method.  
 Amortization Method: Level Percentage of Pay, Closed.  
 Remaining Amortization Period: 27 Years (as of 10/01/2017 valuation).

Asset Smoothing Methodology: The Actuarial Value of Assets is brought forward using the historical four-year geometric average of Market Value Returns (net-of-fees). Over time, this may result in a negligible bias that is above or below the Market Value of Assets.

Termination Rates:	Credited Service	Assumption
	Less than 6 years	7.5%
	5 or more years	4.0%

This assumption is based on the results of an experience study for the period 1999 – 2012.

Early Retirement: Commencing at eligibility for Early Retirement, Members are assumed to retire with an immediate benefit at the rate of 5% per year. We feel this is reasonable based on Plan provisions.

**SCHEDULE OF INVESTMENT RETURNS**  
Last 10 Fiscal Years

Fiscal Year Ended	Annual Money-Weighted Rate of Return Net of Investment Expense
09/30/2019	3.61%
09/30/2018	12.44%
09/30/2017	15.51%
09/30/2016	11.64%
09/30/2015	-5.33%
09/30/2014	13.59%
09/30/2013	10.25%



NOTES TO THE FINANCIAL STATEMENTS  
(For the Year Ended September 30, 2020)

*Plan Description*

The Plan is a single-employer defined benefit pension plan administered by the Plan's Board of Trustees comprised of:

- a. Two Council appointees,
- b. Two Members of the Department elected by the Membership, and
- c. Fifth Member elected by the other 4 and appointed by Council.

Full-time firefighters shall participate in the system as a condition of employment (Fire Chief may opt out).

*Plan Membership as of October 1, 2018:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	11
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2
Active Plan Members	30
	43

*Benefits Provided*

The Plan provides retirement, termination, disability and death benefits.

A summary of the benefit provisions can be found in the October 1, 2018 Actuarial Valuation Report for the City of Edgewater Firefighters' Pension Fund prepared by Foster & Foster Actuaries and Consultants.

Incorporated are the benefit changes for measurement date 09/30/2019 as noted under the Notes to Schedule of Changes in Net Pension Liability and Related Ratios.

*Contributions*

Member: 6.0% of Salary.

City and State Contributions: Remaining amount necessary to pay current costs and amortize past service cost, if any, as provided in Part VII of Florida Statutes, Chapter 112.

*Net Pension Liability*

The measurement date is September 30, 2019.

The measurement period for the pension expense was October 1, 2018 to September 30, 2019.

The reporting period is October 1, 2019 through September 30, 2020.

The Sponsor's Net Pension Liability was measured as of September 30, 2019.

The Total Pension Liability used to calculate the Net Pension Liability was determined as of that date.

*Actuarial Assumptions:*

The Total Pension Liability was determined by an actuarial valuation as of October 1, 2018 updated to September 30, 2019 using the following actuarial assumptions:

Inflation	2.50%
Salary Increases	Service based
Discount Rate	7.25%
Investment Rate of Return	7.25%

*Mortality Rate Healthy Active Lives:*

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.

Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.

*Mortality Rate Healthy Inactive Lives:*

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

*Mortality Rate Disabled Lives:*

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.

Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman’s July 1, 2018 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

The most recent actuarial experience study used to review the other significant assumptions was dated December 6, 2019.

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.

For 2019 the inflation rate assumption of the investment advisor was 2.50%.

These ranges are combined to produce the Long-Term Expected Rate of Return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

Best estimates of geometric real rates of return for each major asset class included in the Pension Plan's target asset allocation as of September 30, 2019 are summarized in the following table:

Asset Class	Target Allocation	Long Term Expected Real Rate of Return
Domestic Equity	50.0%	7.50%
International Equity	15.0%	8.50%
Domestic Fixed Income	35.0%	2.50%
Total	100.0%	

**Discount Rate:**

The Discount Rate used to measure the Total Pension Liability was 7.25 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Pension 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.

CHANGES IN NET PENSION LIABILITY

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
	(a)	(b)	(a)-(b)
Reporting Period Ending September 30, 2019	\$ 12,959,552	\$ 14,681,238	\$ (1,721,686)
Changes for a Year:			
Service Cost	349,645	-	349,645
Interest	1,011,898	-	1,011,898
Share Plan Allocation	98,967	-	98,967
Differences between Expected and Actual Experience	(172,618)	-	(172,618)
Changes of assumptions	563,502	-	563,502
Changes of benefit terms	437,981	-	437,981
Contributions - Employer	-	409,471	(409,471)
Contributions - State	-	154,258	(154,258)
Contributions - Employee	-	105,323	(105,323)
Contributions - Buy Back	17,854	17,854	-
Net Investment Income	-	531,717	(531,717)
Benefit Payments, including Refunds of Employee Contributions	(510,414)	(510,414)	-
Administrative Expense	-	(53,585)	53,585
Net Changes	1,796,815	654,624	1,142,191
Reporting Period Ending September 30, 2020	\$ 14,756,367	\$ 15,335,862	\$ (579,495)

*Sensitivity of the Net Pension Liability to changes in the Discount Rate.*

	Current Discount		
	1% Decrease	Rate	1% Increase
	6.25%	7.25%	8.25%
Sponsor's Net Pension Liability	\$ 1,182,348	\$ (579,495)	\$ (2,028,117)

*Pension Plan Fiduciary Net Position.*

Detailed information about the pension Plan's Fiduciary Net Position is available in a separately issued Plan financial report.

**FINAL PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED  
INFLOWS OF RESOURCES RELATED TO PENSIONS  
FISCAL YEAR SEPTEMBER 30, 2019**

For the year ended September 30, 2019, the Sponsor has recognized a Pension Expense of \$138,534.

On September 30, 2019, the Sponsor reported Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected and Actual Experience	338,210	255,060
Changes of assumptions	73,626	-
Net difference between Projected and Actual Earnings on Pension Plan investments	-	947,781
Employer and State contributions subsequent to the measurement date	563,729	-
<b>Total</b>	<b>\$ 975,565</b>	<b>\$ 1,202,841</b>

The outcome of the Deferred Outflows of resources related to pensions resulting from Employer and State contributions subsequent to the measurement date has been recognized as a reduction of the Net Pension Liability in the year ended September 30, 2019.

Other amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions will be recognized in Pension Expense as follows:

Year ended September 30:	
2020	\$ (110,349)
2021	\$ (369,454)
2022	\$ (288,981)
2023	\$ (74,950)
2024	\$ 52,729
Thereafter	\$ -

**PRELIMINARY PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND  
DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS  
FISCAL YEAR SEPTEMBER 30, 2020**

For the year ended September 30, 2020, the Sponsor will recognize a Pension Expense of \$801,343.

On September 30, 2020, the Sponsor reported Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected and Actual Experience	270,568	327,942
Changes of assumptions	532,084	-
Net difference between Projected and Actual Earnings on Pension Plan investments	-	361,138
Employer and State contributions subsequent to the measurement date	TBD	-
Total	TBD	\$ 689,080

The outcome of the Deferred Outflows of resources related to pensions resulting from Employer and State contributions subsequent to the measurement date will be recognized as a reduction of the Net Pension Liability in the year ended September 30, 2020.

Other amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions will be recognized in Pension Expense as follows:

Year ended September 30:		
2021	\$	(198,817)
2022	\$	(118,344)
2023	\$	95,687
2024	\$	223,366
2025	\$	55,840
Thereafter	\$	55,840

## SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

Reporting Period Ending Measurement Date	09/30/2020 09/30/2019	09/30/2019 09/30/2018	09/30/2018 09/30/2017
Total Pension Liability			
Service Cost	349,645	354,548	358,456
Interest	1,011,898	922,206	825,460
Share Plan Allocation	98,967	96,388	92,260
Changes of benefit terms	437,981	-	-
Differences between Expected and Actual Experience	(172,618)	(89,479)	473,491
Changes of assumptions	563,502	-	-
Contributions - Buy Back	17,854	17,703	8,544
Benefit Payments, including Refunds of Employee Contributions	(510,414)	(566,702)	(362,003)
Net Change in Total Pension Liability	1,796,815	734,664	1,396,208
Total Pension Liability - Beginning	12,959,552	12,224,888	10,828,680
Total Pension Liability - Ending (a)	<u>\$ 14,756,367</u>	<u>\$ 12,959,552</u>	<u>\$ 12,224,888</u>
Plan Fiduciary Net Position			
Contributions - Employer	409,471	358,424	317,000
Contributions - State	154,258	151,680	147,551
Contributions - Employee	105,323	91,166	117,483
Contributions - Buy Back	17,854	17,703	8,544
Net Investment Income	531,717	1,618,036	1,734,571
Benefit Payments, including Refunds of Employee Contributions	(510,414)	(566,702)	(362,003)
Administrative Expense	(53,585)	(49,647)	(44,046)
Net Change in Plan Fiduciary Net Position	654,624	1,620,660	1,919,100
Plan Fiduciary Net Position - Beginning	14,681,238	13,060,578	11,141,478
Plan Fiduciary Net Position - Ending (b)	<u>\$ 15,335,862</u>	<u>\$ 14,681,238</u>	<u>\$ 13,060,578</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ (579,495)</u>	<u>\$ (1,721,686)</u>	<u>\$ (835,690)</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	103.93%	113.29%	106.84%
Covered Payroll <sup>1</sup>	\$ 1,755,385	\$ 1,674,877	\$ 1,802,605
Net Pension Liability as a percentage of Covered Payroll	-33.01%	-102.79%	-46.36%

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS  
Last 10 Fiscal Years

Reporting Period Ending	09/30/2017	09/30/2016
Measurement Date	<u>09/30/2016</u>	<u>09/30/2015</u>
Total Pension Liability		
Service Cost	322,776	317,342
Interest	752,753	715,242
Share Plan Allocation	84,235	90,777
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	(45,934)	(367,566)
Changes of assumptions	147,249	-
Contributions - Buy Back	9,721	-
Benefit Payments, including Refunds of Employee Contributions	<u>(312,107)</u>	<u>(210,052)</u>
Net Change in Total Pension Liability	958,693	545,743
Total Pension Liability - Beginning	<u>9,869,987</u>	<u>9,324,244</u>
Total Pension Liability - Ending (a)	<u>\$ 10,828,680</u>	<u>\$ 9,869,987</u>
Plan Fiduciary Net Position		
Contributions - Employer	358,086	354,899
Contributions - State	139,527	150,763
Contributions - Employee	107,966	93,950
Contributions - Buy Back	9,721	-
Net Investment Income	1,143,088	(536,507)
Benefit Payments, including Refunds of Employee Contributions	(312,107)	(210,052)
Administrative Expense	<u>(58,960)</u>	<u>(48,746)</u>
Net Change in Plan Fiduciary Net Position	1,387,321	(195,693)
Plan Fiduciary Net Position - Beginning	<u>9,754,157</u>	<u>9,949,850</u>
Plan Fiduciary Net Position - Ending (b)	<u>\$ 11,141,478</u>	<u>\$ 9,754,157</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ (312,798)</u>	<u>\$ 115,830</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	102.89%	98.83%
Covered Payroll <sup>1</sup>	\$ 1,799,429	\$ 1,579,650
Net Pension Liability as a percentage of Covered Payroll	-17.38%	7.33%

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS  
Last 10 Fiscal Years

Reporting Period Ending	09/30/2015	09/30/2014
Measurement Date	<u>09/30/2014</u>	<u>09/30/2013</u>
Total Pension Liability		
Service Cost	323,511	300,940
Interest	652,070	601,821
Share Plan Allocation	88,962	-
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	-	-
Changes of assumptions	-	-
Contributions - Buy Back	-	-
Benefit Payments, including Refunds of Employee Contributions	<u>(222,096)</u>	<u>(288,611)</u>
Net Change in Total Pension Liability	842,447	614,150
Total Pension Liability - Beginning	<u>8,481,797</u>	<u>7,867,647</u>
Total Pension Liability - Ending (a)	<u><u>\$ 9,324,244</u></u>	<u><u>\$ 8,481,797</u></u>
Plan Fiduciary Net Position		
Contributions - Employer	392,863	469,302
Contributions - State	155,382	129,103
Contributions - Employee	88,869	87,309
Contributions - Buy Back	-	-
Net Investment Income	1,160,776	766,338
Benefit Payments, including Refunds of Employee Contributions	<u>(222,096)</u>	<u>(288,611)</u>
Administrative Expense	<u>(44,645)</u>	<u>(18,869)</u>
Net Change in Plan Fiduciary Net Position	1,531,149	1,144,572
Plan Fiduciary Net Position - Beginning	<u>8,418,701</u>	<u>7,274,129</u>
Plan Fiduciary Net Position - Ending (b)	<u><u>\$ 9,949,850</u></u>	<u><u>\$ 8,418,701</u></u>
Net Pension Liability - Ending (a) - (b)	<u><u>\$ (625,606)</u></u>	<u><u>\$ 63,096</u></u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	106.71%	99.26%
Covered Payroll <sup>1</sup>	\$ 1,467,330	\$ 1,455,154
Net Pension Liability as a percentage of Covered Payroll	-42.64%	4.34%



**Notes to Schedule of Changes in Net Pension Liability and Related Ratios**

<sup>1</sup> The Covered Payroll numbers shown are in compliance with GASB 82.

*Changes in benefit terms:*

For measurement date 09/30/2019, amounts reported as changes of benefit terms resulted from the provisions of Chapter 112.1816, Florida Statutes. The Statutes state that, effective July 1, 2019, a death or disability (under the Plan's definition of total and permanent disability) for a Firefighter due to the diagnosis of cancer or circumstances that arise out of the treatment of cancer will be treated as duty-related.

Additionally, the definition of Average Final Compensation was changed from the five best of the last ten years to the three best of the last five years of Credited Service.

*Changes of assumptions:*

For measurement date 09/30/2019, as a result of an Experience Study dated December 6, 2019, the Board approved the following changes:

- The investment rate of return assumption was decreased from 7.50% to 7.25% per year compounded annually, net of investment related expenses.
- Based on a study of actual versus expected experience for the 10-year period ending September 30, 2018, the following changes to demographic assumptions were made:
  - o Updates to the future salary increase assumption
  - o Updates to assumed rates of retirement
  - o Updates to assumed rates of withdrawal

For measurement date 09/30/2016, as a result of Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the assumptions used by the Florida Retirement System for special risk employees.

The inflation assumption rate was lowered from 3.00% to 2.50%, matching the long-term inflation assumption utilized by the Plan's investment consultant.

**SCHEDULE OF CONTRIBUTIONS**  
Last 10 Fiscal Years

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll <sup>1</sup>	Contributions as a percentage of Covered Payroll
09/30/2019	\$ 423,048	\$ 464,763	\$ (41,715)	\$ 1,755,385	26.48%
09/30/2018	\$ 413,695	\$ 413,716	\$ (21)	\$ 1,674,877	24.70%
09/30/2017	\$ 389,363	\$ 372,292	\$ 17,071	\$ 1,802,605	20.65%
09/30/2016	\$ 430,063	\$ 413,378	\$ 16,685	\$ 1,799,429	22.97%
09/30/2015	\$ 407,550	\$ 414,885	\$ (7,335)	\$ 1,579,650	26.26%
09/30/2014	\$ 432,862	\$ 459,283	\$ (26,421)	\$ 1,467,330	31.30%
09/30/2013	\$ 534,041	\$ 534,041	\$ -	\$ 1,455,154	36.70%

#REF!

Notes to Schedule

Valuation Date: 10/01/2017

Actuarially determined contribution rates are calculated as of October 1, two years prior to the end of the fiscal year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Mortality Rate:

*Healthy Active Lives:*

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.

Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.

*Healthy Inactive Lives:*

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

*Disabled Lives:*

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.

Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2016 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

Interest Rate:

7.5% per year compounded annually, net of investment related expenses. This is supported by the target asset class allocation of the trust and the expected long-term return by asset class.

Salary Increases:

Credited Service	Assumption
Less than 10 Years	6.5%
10-15 Years	6.0%
15 Years and Greater	5.0%

This assumption is based on the results of an experience study for the period 1999 – 2012.

Final Salary Load:	Years of Credited Service as of	
	October 1, 2012	
	<u>Assumption</u>	
	0	No Load
	Less than 10 years	10%
	10 or more years	20%

Normal Retirement:	Years Eligible	
	for Normal Retirement	Retirement Probability
	<u>0</u>	<u>60%</u>
	1	0%
	2	0%
	3	0%
	4	0%
	5	100%

In addition to the table, 100% Retirement is assumed upon the attainment of age 55 with 5 years of Credited Service. This assumption is based on the results of an experience study for the period 1999 – 2012.

Disability Rates: See table below for sample rates. 75% of Disability Retirements are assumed to be service-incurred.

	% Becoming Disabled During
<u>Age</u>	<u>the Year</u>
20	0.06%
30	0.08%
40	0.14%
50	0.36%

This assumption is based on the results of an experience study examining Disability Retirements from plan inception through 2012.

Payroll Growth: 1.9% per year, consistent with the Plan’s actual ten-year payroll growth.

Funding Method: Entry Age Normal Actuarial Cost Method.

Amortization Method: Level Percentage of Pay, Closed.

Remaining Amortization Period: 27 Years (as of 10/01/2017 valuation).

Asset Smoothing Methodology: The Actuarial Value of Assets is brought forward using the historical four-year geometric average of Market Value Returns (net-of-fees). Over time, this may result in a negligible bias that is above or below the Market Value of Assets.

Termination Rates:	<u>Credited Service</u>	
	<u>Assumption</u>	
	Less than 6 years	7.5%
	5 or more years	4.0%

This assumption is based on the results of an experience study for the period 1999 – 2012.

Early Retirement: Commencing at eligibility for Early Retirement, Members are assumed to retire with an immediate benefit at the rate of 5% per year. We feel this is reasonable based on Plan provisions.

EXPENSE DEVELOPMENT AND AMORTIZATION SCHEDULES

**The following information is not required to be disclosed but is provided for informational purposes.**

FINAL COMPONENTS OF PENSION EXPENSE  
FISCAL YEAR SEPTEMBER 30, 2019

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning Balance	\$ (835,690)	\$ 1,298,808	\$ 1,532,333	\$ -
Employer and State contributions made after 09/30/2018	-	-	563,729	-
Total Pension Liability Factors:				
Service Cost	354,548	-	-	354,548
Interest	922,206	-	-	922,206
Share Plan Allocation	96,388	-	-	96,388
Changes in benefit terms	-	-	-	-
Contributions - Buy Back	17,703	-	-	17,703
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	(89,479)	89,479	-	-
Current year amortization of experience difference	-	(75,079)	(67,642)	(7,437)
Current year amortization of change in assumptions	-	-	(24,541)	24,541
Benefit Payments, including Refunds of Employee Contributions	(566,702)	-	-	-
Net change	<u>734,664</u>	<u>14,400</u>	<u>471,546</u>	<u>1,407,949</u>
Plan Fiduciary Net Position:				
Contributions - Employer	358,424	-	(358,424)	-
Contributions - State	151,680	-	(151,680)	-
Contributions - Employee	91,166	-	-	(91,166)
Contributions - Buy Back	17,703	-	-	(17,703)
Projected Net Investment Income	979,642	-	-	(979,642)
Difference between projected and actual earnings on Pension Plan investments	638,394	638,394	-	-
Current year amortization	-	(489,656)	(259,105)	(230,551)
Benefit Payments, including Refunds of Employee Contributions	(566,702)	-	-	-
Administrative Expenses	(49,647)	-	-	49,647
Net change	<u>1,620,660</u>	<u>148,738</u>	<u>(769,209)</u>	<u>(1,269,415)</u>
Ending Balance	<u>\$ (1,721,686)</u>	<u>\$ 1,461,946</u>	<u>\$ 1,234,670</u>	<u>\$ 138,534</u>

**PRELIMINARY COMPONENTS OF PENSION EXPENSE**  
**FISCAL YEAR SEPTEMBER 30, 2020**

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	\$ (1,721,686)	\$ 1,461,946	\$ 1,234,670	\$ -
Employer and State Contributions made after 09/30/2019	-	-	TBD*	-
Total Pension Liability Factors:				
Service Cost	349,645	-	-	349,645
Interest	1,011,898	-	-	1,011,898
Share Plan Allocation	98,967	-	-	98,967
Changes in benefit terms	437,981	-	-	437,981
Contributions - Buy Back	17,854	-	-	17,854
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	(172,618)	172,618	-	-
Current year amortization of experience difference	-	(99,736)	(67,642)	(32,094)
Change in assumptions about future economic or demographic factors or other inputs	563,502	-	563,502	-
Current year amortization of change in assumptions	-	-	(105,044)	105,044
Benefit Payments, including Refunds of Employee Contributions	(510,414)	-	-	-
Net change	<u>1,796,815</u>	<u>72,882</u>	<u>390,816</u>	<u>1,989,295</u>
Plan Fiduciary Net Position:				
Contributions - Employer	409,471	-	(409,471)	-
Contributions - State	154,258	-	(154,258)	-
Contributions - Employee	105,323	-	-	(105,323)
Contributions - Buy Back	17,854	-	-	(17,854)
Projected Net Investment Income	1,105,702	-	-	(1,105,702)
Difference between projected and actual earnings on Pension Plan investments	(573,985)	-	573,985	-
Current year amortization	-	(386,560)	(373,902)	(12,658)
Benefit Payments, including Refunds of Employee Contributions	(510,414)	-	-	-
Administrative Expenses	(53,585)	-	-	53,585
Net change	<u>654,624</u>	<u>(386,560)</u>	<u>(363,646)</u>	<u>(1,187,952)</u>
Ending Balance	<u>\$ (579,495)</u>	<u>\$ 1,148,268</u>	<u>TBD</u>	<u>\$ 801,343</u>

\* Employer and State Contributions subsequent to the measurement date made after September 30, 2019 but made on or before September 30, 2020 need to be added.

AMORTIZATION SCHEDULE - INVESTMENTS

Increase (Decrease) in Pension Expense Arising from the Recognition of the of Differences Between Projected and Actual Earnings on Pension Plan Investments

Plan Year Ending	Differences Between Projected and Actual Earnings	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2019	\$ 573,985	5	\$ -	\$ 114,797	\$ 114,797	\$ 114,797	\$ 114,797	\$ 114,797	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ (638,394)	5	\$ (127,678)	\$ (127,679)	\$ (127,679)	\$ (127,679)	\$ (127,679)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ (892,040)	5	\$ (178,408)	\$ (178,408)	\$ (178,408)	\$ (178,408)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ (402,367)	5	\$ (80,473)	\$ (80,473)	\$ (80,473)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ 1,295,526	5	\$ 259,105	\$ 259,105	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2014	\$ (515,484)	5	\$ (103,097)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ (230,551)	\$ (12,658)	\$ (271,763)	\$ (191,290)	\$ (12,882)	\$ 114,797	\$ -	\$ -	\$ -	\$ -	\$ -

AMORTIZATION SCHEDULE - CHANGES OF ASSUMPTIONS

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Changes of Assumptions

Plan Year Ending	Changes of Assumptions	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2019	\$ 563,502	7	\$ -	\$ 80,502	\$ 80,500	\$ 80,500	\$ 80,500	\$ 80,500	\$ 80,500	\$ 80,500	\$ -	\$ -	\$ -
2016	\$ 147,249	6	\$ 24,541	\$ 24,542	\$ 24,542	\$ 24,542	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 24,541	\$ 105,044	\$ 105,042	\$ 105,042	\$ 80,500	\$ 80,500	\$ 80,500	\$ 80,500	\$ -	\$ -	\$ -



AMORTIZATION SCHEDULE - EXPERIENCE

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience

Plan Year Ending	Differences Between Expected and Actual Experience	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2019	\$ (172,618)	7	\$ -	\$ (24,658)	\$ (24,660)	\$ (24,660)	\$ (24,660)	\$ (24,660)	\$ (24,660)	\$ (24,660)	\$ -	\$ -	\$ -
2018	\$ (89,479)	6	\$ (14,914)	\$ (14,913)	\$ (14,913)	\$ (14,913)	\$ (14,913)	\$ (14,913)	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ 473,491	7	\$ 67,642	\$ 67,642	\$ 67,642	\$ 67,642	\$ 67,642	\$ 67,642	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ (45,934)	6	\$ (7,656)	\$ (7,656)	\$ (7,656)	\$ (7,656)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ (367,566)	7	\$ (52,509)	\$ (52,509)	\$ (52,509)	\$ (52,509)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ (7,437)	\$ (32,094)	\$ (32,096)	\$ (32,096)	\$ 28,069	\$ 28,069	\$ (24,660)	\$ (24,660)	\$ -	\$ -	\$ -