

February 3, 2020

Board of Trustees  
Dunedin Firefighters' Retirement System  
1042 Virginia Street  
Dunedin, FL 34698

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

The calculation of the liability associated with the benefits referenced in this report was performed for 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 purposes 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

Enclosures

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2019

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Short Term Investments	572,243
Prepaid Expenses	229
Cash	24,709
Total Cash and Equivalents	597,181
Receivables:	
Investment Income	39,612
Total Receivable	39,612
Investments:	
U. S. Bonds and Bills	2,996,910
Federal Agency Guaranteed Securities	1,519,949
Corporate Bonds	1,783,380
Stocks	11,036,608
Mutual Funds:	
Equity	8,772,451
Real Estate	3,047,509
Total Investments	29,156,807
Total Assets	29,793,600
<u>LIABILITIES</u>	
Payables:	
Investment Expenses	29,136
Administrative Expenses	2,357
Total Liabilities	31,493
NET POSITION RESTRICTED FOR PENSIONS	29,762,107

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

ADDITIONS

## Contributions:

Member	186,986	
Buy-Back	70,955	
City	460,063	
State	312,939	
 Total Contributions		 1,030,943
 Investment Income:		
Net Increase in Fair Value of Investments	67,744	
Interest & Dividends	708,801	
Less Investment Expense <sup>1</sup>	(116,363)	
 Net Investment Income		 660,182
 Total Additions		 1,691,125

DEDUCTIONS

## Distributions to Members:

Benefit Payments	1,227,375	
Lump Sum DROP Distributions	150,597	
Lump Sum Share Distributions	5,902	
Refunds of Member Contributions	4,432	
 Total Distributions		 1,388,306
 Administrative Expense		 74,005
 Total Deductions		 1,462,311
 Net Increase in Net Position		 228,814

## NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year		29,533,293
End of the Year		29,762,107

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

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

Plan Description

*Plan Administration*

The Plan is a single-employer defined benefit pension plan administered by the Plan's Board of Trustees comprised of: Two Council appointees, two Members of the Plan elected by the membership, and a fifth Member elected by other 4 and appointed by Council as a ministerial duty.

*Plan Membership as of October 1, 2018:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	48
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2
Active Plan Members	50
	100

*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 Dunedin Firefighters' 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: 5.5% of Compensation.

Employer Contributions: Chapter 175 Premium Tax Refunds and any additional amount determined by the actuary needed to fund the plan properly according to State laws.

Investments

*Investment Policy:*

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

Asset Class	Target Allocation
Domestic Equity	52.5%
International Equity	12.5%
Domestic Fixed Income	25.0%
Real Estate	10.0%
Total	100.0%

*Concentrations:*

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

*Rate of Return:*

For the year ended September 30, 2019, the annual money-weighted rate of return on Pension Plan investments, net of Pension Plan investment expense, was 2.26 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: A member may retire on the first day of the month coincident with or next following the earlier of: (1) age 52 and 25 years of Credited Service, or (2) age 55 and 10 years of Credited Service, or (3) 20 years of Credited Service regardless of age. Members who meet eligibility must submit a written election to participate in the DROP.

Benefit: The member's Credited Service and FAC are frozen upon entry into the DROP. The monthly retirement benefit as described under Normal Retirement is calculated based upon the frozen Credited Service and FAC.

In addition, a supplemental benefit of \$13 per year of Credited Service up to a maximum of \$325 is payable monthly to members who meet the requirements for Normal Retirement and retire. DROP participants do not receive the supplement until actual termination of employment.

Maximum DROP Period: The earlier of 5 years of participation in the DROP or when the member has completed 30 years of Credited Service.

Interest Credited: The member's average daily balance of the DROP account is debited or credited with interest on a quarterly basis at a rate equal to the Trust Fund's net investment return for the quarter.

The DROP balance as September 30, 2019 is \$583,882.

## 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	\$ 31,231,917
Plan Fiduciary Net Position	\$ (29,762,107)
Sponsor's Net Pension Liability	<u>\$ 1,469,810</u>
Plan Fiduciary Net Position as a percentage of Total Pension Liability	95.29%

*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	7.50%
Investment Rate of Return	7.50%

*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 October 3, 2016.

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

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

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

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

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

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### Discount Rate:

The Discount Rate used to measure the Total Pension Liability was 7.50 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Pension Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the Long-Term Expected Rate of Return on Pension Plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability.

	1% Decrease 6.50%	Current Discount Rate 7.50%	1% Increase 8.50%
Sponsor's Net Pension Liability	\$ 4,951,831	\$ 1,469,810	\$ (1,453,379)

**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	896,035	818,157	856,749
Interest	2,232,784	2,087,665	1,969,652
Change in Excess State Money	-	(32,072)	-
Share Plan Allocation	22,417	14,179	11,304
Changes of benefit terms	170,785	-	-
Differences between Expected and Actual Experience	(170,541)	28,595	(89,355)
Changes of assumptions	-	-	-
Contributions - Buy Back	70,955	-	1,118
Benefit Payments, including Refunds of Employee Contributions	(1,388,306)	(1,136,362)	(1,138,395)
Net Change in Total Pension Liability	1,834,129	1,780,162	1,611,073
Total Pension Liability - Beginning	29,397,788	27,617,626	26,006,553
Total Pension Liability - Ending (a)	<u>\$ 31,231,917</u>	<u>\$ 29,397,788</u>	<u>\$ 27,617,626</u>
Plan Fiduciary Net Position			
Contributions - Employer	460,063	458,623	446,583
Contributions - State	312,939	301,956	298,122
Contributions - Employee	186,986	181,279	180,673
Contributions - Buy Back	70,955	-	1,118
Net Investment Income	660,182	2,899,009	1,888,678
Benefit Payments, including Refunds of Employee Contributions	(1,388,306)	(1,136,362)	(1,138,395)
Administrative Expense	(74,005)	(71,296)	(62,596)
Net Change in Plan Fiduciary Net Position	228,814	2,633,209	1,614,183
Plan Fiduciary Net Position - Beginning	29,533,293	26,900,084	25,285,901
Plan Fiduciary Net Position - Ending (b)	<u>\$ 29,762,107</u>	<u>\$ 29,533,293</u>	<u>\$ 26,900,084</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 1,469,810</u>	<u>\$ (135,505)</u>	<u>\$ 717,542</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	95.29%	100.46%	97.40%
Covered Payroll <sup>1</sup>	\$ 3,399,726	\$ 3,295,962	\$ 3,284,952
Net Pension Liability as a percentage of Covered Payroll	43.23%	-4.11%	21.84%

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

	<u>09/30/2016</u>	<u>09/30/2015</u>
Total Pension Liability		
Service Cost	818,555	795,653
Interest	1,946,348	1,800,848
Change in Excess State Money	-	5,213
Share Plan Allocation	2,432	15,635
Changes of benefit terms	495,699	-
Differences between Expected and Actual Experience	(836,436)	(214,235)
Changes of assumptions	201,521	-
Contributions - Buy Back	73,537	32,877
Benefit Payments, including Refunds of Employee Contributions	<u>(1,052,549)</u>	<u>(1,091,385)</u>
Net Change in Total Pension Liability	1,649,107	1,344,606
Total Pension Liability - Beginning	<u>24,357,446</u>	<u>23,012,840</u>
Total Pension Liability - Ending (a)	<u>\$ 26,006,553</u>	<u>\$ 24,357,446</u>
Plan Fiduciary Net Position		
Contributions - Employer	442,686	501,383
Contributions - State	286,293	303,898
Contributions - Employee	186,769	178,122
Contributions - Buy Back	73,537	32,877
Net Investment Income	1,676,263	(353,976)
Benefit Payments, including Refunds of Employee Contributions	(1,052,549)	(1,091,385)
Administrative Expense	<u>(69,374)</u>	<u>(76,367)</u>
Net Change in Plan Fiduciary Net Position	1,543,625	(505,448)
Plan Fiduciary Net Position - Beginning	<u>23,742,276</u>	<u>24,247,724</u>
Plan Fiduciary Net Position - Ending (b)	<u>\$ 25,285,901</u>	<u>\$ 23,742,276</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 720,652</u>	<u>\$ 615,170</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	97.23%	97.47%
Covered Payroll <sup>1</sup>	\$ 3,395,812	\$ 3,288,615
Net Pension Liability as a percentage of Covered Payroll	21.22%	18.71%

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

	09/30/2014	09/30/2013
Total Pension Liability		
Service Cost	793,320	736,260
Interest	1,685,549	1,586,064
Change in Excess State Money	9,746	-
Share Plan Allocation	29,234	-
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	-	-
Changes of assumptions	-	-
Contributions - Buy Back	64,645	-
Benefit Payments, including Refunds of Employee Contributions	(1,083,306)	(1,108,108)
Net Change in Total Pension Liability	1,499,188	1,214,216
Total Pension Liability - Beginning	21,513,652	20,299,436
Total Pension Liability - Ending (a)	<u>\$ 23,012,840</u>	<u>\$ 21,513,652</u>
Plan Fiduciary Net Position		
Contributions - Employer	510,314	549,848
Contributions - State	322,030	314,996
Contributions - Employee	176,623	172,605
Contributions - Buy Back	64,645	-
Net Investment Income	1,904,122	2,667,160
Benefit Payments, including Refunds of Employee Contributions	(1,083,306)	(1,108,108)
Administrative Expense	(44,389)	(48,564)
Net Change in Plan Fiduciary Net Position	1,850,039	2,547,937
Plan Fiduciary Net Position - Beginning	22,397,685	19,849,748
Plan Fiduciary Net Position - Ending (b)	<u>\$ 24,247,724</u>	<u>\$ 22,397,685</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ (1,234,884)</u>	<u>\$ (884,033)</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	105.37%	104.11%
Covered Payroll <sup>1</sup>	\$ 3,211,327	\$ 3,138,275
Net Pension Liability as a percentage of Covered Payroll	-38.45%	-28.17%

**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 of benefit terms:*

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

Additionally, the Supplemental Benefit have been increased from \$13 per month per year of service to \$16 per month per year of service.

For measurement date 09/30/2016, Ordinance 16-22 was adopted. The change was an increase in the Supplemental benefit from \$3 to \$13 per month per year of service up to a maximum of \$325 for Members who retire on or after October 1, 2016 or enter the DROP on or after October 1, 2014.

*Changes of assumptions:*

For measurement date 09/30/2016, as a result of an October 3, 2016 Experience Study and as a result of recent State legislation, the Board has made the following assumption changes:

- The assumed rates of mortality were changed to match those used by the FRS for special risk employees in their July 1, 2015 valuation report.
- The expected withdrawal rates were reduced, as shown in the Actuarial Assumptions and Methods section of the 10/01/2016 Valuation report.
- The investment return assumption was reduced from 7.75% to 7.50% per year, net of investment related expenses.
- The assumed rates of individual salary increase were reduced as shown in the Actuarial Assumptions and Methods section of the 10/01/2016 Valuation report.
- The assumed rates of retirement were reduced at each age, as shown in the Actuarial Assumptions and Methods section of the 10/01/2016 Valuation report.

In addition, 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.

For measurement date 09/30/2015, the inflation assumption was lowered from 3.50% to 3.00%

**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>	Total Contributions as a percentage of Covered Payroll
09/30/2019	\$ 746,882	\$ 750,586	\$ (3,704)	\$ 3,399,726	22.08%
09/30/2018	\$ 777,513	\$ 778,472	\$ (959)	\$ 3,295,962	23.62%
09/30/2017	\$ 733,401	\$ 733,401	\$ -	\$ 3,284,952	22.33%
09/30/2016	\$ 725,736	\$ 725,736	\$ -	\$ 3,395,812	21.37%
09/30/2015	\$ 784,433	\$ 784,433	\$ -	\$ 3,288,615	23.85%
09/30/2014	\$ 793,364	\$ 793,364	\$ -	\$ 3,211,327	24.71%
09/30/2013	\$ 832,898	\$ 832,898	\$ -	\$ 3,138,275	26.54%

<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 Rates:

*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.

Termination Rates:

Service	Probability of Termination
0	5.0%
1	5.0%
2	5.0%
3	5.0%
4	5.0%
5	5.0%
6	4.0%
7	4.0%
8	0.0%
9	0.0%
10+	0.5%

The assumed rates of termination resulted from an October 3, 2016 Experience Study.

Disability Rates:

See sample rates below. 75% of disabilities are assumed to be service-incurred. The assumed rates of disablement were utilized and carried over from the prior actuary. We feel these rates are consistent with those utilized for plans containing other Florida municipal firefighters.

Retirement Rates:

Years After First Eligibility for Normal Retirement	Probability of Retirement
0	20%
1	10%
2	10%
3	10%
4	10%
5+	100%

Additionally, the assumed rate of retirement is 2.0% for each year of eligibility for early retirement. The assumed rates of retirement resulted from an October 3, 2016 Experience Study.

Interest Rate:

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

Salary Increases:

Service	Salary Increase Assumption
0	11.0%
1	10.0%
2	9.0%
3	8.0%
4	7.0%
5	6.5%
6	6.5%
7	6.5%
8	6.5%
9	6.5%
10	6.0%
11	5.5%
12	5.0%
13	4.5%
14+	4.0%

The assumed rates of salary increase resulted from an October 3, 2016 Experience Study.

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Payroll Growth: 1.32% per year for amortization of the Unfunded Actuarial Accrued Liability. This is in compliance with Part VII of Chapter 112, Florida Statutes.

Funding Method: Entry Age Normal Cost Method.

Amortization Method: Level Percentage of Pay, Closed.

Remaining Amortization Period: 30 Years.

Funding Projection: The following loads are applied for determination of the Sponsor dollar funding requirement for the following year:  
 Interest – A half year, based on the current 7.50% assumption.  
 Salary – A full year, based on the current 5.29% assumption.

Actuarial Asset Method: All assets are valued at market value with an adjustment made to uniformly spread actuarial investment gains and losses (as measured by actual market value investment return against expected market value investment return) over a five-year period.

Disability Rates:	Age	% Becoming Disabled During the Year
	20	0.14%
	25	0.15%
	30	0.18%
	35	0.23%
	40	0.30%
	45	0.51%
	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	2.26%
09/30/2018	10.90%
09/30/2017	7.55%
09/30/2016	7.12%
09/30/2015	-1.47%
09/30/2014	8.56%
09/30/2013	13.40%

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

General Information about the Pension Plan

*Plan Description*

The Plan is a single-employer defined benefit pension plan administered by the Plan's Board of Trustees comprised of: Two Council appointees, two Members of the Plan elected by the membership, and a fifth Member elected by other 4 and appointed by Council as a ministerial duty.

All actively employed full-time firefighters participate in the Plan as a condition of employment.

*Plan Membership as of October 1, 2018:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	48
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2
Active Plan Members	50
	100
	100

*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 Dunedin Firefighters' 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: 5.5% of Compensation.

Employer Contributions: Chapter 175 Premium Tax Refunds and any additional amount determined by the actuary needed to fund the plan properly according to State laws.

Net Pension Liability

The measurement date is September 30, 2019.

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

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

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

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

*Actuarial Assumptions:*

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

Inflation	2.50%
Salary Increases	Service based
Discount Rate	7.50%
Investment Rate of Return	7.50%

*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.

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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 October 3, 2016.

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	52.5%	7.50%
International Equity	12.5%	8.50%
Domestic Fixed Income	25.0%	2.50%
Real Estate	10.0%	4.50%
Total	100.0%	

**Discount Rate:**

The Discount Rate used to measure the Total Pension Liability was 7.50 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Pension Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the Long-Term Expected Rate of Return on Pension Plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability.

CHANGES IN NET PENSION LIABILITY

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
	(a)	(b)	(a)-(b)
Reporting Period Ending September 30, 2019	\$ 29,397,788	\$ 29,533,293	\$ (135,505)
Changes for a Year:			
Service Cost	896,035	-	896,035
Interest	2,232,784	-	2,232,784
Change in Excess State Money	-	-	-
Share Plan Allocation	22,417	-	22,417
Differences between Expected and Actual Experience	(170,541)	-	(170,541)
Changes of assumptions	-	-	-
Changes of benefit terms	170,785	-	170,785
Contributions - Employer	-	460,063	(460,063)
Contributions - State	-	312,939	(312,939)
Contributions - Employee	-	186,986	(186,986)
Contributions - Buy Back	70,955	70,955	-
Net Investment Income	-	660,182	(660,182)
Benefit Payments, including Refunds of Employee Contributions	(1,388,306)	(1,388,306)	-
Administrative Expense	-	(74,005)	74,005
Net Changes	1,834,129	228,814	1,605,315
Reporting Period Ending September 30, 2020	\$ 31,231,917	\$ 29,762,107	\$ 1,469,810

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

	Current Discount		
	1% Decrease	Rate	1% Increase
	6.50%	7.50%	8.50%
Sponsor's Net Pension Liability	\$ 4,951,831	\$ 1,469,810	\$ (1,453,379)

*Pension Plan Fiduciary Net Position.*

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

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

For the year ended September 30, 2019, the Sponsor has recognized a Pension Expense of \$852,732.

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	22,876	431,034
Changes of assumptions	80,608	-
Net difference between Projected and Actual Earnings on Pension Plan investments	-	205,783
Employer and State Contributions subsequent to the measurement date	773,002	-
Total	\$ 876,486	\$ 636,817

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

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

Year ended September 30:		
2020	\$	116,404
2021	\$	(286,210)
2022	\$	(190,952)
2023	\$	(172,575)
2024	\$	-
Thereafter	\$	-

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

For the year ended September 30, 2020, the Sponsor will recognize a Pension Expense of \$1,400,241.

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

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected and Actual Experience	17,157	339,461
Changes of assumptions	40,304	-
Net difference between Projected and Actual Earnings on Pension Plan investments	726,743	-
Employer and State Contributions subsequent to the measurement date	TBD	-
Total	TBD	\$ 339,461

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

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

Year ended September 30:		
2021	\$	(12,590)
2022	\$	82,668
2023	\$	101,045
2024	\$	273,620
2025	\$	-
Thereafter	\$	-

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

Last 10 Fiscal Years

Reporting Period Ending Measurement Date	09/30/2020 09/30/2019	09/30/2019 09/30/2018	09/30/2018 09/30/2017
Total Pension Liability			
Service Cost	896,035	818,157	856,749
Interest	2,232,784	2,087,665	1,969,652
Change in Excess State Money	-	(32,072)	-
Share Plan Allocation	22,417	14,179	11,304
Changes of benefit terms	170,785	-	-
Differences between Expected and Actual Experience	(170,541)	28,595	(89,355)
Changes of assumptions	-	-	-
Contributions - Buy Back	70,955	-	1,118
Benefit Payments, including Refunds of Employee Contributions	(1,388,306)	(1,136,362)	(1,138,395)
Net Change in Total Pension Liability	1,834,129	1,780,162	1,611,073
Total Pension Liability - Beginning	29,397,788	27,617,626	26,006,553
Total Pension Liability - Ending (a)	<u>\$ 31,231,917</u>	<u>\$ 29,397,788</u>	<u>\$ 27,617,626</u>
Plan Fiduciary Net Position			
Contributions - Employer	460,063	458,623	446,583
Contributions - State	312,939	301,956	298,122
Contributions - Employee	186,986	181,279	180,673
Contributions - Buy Back	70,955	-	1,118
Net Investment Income	660,182	2,899,009	1,888,678
Benefit Payments, including Refunds of Employee Contributions	(1,388,306)	(1,136,362)	(1,138,395)
Administrative Expense	(74,005)	(71,296)	(62,596)
Net Change in Plan Fiduciary Net Position	228,814	2,633,209	1,614,183
Plan Fiduciary Net Position - Beginning	29,533,293	26,900,084	25,285,901
Plan Fiduciary Net Position - Ending (b)	<u>\$ 29,762,107</u>	<u>\$ 29,533,293</u>	<u>\$ 26,900,084</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 1,469,810</u>	<u>\$ (135,505)</u>	<u>\$ 717,542</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	95.29%	100.46%	97.40%
Covered Payroll <sup>1</sup>	\$ 3,399,726	\$ 3,295,962	\$ 3,284,952
Net Pension Liability as a percentage of Covered Payroll	43.23%	-4.11%	21.84%

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

Reporting Period Ending	09/30/2017	09/30/2016
Measurement Date	09/30/2016	09/30/2015
Total Pension Liability		
Service Cost	818,555	795,653
Interest	1,946,348	1,800,848
Change in Excess State Money	-	5,213
Share Plan Allocation	2,432	15,635
Changes of benefit terms	495,699	-
Differences between Expected and Actual Experience	(836,436)	(214,235)
Changes of assumptions	201,521	-
Contributions - Buy Back	73,537	32,877
Benefit Payments, including Refunds of Employee Contributions	(1,052,549)	(1,091,385)
Net Change in Total Pension Liability	1,649,107	1,344,606
Total Pension Liability - Beginning	24,357,446	23,012,840
Total Pension Liability - Ending (a)	<u>\$ 26,006,553</u>	<u>\$ 24,357,446</u>
Plan Fiduciary Net Position		
Contributions - Employer	442,686	501,383
Contributions - State	286,293	303,898
Contributions - Employee	186,769	178,122
Contributions - Buy Back	73,537	32,877
Net Investment Income	1,676,263	(353,976)
Benefit Payments, including Refunds of Employee Contributions	(1,052,549)	(1,091,385)
Administrative Expense	(69,374)	(76,367)
Net Change in Plan Fiduciary Net Position	1,543,625	(505,448)
Plan Fiduciary Net Position - Beginning	23,742,276	24,247,724
Plan Fiduciary Net Position - Ending (b)	<u>\$ 25,285,901</u>	<u>\$ 23,742,276</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 720,652</u>	<u>\$ 615,170</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	97.23%	97.47%
Covered Payroll <sup>1</sup>	\$ 3,395,812	\$ 3,288,615
Net Pension Liability as a percentage of Covered Payroll	21.22%	18.71%

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

Reporting Period Ending	09/30/2015	09/30/2014
Measurement Date	09/30/2014	09/30/2013
Total Pension Liability		
Service Cost	793,320	736,260
Interest	1,685,549	1,586,064
Change in Excess State Money	9,746	-
Share Plan Allocation	29,234	-
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	-	-
Changes of assumptions	-	-
Contributions - Buy Back	64,645	-
Benefit Payments, including Refunds of Employee Contributions	(1,083,306)	(1,108,108)
Net Change in Total Pension Liability	1,499,188	1,214,216
Total Pension Liability - Beginning	21,513,652	20,299,436
Total Pension Liability - Ending (a)	<u>\$ 23,012,840</u>	<u>\$ 21,513,652</u>
Plan Fiduciary Net Position		
Contributions - Employer	510,314	549,848
Contributions - State	322,030	314,996
Contributions - Employee	176,623	172,605
Contributions - Buy Back	64,645	-
Net Investment Income	1,904,122	2,667,160
Benefit Payments, including Refunds of Employee Contributions	(1,083,306)	(1,108,108)
Administrative Expense	(44,389)	(48,564)
Net Change in Plan Fiduciary Net Position	1,850,039	2,547,937
Plan Fiduciary Net Position - Beginning	22,397,685	19,849,748
Plan Fiduciary Net Position - Ending (b)	<u>\$ 24,247,724</u>	<u>\$ 22,397,685</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ (1,234,884)</u>	<u>\$ (884,033)</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	105.37%	104.11%
Covered Payroll <sup>1</sup>	\$ 3,211,327	\$ 3,138,275
Net Pension Liability as a percentage of Covered Payroll	-38.45%	-28.17%

**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 of benefit terms:*

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

Additionally, the Supplemental Benefit have been increased from \$13 per month per year of service to \$16 per month per year of service.

For measurement date 09/30/2016, Ordinance 16-22 was adopted. The change was an increase in the Supplemental benefit from \$3 to \$13 per month per year of service up to a maximum of \$325 for Members who retire on or after October 1, 2016 or enter the DROP on or after October 1, 2014.

*Changes of assumptions:*

For measurement date 09/30/2016, as a result of an October 3, 2016 Experience Study and as a result of recent State legislation, the Board has made the following assumption changes:

- The assumed rates of mortality were changed to match those used by the FRS for special risk employees in their July 1, 2015 valuation report.
- The expected withdrawal rates were reduced, as shown in the Actuarial Assumptions and Methods section of the 10/01/2016 Valuation report.
- The investment return assumption was reduced from 7.75% to 7.50% per year, net of investment related expenses.
- The assumed rates of individual salary increase were reduced as shown in the Actuarial Assumptions and Methods section of the 10/01/2016 Valuation report.
- The assumed rates of retirement were reduced at each age, as shown in the Actuarial Assumptions and Methods section of the 10/01/2016 Valuation report.

In addition, 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.

For measurement date 09/30/2015, the inflation assumption was lowered from 3.50% to 3.00%

**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>	Total Contributions as a percentage of Covered Payroll
09/30/2019	\$ 746,882	\$ 750,586	\$ (3,704)	\$ 3,399,726	22.08%
09/30/2018	\$ 777,513	\$ 778,472	\$ (959)	\$ 3,295,962	23.62%
09/30/2017	\$ 733,401	\$ 733,401	\$ -	\$ 3,284,952	22.33%
09/30/2016	\$ 725,736	\$ 725,736	\$ -	\$ 3,395,812	21.37%
09/30/2015	\$ 784,433	\$ 784,433	\$ -	\$ 3,288,615	23.85%
09/30/2014	\$ 793,364	\$ 793,364	\$ -	\$ 3,211,327	24.71%
09/30/2013	\$ 832,898	\$ 832,898	\$ -	\$ 3,138,275	26.54%

<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 Rates:

*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.

Termination Rates:

Service	Probability of Termination
0	5.0%
1	5.0%
2	5.0%
3	5.0%
4	5.0%
5	5.0%
6	4.0%
7	4.0%
8	0.0%
9	0.0%
10+	0.5%

The assumed rates of termination resulted from an October 3, 2016 Experience Study.

Disability Rates:

See sample rates below. 75% of disabilities are assumed to be service-incurred. The assumed rates of disablement were utilized and carried over from the prior actuary. We feel these rates are consistent with those utilized for plans containing other Florida municipal firefighters.

Retirement Rates:

Years After First Eligibility for Normal Retirement	Probability of Retirement
0	20%
1	10%
2	10%
3	10%
4	10%
5+	100%

Additionally, the assumed rate of retirement is 2.0% for each year of eligibility for early retirement. The assumed rates of retirement resulted from an October 3, 2016 Experience Study.

Interest Rate:

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

Salary Increases:

Service	Salary Increase Assumption
0	11.0%
1	10.0%
2	9.0%
3	8.0%
4	7.0%
5	6.5%
6	6.5%
7	6.5%
8	6.5%
9	6.5%
10	6.0%
11	5.5%
12	5.0%
13	4.5%
14+	4.0%

The assumed rates of salary increase resulted from an October 3, 2016 Experience Study.

**GASB 68**

Payroll Growth: 1.32% per year for amortization of the Unfunded Actuarial Accrued Liability. This is in compliance with Part VII of Chapter 112, Florida Statutes.

Funding Method: Entry Age Normal Cost Method.

Amortization Method: Level Percentage of Pay, Closed.

Remaining Amortization Period: 30 Years.

Funding Projection: The following loads are applied for determination of the Sponsor dollar funding requirement for the following year:  
 Interest – A half year, based on the current 7.50% assumption.  
 Salary – A full year, based on the current 5.29% assumption.

Actuarial Asset Method: All assets are valued at market value with an adjustment made to uniformly spread actuarial investment gains and losses (as measured by actual market value investment return against expected market value investment return) over a five-year period.

Disability Rates:

Age	% Becoming Disabled During the Year
20	0.14%
25	0.15%
30	0.18%
35	0.23%
40	0.30%
45	0.51%
50	1.00%

EXPENSE DEVELOPMENT AND AMORTIZATION SCHEDULES

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

FINAL COMPONENTS OF PENSION EXPENSE  
FISCAL YEAR SEPTEMBER 30, 2019

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	\$ 717,542	\$ 695,142	\$ 1,867,588	
Employer and State Contributions made after 09/30/2018	-	-	773,002	-
Total Pension Liability Factors:				
Service Cost	818,157	-	-	818,157
Interest	2,087,665	-	-	2,087,665
Change in Excess State Money	(32,072)	-	-	(32,072)
Share Plan Allocation	14,179	-	-	14,179
Changes in benefit terms	-	-	-	-
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	28,595	-	28,595	-
Current year amortization of experience difference	-	(228,005)	(5,719)	(222,286)
Change in assumptions about future economic or demographic factors or other inputs	-	-	-	-
Current year amortization of change in assumptions	-	-	(40,304)	40,304
Benefit Payments, including Refunds of Employee Contributions	(1,136,362)	-	-	-
Net change	<u>1,780,162</u>	<u>(228,005)</u>	<u>755,574</u>	<u>2,705,947</u>
Plan Fiduciary Net Position:				
Contributions - Employer	458,623	-	(458,623)	-
Contributions - State	301,956	-	(301,956)	-
Contributions - Employee	181,279	-	-	(181,279)
Projected Net Investment Income	2,007,539	-	-	(2,007,539)
Difference between projected and actual earnings on Pension Plan investments	891,470	891,470	-	-
Current year amortization	-	(212,879)	(477,186)	264,307
Benefit Payments, including Refunds of Employee Contributions	(1,136,362)	-	-	-
Administrative Expenses	(71,296)	-	-	71,296
Net change	<u>2,633,209</u>	<u>678,591</u>	<u>(1,237,765)</u>	<u>(1,853,215)</u>
Ending Balance	<u>\$ (135,505)</u>	<u>\$ 1,145,728</u>	<u>\$ 1,385,397</u>	<u>\$ 852,732</u>

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

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	\$ (135,505)	\$ 1,145,728	\$ 1,385,397	
Employer and State Contributions made after 09/30/2019	-	-	TBD*	-
Total Pension Liability Factors:				
Service Cost	896,035	-	-	896,035
Interest	2,232,784	-	-	2,232,784
Change in Excess State Money	-	-	-	-
Share Plan Allocation	22,417	-	-	22,417
Changes in benefit terms	170,785	-	-	170,785
Contributions - Buy Back	70,955	-	-	70,955
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	(170,541)	170,541	-	-
Current year amortization of experience difference	-	(262,114)	(5,719)	(256,395)
Change in assumptions about future economic or demographic factors or other inputs	-	-	-	-
Current year amortization of change in assumptions	-	-	(40,304)	40,304
Benefit Payments, including Refunds of Employee Contributions	(1,388,306)	-	-	-
Net change	<u>1,834,129</u>	<u>(91,573)</u>	<u>(46,023)</u>	<u>3,176,885</u>
Plan Fiduciary Net Position:				
Contributions - Employer	460,063	-	(460,063)	-
Contributions - State	312,939	-	(312,939)	-
Contributions - Employee	186,986	-	-	(186,986)
Contributions - Buy Back	70,955	-	-	(70,955)
Projected Net Investment Income	2,198,821	-	-	(2,198,821)
Difference between projected and actual earnings on Pension Plan investments	(1,538,639)	-	1,538,639	-
Current year amortization	-	(178,800)	(784,913)	606,113
Benefit Payments, including Refunds of Employee Contributions	(1,388,306)	-	-	-
Administrative Expenses	(74,005)	-	-	74,005
Net change	<u>228,814</u>	<u>(178,800)</u>	<u>(19,276)</u>	<u>(1,776,644)</u>
Ending Balance	<u>\$ 1,469,810</u>	<u>\$ 875,355</u>	<u>TBD</u>	<u>\$ 1,400,241</u>

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

AMORTIZATION SCHEDULE - INVESTMENTS

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

Plan Year Ending	Differences Between Projected and Actual Earnings	Recognition Period (Years)	<u>Increase (Decrease) in Pension Expense Arising from the Recognition of the of Differences Between Projected and Actual Earnings on Pension Plan Investments</u>												
			2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029		
2019	\$ 1,538,639	5	\$ -	\$ 307,727	\$ 307,728	\$ 307,728	\$ 307,728	\$ 307,728	\$ 307,728	\$ -	\$ -	\$ -	\$ -	\$ -	
2018	\$ (891,470)	5	\$ (178,294)	\$ (178,294)	\$ (178,294)	\$ (178,294)	\$ (178,294)	\$ (178,294)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2017	\$ (2,529)	5	\$ (506)	\$ (506)	\$ (506)	\$ (506)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2016	\$ 158,624	5	\$ 31,725	\$ 31,725	\$ 31,725	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2015	\$ 2,227,305	5	\$ 445,461	\$ 445,461	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2014	\$ (170,397)	5	\$ (34,079)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Net Increase (Decrease) in Pension Expense			\$ 264,307	\$ 606,113	\$ 160,653	\$ 128,928	\$ 129,434	\$ 307,728	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	

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
2016	\$ 201,521	5	\$ 40,304	\$ 40,304	\$ 40,304	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 40,304	\$ 40,304	\$ 40,304	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

AMORTIZATION SCHEDULE - EXPERIENCE

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

Plan Year Ending	Differences Between Expected and Actual Experience	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2019	\$ (170,541)	5	\$ -	\$ (34,109)	\$ (34,108)	\$ (34,108)	\$ (34,108)	\$ (34,108)	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ 28,595	5	\$ 5,719	\$ 5,719	\$ 5,719	\$ 5,719	\$ 5,719	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ (89,355)	5	\$ (17,871)	\$ (17,871)	\$ (17,871)	\$ (17,871)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ (836,436)	5	\$ (167,287)	\$ (167,287)	\$ (167,287)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ (214,235)	5	\$ (42,847)	\$ (42,847)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ (222,286)	\$ (256,395)	\$ (213,547)	\$ (46,260)	\$ (28,389)	\$ (34,108)	\$ -	\$ -	\$ -	\$ -	\$ -