

OKALOOSA ISLAND FIRE DISTRICT  
FIREFIGHTERS' RETIREMENT TRUST 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

December 3, 2019

Board of Trustees  
Okaloosa Island Fire District  
Firefighters' Retirement Trust Fund  
105 Santa Rosa Blvd.  
Ft. Walton Beach, FL 32548

Re: Okaloosa Island Fire District Firefighters' Retirement Trust Fund

Dear Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the Okaloosa Island Fire District Firefighters' Retirement Trust 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 valuation, 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 Okaloosa Island Fire District, 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.

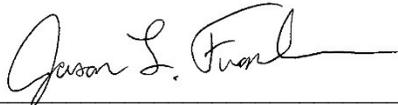
The undersigned are familiar with the immediate and long-term aspects of pension valuations, and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the 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 Okaloosa Island Fire District, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the Firefighters' Retirement Trust 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:   
Jason L. Franken, FSA, EA, MAAA  
Enrolled Actuary #17-6888

By:   
Drew D. Ballard, EA, MAAA  
Enrolled Actuary #17-8193

Enclosures

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SUMMARY OF REPORT

The regular annual actuarial valuation of the Okaloosa Island Fire District Firefighters' Retirement Trust 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 November 21, 2019 actuarial impact statement, are as follows:

Valuation Date	10/1/2019	10/1/2018
Applicable to Fiscal Year Ending	<u>9/30/2021</u>	<u>9/30/2020</u>
Minimum Required Contribution	\$1,128,821	\$1,058,328
Member Contributions (Est.)	112,727	111,276
District And State Required Contribution	1,016,094	947,052
State Contribution (Est.) <sup>1</sup>	36,478	72,956
District Required Contribution <sup>2</sup>	\$979,616	\$874,096

<sup>1</sup> Represents the amount received in calendar 2019. As per a Mutual Consent Agreement between the Membership and the District, all State Monies received each year will be available to offset the District's required contribution. Given timing of receipt, the calendar 2019 and 2020 contributions are both expected to be available to offset the fiscal 2020 contribution.

<sup>2</sup> Please note that the District has access to a prepaid contribution of \$76,899.76 that is available to offset a portion of the above stated requirements for the fiscal year ending September 30, 2020.

As you can see, the Minimum Required Contribution shows an increase when compared to the results determined in the November 21, 2019 actuarial impact statement. The increase is primarily attributable to assumption and method changes reflected in this valuation.

Plan experience was favorable overall on the basis of the plan's actuarial assumptions. Sources of actuarial gain included the disablements of two active employees and an average salary increase of 4.91% which fell short of the 6.19% assumption. These gains were offset in part by losses associated with less turnover than expected, inactive mortality experience, and an investment return of 7.01% (Actuarial Asset Basis) which fell short of the 7.50% assumption..

## CHANGES SINCE PRIOR VALUATION

### Plan Changes

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

To value the above plan changes, the in-line-of-duty assumption was increased from 75% of disablements to 90% of disablements.

In addition, the following assumption changes were reflected since the prior valuation:

- The investment return assumption was lowered from 7.50% to 7.40% per year, net of investment-related expenses.
- The payroll growth assumption was lowered from 3.50% to 2.94% in compliance with the ten-year average payroll growth requirements of Part VII of Chapter 112, Florida Statutes.

The following method change was reflected since the prior valuation:

- The actuarial asset method was reset to equal the Market Value of Assets as of October 1, 2019. Future gains and losses will be smoothed over a five-year period.

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	20	20	20
Service Retirees	13	13	13
Beneficiaries	0	0	0
Disability Retirees	3	3	1
Terminated Vested	<u>0</u>	<u>0</u>	<u>1</u>
<b>Total</b>	<b>36</b>	<b>36</b>	<b>35</b>
<b>Total Annual Payroll</b>	<b>\$1,278,766</b>	<b>\$1,278,766</b>	<b>\$1,263,000</b>
<b>Payroll Under Assumed Ret. Age</b>	<b>1,278,766</b>	<b>1,278,766</b>	<b>1,263,000</b>
<b>Annual Rate of Payments to:</b>			
Service Retirees	843,470	843,470	830,909
Beneficiaries	0	0	0
Disability Retirees	77,307	77,307	12,939
Terminated Vested	0	0	0
<b>B. Assets</b>			
Actuarial Value (AVA) <sup>1</sup>	9,125,502	9,094,223	8,509,052
Market Value (MVA) <sup>1</sup>	9,125,502	9,125,502	8,824,533
<b>C. Liabilities</b>			
<b>Present Value of Benefits</b>			
<b>Actives</b>			
Retirement Benefits	6,683,929	6,527,591	6,775,092
Disability Benefits	92,321	90,826	92,431
Death Benefits	47,946	47,098	48,713
Vested Benefits	624,045	607,919	605,659
Refund of Contributions	47,692	47,533	42,711
Service Retirees	12,351,623	12,213,054	12,105,171
Beneficiaries	0	0	0
Disability Retirees	855,350	847,528	143,061
Terminated Vested	0	0	36,996
Share Plan Balances <sup>1</sup>	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total</b>	<b>20,702,906</b>	<b>20,381,549</b>	<b>19,849,834</b>

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	13,919,860	13,824,069	13,615,321
Present Value of Future Member Contributions	1,113,589	1,105,926	1,089,226
Normal Cost (Retirement)	270,331	263,488	268,511
Normal Cost (Disability)	6,225	6,145	6,055
Normal Cost (Death)	2,379	2,338	2,360
Normal Cost (Vesting)	28,678	27,937	28,438
Normal Cost (Refunds)	<u>7,450</u>	<u>7,442</u>	<u>9,659</u>
Total Normal Cost	315,063	307,350	315,023
Present Value of Future Normal Costs	3,138,822	3,039,346	3,081,394
Accrued Liability (Retirement)	3,992,068	3,922,768	4,124,255
Accrued Liability (Disability)	33,915	33,571	35,466
Accrued Liability (Death)	24,031	23,772	25,608
Accrued Liability (Vesting)	299,815	294,225	292,575
Accrued Liability (Refunds)	7,282	7,285	5,308
Accrued Liability (Inactives)	13,206,973	13,060,582	12,285,228
Share Plan Balances <sup>1</sup>	<u>0</u>	<u>0</u>	<u>0</u>
Total Actuarial Accrued Liability (EAN AL)	17,564,084	17,342,203	16,768,440
Unfunded Actuarial Accrued Liability (UAAL)	8,438,582	8,247,980	8,259,388
Funded Ratio (AVA / EAN AL)	52.0%	52.4%	50.7%

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>	13,206,973	13,060,582	12,285,228
Actives	1,598,032	1,558,860	1,361,380
Member Contributions	<u>699,587</u>	<u>699,587</u>	<u>720,127</u>
Total	15,504,592	15,319,029	14,366,735
Non-vested Accrued Benefits	<u>669,012</u>	<u>650,904</u>	<u>834,513</u>
Total Present Value			
Accrued Benefits (PVAB)	16,173,604	15,969,933	15,201,248
Funded Ratio (MVA / PVAB)	56.4%	57.1%	58.1%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:			
Plan Amendments	0	0	
Assumption Changes	203,671	0	
Plan Experience	0	564,416	
Benefits Paid	0	(902,000)	
Interest	0	1,106,269	
Other	<u>0</u>	<u>0</u>	
Total	203,671	768,685	

	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 <sup>2</sup>	\$347,173	\$338,837	\$346,937
Administrative Expenses <sup>2</sup>	60,027	60,056	52,785
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 20 years (as of 10/1/2019) <sup>2</sup>	721,621	683,483	658,606
Minimum Required Contribution	1,128,821	1,082,376	1,058,328
Expected Member Contributions <sup>2</sup>	112,727	112,782	111,276
Expected District and State Contribution	1,016,094	969,594	947,052
F. Past Contributions			
Plan Years Ending:	<u>9/30/2019</u>		
District and State Requirement	856,744		
Actual Contributions Made:			
Members (excluding buyback)	95,246		
District	856,744		
State	<u>0</u>		
Total	951,990		
G. Net Actuarial (Gain)/Loss	(21,748)		

<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 displayed above have been adjusted to account for assumed salary increase and interest components.

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	8,438,582
2020	8,359,698
2021	8,254,299
2026	7,231,992
2030	5,611,853
2035	2,096,467
2039	0

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

	<u>Actual</u>	<u>Assumed</u>
Year Ended 9/30/2019	4.91%	6.19%
Year Ended 9/30/2018	5.99%	6.06%
Year Ended 9/30/2017	5.13%	7.00%
Year Ended 9/30/2016	2.81%	7.00%
Year Ended 9/30/2015	-0.38%	7.00%

(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	3.53%	7.01%	7.50%
Year Ended 9/30/2018	7.60%	5.61%	7.50%
Year Ended 9/30/2017	12.54%	6.30%	7.75%
Year Ended 9/30/2016	4.60%	5.81%	7.75%
Year Ended 9/30/2015	-1.79%	8.74%	7.75%

(iii) Average Annual Payroll Growth

(a) Payroll as of:	10/1/2019	\$1,278,766
	10/1/2009	956,845
(b) Total Increase		33.64%
(c) Number of Years		10.00
(d) Average Annual Rate		2.94%

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.



Drew D. Ballard, EA, MAAA  
Enrolled Actuary #17-8193

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

(1) Unfunded Actuarial Accrued Liability as of October 1, 2018	\$8,259,388
(2) Sponsor Normal Cost developed as of October 1, 2018	213,983
(3) Expected administrative expenses for the year ended September 30, 2019	47,929
(4) Expected interest on (1), (2) and (3)	637,300
(5) Sponsor contributions to the System during the year ended September 30, 2019	856,744
(6) Expected interest on (5)	32,128
(7) Expected Unfunded Actuarial Accrued Liability as of September 30, 2019 (1)+(2)+(3)+(4)-(5)-(6)	8,269,728
(8) Change to UAAL due to Assumption / Method Changes	190,602
(9) Change to UAAL due to Actuarial (Gain)/Loss	(21,748)
(10) Unfunded Actuarial Accrued Liability as of October 1, 2019	8,438,582

Type of <u>Base</u>	Date <u>Established</u>	Years <u>Remaining</u>	10/1/2019 <u>Amount</u>	Amortization <u>Amount</u>
UAAL Fresh Start	10/1/2017	18	8,444,724	656,780
Assum. Change	10/1/2017	18	310,222	24,127
Benefit Change	10/1/2017	18	(688,673)	(53,561)
Actuarial Loss	10/1/2018	19	204,230	15,328
Benefits Change	10/1/2018	19	(775)	(58)
Actuarial Gain	10/1/2019	20	(21,748)	(1,579)
Asmp/Mthd Change	10/1/2019	20	<u>190,602</u>	<u>13,841</u>
			8,438,582	654,878

## DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1) Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2018	\$8,259,388
(2) Expected UAAL as of October 1, 2019	8,269,728
(3) Summary of Actuarial (Gain)/Loss, by component:	
Investment Return (Actuarial Asset Basis)	41,675
Salary Increases	(56,995)
Active Decrements	(41,730)
Inactive Mortality	65,354
Other	<u>(30,052)</u>
Increase in UAAL due to (Gain)/Loss	(21,748)
Assumption / Method Changes	<u>190,602</u>
(4) Actual UAAL as of October 1, 2019	\$8,438,582

## 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

7.40% (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>Service</u>	<u>Increase</u>
<3	7.00%
3-6	6.50
7-9	6.00
10-14	6.00
15+	5.50

The assumed rates were approved in conjunction with an actuarial experience study dated August 2017.

Payroll Growth

2.94% (prior year 3.50%) 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

\$54,475 annually, based on the average of actual expenses incurred in the prior two fiscal years.

Retirement Age

Age 55 and 10 years of Credited Service, or age 52 and 25 years of Credited Service. The assumed rates were approved in conjunction with an actuarial experience study dated August 2017.

Early Retirement

Commencing with the earliest Early Retirement Age (50), Members are assumed to retire with an immediate subsidized benefit at the rate of 2% per year. The assumed rates were approved in conjunction with an actuarial experience study dated August 2017.

Disability Rate

Sample rates below (1201). It is assumed that 90% (prior year 75%) of Disability Retirees are service related. This assumption is consistent with those used by other plans containing Florida municipal Firefighters.

<u>Age</u>	<u>Rate</u>
20	0.03%
30	0.04
40	0.07
50	0.18

Termination Rate

<u>Service</u>	<u>Rate</u>
0	9.0%
1	8.0
2	7.0
3	6.0
4	5.0
5-9	4.0
10+	2.0

The assumed rates were approved in conjunction with an actuarial experience study dated August 2017.

Funding Method

Entry Age Normal Actuarial Cost Method. The following loads are applied for determination of the dollar contribution requirement:

Interest – A half year, based on the 7.40% assumption  
Salary – A full year, based on the current 6.26% average assumption

Actuarial Asset Method

Reset to equal the Market Value of Assets as of October 1, 2019. Future gains and losses will be smoothed over a five-year period. Previously, the Actuarial Value of Assets was brought forward utilizing the historical geometric four-year average Market Value return (net of fees).

Amortization Method

New UAAL amortization bases are established according to the following amortization periods:

Experience: 20 Years.

Assumption/Method Changes: 20 Years.

Benefit Changes: 20 Years.

## GLOSSARY

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

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 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.

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.

## 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.
- Payroll Growth: The plan's payroll growth assumption, if one is used, causes a predictable annual increase in the plan's amortization payment in order to produce an amortization payment that remains constant as a percentage of payroll if all assumptions are realized. If payroll does not increase according to the plan's payroll growth assumption, the plan's amortization payment can increase significantly as a percentage of payroll even if all assumptions other than the payroll growth assumption are realized.
- 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 150.0% on October 1, 2016 to 125.0% on October 1, 2019, indicating that the plan has been maturing during the period.
- 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 75.2%. With a plan of this maturity, losses due to lower than expected investment returns or demographic factors may result in larger increases in contribution requirements than would be needed for a less 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 46.3% on October 1, 2016 to 52.0% on October 1, 2019, largely due to the normal operation of the plan, including full funding of the required contribution.
- 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 3.6% on October 1, 2016 to -0.1% on October 1, 2019. The current Net Cash Flow Ratio of -0.1% indicates that contributions are not currently 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	18	19	20	20
Total Inactives <sup>1</sup>	12	13	14	16
Actives / Inactives <sup>1</sup>	150.0%	146.2%	142.9%	125.0%
<u>Asset Volatility Ratio</u>				
Market Value of Assets (MVA)	6,970,367	8,054,744	8,824,533	9,125,502
Total Annual Payroll	1,181,359	1,227,852	1,263,000	1,278,766
MVA / Total Annual Payroll	590.0%	656.0%	698.7%	713.6%
<u>Accrued Liability (AL) Ratio</u>				
Inactive Accrued Liability	9,253,399	10,681,380	12,285,228	13,206,973
Total Accrued Liability (EAN)	15,530,454	16,045,405	16,768,440	17,564,084
Inactive AL / Total AL	59.6%	66.6%	73.3%	75.2%
<u>Funded Ratio</u>				
Actuarial Value of Assets (AVA)	7,183,224	7,891,318	8,509,052	9,125,502
Total Accrued Liability (EAN)	15,530,454	16,045,405	16,768,440	17,564,084
AVA / Total Accrued Liability (EAN)	46.3%	49.2%	50.7%	52.0%
<u>Net Cash Flow Ratio</u>				
Net Cash Flow <sup>2</sup>	249,760	247,458	170,319	(11,030)
Market Value of Assets (MVA)	6,970,367	8,054,744	8,824,533	9,125,502
Ratio	3.6%	3.1%	1.9%	-0.1%

<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>
1998	4,098.53	_____ %
1999	20,782.77	407.1%
2000	8,815.32	-57.6%
2001	11,419.94	29.5%
2002	14,476.74	26.8%
2003	18,698.15	29.2%
2004	16,018.82	-14.3%
2005	19,156.56	19.6%
2006	28,570.91	49.1%
2007	43,058.82	50.7%
2008	54,556.78	26.7%
2009	38,584.60	-29.3%
2010	53,131.49	37.7%
2011	52,025.28	-2.1%
2012	51,623.31	-0.8%
2013	54,472.08	5.5%
2014	56,846.21	4.4%
2015	43,485.34	-23.5%
2016	45,330.27	4.2%
2017	36,659.56	-19.1%
2018	37,865.00	3.3%
2019	36,478.11	-3.7%

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2019

<u>ASSETS</u>	COST VALUE	MARKET VALUE
Cash and Cash Equivalents:		
Short Term Investments	101,261.86	101,261.86
Total Cash and Equivalents	101,261.86	101,261.86
Receivables:		
Member Contributions in Transit	3,594.06	3,594.06
Investment Income	3,260.48	3,260.48
Total Receivable	6,854.54	6,854.54
Investments:		
Mutual Funds:		
Fixed Income	2,126,070.20	2,118,445.51
Equity	5,405,487.69	6,052,106.86
Pooled/Common/Commingled Funds:		
Real Estate	894,119.27	925,599.37
Total Investments	8,425,677.16	9,096,151.74
Total Assets	8,533,793.56	9,204,268.14
 <u>LIABILITIES</u>		
Payables:		
Benefit Payments	1,866.60	1,866.60
Prepaid District Contribution	76,899.76	76,899.76
Total Liabilities	78,766.36	78,766.36
NET POSITION RESTRICTED FOR PENSIONS	8,455,027.20	9,125,501.78

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

ADDITIONS

Contributions:		
Member		95,246.14
District		856,744.00
Total Contributions		951,990.14
Investment Income:		
Net Realized Gain (Loss)	333,047.86	
Unrealized Gain (Loss)	(252,161.32)	
Net Increase in Fair Value of Investments		80,886.54
Interest & Dividends		281,374.96
Less Investment Expense <sup>1</sup>		(50,263.55)
Net Investment Income		311,997.95
Total Additions		1,263,988.09
<u>DEDUCTIONS</u>		
Distributions to Members:		
Benefit Payments		865,163.20
Refunds of Member Contributions		36,836.51
Total Distributions		901,999.71
Administrative Expense		61,019.70
Total Deductions		963,019.41
Net Increase in Net Position		300,968.68
NET POSITION RESTRICTED FOR PENSIONS		
Beginning of the Year		8,824,533.10
End of the Year		9,125,501.78

<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	4.60%	
09/30/2017	12.54%	
09/30/2018	7.60%	
09/30/2019	3.53%	
Annualized Rate of Return for prior four (4) years:		7.01%
(A) 10/01/2018 Actuarial Assets:		\$8,509,051.93
(I) Net Investment Income:		
1. Interest and Dividends	281,374.96	
2. Realized Gains (Losses)	333,047.86	
3. Unrealized Gains (Losses)	(252,161.32)	
4. Change in Actuarial Value	284,202.81	
5. Investment Related Expenses	(50,263.55)	
Total		596,200.76
(B) 10/01/2019 Actuarial Assets:		\$9,094,223.42
Actuarial Asset Rate of Return = 2I/(A+B-I):		7.01%
10/01/2019 Limited Actuarial Assets:		\$9,094,223.42
10/01/2019 Market Value of Assets:		\$9,125,501.78
Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis)		(\$41,674.52)

<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	95,246.14	
District	856,744.00	
<b>Total Contributions</b>		<b>951,990.14</b>
Earnings from Investments:		
Interest & Dividends	281,374.96	
Net Realized Gain (Loss)	333,047.86	
Unrealized Gain (Loss)	(252,161.32)	
Change in Actuarial Value	284,202.81	
<b>Total Earnings and Investment Gains</b>		<b>646,464.31</b>

EXPENDITURES

Distributions to Members:		
Benefit Payments	865,163.20	
Refunds of Member Contributions	36,836.51	
<b>Total Distributions</b>		<b>901,999.71</b>
Expenses:		
Investment related <sup>1</sup>	50,263.55	
Administrative	61,019.70	
<b>Total Expenses</b>		<b>111,283.25</b>
<b>Change in Net Assets for the Year</b>		<b>585,171.49</b>
<b>Net Assets Beginning of the Year</b>		<b>8,509,051.93</b>
<b>Net Assets End of the Year<sup>2</sup></b>		<b>9,094,223.42</b>

<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 DISTRICT'S SHORTFALL/(PREPAID) CONTRIBUTION  
FOR THE FISCAL YEAR ENDED (FYE) SEPTEMBER 30, 2019

(1) Required District and State Contributions	\$856,744.00
(2) Less Allowable State Contribution	<u>0</u>
(3) Required District Contribution for Fiscal 2019	856,744.00
(4) Less 2018 Prepaid Contribution	0.00
(5) Less Actual District Contributions	<u>(933,643.76)</u>
(6) Equals District's Shortfall/(Prepaid) Contribution as of September 30, 2019	(\$76,899.76)

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	18	19	20	20
Average Current Age	38.8	37.5	36.4	36.2
Average Age at Employment	27.7	27.3	27.7	27.9
Average Past Service	11.1	10.2	8.7	8.3
Average Annual Salary	\$65,631	\$64,624	\$63,150	\$63,938
<u>Service Retirees</u>				
Number	11	12	13	13
Average Current Age	61.0	61.3	61.6	62.6
Average Annual Benefit	\$58,474	\$60,336	\$63,916	\$64,882
<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	3
Average Current Age	67.0	68.0	69.0	52.2
Average Annual Benefit	\$12,939	\$12,939	\$12,939	\$25,769
<u>Terminated Vested</u>				
Number	1	0	1	0
Average Current Age <sup>1</sup>	34.6	N/A	N/A	N/A
Average Annual Benefit <sup>2</sup>	N/A	N/A	N/A	N/A

<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	0	0	0	0	0	0	0	0	0	0	0
20 - 24	0	3	0	0	0	0	0	0	0	0	0	3
25 - 29	0	0	1	0	0	0	0	0	0	0	0	1
30 - 34	2	0	0	0	1	0	2	0	0	0	0	5
35 - 39	0	0	0	0	0	1	2	3	0	0	0	6
40 - 44	0	1	0	0	0	1	0	0	0	0	0	2
45 - 49	0	0	0	0	0	0	1	0	0	0	0	1
50 - 54	0	0	0	0	0	0	0	0	1	0	0	1
55 - 59	0	0	0	0	0	1	0	0	0	0	0	1
60 - 64	0	0	0	0	0	0	0	0	0	0	0	0
65+	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	4	1	0	1	3	5	3	1	0	0	20

## VALUATION PARTICIPANT RECONCILIATION

### 1. Active lives

a. Number in prior valuation 10/1/2018	20
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 or full lump sum distributio	0
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	(2)
e. Retired	0
f. Continuing participants	18
g. New entrants	<u>2</u>
h. Total active life participants in valuation	20

### 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	13	0	1	0	1	15
Retired	0	0	0	0	0	0
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	2	0	0	2
Refund of Contributions	0	0	0	0	(1)	(1)
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	13	0	3	0	0	16

SUMMARY OF CURRENT PLAN  
(Through Resolution No. 01-18)

<u>Eligibility</u>	Full-time employees who are classified as full-time certified firefighters shall participate in the System as a condition of employment.
<u>Credited Service</u>	Total years and fractional parts of years of employment with the District as a Firefighter.
<u>Salary</u>	W-2 compensation (excluding lump sum payments of unused sick and vacation pay) plus tax exempt, tax sheltered, and tax deferred items of income.
<u>Average Final Compensation</u>	Average Salary for the best 3 years during the 5 years immediately preceding retirement or termination.
<u>Member Contributions</u>	8.0% of Salary.
<u>District and State Contributions</u>	Remaining amount required in order to pay current costs and amortize any unfunded past service cost as provided in Part VII of Chapter 112, F.S.
<u>Normal Retirement</u>	
Date	Earlier of: 1) Age 55 and 10 years of Credited Service, or 2) Age 52 and 25 years of Credited Service.
Benefit	3.5% of Average Final Compensation <u>times</u> Credited Service, maximum \$100,000 annually.
Form of Benefit	Ten Year Certain and Life Annuity (options available).
<u>Early Retirement</u>	
Eligibility	Age 50 and 10 Years of Credited Service.
Benefit	Accrued benefit, reduced 3% for each year prior to Normal Retirement.
<u>Supplemental Monthly Benefit</u>	Normal and Early service retirees receive \$250 (reduced for Early) for life.
<u>Cost-of-Living Increase</u>	Normal or Early Retirees who retire after 3/18/2009 and their Beneficiaries or Joint Annuitants receive annual 3% benefit increases beginning the first 10/1 following 5 years of retirement.

Vesting

Schedule	100% after 10 years of Credited Service.
Benefit Amount	Member will receive the vested portion of his (her) accrued benefit payable at the otherwise Normal Retirement Date.

Disability

Eligibility

Service Incurred	Covered from Date of Employment.
Non-Service Incurred	10 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 but not less than 42% of Average Final Compensation (if Service Incurred).

Duration Payable for life and ten years certain or until recovery (as determined by the Board). Options available.

Death Benefits

Pre-Retirement

Vested	Monthly accrued benefit payable to designated beneficiary for 10 years.
Non-Vested	Refund of accumulated contributions without interest.

Post-Retirement Benefits payable to beneficiary in accordance with option selected at retirement.

Board of Trustees

Two District appointees, two Members of the Department elected by the membership, and a fifth Member elected by other 4 and appointed by the District.

Chapter 175 Share Account

Pursuant to Chapter 2015-39, Laws of Florida, a supplemental benefit component for special benefits exists but is currently not funded as no premium tax allocations have been made to the share accounts.

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2019

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Short Term Investments	101,262
Total Cash and Equivalents	101,262
Receivables:	
Member Contributions in Transit	3,594
Investment Income	3,260
Total Receivable	6,854
Investments:	
Mutual Funds:	
Fixed Income	2,118,446
Equity	6,052,107
Pooled/Common/Commingled Funds:	
Real Estate	925,599
Total Investments	9,096,152
Total Assets	9,204,268
<u>LIABILITIES</u>	
Payables:	
Benefit Payments	1,866
Total Liabilities	1,866
NET POSITION RESTRICTED FOR PENSIONS	9,202,402

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

ADDITIONS

## Contributions:

Member	95,246	
District	933,644	
State	0	
 Total Contributions		 1,028,890
 Investment Income:		
Net Increase in Fair Value of Investments	80,887	
Interest & Dividends	281,375	
Less Investment Expense <sup>1</sup>	(50,264)	
 Net Investment Income		 311,998
 Total Additions		 1,340,888

DEDUCTIONS

## Distributions to Members:

Benefit Payments	865,163	
Refunds of Member Contributions	36,836	
 Total Distributions		 901,999
 Administrative Expense		 61,020
 Total Deductions		 963,019
 Net Increase in Net Position		 377,869
 NET POSITION RESTRICTED FOR PENSIONS		
Beginning of the Year		8,824,533
 End of the Year		 9,202,402

<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 Description

*Plan Administration*

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

- a. Two District appointees,
- b. Two Members of the Department elected by the membership,
- c. Fifth Member elected by other four and appointed by District.

*Plan Membership as of October 1, 2018:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	14
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	1
Active Plan Members	20
	35

*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 Okaloosa Island Fire District Firefighters' Retirement Trust 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 Contributions: 8.0% of Salary.

District and State Contributions: Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, as provided in Chapter 112, Florida Statutes.

**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%
Broad Market Fixed Income	20.0%
Fixed Income (Non-Core)	2.5%
Global Fixed Income	2.5%
Real Estate	10.0%
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 3.53 percent.

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

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	\$ 17,566,323
Plan Fiduciary Net Position	\$ (9,202,402)
Sponsor's Net Pension Liability	<u>\$ 8,363,921</u>
Plan Fiduciary Net Position as a percentage of Total Pension Liability	52.39%

*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	7.40%
Investment Rate of Return	7.40%

*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 August 23, 2017.

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	Long Term Expected Real Rate of Return
Domestic Equity	7.50%
International Equity	8.50%
Broad Market Fixed Income	2.50%
Fixed Income (Non-Core)	2.50%
Global Fixed Income	3.50%
Real Estate	4.5%

## GASB 67

### Discount Rate:

The Discount Rate used to measure the Total Pension Liability was 7.40 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 6.40%	Current Discount Rate 7.40%	1% Increase 8.40%
Sponsor's Net Pension Liability	\$ 10,928,599	\$ 8,363,921	\$ 6,284,893

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

	<u>09/30/2019</u>	<u>09/30/2018</u>	<u>09/30/2017</u>
Total Pension Liability			
Service Cost	315,021	281,575	331,319
Interest	1,239,028	1,183,662	1,192,561
Changes of benefit terms	(682)	(695,908)	-
Differences between Expected and Actual Experience	30,720	80,459	34,366
Changes of assumptions	227,197	-	295,819
Contributions - Buy Back	-	-	-
Benefit Payments, including Refunds of Employee Contributions	(901,999)	(778,491)	(649,774)
Net Change in Total Pension Liability	<u>909,285</u>	<u>71,297</u>	<u>1,204,291</u>
Total Pension Liability - Beginning	<u>16,657,038</u>	<u>16,585,741</u>	<u>15,381,450</u>
Total Pension Liability - Ending (a)	<u>\$ 17,566,323</u>	<u>\$ 16,657,038</u>	<u>\$ 16,585,741</u>
Plan Fiduciary Net Position			
Contributions - Employer	933,644	861,986	782,613
Contributions - State	-	37,865	36,660
Contributions - Employee	95,246	96,888	95,126
Contributions - Buy Back	-	-	-
Net Investment Income	311,998	599,470	836,918
Benefit Payments, including Refunds of Employee Contributions	(901,999)	(778,491)	(649,774)
Administrative Expense	(61,020)	(47,929)	(17,166)
Net Change in Plan Fiduciary Net Position	<u>377,869</u>	<u>769,789</u>	<u>1,084,377</u>
Plan Fiduciary Net Position - Beginning	<u>8,824,533</u>	<u>8,054,744</u>	<u>6,970,367</u>
Plan Fiduciary Net Position - Ending (b)	<u>\$ 9,202,402</u>	<u>\$ 8,824,533</u>	<u>\$ 8,054,744</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 8,363,921</u>	<u>\$ 7,832,505</u>	<u>\$ 8,530,997</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	52.39%	52.98%	48.56%
Covered Payroll <sup>1</sup>	\$ 1,190,577	\$ 1,211,105	\$ 1,189,075
Net Pension Liability as a percentage of Covered Payroll	702.51%	646.72%	717.45%

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

	<u>09/30/2016</u>	<u>09/30/2015</u>
Total Pension Liability		
Service Cost	312,345	292,647
Interest	1,102,924	1,067,883
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	(291,603)	(290,489)
Changes of assumptions	658,466	-
Contributions - Buy Back	-	8,928
Benefit Payments, including Refunds of Employee Contributions	(639,223)	(653,839)
Net Change in Total Pension Liability	<u>1,142,909</u>	<u>425,130</u>
Total Pension Liability - Beginning	<u>14,238,541</u>	<u>13,813,411</u>
Total Pension Liability - Ending (a)	<u>\$ 15,381,450</u>	<u>\$ 14,238,541</u>
Plan Fiduciary Net Position		
Contributions - Employer	775,574	708,789
Contributions - State	45,330	43,485
Contributions - Employee	91,087	85,999
Contributions - Buy Back	-	8,928
Net Investment Income	288,447	(112,066)
Benefit Payments, including Refunds of Employee Contributions	(639,223)	(653,839)
Administrative Expense	(23,642)	(19,947)
Net Change in Plan Fiduciary Net Position	<u>537,573</u>	<u>61,349</u>
Plan Fiduciary Net Position - Beginning	<u>6,432,794</u>	<u>6,371,445</u>
Plan Fiduciary Net Position - Ending (b)	<u>\$ 6,970,367</u>	<u>\$ 6,432,794</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 8,411,083</u>	<u>\$ 7,805,747</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	45.32%	45.18%
Covered Payroll <sup>1</sup>	\$ 1,146,514	\$ 1,119,731
Net Pension Liability as a percentage of Covered Payroll	733.62%	697.11%

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

	<u>09/30/2014</u>	<u>09/30/2013</u>
Total Pension Liability		
Service Cost	290,356	269,472
Interest	1,017,277	968,929
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	-	-
Changes of assumptions	-	-
Contributions - Buy Back	-	-
Benefit Payments, including Refunds of Employee Contributions	<u>(660,031)</u>	<u>(610,868)</u>
Net Change in Total Pension Liability	647,602	627,533
Total Pension Liability - Beginning	<u>13,165,809</u>	<u>12,538,276</u>
Total Pension Liability - Ending (a)	<u>\$ 13,813,411</u>	<u>\$ 13,165,809</u>
Plan Fiduciary Net Position		
Contributions - Employer	673,090	723,752
Contributions - State	56,846	54,472
Contributions - Employee	79,884	83,456
Contributions - Buy Back	-	-
Net Investment Income	579,975	525,540
Benefit Payments, including Refunds of Employee Contributions	(660,031)	(610,868)
Administrative Expense	<u>(24,204)</u>	<u>(24,161)</u>
Net Change in Plan Fiduciary Net Position	705,560	752,191
Plan Fiduciary Net Position - Beginning	<u>5,665,885</u>	<u>4,913,694</u>
Plan Fiduciary Net Position - Ending (b)	<u>\$ 6,371,445</u>	<u>\$ 5,665,885</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 7,441,966</u>	<u>\$ 7,499,924</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	46.13%	43.03%
Covered Payroll <sup>1</sup>	N/A	N/A
Net Pension Liability as a percentage of Covered Payroll	N/A	N/A

**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 of 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.

For measurement date 09/30/2018, Resolution No. 01-18 implemented benefit changes as following:

Implementation of a maximum benefit cap on the annual accrued benefit of \$100,000 per year.

The maximum annual accrued benefit is based on the normal form of annuity payment (For Retiree's Lifetime with 120 Payments Guaranteed) and may be exceeded after the application of cost-of-living adjustments (COLAs).

Any optional forms of benefit, as well as early retirement benefits, will be calculated after application of the maximum benefit amount on the normal form of payment. Also, the supplemental benefit will remain unchanged and will still be payable even if the resulting total benefit is in excess of the \$100,000 accrued benefit cap.

*Changes of assumptions:*

For measurement date 09/30/2019, amounts reported as changes of assumptions resulted from lowering the investment return from 7.50% to 7.40% per year net of investment related expenses.

For measurement date 09/30/2017, as a result of an actuarial experience study dated August 23, 2017, the

-The assumed rate of investment return was lowered from 7.75% to 7.50% per year, net of investment related expenses.

-The assumed rates of salary increases were amended from a flat rate of 7.00% per year to a service-based table.

-As mandated by Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed from the rates used by the Florida Retirement System actuary in the July 1, 2015 actuarial valuation to the rates used in the July 1, 2016 actuarial valuation for special risk lives.

-The assumed rates of retirement were amended to remove the assumption that members eligible for normal retirement on the valuation date will continue employment for one additional year.

-The assumed rates of withdrawal were amended from an age-based table to a service-based table.

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	\$ 856,744	\$ 933,644	\$ (76,900)	\$ 1,190,577	78.42%
09/30/2018	\$ 899,851	\$ 899,851	\$ -	\$ 1,211,105	74.30%
09/30/2017	\$ 819,273	\$ 819,273	\$ -	\$ 1,189,075	68.90%
09/30/2016	\$ 820,904	\$ 820,904	\$ -	\$ 1,146,514	71.60%
09/30/2015	\$ 752,274	\$ 752,274	\$ -	\$ 1,119,731	67.18%
09/30/2014	\$ 729,936	\$ 729,936	\$ -	N/A	N/A
09/30/2013	\$ 778,224	\$ 778,224	\$ -	N/A	N/A

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

Notes to Schedule

Valuation Date: 10/01/2017 (AIS 05/31/2018)  
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: *Healthy Active Lives:*  
Female: RP2000 Generational, 100% Combined White Collar, Scale BB.  
Male: RP2000 Generational, 10% Combined White Collar / 90% Combined Healthy 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 assumed rates of mortality 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 the July 1, 2016 FRS actuarial valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

Interest Rate: 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.

Retirement Age: Age 55 and 10 years of Credited Service, or age 52 and 25 years of Credited Service. The assumed rates were approved in conjunction with an actuarial experience study dated August 2017.

Early Retirement: Commencing with the earliest Early Retirement Age (50), Members are assumed to retire with an immediate subsidized benefit at the rate of 2% per year. The assumed rates were approved in conjunction with an actuarial experience study dated August 2017.

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Disability Rates: Sample rates below (1201). It is assumed that 75% of Disability Retirees are service related. This assumption is consistent with those used by other plans containing Florida municipal Firefighters.

Age	Rate
20	0.03%
30	0.04%
40	0.07%
50	0.18%

Termination Rates:

Service	Rate
0	9.0%
1	8.0%
2	7.0%
3	6.0%
4	5.0%
5-9	4.0%
10+	2.0%

The assumed rates were approved in conjunction with an actuarial experience study dated August 2017.

Salary Increases:

Service	Increase
<3	7.0%
3-6	6.5%
7-9	6.0%
10-14	6.0%
15+	5.0%

The assumed rates were approved in conjunction with an actuarial experience study dated August 2017.

Payroll Increase:

3.50% per year. This is in compliance with Part VII of Chapter 112, Florida Statutes.

Funding Method:

Entry Age Normal Actuarial Cost Method. The following loads are applied for determination of the dollar contribution requirement:

Interest – A half year, based on the 7.50% assumption.

Salary – A full year, based on the current 6.0% average assumption.

Amortization Method:

Level Percentage of Pay, Closed.

Remaining Amortization Period:

30 Years (as of 10/01/2017).

Actuarial Asset Method:

Each year, the prior Actuarial Value of Assets is brought forward using the historical four-year geometric average of Market Value Returns (net-of-fees). It is possible that over time this technique will produce an insignificant bias above or below Market Value of Assets.

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

Fiscal Year Ended	Annual Money-Weighted Rate of Return Net of Investment Expense
09/30/2019	3.53%
09/30/2018	7.60%
09/30/2017	12.54%
09/30/2016	4.60%
09/30/2015	-1.79%
09/30/2014	10.46%
09/30/2013	10.45%

NOTES TO THE FINANCIAL STATEMENTS

(For the Year Ended September 30, 2020)

General Information about the Pension Plan

*Plan Description*

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

- a. Two District appointees,
- b. Two Members of the Department elected by the membership,
- c. Fifth Member elected by other four and appointed by District.

Full-time employees who are classified as full-time certified firefighters shall participate in the System as a condition of employment.

*Plan Membership as of October 1, 2018:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	14
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	1
Active Plan Members	<u>20</u>
	<u><u>35</u></u>

*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 Okaloosa Island Fire District Firefighters' Retirement Trust 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 Contributions: 8.0% of Salary.

District and State Contributions: Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, as provided in Chapter 112, Florida Statutes.

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	7.40%
Investment Rate of Return	7.40%

*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 August 23, 2017.

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%
Broad Market Fixed Income	20.0%	2.50%
Fixed Income (Non-Core)	2.5%	2.50%
Global Fixed Income	2.5%	3.50%
Real Estate	10.0%	4.50%
<b>Total</b>	<b>100.0%</b>	

**Discount Rate:**

The Discount Rate used to measure the Total Pension Liability was 7.40 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	\$ 16,657,038	\$ 8,824,533	\$ 7,832,505
Changes for a Year:			
Service Cost	315,021	-	315,021
Interest	1,239,028	-	1,239,028
Differences between Expected and Actual Experience	30,720	-	30,720
Changes of assumptions	227,197	-	227,197
Changes of benefit terms	(682)	-	(682)
Contributions - Employer	-	933,644	(933,644)
Contributions - State	-	-	-
Contributions - Employee	-	95,246	(95,246)
Net Investment Income	-	311,998	(311,998)
Benefit Payments, including Refunds of Employee Contributions	(901,999)	(901,999)	-
Administrative Expense	-	(61,020)	61,020
Net Changes	909,285	377,869	531,416
Reporting Period Ending September 30, 2020	\$ 17,566,323	\$ 9,202,402	\$ 8,363,921

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

	Current Discount		
	1% Decrease	Rate	1% Increase
	6.40%	7.40%	8.40%
Sponsor's Net Pension Liability	\$ 10,928,599	\$ 8,363,921	\$ 6,284,893

*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 \$263,878.

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	94,944	242,633
Changes of assumptions	540,532	-
Net difference between Projected and Actual Earnings on Pension Plan investments	46,960	-
Employer and State contributions subsequent to the measurement date	933,644	-
Total	\$ 1,616,080	\$ 242,633

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	\$	181,199
2021	\$	58,684
2022	\$	63,149
2023	\$	59,431
2024	\$	57,226
Thereafter	\$	20,114

**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 \$1,138,731.

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	106,858	145,617
Changes of assumptions	587,328	-
Net difference between Projected and Actual Earnings on Pension Plan investments	217,563	-
Employer and State contributions subsequent to the measurement date	TBD	-
Total	TBD	\$ 145,617

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		\$	161,386
2022		\$	165,851
2023		\$	162,133
2024		\$	159,928
2025		\$	42,297
Thereafter		\$	74,537

**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	315,021	281,575	331,319
Interest	1,239,028	1,183,662	1,192,561
Changes of benefit terms	(682)	(695,908)	-
Differences between Expected and Actual Experience	30,720	80,459	34,366
Changes of assumptions	227,197	-	295,819
Contributions - Buy Back	-	-	-
Benefit Payments, including Refunds of Employee Contributions	(901,999)	(778,491)	(649,774)
Net Change in Total Pension Liability	909,285	71,297	1,204,291
Total Pension Liability - Beginning	16,657,038	16,585,741	15,381,450
Total Pension Liability - Ending (a)	<u>\$ 17,566,323</u>	<u>\$ 16,657,038</u>	<u>\$ 16,585,741</u>
Plan Fiduciary Net Position			
Contributions - Employer	933,644	861,986	782,613
Contributions - State	-	37,865	36,660
Contributions - Employee	95,246	96,888	95,126
Contributions - Buy Back	-	-	-
Net Investment Income	311,998	599,470	836,918
Benefit Payments, including Refunds of Employee Contributions	(901,999)	(778,491)	(649,774)
Administrative Expense	(61,020)	(47,929)	(17,166)
Net Change in Plan Fiduciary Net Position	377,869	769,789	1,084,377
Plan Fiduciary Net Position - Beginning	8,824,533	8,054,744	6,970,367
Plan Fiduciary Net Position - Ending (b)	<u>\$ 9,202,402</u>	<u>\$ 8,824,533</u>	<u>\$ 8,054,744</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 8,363,921</u>	<u>\$ 7,832,505</u>	<u>\$ 8,530,997</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	52.39%	52.98%	48.56%
Covered Payroll <sup>1</sup>	\$ 1,190,577	\$ 1,211,105	\$ 1,189,075
Net Pension Liability as a percentage of Covered Payroll	702.51%	646.72%	717.45%

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	312,345	292,647
Interest	1,102,924	1,067,883
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	(291,603)	(290,489)
Changes of assumptions	658,466	-
Contributions - Buy Back	-	8,928
Benefit Payments, including Refunds of Employee Contributions	<u>(639,223)</u>	<u>(653,839)</u>
Net Change in Total Pension Liability	1,142,909	425,130
Total Pension Liability - Beginning	<u>14,238,541</u>	<u>13,813,411</u>
Total Pension Liability - Ending (a)	<u>\$ 15,381,450</u>	<u>\$ 14,238,541</u>
Plan Fiduciary Net Position		
Contributions - Employer	775,574	708,789
Contributions - State	45,330	43,485
Contributions - Employee	91,087	85,999
Contributions - Buy Back	-	8,928
Net Investment Income	288,447	(112,066)
Benefit Payments, including Refunds of Employee Contributions	(639,223)	(653,839)
Administrative Expense	<u>(23,642)</u>	<u>(19,947)</u>
Net Change in Plan Fiduciary Net Position	537,573	61,349
Plan Fiduciary Net Position - Beginning	<u>6,432,794</u>	<u>6,371,445</u>
Plan Fiduciary Net Position - Ending (b)	<u>\$ 6,970,367</u>	<u>\$ 6,432,794</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 8,411,083</u>	<u>\$ 7,805,747</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	45.32%	45.18%
Covered Payroll <sup>1</sup>	\$ 1,146,514	\$ 1,119,731
Net Pension Liability as a percentage of Covered Payroll	733.62%	697.11%

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	290,356	269,472
Interest	1,017,277	968,929
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	-	-
Changes of assumptions	-	-
Contributions - Buy Back	-	-
Benefit Payments, including Refunds of Employee Contributions	<u>(660,031)</u>	<u>(610,868)</u>
Net Change in Total Pension Liability	647,602	627,533
Total Pension Liability - Beginning	<u>13,165,809</u>	<u>12,538,276</u>
Total Pension Liability - Ending (a)	<u><u>\$ 13,813,411</u></u>	<u><u>\$ 13,165,809</u></u>
 Plan Fiduciary Net Position		
Contributions - Employer	673,090	723,752
Contributions - State	56,846	54,472
Contributions - Employee	79,884	83,456
Contributions - Buy Back	-	-
Net Investment Income	579,975	525,540
Benefit Payments, including Refunds of Employee Contributions	(660,031)	(610,868)
Administrative Expense	<u>(24,204)</u>	<u>(24,161)</u>
Net Change in Plan Fiduciary Net Position	705,560	752,191
Plan Fiduciary Net Position - Beginning	<u>5,665,885</u>	<u>4,913,694</u>
Plan Fiduciary Net Position - Ending (b)	<u><u>\$ 6,371,445</u></u>	<u><u>\$ 5,665,885</u></u>
 Net Pension Liability - Ending (a) - (b)	<u><u>\$ 7,441,966</u></u>	<u><u>\$ 7,499,924</u></u>
 Plan Fiduciary Net Position as a percentage of the Total Pension Liability	46.13%	43.03%
 Covered Payroll <sup>1</sup>	N/A	N/A
Net Pension Liability as a percentage of Covered Payroll	N/A	N/A

**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 of 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.

For measurement date 09/30/2018, Resolution No. 01-18 implemented benefit changes as following:

Implementation of a maximum benefit cap on the annual accrued benefit of \$100,000 per year.

The maximum annual accrued benefit is based on the normal form of annuity payment (For Retiree's Lifetime with 120 Payments Guaranteed) and may be exceeded after the application of cost-of-living adjustments (COLAs).

Any optional forms of benefit, as well as early retirement benefits, will be calculated after application of the maximum benefit amount on the normal form of payment. Also, the supplemental benefit will remain unchanged and will still be payable even if the resulting total benefit is in excess of the \$100,000 accrued benefit cap.

*Changes of assumptions:*

For measurement date 09/30/2019, amounts reported as changes of assumptions resulted from lowering the investment return from 7.50% to 7.40% per year net of investment related expenses.

For measurement date 09/30/2017, as a result of an actuarial experience study dated August 23, 2017, the following changes have been made:

- The assumed rate of investment return was lowered from 7.75% to 7.50% per year, net of investment related expenses.
- The assumed rates of salary increases were amended from a flat rate of 7.00% per year to a service-based table.
- As mandated by Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed from the rates the Florida Retirement System actuary in the July 1, 2015 actuarial valuation to the rates used in the July 1, 2016 actuarial valuation for special risk lives.
- The assumed rates of retirement were amended to remove the assumption that members eligible for normal retirement on the valuation date will continue employment for one additional year.
- The assumed rates of withdrawal were amended from an age-based table to a service-based table.

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	\$ 856,744	\$ 933,644	\$ (76,900)	\$ 1,190,577	78.42%
09/30/2018	\$ 899,851	\$ 899,851	\$ -	\$ 1,211,105	74.30%
09/30/2017	\$ 819,273	\$ 819,273	\$ -	\$ 1,189,075	68.90%
09/30/2016	\$ 820,904	\$ 820,904	\$ -	\$ 1,146,514	71.60%
09/30/2015	\$ 752,274	\$ 752,274	\$ -	\$ 1,119,731	67.18%
09/30/2014	\$ 729,936	\$ 729,936	\$ -	N/A	N/A
09/30/2013	\$ 778,224	\$ 778,224	\$ -	N/A	N/A

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

Notes to Schedule

Valuation Date: 10/01/2017 (AIS 05/31/2018)  
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: *Healthy Active Lives:*  
Female: RP2000 Generational, 100% Combined White Collar, Scale BB.  
Male: RP2000 Generational, 10% Combined White Collar / 90% Combined Healthy 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 assumed rates of mortality 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 the July 1, 2016 FRS actuarial valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

Interest Rate: 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.

Retirement Age: Age 55 and 10 years of Credited Service, or age 52 and 25 years of Credited Service. The assumed rates were approved in conjunction with an actuarial experience study dated August 2017.

Early Retirement: Commencing with the earliest Early Retirement Age (50), Members are assumed to retire with an immediate subsidized benefit at the rate of 2% per year. The assumed rates were approved in conjunction with an actuarial experience study dated August

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### Disability Rates:

Sample rates below (1201). It is assumed that 75% of Disability Retirees are service related. This assumption is consistent with those used by other plans containing Florida municipal Firefighters.

Age	Rate
20	0.03%
30	0.04%
40	0.07%
50	0.18%

### Termination Rates:

Service	Rate
0	9.0%
1	8.0%
2	7.0%
3	6.0%
4	5.0%
5-9	4.0%
10+	2.0%

The assumed rates were approved in conjunction with an actuarial experience study dated August 2017.

### Salary Increases:

Service	Increase
<3	7.0%
3-6	6.5%
7-9	6.0%
10-14	6.0%
15+	5.0%

The assumed rates were approved in conjunction with an actuarial experience study dated August 2017.

### Payroll Increase:

3.50% per year. This is in compliance with Part VII of Chapter 112, Florida Statutes.

### Funding Method:

Entry Age Normal Actuarial Cost Method. The following loads are applied for determination of the dollar contribution requirement:

Interest – A half year, based on the 7.50% assumption.

Salary – A full year, based on the current 6.0% average assumption.

### Amortization Method:

Level Percentage of Pay, Closed.

### Remaining Amortization Period:

30 Years (as of 10/01/2017).

### Actuarial Asset Method:

Each year, the prior Actuarial Value of Assets is brought forward using the historical four-year geometric average of Market Value Returns (net-of-fees). It is possible that over time this technique will produce an insignificant bias above or below Market Value of Assets.

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	\$ 8,530,997	\$ 596,548	\$ 1,998,721	\$ -
Employer and State Contributions made after 09/30/2018	-	-	933,644	-
Total Pension Liability Factors:				
Service Cost	281,575	-	-	281,575
Interest	1,183,662	-	-	1,183,662
Changes in benefit terms	(695,908)	-	-	(695,908)
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	80,459	-	80,459	-
Current year amortization of experience difference	-	(97,015)	(14,969)	(82,046)
Change in assumptions about future economic or demographic factors or other inputs	-	-	-	-
Current year amortization of change in assumptions	-	-	(152,004)	152,004
Benefit Payments, including Refunds of Employee Contributions	(778,491)	-	-	-
Net change	<u>71,297</u>	<u>(97,015)</u>	<u>847,130</u>	<u>839,287</u>
Plan Fiduciary Net Position:				
Contributions - Employer	861,986	-	(861,986)	-
Contributions - State	37,865	-	(37,865)	-
Contributions - Employee	96,888	-	-	(96,888)
Projected Net Investment Income	610,493	-	-	(610,493)
Difference between projected and actual earnings on Pension Plan investments	(11,023)	-	11,023	-
Current year amortization	-	(84,625)	(168,668)	84,043
Benefit Payments, including Refunds of Employee Contributions	(778,491)	-	-	-
Administrative Expenses	(47,929)	-	-	47,929
Net change	<u>769,789</u>	<u>(84,625)</u>	<u>(1,057,496)</u>	<u>(575,409)</u>
Ending Balance	<u>\$ 7,832,505</u>	<u>\$ 414,908</u>	<u>\$ 1,788,355</u>	<u>\$ 263,878</u>

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

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	\$ 7,832,505	\$ 414,908	\$ 1,788,355	\$ -
Employer and State Contributions made after 09/30/2019	-	-	TBD*	-
Total Pension Liability Factors:				
Service Cost	315,021	-	-	315,021
Interest	1,239,028	-	-	1,239,028
Changes in benefit terms	(682)	-	-	(682)
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	30,720	-	30,720	-
Current year amortization of experience difference	-	(97,016)	(18,806)	(78,210)
Change in assumptions about future economic or demographic factors or other inputs	227,197	-	227,197	-
Current year amortization of change in assumptions	-	-	(180,401)	180,401
Benefit Payments, including Refunds of Employee Contributions	(901,999)	-	-	-
Net change	<u>909,285</u>	<u>(97,016)</u>	<u>58,710</u>	<u>1,655,558</u>
Plan Fiduciary Net Position:				
Contributions - Employer	933,644	-	(933,644)	-
Contributions - State	-	-	-	-
Contributions - Employee	95,246	-	-	(95,246)
Projected Net Investment Income	664,310	-	-	(664,310)
Difference between projected and actual earnings on Pension Plan investments	(352,312)	-	352,312	-
Current year amortization	-	(57,425)	(239,134)	181,709
Benefit Payments, including Refunds of Employee Contributions	(901,999)	-	-	-
Administrative Expenses	(61,020)	-	-	61,020
Net change	<u>377,869</u>	<u>(57,425)</u>	<u>(820,466)</u>	<u>(516,827)</u>
Ending Balance	<u>\$ 8,363,921</u>	<u>\$ 260,467</u>	<u>TBD</u>	<u>\$ 1,138,731</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	\$ 352,312	5	\$ -	\$ 70,464	\$ 70,462	\$ 70,462	\$ 70,462	\$ 70,462	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ 11,023	5	\$ 2,203	\$ 2,205	\$ 2,205	\$ 2,205	\$ 2,205	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ (287,126)	5	\$ (57,425)	\$ (57,425)	\$ (57,425)	\$ (57,425)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ 219,748	5	\$ 43,950	\$ 43,950	\$ 43,950	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ 612,573	5	\$ 122,515	\$ 122,515	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2014	\$ (136,002)	5	\$ (27,200)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 84,043	\$ 181,709	\$ 59,192	\$ 15,242	\$ 72,667	\$ 70,462	\$ -	\$ -	\$ -	\$ -	\$ -

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	\$ 227,197	8	\$ -	\$ 28,397	\$ 28,400	\$ 28,400	\$ 28,400	\$ 28,400	\$ 28,400	\$ 28,400	\$ 28,400	\$ -	\$ -
2017	\$ 295,819	7	\$ 42,260	\$ 42,260	\$ 42,260	\$ 42,260	\$ 42,260	\$ 42,260	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ 658,466	6	\$ 109,744	\$ 109,744	\$ 109,744	\$ 109,744	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 152,004	\$ 180,401	\$ 180,404	\$ 180,404	\$ 70,660	\$ 70,660	\$ 28,400	\$ 28,400	\$ 28,400	\$ -	\$ -

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	\$ 30,720	8	\$ -	\$ 3,840	\$ 3,840	\$ 3,840	\$ 3,840	\$ 3,840	\$ 3,840	\$ 3,840	\$ 3,840	\$ -	\$ -
2018	\$ 80,459	8.0	\$ 10,060	\$ 10,057	\$ 10,057	\$ 10,057	\$ 10,057	\$ 10,057	\$ 10,057	\$ 10,057	\$ -	\$ -	\$ -
2017	\$ 34,366	7.0	\$ 4,909	\$ 4,909	\$ 4,909	\$ 4,909	\$ 4,909	\$ 4,909	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ (291,603)	6.0	\$ (48,600)	\$ (48,601)	\$ (48,601)	\$ (48,601)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ (290,489)	6.0	\$ (48,415)	\$ (48,415)	\$ (48,415)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ (82,046)	\$ (78,210)	\$ (78,210)	\$ (29,795)	\$ 18,806	\$ 18,806	\$ 13,897	\$ 13,897	\$ 3,840	\$ -	\$ -