

BONITA SPRINGS FIRE CONTROL AND RESCUE DISTRICT  
FIREFIGHTER'S RETIREMENT SYSTEM

ACTUARIAL VALUATION  
AS OCTOBER 1, 2018

CONTRIBUTIONS APPLICABLE TO THE  
PLAN/FISCAL YEAR ENDING SEPTEMBER 30, 2020

GASB 67/68 DISCLOSURE INFORMATION  
AS OF SEPTEMBER 30, 2018



**FOSTER & FOSTER**  
ACTUARIES AND CONSULTANTS

January 18, 2019

Board of Trustees  
Bonita Springs Fire  
Control & Rescue District  
Firefighters' Retirement System  
27701 Bonita Grande Dr.  
Bonita Springs, FL 34135

Re: Bonita Springs Fire Control and Rescue District Firefighter's Retirement System

Dear Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the Bonita Springs Fire Control and Rescue District Firefighter's Retirement System. 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 Bonita Springs Fire Control and Rescue 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, 2017. The total pension liability was rolled-forward from the valuation date to the plan's fiscal year ending September 30, 2018 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 is familiar with the immediate and long-term aspects of pension valuations, and meets 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 Bonita Springs Fire Control and Rescue District, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the Firefighter's Retirement System. 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 me at 239-433-5500.

Respectfully submitted,

Foster & Foster, Inc.

By:



Christine M. O'Neal, FSA, EA, MAAA  
Enrolled Actuary #17-7916

CMO/lke

Enclosures

## TABLE OF CONTENTS

Section	Title	Page
I	Introduction	
	a. Summary of Report	5
	b. Changes Since Prior Valuation	7
	c. Contribution Impact of Annual Changes	8
	d. Comparative Summary of Principal Valuation Results	9
II	Valuation Information	
	a. Reconciliation of Unfunded Actuarial Accrued Liabilities	15
	b. Detailed Actuarial (Gain)/Loss Analysis	18
	c. Actuarial Assumptions and Methods	19
	d. Glossary	21
	e. Partial History of Premium Tax Refunds	23
III	Trust Fund	24
IV	Member Statistics	
	a. Statistical Data	30
	b. Age and Service Distribution	31
	c. Valuation Participant Reconciliation	32
V	Summary of Current Plan	33
VI	Governmental Accounting Standards Board Statements No. 67 and No. 68 Disclosure Information	36

## SUMMARY OF REPORT

The regular annual actuarial valuation of the Bonita Springs Fire Control and Rescue District Firefighter's Retirement System, performed as of October 1, 2018, 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, 2020.

The contribution requirements, compared with those set forth in the October 1, 2017 actuarial valuation report, are as follows:

Valuation Date Applicable to Fiscal Year Ending	10/1/2018 <u>9/30/2020</u>	10/1/2017 <u>9/30/2019</u>
Minimum Required Contribution % of Projected Annual Payroll	56.6%	67.5%
Member Contributions (Est.) % of Projected Annual Payroll	7.0%	7.0%
City And State Required Contribution % of Projected Annual Payroll	49.6%	60.5%
State Contribution (Est.) <sup>1</sup> % of Projected Annual Payroll	\$554,750 6.2%	\$554,750 6.2%
District Required Contribution <sup>2</sup> % of Projected Annual Payroll	43.4%	54.3%

<sup>1</sup> Represents the amount received in calendar 2018. The District may use up to \$1,000,155.43, if received, in determining their bottom line funding requirement

<sup>2</sup> The required contribution from the combination of District and State sources for the year ending September 30, 2020, is 49.6% of the actual payroll realized in that year. As a budgeting tool, the District may contribute 43.4% of each Member's Salary and then make a one-time adjustment to account for the actual State Monies received. Please note that a shortfall contribution of \$110,517.40 is due in addition to the above stated requirements for the fiscal year ending September 30, 2019.

As you can see, the Total Recommended Contribution shows a decrease when compared to the results determined in the October 1, 2017 actuarial valuation report. This decrease is primarily attributable to paying off the unfunded actuarial accrued liability loss base from 2008.

Plan experience was unfavorable overall on the basis of the plan's actuarial assumptions. Sources of unfavorable experience included less turnover than expected and an investment return of 7.12% (Actuarial Asset Basis) which fell short of the 7.60% assumption. These losses were offset in part by gains associated with favorable retirement experience.

The balance of this Report presents additional details of the actuarial valuation and the general operation of the Fund. The undersigned would be pleased to meet with the Board of Trustees in order to discuss the Report and any pending questions concerning its contents.

Respectfully submitted,

FOSTER & FOSTER, INC.

By:   
Christine M. O'Neal, FSA, EA, MAAA

By:   
Patrick T. Donlan, ASA, EA, MAAA

## CHANGES SINCE PRIOR VALUATION

### Plan Changes

There have been no changes in benefits since the prior valuation.

### Actuarial Assumption/Method Changes

Since the prior valuation the Unfunded Actuarial Accrued Liability bases are combined into a single base amortized over 13.5 years with 0% payroll growth and all future bases will be amortized over 15 years. The purpose of this change is to reduce the volatility of the amortization payment as under the prior approach, much volatility was anticipated.

## CONTRIBUTION IMPACT OF ANNUAL CHANGES

(1) Contribution Determined as of October 1, 2017	53.4%
(2) Summary of Contribution Impact by component:	
Change in State Contribution Percentage	0.9%
Change in Normal Cost Rate	-0.1%
Change in Administrative Expense Percentage	-0.2%
Payroll Change Effect on UAAL Amortization	-3.8%
Investment Return (Actuarial Asset Basis)	0.5%
Salary Increases	0.4%
Active Decrements	0.2%
Inactive Mortality	-0.8%
UAAL 2008 Base Paid Off	-5.7%
Other	-1.4%
Total Change in Contribution	-10.0%
(3) Contribution Determined as of October 1, 2018	43.4%



## COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	New Method <u>10/1/2018</u>	Old Method <u>10/1/2018</u>	<u>10/1/2017</u>
A. Participant Data			
Actives	100	100	86
Service Retirees	43	43	40
DROP Retirees	2	2	5
Beneficiaries	2	2	2
Disability Retirees	2	2	2
Terminated Vested	<u>4</u>	<u>4</u>	<u>3</u>
Total	153	153	138
Total Annual Payroll	\$8,918,131	\$8,918,131	\$7,791,232
Payroll Under Assumed Ret. Age	8,918,131	8,918,131	7,791,232
Annual Rate of Payments to:			
Service Retirees	3,586,669	4,479,559	3,121,412
DROP Retirees	152,102	152,102	473,163
Beneficiaries	45,922	45,922	45,922
Disability Retirees	82,267	82,267	82,267
Terminated Vested	57,149	57,149	57,149
B. Assets			
Actuarial Value (AVA) <sup>1</sup>	68,184,358	68,184,358	63,400,968
Market Value (MVA) <sup>1</sup>	70,794,857	70,794,857	64,902,949
C. Liabilities			
Present Value of Benefits			
Actives			
Retirement Benefits	55,820,098	55,820,098	49,253,508
Disability Benefits	503,958	503,958	444,262
Death Benefits	298,499	298,499	270,032
Vested Benefits	3,615,914	3,615,914	3,372,904
Refund of Contributions	134,758	134,758	88,907
Service Retirees	45,502,055	45,502,055	41,289,273
DROP Retirees <sup>1</sup>	2,790,021	2,790,021	8,032,874
Beneficiaries	299,166	299,166	320,473
Disability Retirees	951,217	951,217	960,092
Terminated Vested	408,410	408,410	377,243
Share Plan Balances <sup>1</sup>	<u>0</u>	<u>0</u>	<u>0</u>
Total	110,324,096	110,324,096	104,409,568

C. Liabilities - (Continued)	New Method <u>10/1/2018</u>	Old Method <u>10/1/2018</u>	<u>10/1/2017</u>
Present Value of Future Salaries	79,333,735	79,333,735	68,149,588
Present Value of Future Member Contributions	5,553,361	5,553,361	4,770,471
Normal Cost (Retirement)	2,056,057	2,056,057	1,803,390
Normal Cost (Disability)	33,661	33,661	28,976
Normal Cost (Death)	15,458	15,458	13,563
Normal Cost (Vesting)	194,962	194,962	175,116
Normal Cost (Refunds)	<u>17,671</u>	<u>17,671</u>	<u>12,231</u>
Total Normal Cost	2,317,809	2,317,809	2,033,276
Present Value of Future Normal Costs	19,951,480	19,951,480	17,209,951
Accrued Liability (Retirement)	38,066,270	38,066,270	33,978,046
Accrued Liability (Disability)	217,874	217,874	201,201
Accrued Liability (Death)	170,667	170,667	158,132
Accrued Liability (Vesting)	1,950,545	1,950,545	1,870,380
Accrued Liability (Refunds)	16,391	16,391	11,903
Accrued Liability (Inactives) <sup>1</sup>	49,950,869	49,950,869	50,979,955
Share Plan Balances <sup>1</sup>	<u>0</u>	<u>0</u>	<u>0</u>
Total Actuarial Accrued Liability (EAN AL)	90,372,616	90,372,616	87,199,617
Unfunded Actuarial Accrued Liability (UAAL)	22,188,258	22,188,258	23,798,649
Funded Ratio (AVA / EAN AL)	75.4%	75.4%	72.7%

D. Actuarial Present Value of Accrued Benefits	New Method <u>10/1/2018</u>	Old Method <u>10/1/2018</u>	<u>10/1/2017</u>
Vested Accrued Benefits			
Inactives + Share Plan Balances <sup>1</sup>	49,950,869	49,950,869	50,979,955
Actives	18,072,814	18,072,814	16,137,209
Member Contributions	<u>4,756,007</u>	<u>4,756,007</u>	<u>4,261,795</u>
Total	72,779,690	72,779,690	71,378,959
Non-vested Accrued Benefits	<u>5,518,221</u>	<u>5,518,221</u>	<u>4,688,795</u>
Total Present Value			
Accrued Benefits (PVAB)	78,297,911	78,297,911	76,067,754
Funded Ratio (MVA / PVAB)	90.4%	90.4%	85.3%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:			
Plan Amendments	0	0	
Assumption Changes	0	0	
New Accrued Benefits	0	2,173,486	
Benefits Paid	0	(5,514,912)	
Interest	0	5,571,583	
Other	<u>0</u>	<u>0</u>	
Total	0	2,230,157	

Valuation Date	New Method 10/1/2018	Old Method 10/1/2018	10/1/2017
Applicable to Fiscal Year Ending	<u>9/30/2020</u>	<u>9/30/2020</u>	<u>9/30/2019</u>

#### E. Pension Cost

Normal Cost (with interest) % of Total Annual Payroll <sup>2</sup>	27.0	27.0	27.1
Administrative Expenses (with interest) % of Total Annual Payroll <sup>2</sup>	0.6	0.6	0.8
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 21 years (as of 10/1/2018, with interest) % of Total Annual Payroll <sup>2</sup>	29.0	29.0	39.6
Minimum Required Contribution % of Total Annual Payroll <sup>2</sup>	56.6	56.6	67.5
Expected Member Contributions % of Total Annual Payroll <sup>2</sup>	7.0	7.0	7.0
Expected District and State Contribution % of Total Annual Payroll <sup>2</sup>	49.6	49.6	60.5

#### F. Past Contributions

Plan Years Ending:	<u>9/30/2018</u>
Total Required Contribution	5,818,874
District and State Requirement	5,229,408
Actual Contributions Made:	
Members (excluding buyback)	589,466
District	4,674,658
State	<u>554,750</u>
Total	5,818,874

#### G. Net Actuarial (Gain)/Loss

327,394

<sup>1</sup> The asset values and liabilities include accumulated DROP and Share Plan Balances as of 9/30/2018 and 9/30/2017.

<sup>2</sup> Contributions developed as of 10/1/2018 are expressed as a percentage of total annual payroll at 10/1/2018 of \$8,918,131.

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

<u>Year</u>	<u>Projected Unfunded Actuarial Accrued Liability</u>
2018	22,188,258
2019	21,189,394
2020	20,114,616
2025	13,384,026
2030	3,676,367
2031	1,270,599
2032	0

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

	<u>Actual</u>	<u>Assumed</u>
Year Ended 9/30/2018	5.99%	5.33%
Year Ended 9/30/2017	5.20%	4.89%
Year Ended 9/30/2016	6.05%	4.71%
Year Ended 9/30/2015	5.79%	4.67%
Year Ended 9/30/2014	1.95%	6.00%

(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 9/30/2018	8.79%	7.12%	7.60%
Year Ended 9/30/2017	12.82%	7.61%	7.60%
Year Ended 9/30/2016	7.98%	8.64%	7.60%
Year Ended 9/30/2015	-0.65%	11.25%	7.60%
Year Ended 9/30/2014	10.95%	10.90%	8.00%

(iii) Average Annual Payroll Growth

(a) Payroll as of:	10/1/2018	\$8,918,131
	10/1/2008	7,167,721
(b) Total Increase		24.42%
(c) Number of Years		10.00
(d) Average Annual Rate		2.21%

## 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.



Christine M. O'Neal, FSA, EA, MAAA  
Enrolled Actuary #17-7916

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  
Old Method

(1)	Unfunded Actuarial Accrued Liability as of October 1, 2017	\$23,798,649
(2)	Sponsor Normal Cost developed as of October 1, 2017	1,487,890
(3)	Expected administrative expenses for the year ended September 30, 2018	57,594
(4)	Expected interest on (1), (2) and (3)	1,923,966
(5)	Sponsor contributions to the System during the year ended September 30, 2018	5,229,408
(6)	Expected interest on (5)	177,827
(7)	Expected Unfunded Actuarial Accrued Liability as of September 30, 2018 (1)+(2)+(3)+(4)-(5)-(6)	21,860,864
(8)	Change to UAAL due to Assumption Change	0
(9)	Change to UAAL due to Actuarial (Gain)/Loss	327,394
(10)	Unfunded Actuarial Accrued Liability as of October 1, 2018	22,188,258

Type of <u>Base</u>	Date <u>Established</u>	Years <u>Remaining</u>	10/1/2018 <u>Amount</u>	Amortization <u>Amount</u>
(A)	10/1/1994	16	1,134,294	108,724
(B)	10/1/1998	10	211,139	27,527
(C)	10/1/1999	11	129,840	15,823
(D)	10/1/2000	12	(150,149)	(17,242)
(E)	10/1/2000	12	95,737	10,994
(F)	10/1/2001	13	410,188	44,680
(G)	10/1/2002	14	706,626	73,420
(H)	10/1/2004	16	5,077,695	486,708
(I)	10/1/2005	17	1,705,611	157,919
(J)	10/1/2006	18	787,651	70,666
(K)	10/1/2006	18	2,645,045	237,307
(J)	10/1/2007	19	395,448	34,475
(L)	10/1/2007	19	992,355	86,512
(M)	10/1/2008	10	(410,398)	(53,504)
(J)	10/1/2009	1	127,608	127,608
(N)	10/1/2009	21	1,612,452	133,679
(J)	10/1/2010	2	571,471	294,663
(O)	10/1/2010	12	851,641	97,796
(P)	10/1/2010	12	4,466,925	512,947
(J)	10/1/2011	3	963,234	341,344
(Q)	10/1/2012	4	(269,307)	(73,765)

Type of <u>Base</u>	Date <u>Established</u>	Years <u>Remaining</u>	10/1/2018 <u>Amount</u>	Amortization <u>Amount</u>
(Q)	10/1/2013	5	(514,665)	(116,186)
(Q)	10/1/2014	6	(1,319,690)	(255,692)
(R)	10/1/2014	16	68,020	6,520
(Q)	10/1/2015	7	(698,452)	(119,424)
(Q)	10/1/2016	8	(20,868)	(3,213)
(S)	10/1/2016	18	1,989,479	178,491
(J)	10/1/2017	9	301,934	42,522
(J)	10/1/2018	10	<u>327,394</u>	<u>42,683</u>
			22,188,258	2,493,982

<u>Code</u>	<u>Base Type</u>
(A)	DB Plan Start Up.
(B)	COLA for 10 years beginning 5 years after Retirement.
(C)	Removed 5 Yr Deferral Period from COLA and age 50 with 25 years of Credited Service Normal Retirement.
(D)	Method Change (4 Year Asset Smoothing).
(E)	Increase Benefit Accrual from 3.00 to 3.06%.
(F)	COLA Duration change from 10 to 14 years.
(G)	COLA Duration change from 14 to 17 years and Benefit Accrual from 3.06 to 3.18%.
(H)	Method Change (EAN Method) and Benefit Accrual from 3.18 to 3.25%.
(I)	Actuarial Loss and Benefit Accrual from 3.25 to 3.33%.
(J)	Actuarial Loss.
(K)	Benefit Accrual from 3.33 to 3.39% and Early Retirement Incentive.
(L)	Benefit Accrual from 3.39% to 3.58%.
(M)	Method Change.
(N)	Include Longevity in Pensionable Earnings.
(O)	Mortality Table Change to RP2000.
(P)	Benefit Change (Early Ret Incentive).
(Q)	Actuarial Gain.
(R)	Assumption Changes - Interest Rate, Salary Scale & Turnover Rates
(S)	Mortality Table Change pursuant to Chapter 2015-157, Laws of Florida



# RECONCILIATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES

## New Method

(1)	Unfunded Actuarial Accrued Liability as of October 1, 2017	\$23,798,649
(2)	Sponsor Normal Cost developed as of October 1, 2017	1,487,890
(3)	Expected administrative expenses for the year ended September 30, 2018	57,594
(4)	Expected interest on (1), (2) and (3)	1,923,966
(5)	Sponsor contributions to the System during the year ended September 30, 2018	5,229,408
(6)	Expected interest on (5)	177,827
(7)	Expected Unfunded Actuarial Accrued Liability as of September 30, 2018 (1)+(2)+(3)+(4)-(5)-(6)	21,860,864
(8)	Change to UAAL due to Assumption Change	0
(9)	Change to UAAL due to Actuarial (Gain)/Loss	327,394
(10)	Unfunded Actuarial Accrued Liability as of October 1, 2018	22,188,258

Type of <u>Base</u>	Date <u>Established</u>	Years <u>Remaining</u>	10/1/2018 <u>Amount</u>	Amortization <u>Amount</u>
Consolidation	10/1/2018	13.50	22,188,258	2,495,513

## DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1) Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2017	\$23,798,649
(2) Expected UAAL as of October 1, 2018	21,860,864
(3) Summary of Actuarial (Gain)/Loss, by component:	
Investment Return (Actuarial Asset Basis)	304,959
Salary Increases	240,666
Active Decrements	129,572
Inactive Mortality	(552,023)
Other	<u>204,220</u>
Increase in UAAL due to (Gain)/Loss	327,394
Assumption Changes	<u>0</u>
(4) Actual UAAL as of October 1, 2018	\$22,188,258

## 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, 2016 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

### Interest Rate

7.60% 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>Assumed Rate</u>
Years 1-5	10.0%
Greater than 5 years	4.0%

These rates are based on the results of an experience study issued July 29, 2014.

### Payroll Growth

0.00% (prior assumption 1.08%). This assumption cannot exceed the ten-year average payroll growth, in compliance with Part VII of Chapter 112, Florida Statutes.

Termination Rates

<u>Credited Service</u>	<u>Assumed Rate</u>
First Year	6.0%
Next 4 Years	3.0%
Greater than 5 Years	2.0%

These rates are based on the results of an experience study issued July 29, 2014.

Disability Rates

See Table below. It is assumed that 75% of disablements and active Member deaths are service related.

<u>Age</u>	<u>% Becoming Disabled During the Year</u>
20	0.03%
30	0.04
40	0.07
50	0.18

These rates are consistent with rates used in other fire plans.

Retirement Age

Earlier of Age 55 and 10 years of service or Age 50 and 25 years of service. Also, any member who has reached Normal Retirement is assumed to continue employment for one additional year. This assumption is deemed reasonable based on plan provisions and is supported by the July 29, 2014 experience study.

Early Retirement

Commencing upon a member's eligibility for Early Retirement (Age 50 with 10 years of credited service), members are assumed to retire with an immediate subsidized benefit at the rate of 5% per year. This assumption is deemed reasonable based on plan provisions and is supported by the July 29, 2014 experience study.

Administrative Expenses

\$53,508 annually, based on actual expenses incurred in the prior fiscal year.

Funding Method

Entry Age Normal Actuarial Cost Method.

Asset Valuation Method

Each year, the prior Actuarial Value of Assets is brought forward utilizing the historical geometric 4-year average Market Value return. It is possible that over time this technique will produce an insignificant bias above or below Market Value.

## GLOSSARY

Total Annual Payroll is the projected annual rate of pay for the fiscal year following 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.

Normal (Current Year's) Cost is the current year's cost for benefits yet to be funded.

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.

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.

# PARTIAL HISTORY OF PREMIUM TAX REFUNDS

<u>Received During Fiscal Year</u>	<u>Amount</u>	<u>Increase from Previous Year</u>
1998	71,670.43	_____ %
1999	83,576.24	16.6%
2000	113,991.40	36.4%
2001	142,687.43	25.2%
2002	204,053.35	43.0%
2003	266,383.07	30.5%
2004	308,557.20	15.8%
2005	357,891.78	16.0%
2006	440,565.24	23.1%
2007	518,217.57	17.6%
2008	638,819.90	23.3%
2009	603,170.07	-5.6%
2010	525,706.56	-12.8%
2011	548,627.86	4.4%
2012	569,492.15	3.8%
2013	552,532.41	-3.0%
2014	583,891.66	5.7%
2015	585,583.85	0.3%
2016	567,161.77	-3.1%
2017	550,061.99	-3.0%
2018	554,750.22	0.9%

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2018

<u>ASSETS</u>	COST VALUE	MARKET VALUE
Cash and Cash Equivalents:		
Money Market	2,952,102.05	2,952,102.05
Cash	42,471.02	42,471.02
Total Cash and Equivalents	2,994,573.07	2,994,573.07
Receivables:		
Member Contributions in Transit	22,085.62	22,085.62
District Contributions in Transit	171,005.24	171,005.24
Additional District Contributions	110,517.40	110,517.40
From General Employees' Trust Fund	197,839.80	197,839.80
Investment Income	21,942.85	21,942.85
Total Receivable	523,390.91	523,390.91
Investments:		
Fixed Income	3,539,393.06	15,298,886.56
Equities	30,333,787.02	37,041,790.75
Mutual Funds:		
Equity	4,577,849.58	9,529,627.85
Pooled/Common/Commingled Funds:		
Real Estate	3,933,748.48	5,406,657.14
Total Investments	42,384,778.14	67,276,962.30
Total Assets	45,902,742.12	70,794,926.28
<u>LIABILITIES</u>		
Prepaid Member Contribution	69.42	69.42
Total Liabilities	69.42	69.42
NET POSITION RESTRICTED FOR PENSIONS	45,902,672.70	70,794,856.86



STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
FOR THE YEAR ENDED SEPTEMBER 30, 2018  
Market Value Basis

ADDITIONS

Contributions:

Member	589,466.28
Buy-Back	9,380.64
District	4,674,657.78
State	554,750.22

Total Contributions	5,828,254.92
---------------------	--------------

Investment Income:

Net Realized Gain (Loss)	2,228,594.84
Unrealized Gain (Loss)	2,526,682.17
Net Increase in Fair Value of Investments	4,755,277.01
Interest & Dividends	1,254,624.76
Less Investment Expense <sup>1</sup>	(377,828.39)

Net Investment Income	5,632,073.38
-----------------------	--------------

Total Additions	11,460,328.30
-----------------	---------------

DEDUCTIONS

Distributions to Members:

Benefit Payments	3,475,954.26
Lump Sum DROP Distributions	2,032,066.12
Refunds of Member Contributions	6,891.69

Total Distributions	5,514,912.07
---------------------	--------------

Administrative Expense	53,508.44
------------------------	-----------

Total Deductions	5,568,420.51
------------------	--------------

Net Increase in Net Position	5,891,907.79
------------------------------	--------------

NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year	64,902,949.07
-----------------------	---------------

End of the Year	70,794,856.86
-----------------	---------------

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

ACTUARIAL ASSET VALUATION  
SEPTEMBER 30, 2018

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>	
09/30/2015	-0.65%	
09/30/2016	7.98%	
09/30/2017	12.82%	
09/30/2018	8.79%	
Annualized Rate of Return for prior four (4) years:		7.12%
(A) 10/01/2017 Actuarial Assets:		\$63,400,967.56
(I) Net Investment Income:		
1. Interest and Dividends	1,254,624.76	
2. Realized Gains (Losses)	2,228,594.84	
3. Change in Actuarial Value	1,418,164.91	
4. Investment Related Expenses	(377,828.39)	
Total		4,523,556.12
(B) 10/01/2018 Actuarial Assets:		\$68,184,358.09
Actuarial Asset Rate of Return = $2I/(A+B-I)$ :		7.12%
10/01/2018 Limited Actuarial Assets:		\$68,184,358.09
10/01/2018 Market Value of Assets:		\$70,794,856.86
Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis)		(\$304,958.84)

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

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS  
SEPTEMBER 30, 2018  
Actuarial Asset Basis

REVENUES

Contributions:		
Member	589,466.28	
Buy-Back	9,380.64	
District	4,674,657.78	
State	554,750.22	
Total Contributions		5,828,254.92
Earnings from Investments:		
Interest & Dividends	1,254,624.76	
Net Realized Gain (Loss)	2,228,594.84	
Change in Actuarial Value	1,418,164.91	
Total Earnings and Investment Gains		4,901,384.51
EXPENDITURES		
Distributions to Members:		
Benefit Payments	3,475,954.26	
Lump Sum DROP Distributions	2,032,066.12	
Refunds of Member Contributions	6,891.69	
Total Distributions		5,514,912.07
Expenses:		
Investment related <sup>1</sup>	377,828.39	
Administrative	53,508.44	
Total Expenses		431,336.83
Change in Net Assets for the Year		4,783,390.53
Net Assets Beginning of the Year		63,400,967.56
Net Assets End of the Year <sup>2</sup>		68,184,358.09

<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.

DEFERRED RETIREMENT OPTION PLAN ACTIVITY  
October 1, 2017 to September 30, 2018

Beginning of the Year Balance	1,966,596.55
Plus Additions	531,873.31
Investment Return Earned	49,652.46
Less Distributions	(2,032,066.12)
End of the Year Balance	516,056.20

RECONCILIATION OF DISTRICT'S SHORTFALL/(PREPAID) CONTRIBUTION  
FOR THE FISCAL YEAR ENDED (FYE) SEPTEMBER 30, 2018

(1) Total Required Contribution Rate	69.1%
(2) Pensionable Payroll Derived from Member Contributions	\$8,420,946.86
(3) Total Required Contribution (1) x (2)	5,818,874.28
(4) Less Actual Member Contributions	(589,466.28)
(5) Less Allowable State Contribution	<u>(554,750.22)</u>
(6) Equals Required District Contribution for Fiscal 2018	4,674,657.78
(7) Less 2017 Prepaid Contribution	0.00
(8) Less Actual District Contributions	<u>(4,564,140.38)</u>
(9) Equals District's Shortfall/(Prepaid) Contribution as of September 30, 2018	\$110,517.40

## STATISTICAL DATA

	<u>10/1/2015</u>	<u>10/1/2016</u>	<u>10/1/2017</u>	<u>10/1/2018</u>
<u>Actives</u>				
Number	78	79	86	100
Average Current Age	39.8	39.8	39.1	38.9
Average Age at Employment	28.9	28.5	28.2	28.8
Average Past Service	10.9	11.3	10.9	10.1
Average Annual Salary	\$87,351	\$90,915	\$90,596	\$89,181
<u>Service Retirees</u>				
Number	32	37	40	43
Average Current Age	56.2	57.9	58.6	59.6
Average Annual Benefit	\$73,708	\$76,053	\$78,035	\$83,411
<u>DROP Retirees</u>				
Number	11	7	5	2
Average Current Age	58.3	57.6	57.0	55.3
Average Annual Benefit	\$80,797	\$85,564	\$94,633	\$76,051
<u>Beneficiaries</u>				
Number	1	2	2	2
Average Current Age	73.6	67.7	68.7	69.7
Average Annual Benefit	\$10,967	\$22,961	\$22,961	\$22,961
<u>Disability Retirees</u>				
Number	1	1	2	2
Average Current Age	50.6	51.6	48.4	49.4
Average Annual Benefit	\$42,149	\$42,149	\$41,134	\$41,134
<u>Terminated Vested</u>				
Number	3	3	3	4
Average Current Age <sup>1</sup>	39.1	40.1	41.1	44.9
Average Annual Benefit <sup>2</sup>	\$28,575	\$28,575	\$28,575	\$28,575

<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	1	3	0	0	0	0	0	0	0	0	0	4
25 - 29	2	5	0	0	0	2	0	0	0	0	0	9
30 - 34	2	5	1	2	0	4	6	0	0	0	0	20
35 - 39	0	5	1	1	0	5	8	1	0	0	0	21
40 - 44	0	2	0	0	0	0	10	4	0	0	0	16
45 - 49	1	0	0	1	0	2	4	11	4	0	0	23
50 - 54	0	0	0	0	0	0	1	2	1	1	0	5
55 - 59	0	0	0	0	0	0	0	1	1	0	0	2
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	6	20	2	4	0	13	29	19	6	1	0	100

## VALUATION PARTICIPANT RECONCILIATION

### 1. Active lives

a. Number in prior valuation 10/1/2017	86
b. Terminations	
i. Vested (partial or full) with deferred benefits	0
ii. Non-vested or full lump sum distribution received	(1)
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	0
e. Retired	0
f. DROP	(1)
g. Continuing participants	84
h. New entrants	16
i. Total active life participants in valuation	100

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

	Service Retirees, Vested Receiving <u>Benefits</u>	DROP <u>Benefits</u>	Receiving Death <u>Benefits</u>	Receiving Disability <u>Benefits</u>	Vested <u>Deferred</u>	<u>Total</u>
a. Number prior valuation	40	5	2	2	3	52
Retired	3	(3)	0	0	0	0
DROP	0	1	0	0	0	1
Vested Deferred	0	0	0	0	1	1
Death, With Survivor	0	0	0	0	0	0
Death, No Survivor	0	(1)	0	0	0	(1)
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	43	2	2	2	4	53



## SUMMARY OF CURRENT PLAN (Through Resolution No. 17-08-01)

<u>Latest Amendment Date</u>	August 14, 2017
<u>Eligibility</u>	Full-time employees who are classified as full-time Firefighters shall participate in the System as a condition of employment.
<u>Credited Service</u>	Total years and fractional parts of years of service as a Firefighter with the District.
<u>Salary</u>	Basic compensation, including incentive pay and longevity pay, plus tax deferred and tax-exempt items of income.
<u>Average Final Compensation</u>	Average Salary for the highest 5 years during the 10 years immediately preceding retirement or termination.
<u>Member Contributions</u>	7.00% of Salary.
<u>District and State Contributions</u>	Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, as provided in Chapter 112, <u>Florida Statutes</u> . In no event will the District's contribution be less than 15% of the Members' Salary.
<u>Normal Retirement</u>	
Date	Earlier of age 55 and 10 years of Credited Service, or age 50 and 25 years of Credited Service.
Benefit	3.58% (3.00% for Firefighters hired after June 1, 2010) of Average Final Compensation <u>times</u> Credited Service
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% per year.

Cost of Living Adjustment

Normal and Early Service Retirees after January 1, 2000 receive 3% annual benefit increases for 17 years (12 years for Firefighters hired after June 1, 2010), commencing 1 year after 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 (Service Incurred).

Duration

Payable for life (with 120 payments guaranteed), or until recovery (as determined by the Board). Optional forms of payment 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

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

## Deferred Retirement Option Plan

Eligibility	Satisfaction of Normal Retirement requirements (earlier of (1) Age 55 with 10 years of Credited Service, or (2) Age 50 with 25 years of Credited Service).
Participation	Not to exceed 60 months.
Rate of Return	At the Member's election: (1) 6.5% annual rate, or (2) actual net rate of investment return (total return net of brokerage commissions, management fees, and transaction costs), credited each fiscal quarter. One change between the above is allowed.
Form of Distribution	Cash lump sum (options available) at termination of employment.

## Chapter 175 Share Accounts

Effective March 1, 2010, a share plan was established pursuant to Chapter 175, Florida Statutes.

For plan years on or after October 1, 2009, all premium tax revenues received by the District in excess of \$1,000,155 shall be allocated to the participants' share accounts as follows:

- Members employed on preceding September 30 receive one share for each month of credited service.
- Interest equal to the System's actual net rate of investment return for the preceding plan year is credited each January 1.

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2018

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Money Market	2,952,102
Cash	42,471
Total Cash and Equivalents	2,994,573
Receivables:	
Member Contributions in Transit	22,086
District Contributions in Transit	171,005
Additional District Contributions	110,517
From General Employees' Trust Fund	197,840
Investment Income	21,943
Total Receivable	523,391
Investments:	
Fixed Income	15,298,886
Equities	37,041,791
Mutual Funds:	
Equity	9,529,628
Pooled/Common/Commingled Funds:	
Real Estate	5,406,657
Total Investments	67,276,962
Total Assets	70,794,926
Total Liabilities	0
NET POSITION RESTRICTED FOR PENSIONS	70,794,926

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
FOR THE YEAR ENDED SEPTEMBER 30, 2018  
Market Value Basis

ADDITIONS

## Contributions:

Member	589,466	
Buy-Back	9,381	
District	4,674,658	
State	554,750	
Total Contributions		5,828,255
Investment Income:		
Net Increase in Fair Value of Investments	4,755,277	
Interest & Dividends	1,254,625	
Less Investment Expense <sup>1</sup>	(377,829)	
Net Investment Income		5,632,073
Total Additions		11,460,328

DEDUCTIONS

## Distributions to Members:

Benefit Payments	3,475,954	
Lump Sum DROP Distributions	2,032,066	
Lump Sum Share Distributions	0	
Refunds of Member Contributions	6,892	
Total Distributions		5,514,912
Administrative Expense		53,508
Total Deductions		5,568,420
Net Increase in Net Position		5,891,908
NET POSITION RESTRICTED FOR PENSIONS		
Beginning of the Year		64,903,018
End of the Year		70,794,926

<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, 2018)

### 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, and a
- c. Fifth Member elected by other four and appointed by the District.

#### *Plan Membership as of October 1, 2017:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	49
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	3
Active Plan Members	86
	138

#### *Benefits Provided*

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

##### Normal Retirement:

Date: Earlier of age 55 and 10 years of Credited Service, or age 50 and 25 years of Credited Service.

Benefit: 3.58% (3.00% for Firefighters hired after June 1, 2010) of Average Final Compensation times Credited Service.

##### Early Retirement:

Date: Age 50 and 10 Years of Credited Service.

Benefit: Accrued benefit, reduced 3% per year.

##### Cost of Living Adjustment:

Normal and Early service Retirees after January 1, 2000 receive 3% annual benefit increases for 17 years (12 years for Firefighters hired after June 1, 2010), commencing 1 year after 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 Retirement:

Service Incurred: Covered from Date of Employment

Non-Service Incurred: 10 years of Credited Service.

Benefit accrued to date of disability but not less than 42% of Average Final Compensation (Service Incurred).

##### Pre-Retirement Death Benefits:

Vested: Monthly accrued benefit payable to designated beneficiary for 10 years.

Non-Vested: Refund of accumulated contributions without interest.

##### Chapter 175 Share Accounts:

Effective March 1, 2010, a share plan was established pursuant to Chapter 175, Florida Statutes.

For plan years on or after October 1, 2009, all premium tax revenues received by the District in excess of \$1,000,155 shall be allocated to the participants' share accounts as follows:

Members employed on preceding September 30 receive one share for each month of credited service.

Interest equal to the System's actual net rate of investment return for the preceding plan year is credited each January 1.

#### *Contributions*

Member Contributions: 7.0% 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. In no event will the District's contribution be less than 15% of the Member's Salary.

## Investments

*Investment Policy:*

The following was the Board's adopted asset allocation policy as of September 30, 2018:

Asset Class	Target Allocation
Domestic Equity	45.0%
International Equity	15.0%
Domestic Fixed Income	20.0%
Global Fixed Income	5.0%
Real Estate	10.0%
GTAA	5.0%
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, 2018, the annual money-weighted rate of return on Pension Plan investments, net of Pension Plan investment expense, was 8.790 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: Satisfaction of Normal Retirement requirements (earlier of (1) Age 55 with 10 years of Credited Service, or (2) Age 50 with 25 years of Credited Service).

Participation: Not to exceed 60 months.

Rate of Return: At the Member's election: (1) 6.5% annual rate, or (2) actual net rate of investment return (total return net of brokerage commissions, management fees, and transaction costs), credited each fiscal quarter. One change between the above is allowed.

The DROP balance as September 30, 2018 is \$516,056.

## NET PENSION LIABILITY OF THE SPONSOR

The components of the Net Pension Liability of the Sponsor on September 30, 2018 were as follows:

Total Pension Liability	\$ 90,038,671
Plan Fiduciary Net Position	\$ (70,794,926)
Sponsor's Net Pension Liability	<u>\$ 19,243,745</u>
Plan Fiduciary Net Position as a percentage of Total Pension Liability	78.63%

*Actuarial Assumptions:*

The Total Pension Liability was determined by an actuarial valuation as of October 1, 2017 updated to September 30, 2018 using the following actuarial assumptions:

Inflation	2.50%
Salary Increases	4.00% -10.00%
Discount Rate	7.60%
Investment Rate of Return	7.60%

*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 most recent actuarial experience study used to review the other significant assumptions was dated July 29, 2014.

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 2018 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, 2018 are summarized in the following table:

Asset Class	Long Term Expected Real Rate of Return
Domestic Equity	7.50%
International Equity	8.50%
Domestic Fixed Income	2.50%
Global Fixed Income	3.50%
Real Estate	4.50%
GTAA	3.50%



Discount Rate:  
The Discount Rate used to measure the Total Pension Liability was 7.60 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	1% Increase
	6.60%	Discount Rate	8.60%
		7.60%	
Sponsor's Net Pension Liability	\$ 31,080,671	\$ 19,243,745	\$ 9,448,548

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

	09/30/2018	09/30/2017	09/30/2016
Total Pension Liability			
Service Cost	2,058,200	1,894,366	1,796,100
Interest	6,529,798	6,209,826	5,729,223
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	338,549	717,752	838,022
Changes of assumptions	-	-	1,954,103
Contributions - Buy Back	9,381	30,487	21,106
Benefit Payments, including Refunds of Employee Contributions	(5,514,912)	(4,097,287)	(4,128,916)
Net Change in Total Pension Liability	3,421,016	4,755,144	6,209,638
Total Pension Liability - Beginning	86,617,654	81,862,510	75,652,872
Total Pension Liability - Ending (a)	<u>\$ 90,038,670</u>	<u>\$ 86,617,654</u>	<u>\$ 81,862,510</u>
Plan Fiduciary Net Position			
Contributions - Employer	4,674,658	3,811,896	3,656,157
Contributions - State	554,750	550,062	567,162
Contributions - Employee	589,466	517,520	477,667
Contributions - Buy Back	9,381	30,487	21,106
Net Investment Income	5,632,073	7,317,964	4,136,912
Benefit Payments, including Refunds of Employee Contributions	(5,514,912)	(4,097,287)	(4,128,916)
Administrative Expense	(53,508)	(57,594)	(34,030)
Net Change in Plan Fiduciary Net Position	5,891,908	8,073,048	4,696,058
Plan Fiduciary Net Position - Beginning	64,903,018	56,829,970	52,133,912
Plan Fiduciary Net Position - Ending (b)	<u>\$ 70,794,926</u>	<u>\$ 64,903,018</u>	<u>\$ 56,829,970</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 19,243,744</u>	<u>\$ 21,714,636</u>	<u>\$ 25,032,540</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	78.63%	74.93%	69.42%
Covered Employee Payroll <sup>1</sup>	\$ 8,420,947	\$ 7,393,149	\$ 6,822,809
Net Pension Liability as a percentage of Covered Employee Payroll	228.52%	293.71%	366.89%

**Notes to Schedule:**

<sup>1</sup> The Covered Employee Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

*Changes of assumptions:*

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

	09/30/2015	09/30/2014
Total Pension Liability		
Service Cost	1,726,781	1,697,295
Interest	5,464,090	5,118,393
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	(535,327)	-
Changes of assumptions	-	-
Contributions - Buy Back	2,982	-
Benefit Payments, including Refunds of Employee Contributions	(2,349,598)	(2,243,450)
Net Change in Total Pension Liability	4,308,928	4,572,238
Total Pension Liability - Beginning	71,343,944	66,771,706
Total Pension Liability - Ending (a)	<u>\$ 75,652,872</u>	<u>\$ 71,343,944</u>
Plan Fiduciary Net Position		
Contributions - Employer	3,786,822	3,565,486
Contributions - State	585,584	583,892
Contributions - Employee	463,616	436,385
Contributions - Buy Back	2,982	-
Net Investment Income	(329,845)	4,736,538
Benefit Payments, including Refunds of Employee Contributions	(2,349,598)	(2,243,450)
Administrative Expense	(47,681)	(38,532)
Net Change in Plan Fiduciary Net Position	2,111,880	7,040,319
Plan Fiduciary Net Position - Beginning	50,022,032	42,981,713
Plan Fiduciary Net Position - Ending (b)	<u>\$ 52,133,912</u>	<u>\$ 50,022,032</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 23,518,960</u>	<u>\$ 21,321,912</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	68.91%	70.11%
Covered Employee Payroll <sup>1</sup>	\$ 8,193,018	\$ 6,111,013
Net Pension Liability as a percentage of Covered Employee Payroll	287.06%	348.91%

**Notes to Schedule:**

<sup>1</sup> The Covered Employee Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

## 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 Employee Payroll <sup>1</sup>	Contributions as a percentage of Covered Employee Payroll
09/30/2018	\$ 5,229,408	\$ 5,229,408	\$ -	\$ 8,420,947	62.10%
09/30/2017	\$ 4,361,958	\$ 4,361,958	\$ -	\$ 7,393,149	59.00%
09/30/2016	\$ 4,223,319	\$ 4,223,319	\$ -	\$ 6,822,809	61.90%
09/30/2015	\$ 4,372,406	\$ 4,372,406	\$ -	\$ 8,193,018	53.37%
09/30/2014	\$ 4,149,378	\$ 4,149,378	\$ -	\$ 6,111,013	67.90%

<sup>1</sup> The Covered Employee Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

Notes to Schedule

Valuation Date: 10/01/2016

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 Rates:

*Healthy 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 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, 2015 FRS actuarial valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

## Termination Rates:

Credited Service	Assumed Rate
First Year	6.0%
Next 4 Years	3.0%
Greater than 5 Years	2.0%

These rates are based on the results of an experience study issued July 29, 2014.

## Disability Rates:

See Table below. It is assumed that 75% of disablements and active Member deaths are service related.

Age	% Becoming Disabled During the Year
20	0.03%
30	0.04%
40	0.07%
50	0.18%

These rates are consistent with rates used in other fire plans.

Retirement Age:	Earlier of Age 55 and 10 years of service or Age 50 and 25 years of service. Also, any member who has reached Normal Retirement is assumed to continue employment for one additional year. This assumption is deemed reasonable based on plan provisions and is supported by the July 29, 2014 experience study.	
Early Retirement:	Commencing upon a member's eligibility for Early Retirement (Age 50 with 10 years of credited service), members are assumed to retire with an immediate subsidized benefit at the rate of 5% per year. This assumption is deemed reasonable based on plan provisions and is supported by the July 29, 2014 experience study.	
Interest Rate:	7.6% 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	Assumed Rate
	Years 1-5	10.0%
	Greater than 5 years	4.0%
Payroll Increase:	These rates are based on the results of an experience study issued July 29, 2014. 1.08% per year. This assumption is limited historical 10- year payroll growth.	
Funding Method:	Entry Age Normal Actuarial Cost Method.	
Asset Valuation Method:	Each year, the prior Actuarial Value of Assets is brought forward utilizing the historical geometric 4-year average Market Value return. It is possible that over time this technique will produce an insignificant bias above or below Market Value.	

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

Fiscal Year Ended	Annual Money-Weighted Rate of Return Net of Investment Expense
09/30/2018	8.79%
09/30/2017	12.82%
09/30/2016	7.98%
09/30/2015	-0.65%
09/30/2014	10.81%

## NOTES TO THE FINANCIAL STATEMENTS

(For the Year Ended September 30, 2019)

## 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, and a
- c. Fifth Member elected by other four and appointed by the District.

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

*Plan Membership as of October 1, 2017:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	49
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	3
Active Plan Members	86
	<u>138</u>

*Benefits Provided*

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

Normal Retirement:

Date: Earlier of age 55 and 10 years of Credited Service, or age 50 and 25 years of Credited Service.

Benefit: 3.58% (3.00% for Firefighters hired after June 1, 2010) of Average Final Compensation times Credited Service.

Early Retirement:

Date: Age 50 and 10 Years of Credited Service.

Benefit: Accrued benefit, reduced 3% per year.

Cost of Living Adjustment:

Normal and Early service Retirees after January 1, 2000 receive 3% annual benefit increases for 17 years (12 years for Firefighters hired after June 1, 2010), commencing 1 year after 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 Retirement:

Service Incurred: Covered from Date of Employment

Non-Service Incurred: 10 years of Credited Service.

Benefit accrued to date of disability but not less than 42% of Average Final Compensation (Service Incurred).

Pre-Retirement Death Benefits:

Vested: Monthly accrued benefit payable to designated beneficiary for 10 years.

Non-Vested: Refund of accumulated contributions without interest.

Chapter 175 Share Accounts:

Effective March 1, 2010, a share plan was established pursuant to Chapter 175, Florida Statutes.

For plan years on or after October 1, 2009, all premium tax revenues received by the District in excess of \$1,000,155 shall be allocated to the participants' share accounts as follows:

Members employed on preceding September 30 receive one share for each month of credited service.

Interest equal to the System's actual net rate of investment return for the preceding plan year is credited each January 1.

*Contributions*

Member Contributions: 7.0% 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. In no event will the District's contribution be less than 15% of the Member's Salary.

## Net Pension Liability

The measurement date is September 30, 2018.

The measurement period for the pension expense was October 1, 2017 to September 30, 2018.

The reporting period is October 1, 2018 through September 30, 2019.

The Sponsor's Net Pension Liability was measured as of September 30, 2018.

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, 2017 updated to September 30, 2018 using the following actuarial assumptions:

Inflation	2.50%
Salary Increases	4.00% -10.00%
Discount Rate	7.60%
Investment Rate of Return	7.60%

### *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 most recent actuarial experience study used to review the other significant assumptions was dated July 29, 2014.

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 2018 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, 2018 are summarized in the following table:

Asset Class	Target Allocation	Long Term Expected Real Rate of Return
Domestic Equity	45.0%	7.50%
International Equity	15.0%	8.50%
Domestic Fixed Income	20.0%	2.50%
Global Fixed Income	5.0%	3.50%
Real Estate	10.0%	4.50%
GTAA	5.0%	3.50%
Total	100.0%	



### Discount Rate:

The Discount Rate used to measure the Total Pension Liability was 7.60 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, 2018	\$ 86,617,654	\$ 64,903,018	\$ 21,714,636
Changes for a Year:			
Service Cost	2,058,200	-	2,058,200
Interest	6,529,798	-	6,529,798
Differences between Expected and Actual Experience	338,549	-	338,549
Changes of assumptions	-	-	-
Changes of benefit terms	-	-	-
Contributions - Employer	-	4,674,658	(4,674,658)
Contributions - State	-	554,750	(554,750)
Contributions - Employee	-	589,466	(589,466)
Contributions - Buy Back	9,381	9,381	-
Net Investment Income	-	5,632,073	(5,632,073)
Benefit Payments, including Refunds of Employee Contributions	(5,514,912)	(5,514,912)	-
Administrative Expense	-	(53,508)	53,508
Net Changes	3,421,016	5,891,908	(2,470,892)
Reporting Period Ending September 30, 2019	\$ 90,038,670	\$ 70,794,926	\$ 19,243,744

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

	Current Discount		
	1% Decrease	Rate	1% Increase
	6.60%	7.60%	8.60%
Sponsor's Net Pension Liability	\$ 31,080,671	\$ 19,243,744	\$ 9,448,548

*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, 2018

For the year ended September 30, 2018, the Sponsor has recognized a Pension Expense of \$3,674,639.

On September 30, 2018, 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	1,213,802	334,580
Changes of assumptions	1,395,789	-
Net difference between Projected and Actual Earnings on Pension Plan investments	-	1,055,002
Employer and State contributions subsequent to the measurement date	5,229,408	-
Total	<u>7,838,999</u>	<u>\$ 1,389,582</u>

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, 2018.

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:	
2019	\$ 378,143
2020	\$ 654,620
2021	\$ (190,241)
2022	\$ (159,544)
2023	\$ 434,495
Thereafter	\$ 102,536

**Payable to the Pension Plan**

On September 30, 2017, the Sponsor reported a payable of \$34,082 for the outstanding amount of contributions of the Pension Plan required for the year ended September 30, 2017.

**PRELIMINARY 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 will recognize a Pension Expense of \$3,398,131.

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	1,281,732	267,664
Changes of assumptions	1,116,632	-
Net difference between Projected and Actual Earnings on Pension Plan investments	-	1,550,306
Employer and State contributions subsequent to the measurement date	TBD	-
Total	<u>TBD</u>	<u>\$ 1,817,970</u>

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, 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	\$ 565,070
2021	\$ (279,791)
2022	\$ (249,094)
2023	\$ 344,945
2024	\$ 150,900
Thereafter	\$ 48,364

**Payable to the Pension Plan**

On September 30, 2018, the Sponsor reported a payable of \$110,517 for the outstanding amount of contributions of the Pension Plan required for the year ended September 30, 2018.

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

Last 10 Fiscal Years

Reporting Period Ending Measurement Date	09/30/2019 09/30/2018	09/30/2018 09/30/2017	09/30/2017 09/30/2016
Total Pension Liability			
Service Cost	2,058,200	1,894,366	1,796,100
Interest	6,529,798	6,209,826	5,729,223
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	338,549	717,752	838,022
Changes of assumptions	-	-	1,954,103
Contributions - Buy Back	9,381	30,487	21,106
Benefit Payments, including Refunds of Employee Contributions	(5,514,912)	(4,097,287)	(4,128,916)
Net Change in Total Pension Liability	3,421,016	4,755,144	6,209,638
Total Pension Liability - Beginning	86,617,654	81,862,510	75,652,872
Total Pension Liability - Ending (a)	<u>\$ 90,038,670</u>	<u>\$ 86,617,654</u>	<u>\$ 81,862,510</u>
Plan Fiduciary Net Position			
Contributions - Employer	4,674,658	3,811,896	3,656,157
Contributions - State	554,750	550,062	567,162
Contributions - Employee	589,466	517,520	477,667
Contributions - Buy Back	9,381	30,487	21,106
Net Investment Income	5,632,073	7,317,964	4,136,912
Benefit Payments, including Refunds of Employee Contributions	(5,514,912)	(4,097,287)	(4,128,916)
Administrative Expense	(53,508)	(57,594)	(34,030)
Net Change in Plan Fiduciary Net Position	5,891,908	8,073,048	4,696,058
Plan Fiduciary Net Position - Beginning	64,903,018	56,829,970	52,133,912
Plan Fiduciary Net Position - Ending (b)	<u>\$ 70,794,926</u>	<u>\$ 64,903,018</u>	<u>\$ 56,829,970</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 19,243,744</u>	<u>\$ 21,714,636</u>	<u>\$ 25,032,540</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	78.63%	74.93%	69.42%
Covered Employee Payroll <sup>1</sup>	\$ 8,420,947	\$ 7,393,149	\$ 6,822,809
Net Pension Liability as a percentage of Covered Employee Payroll	228.52%	293.71%	366.89%

**Notes to Schedule:**

<sup>1</sup> The Covered Employee Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

*Changes of assumptions:*

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

Reporting Period Ending Measurement Date	09/30/2016 09/30/2015	09/30/2015 09/30/2014
Total Pension Liability		
Service Cost	1,726,781	1,697,295
Interest	5,464,090	5,118,393
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	(535,327)	-
Changes of assumptions	-	-
Contributions - Buy Back	2,982	-
Benefit Payments, including Refunds of Employee Contributions	(2,349,598)	(2,243,450)
Net Change in Total Pension Liability	4,308,928	4,572,238
Total Pension Liability - Beginning	71,343,944	66,771,706
Total Pension Liability - Ending (a)	<u>\$ 75,652,872</u>	<u>\$ 71,343,944</u>
Plan Fiduciary Net Position		
Contributions - Employer	3,786,822	3,565,486
Contributions - State	585,584	583,892
Contributions - Employee	463,616	436,385
Contributions - Buy Back	2,982	-
Net Investment Income	(329,845)	4,736,538
Benefit Payments, including Refunds of Employee Contributions	(2,349,598)	(2,243,450)
Administrative Expense	(47,681)	(38,532)
Net Change in Plan Fiduciary Net Position	2,111,880	7,040,319
Plan Fiduciary Net Position - Beginning	50,022,032	42,981,713
Plan Fiduciary Net Position - Ending (b)	<u>\$ 52,133,912</u>	<u>\$ 50,022,032</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 23,518,960</u>	<u>\$ 21,321,912</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	68.91%	70.11%
Covered Employee Payroll <sup>1</sup>	\$ 8,193,018	\$ 6,111,013
Net Pension Liability as a percentage of Covered Employee Payroll	287.06%	348.91%

**Notes to Schedule:**

<sup>1</sup> The Covered Employee Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

## 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 Employee Payroll <sup>1</sup>	Contributions as a percentage of Covered Employee Payroll
09/30/2018	\$ 5,229,408	5,229,408	\$ -	\$ 8,420,947	62.10%
09/30/2017	\$ 4,361,958	\$ 4,361,958	\$ -	\$ 7,393,149	59.00%
09/30/2016	\$ 4,223,319	\$ 4,223,319	\$ -	\$ 6,822,809	61.90%
09/30/2015	\$ 4,372,406	\$ 4,372,406	\$ -	\$ 8,193,018	53.37%
09/30/2014	\$ 4,149,378	\$ 4,149,378	\$ -	\$ 6,111,013	67.90%

<sup>1</sup> The Covered Employee Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

Notes to Schedule

Valuation Date: 10/01/2016

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 Rates:

*Healthy 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 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, 2015 FRS actuarial valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

Termination Rates:

Credited Service	Assumed Rate
First Year	6.00%
Next 4 Years	3.00%
Greater than 5 Years	2.00%

Disability Rates:

These rates are based on the results of an experience study issued July 29, 2014.

See Table below. It is assumed that 75% of disablements and active Member deaths are service related.

Age	% Becoming Disabled During the Year
20	0.03%
30	0.04%
40	0.07%
50	0.18%

These rates are consistent with rates used in other fire plans.

Retirement Age:	Earlier of Age 55 and 10 years of service or Age 50 and 25 years of service. Also, any member who has reached Normal Retirement is assumed to continue employment for one additional year. This assumption is deemed reasonable based on plan provisions and is supported by the July 29, 2014 experience study.							
Early Retirement:	Commencing upon a member's eligibility for Early Retirement (Age 50 with 10 years of credited service), members are assumed to retire with an immediate subsidized benefit at the rate of 5% per year. This assumption is deemed reasonable based on plan provisions and is supported by the July 29, 2014 experience study.							
Interest Rate:	7.6% 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:	<table><tr><th>Credited Service</th><th>Assumed Rate</th></tr><tr><td>Years 1-5</td><td>10.0%</td></tr><tr><td>Greater than 5 years</td><td>4.0%</td></tr></table>	Credited Service	Assumed Rate	Years 1-5	10.0%	Greater than 5 years	4.0%	
Credited Service	Assumed Rate							
Years 1-5	10.0%							
Greater than 5 years	4.0%							
	These rates are based on the results of an experience study issued July 29, 2014.							
Payroll Increase:	1.08% per year. This assumption is limited historical 10- year payroll growth.							
Funding Method:	Entry Age Normal Actuarial Cost Method.							
Asset Valuation Method:	Each year, the prior Actuarial Value of Assets is brought forward utilizing the historical geometric 4-year average Market Value return. It is possible that over time this technique will produce an insignificant bias above or below Market Value.							



## 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, 2018

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	\$ 25,032,540	\$ 1,077,239	\$ 9,289,791	\$ -
Employer and State Contributions made after 09/30/2017	-	-	5,229,408	-
Total Pension Liability Factors:				
Service Cost	1,894,366	-	-	1,894,366
Interest	6,209,826	-	-	6,209,826
Changes in benefit terms	-	-	-	-
Contributions - Buy Back	30,487	-	-	30,487
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	717,752	-	717,752	-
Current year amortization of experience difference	-	(66,916)	(222,254)	155,338
Change in assumptions about future economic or demographic factors or other inputs	-	-	-	-
Current year amortization of change in assumptions	-	-	(279,157)	279,157
Benefit Payments, including Refunds of Employee Contributions	(4,097,287)	-	-	-
Net change	<u>4,755,144</u>	<u>(66,916)</u>	<u>5,445,749</u>	<u>8,569,174</u>
Plan Fiduciary Net Position:				
Contributions - Employer	3,811,896	-	(3,811,896)	-
Contributions - State	550,062	-	(550,062)	-
Contributions - Employee	517,520	-	-	(517,520)
Contributions - Buy Back	30,487	-	-	(30,487)
Projected Net Investment Income	4,347,771	-	-	(4,347,771)
Difference between projected and actual earnings on Pension Plan investments	2,970,193	2,970,193	-	-
Current year amortization	-	(901,212)	(844,861)	(56,351)
Benefit Payments, including Refunds of Employee Contributions	(4,097,287)	-	-	-
Administrative Expenses	(57,594)	-	-	57,594
Net change	<u>8,073,048</u>	<u>2,068,981</u>	<u>(5,206,819)</u>	<u>(4,894,535)</u>
Ending Balance	<u>\$ 21,714,636</u>	<u>\$ 3,079,304</u>	<u>\$ 9,528,721</u>	<u>\$ 3,674,639</u>

**PRELIMINARY COMPONENTS OF PENSION EXPENSE**  
**FISCAL YEAR SEPTEMBER 30, 2019**

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	\$ 21,714,636	\$ 3,079,304	\$ 9,528,721	\$ -
Employer and State Contributions made after 09/30/2018	-	-	TBD*	-
Total Pension Liability Factors:				
Service Cost	2,058,200	-	-	2,058,200
Interest	6,529,798	-	-	6,529,798
Changes in benefit terms	-	-	-	-
Contributions - Buy Back	9,381	-	-	9,381
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	338,549	-	338,549	-
Current year amortization of experience difference	-	(66,916)	(270,619)	203,703
Change in assumptions about future economic or demographic factors or other inputs	-	-	-	-
Current year amortization of change in assumptions	-	-	(279,157)	279,157
Benefit Payments, including Refunds of Employee Contributions	(5,514,912)	-	-	-
Net change	<u>3,421,016</u>	<u>(66,916)</u>	<u>(211,227)</u>	<u>9,080,239</u>
Plan Fiduciary Net Position:				
Contributions - Employer	4,674,658	-	(4,674,658)	-
Contributions - State	554,750	-	(554,750)	-
Contributions - Employee	589,466	-	-	(589,466)
Contributions - Buy Back	9,381	-	-	(9,381)
Projected Net Investment Income	4,942,503	-	-	(4,942,503)
Difference between projected and actual earnings on Pension Plan investments	689,570	689,570	-	-
Current year amortization	-	(1,039,127)	(844,861)	(194,266)
Benefit Payments, including Refunds of Employee Contributions	(5,514,912)	-	-	-
Administrative Expenses	(53,508)	-	-	53,508
Net change	<u>5,891,908</u>	<u>(349,557)</u>	<u>(6,074,269)</u>	<u>(5,682,108)</u>
Ending Balance	<u>\$ 19,243,744</u>	<u>\$ 2,662,831</u>	<u>TBD</u>	<u>\$ 3,398,131</u>

\* Employer and State Contributions subsequent to the measurement date made after September 30, 2018 but made on or before September 30, 2019 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)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2014	\$ (1,382,384)	5	\$ (276,477)	\$ (276,477)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ 4,224,305	5	\$ 844,861	\$ 844,861	\$ 844,861	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ (153,487)	5	\$ (30,698)	\$ (30,697)	\$ (30,697)	\$ (30,697)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ (2,970,193)	5	\$ (594,037)	\$ (594,039)	\$ (594,039)	\$ (594,039)	\$ (594,039)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ (689,570)	5	\$ -	\$ (137,914)	\$ (137,914)	\$ (137,914)	\$ (137,914)	\$ (137,914)	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ (56,351)	\$ (194,266)	\$ 82,211	\$ (762,650)	\$ (731,953)	\$ (137,914)	\$ -	\$ -	\$ -	\$ -	\$ -

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)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2016	\$ 1,954,103	7	\$ 279,157	\$ 279,157	\$ 279,158	\$ 279,158	\$ 279,158	\$ 279,158	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 279,157	\$ 279,157	\$ 279,158	\$ 279,158	\$ 279,158	\$ 279,158	\$ -	\$ -	\$ -	\$ -	\$ -

## 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)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2015	\$ (535,327)	8	\$ (66,916)	\$ (66,916)	\$ (66,916)	\$ (66,916)	\$ (66,916)	\$ (66,916)	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ 838,022	7	\$ 119,718	\$ 119,718	\$ 119,717	\$ 119,717	\$ 119,717	\$ 119,717	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ 717,752	7	\$ 102,536	\$ 102,536	\$ 102,536	\$ 102,536	\$ 102,536	\$ 102,536	\$ 102,536	\$ -	\$ -	\$ -	\$ -
2018	\$ 338,549	7	\$ -	\$ 48,365	\$ 48,364	\$ 48,364	\$ 48,364	\$ 48,364	\$ 48,364	\$ 48,364	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 155,338	\$ 203,703	\$ 203,701	\$ 203,701	\$ 203,701	\$ 203,701	\$ 150,900	\$ 48,364	\$ -	\$ -	\$ -