

January 21, 2020

Board of Trustees  
City of Eustis  
Firefighters' Pension Board  
100 West Norton Avenue  
Eustis, FL 32726

RE: GASB Statement No.67 and No.68 – City of Eustis Municipal Firefighters' Pension and Retirement System

Dear Board:

We are pleased to present to the Board a GASB Statement No.67 and No.68 measured as of September 30, 2019 for the City of Eustis Municipal Firefighters' Pension and Retirement System.

The calculation of the liability associated with the benefits referenced in this report was performed for the purpose of satisfying the requirements of GASB No.67 and No.68 and is not applicable for other purposes, such as determining the plan's funding requirements. A calculation of the plan's liability for other purposes may produce significantly different results.

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<sup>th</sup>, 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.

Certain schedules should include a 10-year history of information. As provided for in GASB No.67 and No.68, this historical information is only presented for the years in which the information was measured in conformity with the requirements of GASB No.67 and No.68.

To the best of our knowledge, these statements are complete and accurate and are in accordance with generally recognized actuarial practices and methods. 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.

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: \_\_\_\_\_



Patrick T. Donlan, ASA, MAAA  
Enrolled Actuary #17-6595

PTD/lke  
Enclosures

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2019

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Short Term Investments	344,316
Total Cash and Equivalents	344,316
Receivables:	
Additional City Contributions	363
Investment Income	5,030
Total Receivable	5,393
Investments:	
Stocks	1,497,359
Mutual Funds:	
Fixed Income	3,958,374
Equity	4,896,507
Total Investments	10,352,240
Total Assets	10,701,949
<u>LIABILITIES</u>	
Payables:	
DROP Distributions	419,902
Investment Expenses	4,917
Administrative Expenses	6,110
Total Liabilities	430,929
NET POSITION RESTRICTED FOR PENSIONS	10,271,020

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

ADDITIONS

## Contributions:

Member	57,100	
City	563,329	
State	115,463	
Total Contributions		735,892
Investment Income:		
Net Increase in Fair Value of Investments	221,141	
Interest & Dividends	350,199	
Less Investment Expense <sup>1</sup>	(36,565)	
Net Investment Income		534,775
Total Additions		1,270,667

DEDUCTIONS

## Distributions to Members:

Benefit Payments	520,990	
Lump Sum DROP Distributions	419,902	
Refunds of Member Contributions	974	
Total Distributions		941,866
Administrative Expense		37,764
Total Deductions		979,630
Net Increase in Net Position		291,037
NET POSITION RESTRICTED FOR PENSIONS		
Beginning of the Year		9,979,983
End of the Year		10,271,020

<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 City of Eustis Municipal Firefighters' Pension and Retirement System is a single-employer defined benefit pension Plan administered by a Board of Trustees. The Board consists of five Trustees, two of whom are appointed by the City Commission, two of whom are full-time Firefighters, elected by a majority of the Members of the Plan, and a fifth Member elected by the other four and appointed by Commission.

#### *Plan Membership as of October 1, 2018:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	20
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	15
Active Plan Members	22
	57

#### *Benefits Provided*

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

A summary of the benefit provisions can be found in the October 1, 2018 Actuarial Valuation Report for the City of Eustis Municipal Firefighters' Pension and Retirement System 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:

4% of Compensation.

City 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	45.0%
International Equity	15.0%
Fixed Income (Core)	25.0%
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, 2019, the annual money-weighted rate of return on Pension Plan investments, net of Pension Plan investment expense, was 5.37 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: Eligibility for Normal Retirement.

Participation: Not to exceed 60 months.

Rate of Return: At Member's election:

(1) Actual net rate of investment return (total return net of brokerage commissions, management fees and transaction costs) credited each fiscal quarter, or

(2) Interest Rate credited to Members of the Florida Retirement System DROP, compounded monthly.

Members may elect to change form of return once during their DROP participation.

The DROP balance as September 30, 2019 is \$68,909.

## 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	\$ 12,525,496
Plan Fiduciary Net Position	\$ (10,271,020)
Sponsor's Net Pension Liability	<u>\$ 2,254,476</u>
Plan Fiduciary Net Position as a percentage of Total Pension Liability	82.00%

*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	7.90%
Investment Rate of Return	7.90%

*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.

75% of active deaths are assumed to be service-incurred.

The most recent actuarial experience study used to review the other significant assumptions was dated September 1, 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	7.5%
International Equity	8.5%
Fixed Income (Core)	2.5%
Real Estate	4.5%
GTAA	3.5%

Discount Rate:  
The Discount Rate used to measure the Total Pension Liability was 7.90 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
	6.90%	Discount Rate	8.90%
		7.90%	
Sponsor's Net Pension Liability	\$ 3,903,932	\$ 2,254,476	\$ 891,556

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

Last 10 Fiscal Years

	09/30/2019	09/30/2018	09/30/2017
Total Pension Liability			
Service Cost	257,123	260,034	253,518
Interest	947,278	903,263	846,338
Change in Excess State Money	-	-	-
Share Plan Allocation	10,717	7,697	7,266
Changes of benefit terms	(6,344)	-	-
Differences between Expected and Actual Experience	72,910	125,862	99,332
Changes of assumptions	(25,334)	-	160,056
Benefit Payments, including Refunds of Employee Contributions	(941,866)	(519,047)	(518,037)
Net Change in Total Pension Liability	314,484	777,809	848,473
Total Pension Liability - Beginning	12,211,012	11,433,203	10,584,730
Total Pension Liability - Ending (a)	<u>\$ 12,525,496</u>	<u>\$ 12,211,012</u>	<u>\$ 11,433,203</u>
Plan Fiduciary Net Position			
Contributions - Employer	563,329	691,470	662,590
Contributions - State	115,463	109,424	108,561
Contributions - Employee	57,100	56,255	53,436
Net Investment Income	534,775	672,963	827,904
Benefit Payments, including Refunds of Employee Contributions	(941,866)	(519,047)	(518,037)
Administrative Expense	(37,764)	(39,082)	(28,513)
Net Change in Plan Fiduciary Net Position	291,037	971,983	1,105,941
Plan Fiduciary Net Position - Beginning	9,979,983	9,008,000	7,902,059
Plan Fiduciary Net Position - Ending (b)	<u>\$ 10,271,020</u>	<u>\$ 9,979,983</u>	<u>\$ 9,008,000</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 2,254,476</u>	<u>\$ 2,231,029</u>	<u>\$ 2,425,203</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	82.00%	81.73%	78.79%
Covered Payroll <sup>1</sup>	\$ 1,427,511	\$ 1,406,377	\$ 1,335,896
Net Pension Liability as a percentage of Covered Payroll	157.93%	158.64%	181.54%



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

Last 10 Fiscal Years

	09/30/2016	09/30/2015	09/30/2014
Total Pension Liability			
Service Cost	232,480	214,156	224,459
Interest	749,472	739,529	700,345
Change in Excess State Money	(11,144)	-	-
Share Plan Allocation	16,556	-	-
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	507,014	(379,106)	-
Changes of assumptions	196,022	-	-
Benefit Payments, including Refunds of Employee Contributions	(505,459)	(431,789)	(417,602)
Net Change in Total Pension Liability	1,184,941	142,790	507,202
Total Pension Liability - Beginning	9,399,789	9,256,999	8,749,797
Total Pension Liability - Ending (a)	<u>\$ 10,584,730</u>	<u>\$ 9,399,789</u>	<u>\$ 9,256,999</u>
Plan Fiduciary Net Position			
Contributions - Employer	573,724	470,563	319,298
Contributions - State	115,997	101,739	90,690
Contributions - Employee	52,516	48,705	46,422
Net Investment Income	558,655	(29,631)	578,075
Benefit Payments, including Refunds of Employee Contributions	(505,459)	(431,789)	(417,602)
Administrative Expense	(27,441)	(33,661)	(13,700)
Net Change in Plan Fiduciary Net Position	767,992	125,926	603,183
Plan Fiduciary Net Position - Beginning	7,134,067	7,008,141	6,404,958
Plan Fiduciary Net Position - Ending (b)	<u>\$ 7,902,059</u>	<u>\$ 7,134,067</u>	<u>\$ 7,008,141</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 2,682,671</u>	<u>\$ 2,265,722</u>	<u>\$ 2,248,858</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	74.66%	75.90%	75.71%
Covered Payroll <sup>1</sup>	\$ 1,312,898	\$ 1,340,415	\$ 1,160,547
Net Pension Liability as a percentage of Covered Payroll	204.33%	169.03%	193.78%

**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, except for the 09/30/2015 measurement period which includes DROP payroll.

*Changes in benefit terms:*

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

Additionally, Ordinance nr. 18-16 was adopted which restated the Plan.

*Changes of assumptions:*

For measurement date 09/30/2019, amounts reported as changes of assumptions resulted from the following change:

- the final salary load was amended to be 0% for those Members hired on and after July 1, 2011 based on the salary definition in ordinance number 18-16.

For measurement date 09/30/2017, the mortality table has changed to comply with Chapter 2015-157, Laws of Florida to be the same rates as used in the July 1, 2016 Florida Retirement System (FRS) valuation for special risk lives.

As a result of an Experience Study dated August 3, 2017, the Board approved the following assumption changes:

- 1.) Reduce the investment return assumption from 8.0% to 7.9% per year, net of investment related expenses.
- 2.) Change the assumed rate of individual salary increases from a flat 6.50% per year to a service based assumption as outlined in the "Actuarial Assumptions and Methods" section of the 10/01/2017 Valuation report.
- 3.) Discontinue use of the assumption that if a Member is eligible for Normal Retirement on the valuation date they will continue employment for one additional year.
- 4.) Change the expected rates of non-retirement terminations from an age based table to an assumption of 25.0% in the first year of employment, 13.0% per year during the next 4 years of employment, 9.0% for the next 5 years of employment, 5.0% for years 10 - 19, and 0.0% per year beginning at 20 years of employment.
- 5.) The Unfunded Actuarial Accrued Liability was consolidated into one base with a 9-year level dollar amortization. All future bases of any type (gains and losses, assumption and method changes, and benefit changes) will be amortized over 15 years.

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	\$ 668,075	\$ 668,075	\$ -	\$ 1,427,511	46.80%
09/30/2018	\$ 793,197	\$ 793,197	\$ -	\$ 1,406,377	56.40%
09/30/2017	\$ 730,735	\$ 763,885	\$ (33,150)	\$ 1,335,896	57.18%
09/30/2016	\$ 636,756	\$ 678,737	\$ (41,981)	\$ 1,312,898	51.70%
09/30/2015	\$ 540,620	\$ 572,302	\$ (31,682)	\$ 1,340,415	42.70%
09/30/2014	\$ 417,796	\$ 417,796	\$ -	\$ 1,160,547	36.00%

<sup>1</sup> The Covered 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: 10/01/2017

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

Methods and assumptions used to determine contribution rates:

Mortality:

*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 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: 7.90% 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.

Normal Retirement Age:

Earlier of:

a) Age 55 and the completion of 10 years of service, or

b) Age 52 and the completion of 25 years of service.

This is supported by the results of an actuarial experience study issued September 1, 2017.

Early Retirement Age: Commencing at eligibility for Early Retirement, members are assumed to retire with an immediate benefit at the rate of 5.00% per year. This is supported by the results of an actuarial experience study issued September 1, 2017.

Disability Rate: See table below (1205). It is assumed that 66.67% of disabilities are in the line of duty. This is supported by the results of an actuarial experience study issued September 1, 2017.

Termination Rate:	Years of Service	Expected Rate of Termination
	< 1 Years	25.0%
	1 - 4 Years	13.0%
	5 – 9 Years	9.0%
	10 – 19 Years	5.0%
	20 or More Years	0.0%

The current rates of termination resulted from a September 1, 2017 Experience Study.

Salary Increases:	Service	Prior Assum	Current Assum
	<1 Year	6.5%	15.0%
	1 + Years	6.5%	10.0%
	2 Years	6.5%	8.0%
	3 Years	6.5%	7.0%
	4 Years	6.5%	6.5%
	5 – 9 Years	6.5%	6.3%
	10 – 14 Years	6.5%	6.0%
	15 + Years	6.5%	5.0%

Projected salary at retirement is increased by 5.00% to account for final non-regular compensation. The current assumed salary increase rate resulted from a September 1, 2017 Experience Study.

Payroll Growth: None for the purpose of amortizing the UAAL.

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.

Disability Rate Table:	Age	% Becoming Disabled During the Year
	20	0.14%
	30	0.18%
	40	0.30%
	50	1.00%

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

Fiscal Year Ended	Annual Money-Weighted Rate of Return Net of Investment Expense
09/30/2019	5.37%
09/30/2018	7.47%
09/30/2017	10.48%
09/30/2016	7.83%
09/30/2015	-0.42%
09/30/2014	9.07%

## NOTES TO THE FINANCIAL STATEMENTS

(For the Year Ended September 30, 2019)

## General Information about the Pension Plan

*Plan Description*

The City of Eustis Municipal Firefighters' Pension and Retirement System is a single-employer defined benefit pension Plan administered by a Board of Trustees. The Board consists of five Trustees, two of whom are appointed by the City Commission, two of whom are full-time Firefighters, elected by a majority of the Members of the Plan, and a fifth Member elected by the other four and appointed by Commission.

Eligible are all regular uniformed members of the Fire Department; includes active volunteers. Optional participation for the Fire Chief.

*Plan Membership as of October 1, 2018:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	20
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	15
Active Plan Members	22
	<u>57</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 City of Eustis Municipal Firefighters' Pension and Retirement System 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:

4% of Compensation.

City 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, 2018 through September 30, 2019.

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	7.90%
Investment Rate of Return	7.90%

*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.

75% of active deaths are assumed to be service-incurred.

The most recent actuarial experience study used to review the other significant assumptions was dated September 1, 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	45.0%	7.50%
International Equity	15.0%	8.50%
Fixed Income (Core)	25.0%	2.50%
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 7.90 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)
Balances at September 30, 2018	\$ 12,211,012	\$ 9,979,983	\$ 2,231,029
Changes for a Year:			
Service Cost	257,123	-	257,123
Interest	947,278	-	947,278
Share Plan Allocation	10,717	-	10,717
Differences between Expected and Actual Experience	72,910	-	72,910
Changes of assumptions	(25,334)	-	(25,334)
Changes of benefit terms	(6,344)	-	(6,344)
Contributions - Employer	-	563,329	(563,329)
Contributions - State	-	115,463	(115,463)
Contributions - Employee	-	57,100	(57,100)
Net Investment Income	-	534,775	(534,775)
Benefit Payments, including Refunds of Employee Contributions	(941,866)	(941,866)	-
Administrative Expense	-	(37,764)	37,764
Net Changes	314,484	291,037	23,447
Balances at September 30, 2019	\$ 12,525,496	\$ 10,271,020	\$ 2,254,476

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

	Current Discount		
	1% Decrease	Rate	1% Increase
	6.90%	7.90%	8.90%
Sponsor's Net Pension Liability	\$ 3,903,932	\$ 2,254,476	\$ 891,556

*Pension Plan Fiduciary Net Position.*

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



## PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS

For the year ended September 30, 2019, the Sponsor will recognize a Pension Expense of \$839,980.

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	142,449	-
Changes of assumptions	40,014	19,002
Net difference between Projected and Actual Earnings on Pension Plan investments	155,741	-
Total	<u>\$ 338,204</u>	<u>\$ 19,002</u>

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	\$ 134,271
2021	\$ 65,335
2022	\$ 70,793
2023	\$ 48,803
2024	\$ -
Thereafter	\$ -

### Payable to the Pension Plan

On September 30, 2019, the Sponsor reported a payable of \$363 for the outstanding amount of contributions of the Pension Plan required for the year ended September 30, 2019.

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

	09/30/2019	09/30/2018	09/30/2017
Total Pension Liability			
Service Cost	257,123	260,034	253,518
Interest	947,278	903,263	846,338
Change in Excess State Money	-	-	-
Share Plan Allocation	10,717	7,697	7,266
Changes of benefit terms	(6,344)	-	-
Differences between Expected and Actual Experience	72,910	125,862	99,332
Changes of assumptions	(25,334)	-	160,056
Benefit Payments, including Refunds of Employee Contributions	(941,866)	(519,047)	(518,037)
Net Change in Total Pension Liability	314,484	777,809	848,473
Total Pension Liability - Beginning	12,211,012	11,433,203	10,584,730
Total Pension Liability - Ending (a)	<u>\$ 12,525,496</u>	<u>\$ 12,211,012</u>	<u>\$ 11,433,203</u>
Plan Fiduciary Net Position			
Contributions - Employer	563,329	691,470	662,590
Contributions - State	115,463	109,424	108,561
Contributions - Employee	57,100	56,255	53,436
Net Investment Income	534,775	672,963	827,904
Benefit Payments, including Refunds of Employee Contributions	(941,866)	(519,047)	(518,037)
Administrative Expense	(37,764)	(39,082)	(28,513)
Net Change in Plan Fiduciary Net Position	291,037	971,983	1,105,941
Plan Fiduciary Net Position - Beginning	9,979,983	9,008,000	7,902,059
Plan Fiduciary Net Position - Ending (b)	<u>\$ 10,271,020</u>	<u>\$ 9,979,983</u>	<u>\$ 9,008,000</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 2,254,476</u>	<u>\$ 2,231,029</u>	<u>\$ 2,425,203</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	82.00%	81.73%	78.79%
Covered Payroll <sup>1</sup>	\$ 1,427,511	\$ 1,406,377	\$ 1,335,896
Net Pension Liability as a percentage of Covered Payroll	157.93%	158.64%	181.54%

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

	09/30/2016	09/30/2015	09/30/2014
Total Pension Liability			
Service Cost	232,480	214,156	224,459
Interest	749,472	739,529	700,345
Change in Excess State Money	(11,144)	-	-
Share Plan Allocation	16,556	-	-
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	507,014	(379,106)	-
Changes of assumptions	196,022	-	-
Benefit Payments, including Refunds of Employee Contributions	(505,459)	(431,789)	(417,602)
Net Change in Total Pension Liability	1,184,941	142,790	507,202
Total Pension Liability - Beginning	9,399,789	9,256,999	8,749,797
Total Pension Liability - Ending (a)	<u>\$ 10,584,730</u>	<u>\$ 9,399,789</u>	<u>\$ 9,256,999</u>
Plan Fiduciary Net Position			
Contributions - Employer	573,724	470,563	319,298
Contributions - State	115,997	101,739	90,690
Contributions - Employee	52,516	48,705	46,422
Net Investment Income	558,655	(29,631)	578,075
Benefit Payments, including Refunds of Employee Contributions	(505,459)	(431,789)	(417,602)
Administrative Expense	(27,441)	(33,661)	(13,700)
Net Change in Plan Fiduciary Net Position	767,992	125,926	603,183
Plan Fiduciary Net Position - Beginning	7,134,067	7,008,141	6,404,958
Plan Fiduciary Net Position - Ending (b)	<u>\$ 7,902,059</u>	<u>\$ 7,134,067</u>	<u>\$ 7,008,141</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 2,682,671</u>	<u>\$ 2,265,722</u>	<u>\$ 2,248,858</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	74.66%	75.90%	75.71%
Covered Payroll <sup>1</sup>	\$ 1,312,898	\$ 1,340,415	\$ 1,160,547
Net Pension Liability as a percentage of Covered Payroll	204.33%	169.03%	193.78%

**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, except for the 09/30/2015 measurement period which includes DROP payroll.

*Changes in benefit terms:*

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

Additionally, Ordinance nr. 18-16 was adopted which restated the Plan.

*Changes of assumptions:*

For measurement date 09/30/2019, amounts reported as changes of assumptions resulted from the following change:

- the final salary load was amended to be 0% for those Members hired on and after July 1, 2011 based on the salary definition in ordinance number 18-16.

For measurement date 09/30/2017, the mortality table has changed to comply with Chapter 2015-157, Laws of Florida to be the same rates as used in the July 1, 2016 Florida Retirement System (FRS) valuation for special risk lives.

As a result of an Experience Study dated August 3, 2017, the Board approved the following assumption changes:

- 1.) Reduce the investment return assumption from 8.0% to 7.9% per year, net of investment related expenses.
- 2.) Change the assumed rate of individual salary increases from a flat 6.50% per year to a service based assumption as outlined in the "Actuarial Assumptions and Methods" section of the 10/01/2017 Valuation report.
- 3.) Discontinue use of the assumption that if a Member is eligible for Normal Retirement on the valuation date they will continue employment for one additional year.
- 4.) Change the expected rates of non-retirement terminations from an age based table to an assumption of 25.0% in the first year of employment, 13.0% per year during the next 4 years of employment, 9.0% for the next 5 years of employment, 5.0% for years 10 - 19, and 0.0% per year beginning at 20 years of employment.
- 5.) The Unfunded Actuarial Accrued Liability was consolidated into one base with a 9-year level dollar amortization. All future bases of any type (gains and losses, assumption and method changes, and benefit changes) will be amortized over 15 years.

For measurement date 09/30/2016, as a result of Chapter 2015-157, Laws of Florida, the assumed rates of mortality were

## 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	\$ 668,075	\$ 668,075	\$ -	\$ 1,427,511	46.80%
09/30/2018	\$ 793,197	\$ 793,197	\$ -	\$ 1,406,377	56.40%
09/30/2017	\$ 730,735	\$ 763,885	\$ (33,150)	\$ 1,335,896	57.18%
09/30/2016	\$ 636,756	\$ 678,737	\$ (41,981)	\$ 1,312,898	51.70%
09/30/2015	\$ 540,620	\$ 572,302	\$ (31,682)	\$ 1,340,415	42.70%
09/30/2014	\$ 417,796	\$ 417,796	\$ -	\$ 1,160,547	36.00%

<sup>1</sup> The Covered 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: 10/01/2017

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

Methods and assumptions used to determine contribution rates:

Mortality:

*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 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: 7.90% 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.

Normal Retirement Age:

Earlier of:

a) Age 55 and the completion of 10 years of service, or

b) Age 52 and the completion of 25 years of service.

This is supported by the results of an actuarial experience study issued September 1, 2017.

Early Retirement Age: Commencing at eligibility for Early Retirement, members are assumed to retire with an immediate benefit at the rate of 5.00% per year. This is supported by the results of an actuarial experience study issued September 1, 2017.

Disability Rate: See table below (1205). It is assumed that 66.67% of disabilities are in the line of duty. This is supported by the results of an actuarial experience study issued September 1, 2017.

Termination Rate:	Years of Service	Expected Rate of Termination
	< 1 Years	25.0%
	1 - 4 Years	13.0%
	5 – 9 Years	9.0%
	10 – 19 Years	5.0%
	20 or More Years	0.0%

The current rates of termination resulted from a September 1, 2017 Experience Study.

Salary Increases:	Service	Prior Assum	Current Assum
	<1 Year	6.5%	15.0%
	1 + Years	6.5%	10.0%
	2 Years	6.5%	8.0%
	3 Years	6.5%	7.0%
	4 Years	6.5%	6.5%
	5 – 9 Years	6.5%	6.3%
	10 – 14 Years	6.5%	6.0%
	15 + Years	6.5%	5.0%

Projected salary at retirement is increased by 5.00% to account for final non-regular compensation. The current assumed salary increase rate resulted from a September 1, 2017 Experience Study.

Payroll Growth: None for the purpose of amortizing the UAAL.

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.

Disability Rate Table:	Age	% Becoming Disabled During the Year
	20	0.14%
	30	0.18%
	40	0.30%
	50	1.00%

## EXPENSE DEVELOPMENT AND AMORTIZATION SCHEDULES

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

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

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	\$ 2,231,029	\$ 110,772	\$ 567,715	\$ -
Total Pension Liability Factors:				
Service Cost	257,123	-	-	257,123
Interest	947,278	-	-	947,278
Share Plan Allocation	10,717	-	-	10,717
Changes in benefit terms	(6,344)	-	-	(6,344)
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	72,910	-	72,910	-
Current year amortization of experience difference	-	-	(201,279)	201,279
Change in assumptions about future economic or demographic factors or other inputs	(25,334)	25,334	-	-
Current year amortization of change in assumptions	-	(6,332)	(89,020)	82,688
Benefit Payments, including Refunds of Employee Contributions	(941,866)	-	-	-
Net change	<u>314,484</u>	<u>19,002</u>	<u>(217,389)</u>	<u>1,492,741</u>
Plan Fiduciary Net Position:				
Contributions - Employer	563,329	-	-	-
Contributions - State	115,463	-	-	-
Contributions - Employee	57,100	-	-	(57,100)
Projected Net Investment Income	778,791	-	-	(778,791)
Difference between projected and actual earnings on Pension Plan investments	(244,016)	-	244,016	-
Current year amortization	-	(36,924)	(182,290)	145,366
Benefit Payments, including Refunds of Employee Contributions	(941,866)	-	-	-
Administrative Expenses	(37,764)	-	-	37,764
Net change	<u>291,037</u>	<u>(36,924)</u>	<u>61,726</u>	<u>(652,761)</u>
Ending Balance	<u><u>\$ 2,254,476</u></u>	<u><u>\$ 92,850</u></u>	<u><u>\$ 412,052</u></u>	<u><u>\$ 839,980</u></u>



## 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	\$ 244,016	5	\$ 48,804	\$ 48,803	\$ 48,803	\$ 48,803	\$ 48,803	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ 50,480	5	\$ 10,096	\$ 10,096	\$ 10,096	\$ 10,096	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ (184,618)	5	\$ (36,924)	\$ (36,924)	\$ (36,924)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ 20,444	5	\$ 4,089	\$ 4,089	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ 596,505	5	\$ 119,301	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 145,366	\$ 26,064	\$ 21,975	\$ 58,899	\$ 48,803	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

## 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	\$ (25,334)	4	\$ (6,332)	\$ (6,334)	\$ (6,334)	\$ (6,334)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ 160,056	4	\$ 40,014	\$ 40,014	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ 196,022	4	\$ 49,006	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 82,688	\$ 33,680	\$ (6,334)	\$ (6,334)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

## 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	\$ 72,910	4	\$ 18,226	\$ 18,228	\$ 18,228	\$ 18,228	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ 125,862	4	\$ 31,466	\$ 31,466	\$ 31,466	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ 99,332	4	\$ 24,833	\$ 24,833	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ 507,014	4	\$ 126,754	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 201,279	\$ 74,527	\$ 49,694	\$ 18,228	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -