

CITY OF PALM COAST
VOLUNTEER FIREFIGHTERS' RETIREMENT TRUST FUND

ACTUARIAL VALUATION
AS OF OCTOBER 1, 2020

CONTRIBUTIONS APPLICABLE TO THE
PLAN/FISCAL YEAR ENDING SEPTEMBER 30, 2022

GASB 67/68 DISCLOSURE INFORMATION
AS OF SEPTEMBER 30, 2020



FOSTER & FOSTER
ACTUARIES AND CONSULTANTS

December 31, 2020

Board of Trustees
City of Palm Coast
Volunteer Firefighters' Retirement Trust Fund Board

Re: City of Palm Coast Volunteer Firefighters' Retirement Trust Fund

Dear Board of Trustees:

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

The valuations have been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflect laws and regulations issued to date pursuant to the provisions of Chapters 112 and 175, Florida Statutes, as well as applicable federal laws and regulations. In our opinion, the assumptions used in the valuations, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience.

The funding percentages and unfunded accrued liability as measured based on the actuarial value of assets will differ from similar measures based on the market value of assets. These measures, as provided, are appropriate for determining the adequacy of future contributions, but may not be appropriate for the purpose of settling a portion or all of its liabilities. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuations, we did not perform an analysis of the potential range of such future measurements.

In conducting the valuations, we have relied on personnel, plan design, and asset information supplied by the City of Palm Coast, financial reports prepared by the custodian bank, and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the

accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

The total pension liability, net pension liability, and certain sensitivity information shown in this report are based on an actuarial valuation performed as of October 1, 2019. The total pension liability was rolled-forward from the valuation date to the plan's fiscal year ending September 30, 2020 using generally accepted actuarial principles. It is our opinion that the assumptions used for this purpose are internally consistent, reasonable, and comply with the requirements under GASB No. 67 and No. 68.

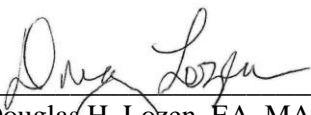
The undersigned are familiar with the immediate and long-term aspects of pension valuations, and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the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

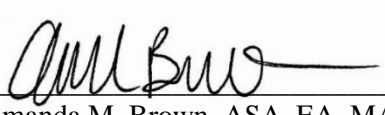
To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the City of Palm Coast, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the Volunteer Firefighters' Retirement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

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

Respectfully submitted,

Foster & Foster, Inc.

By: 
Douglas H. Lozen, EA, MAAA
Enrolled Actuary #20-7778

By: 
Amanda M. Brown, ASA, EA, MAAA
Enrolled Actuary #20-8780

Enclosures

TABLE OF CONTENTS

Section	Title	Page
I	Introduction	
	a. Summary of Report	5
	b. Changes Since Prior Valuation	6
	c. Comparative Summary of Principal Valuation Results	7
II	Valuation Information	
	a. Reconciliation of Unfunded Actuarial Accrued Liabilities	13
	b. Detailed Actuarial (Gain)/Loss Analysis	14
	c. History of Funding Progress	15
	d. Actuarial Assumptions and Methods	16
	e. Glossary	19
	f. Discussion of Risk	20
	g. Partial History of Premium Tax Refunds	23
III	Trust Fund	24
IV	Member Statistics	
	a. Statistical Data	31
	b. Age and Service Distribution	32
	c. Valuation Participant Reconciliation	33
V	Summary of Current Plan	34
VI	Governmental Accounting Standards Board Statements No. 67 and No. 68 Disclosure Information	36

SUMMARY OF REPORT

The regular annual actuarial valuation of the City of Palm Coast Volunteer Firefighters' Retirement Trust Fund, performed as of October 1, 2020, has been completed and the results are presented in this Report. The contribution amounts set forth herein are applicable to the plan/fiscal year ending September 30, 2022.

The contribution requirements, compared with those set forth in the October 1, 2019 actuarial valuation report, are as follows:

Valuation Date Applicable to Fiscal Year Ending	10/1/2020 <u>9/30/2022</u>	10/1/2019 <u>9/30/2021</u>
Minimum Required Contribution ¹	\$82,235	\$86,230
Member Contributions	0	0
City And State Required Contribution	82,235	86,230
State Contribution (Est.) ²	200,000	200,000
City Required Contribution ³	\$0	\$0

¹ The City must contribute an amount equal to the applicable Normal Cost (adjusted for interest), less the applicable State Contribution. The Minimum Required Contribution disclosed above reflects this statutory requirement under Chapter 112.66(13).

² As per a Mutual Consent Agreement between the Membership and the City, State Monies received up to \$200,000 each year are available to offset the City's required contribution. State Monies in excess of \$200,000 are allocated to the Share Plan.

³ The City has access to a \$301,147.26 reserve in the event its contribution requirement is ever greater than \$0.

Plan experience was favorable overall on the basis of the plan's actuarial assumptions. Sources of actuarial gain included an investment return of 7.74% (Actuarial Asset Basis) which exceeded the 7.00% assumption and more turnover than expected. These gains were offset in part by a loss associated with inactive mortality experience.

CHANGES SINCE PRIOR VALUATION

Plan Changes

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

Actuarial Assumption/Method Changes

The below assumption changes were adopted by the Board following an actuarial experience study dated November 11, 2020:

- The annual assumed rate of investment return was decreased from 7.0% to 6.0%, net of investment related expenses.
- As mandated by Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the rates used in Milliman's July 1, 2019 FRS valuation report for special risk employees.
- The assumption for retirement prior to Normal Retirement eligibility was removed.
- The assumed rates of withdrawal were updated to a service-based table to better align with plan experience.

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	New Assump <u>10/1/2020</u>	Old Assump <u>10/1/2020</u>	<u>10/1/2019</u>
A. Participant Data			
Actives	23	23	23
Service Retirees	28	28	25
Beneficiaries	0	0	0
Disability Retirees	0	0	0
Terminated Vested	<u>5</u>	<u>5</u>	<u>5</u>
Total	56	56	53
 Total Annual Payroll	 \$0	 \$0	 \$0
Payroll Under Assumed Ret. Age	0	0	0
 Annual Rate of Payments to:			
Service Retirees	149,501	149,501	135,752
Beneficiaries	0	0	0
Disability Retirees	0	0	0
Terminated Vested	19,500	19,500	19,500
 B. Assets			
Actuarial Value (AVA) ¹	4,856,560	4,856,560	4,567,621
Market Value (MVA) ¹	4,766,611	4,766,611	4,581,418
 C. Liabilities			
Present Value of Benefits			
Actives			
Retirement Benefits	1,054,975	844,700	861,483
Disability Benefits	20,179	16,175	16,714
Death Benefits	6,008	6,987	7,930
Vested Benefits	46,865	126,745	126,908
Refund of Contributions	0	0	0
Service Retirees	1,236,602	1,219,480	1,083,583
Beneficiaries	0	0	0
Disability Retirees	0	0	0
Terminated Vested	70,552	59,253	55,049
Share Plan Balances ¹	782,935	782,935	846,779
City Reserve ¹	301,147	301,147	301,147
Total	<u>3,519,263</u>	<u>3,357,422</u>	<u>3,299,593</u>

C. Liabilities - (Continued)	New Assump <u>10/1/2020</u>	Old Assump <u>10/1/2020</u>	<u>10/1/2019</u>
Present Value of Future Salaries	0	0	0
Present Value of Future Member Contributions	0	0	0
Normal Cost (Retirement)	65,760	61,215	62,820
Normal Cost (Disability)	1,986	2,004	2,306
Normal Cost (Death)	471	710	826
Normal Cost (Vesting)	7,228	12,605	12,084
Normal Cost (Refunds)	<u>0</u>	<u>0</u>	<u>0</u>
Total Normal Cost	75,445	76,534	78,036
Present Value of Future Normal Costs	354,603	356,048	325,361
Accrued Liability (Retirement)	735,066	561,845	608,337
Accrued Liability (Disability)	12,237	8,821	9,326
Accrued Liability (Death)	3,806	4,165	4,845
Accrued Liability (Vesting)	22,315	63,728	65,166
Accrued Liability (Refunds)	0	0	0
Accrued Liability (Inactives)	1,307,154	1,278,733	1,138,632
Share Plan Balances ¹	782,935	782,935	846,779
City Reserve ¹	<u>301,147</u>	<u>301,147</u>	<u>301,147</u>
Total Actuarial Accrued Liability (EAN AL)	3,164,660	3,001,374	2,974,232
Unfunded Actuarial Accrued Liability (UAAL)	(1,691,900)	(1,855,186)	(1,593,389)
Funded Ratio (AVA / EAN AL)	153.5%	161.8%	153.6%

D. Actuarial Present Value of Accrued Benefits	New Assump <u>10/1/2020</u>	Old Assump <u>10/1/2020</u>	<u>10/1/2019</u>
Vested Accrued Benefits			
Inactives + Share Plan Balances ¹	2,090,089	2,061,668	1,985,411
Actives	496,027	439,113	452,205
Member Contributions	<u>0</u>	<u>0</u>	<u>0</u>
Total	2,586,116	2,500,781	2,437,616
Non-vested Accrued Benefits	<u>77,900</u>	<u>74,213</u>	<u>93,893</u>
Total Present Value			
Accrued Benefits (PVAB)	2,664,016	2,574,994	2,531,509
Funded Ratio (MVA / PVAB)	178.9%	185.1%	181.0%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:			
Plan Amendments	0	0	
Assumption Changes	89,022	0	
Plan Experience	0	183,286	
Benefits Paid	0	(306,287)	
Interest	0	166,486	
Other	<u>0</u>	<u>0</u>	
Total	89,022	43,485	

	New Assump	Old Assump	
Valuation Date	10/1/2020	10/1/2020	10/1/2019
Applicable to Fiscal Year Ending	<u>9/30/2022</u>	<u>9/30/2022</u>	<u>9/30/2021</u>
E. Pension Cost			
Normal Cost ²	\$82,235	\$84,570	\$86,230
Administrative Expenses ²	31,139	31,568	32,246
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 30 years (as of 10/1/2020) ²	(141,321)	(168,458)	(142,683)
Minimum Required Contribution (Reflects Normal Cost Minimum)	82,235	84,570	86,230
Expected Member Contributions ²	0	0	0
Expected City and State Contribution	82,235	84,570	86,230
F. Past Contributions			
Plan Years Ending:	<u>9/30/2020</u>		
City and State Requirement	91,485		
Actual Contributions Made:			
Members (excluding buyback)	0		
City	0		
State	<u>200,000</u> ³		
Total	200,000		
G. Net Actuarial (Gain)/Loss	(62,241)		

¹ The asset values and liabilities include accumulated Share Plan Balances and City Reserve as of 9/30/2020 and 9/30/2019.

² Contributions developed as of 10/1/2020 displayed above have been adjusted to account for assumed salary increase and interest components.

³ Reflectes Mutual Consent.

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

<u>Year</u>	<u>Projected Unfunded Actuarial Accrued Liability</u>
2020	(1,691,900) ¹

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

		<u>Actual</u>	<u>Assumed</u>
Year Ended	9/30/2020	N/A	N/A
Year Ended	9/30/2019	N/A	N/A
Year Ended	9/30/2018	N/A	N/A
Year Ended	9/30/2017	N/A	N/A
Year Ended	9/30/2016	N/A	N/A

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

		<u>Market Value</u>	<u>Actuarial Value</u>	<u>Assumed</u>
Year Ended	9/30/2020	5.57%	7.74%	7.00%
Year Ended	9/30/2019	5.08%	8.36%	7.00%
Year Ended	9/30/2018	7.30%	6.98%	7.00%
Year Ended	9/30/2017	13.21%	7.22%	7.00%
Year Ended	9/30/2016	8.02%	6.75%	7.65%

(iii) Average Annual Payroll Growth

(a) Payroll as of:	10/1/2020	\$0
	10/1/2020	0
(b) Total Increase		0.00%
(c) Number of Years		0.00
(d) Average Annual Rate		0.00%

¹ Since the City may not offset its funding requirement with a negative amortization payment, no projection of the UAAL is provided with this valuation.

STATEMENT BY ENROLLED ACTUARY

This actuarial valuation was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material increase in plan costs or required contribution rates have been taken into account in the valuation.



Douglas H. Lozen, EA, MAAA
Enrolled Actuary #20-7778

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

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

RECONCILIATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES

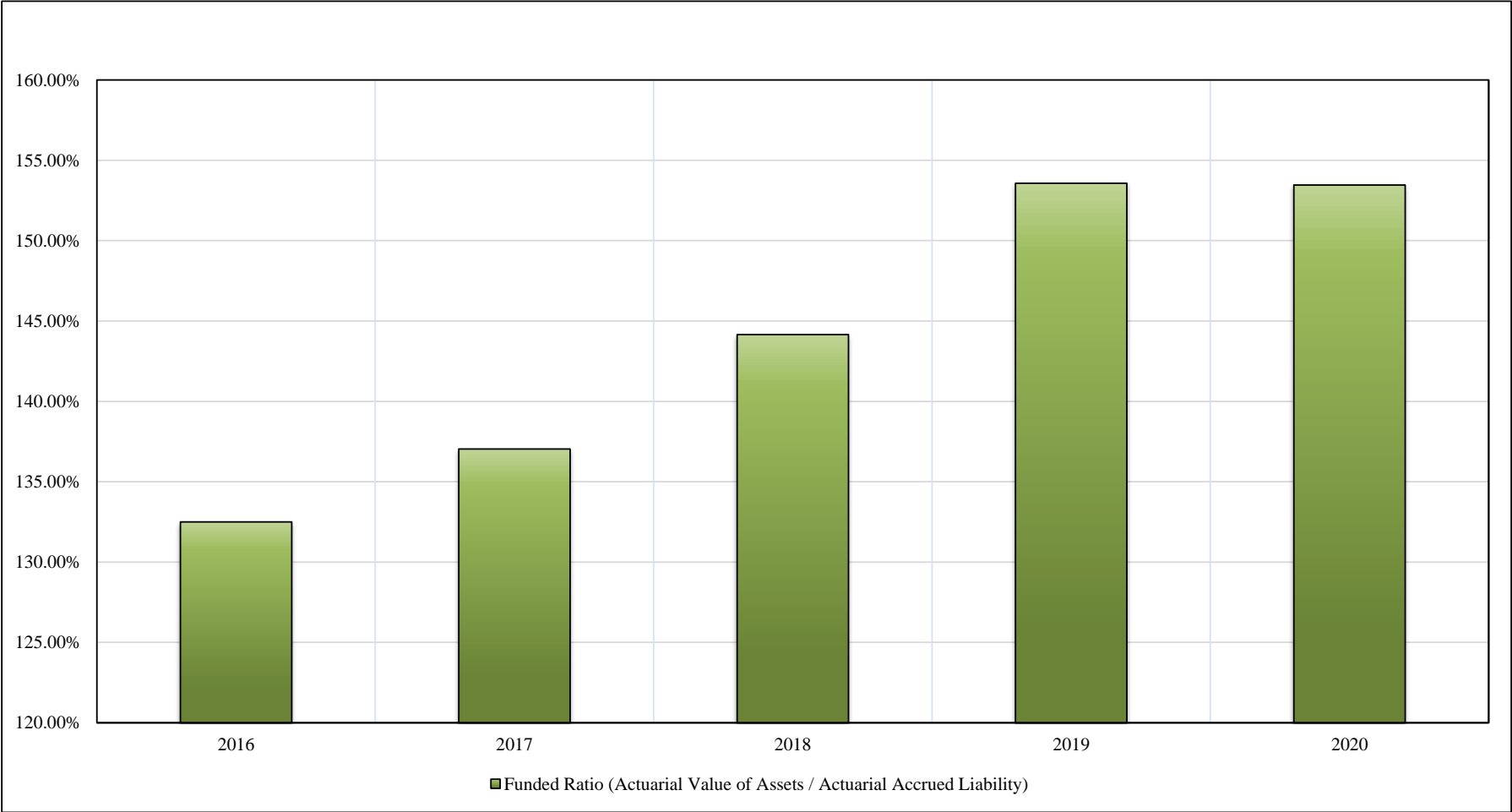
(1)	Unfunded Actuarial Accrued Liability as of October 1, 2019	(\$1,593,389)
(2)	Sponsor Normal Cost developed as of October 1, 2019	78,036
(3)	Expected administrative expenses for the year ended September 30, 2020	29,182
(4)	Expected interest on (1), (2) and (3)	(105,053)
(5)	Sponsor contributions to the System during the year ended September 30, 2020	200,000
(6)	Expected interest on (5)	1,721
(7)	Expected Unfunded Actuarial Accrued Liability as of September 30, 2020 (1)+(2)+(3)+(4)-(5)-(6)	(1,792,945)
(8)	Change to UAAL due to Assumption Change	163,286
(9)	Change to UAAL due to Actuarial (Gain)/Loss	(62,241)
(10)	Unfunded Actuarial Accrued Liability as of October 1, 2020	(1,691,900)

Type of Base	Date Established	Years Remaining	10/1/2020 Amount	Amortization Amount
Method Change	10/1/2005	15	989,725	96,137
Actuarial Gain	10/1/2006	16	(389,592)	(36,369)
Actuarial Gain	10/1/2007	17	(810,223)	(72,954)
Benefit Change	10/1/2007	17	4,477	403
Actuarial Gain	10/1/2008	18	(261,648)	(22,797)
Method Change	10/1/2008	18	(173,124)	(15,084)
Actuarial Loss	10/1/2009	19	132,618	11,213
Actuarial Loss	10/1/2010	20	16,973	1,396
Assump Change	10/1/2010	20	21,852	1,797
Benefit Change	10/1/2010	20	(283,798)	(23,342)
Actuarial Gain	10/1/2011	21	(29,877)	(2,396)
Actuarial Gain	10/1/2012	22	(161,370)	(12,643)
Assump Change	10/1/2012	22	57,382	4,496
Actuarial Gain	10/1/2013	23	(173,994)	(13,341)
Software Change	10/1/2013	23	92,059	7,059
Actuarial Gain	10/1/2014	24	(306,149)	(23,013)
Actuarial Gain	10/1/2015	25	(393,501)	(29,040)
Assump Change	10/1/2016	26	293,460	21,291
Actuarial Loss	10/1/2016	26	13,815	1,002
Actuarial Gain	10/1/2017	27	(115,122)	(8,221)
Actuarial Gain	10/1/2018	28	(181,584)	(12,778)
Actuarial Gain	10/1/2019	29	(135,324)	(9,393)
Actuarial Gain	10/1/2020	30	(62,241)	(4,266)
Assump Change	10/1/2020	30	163,286	11,191
			(1,691,900)	(129,652)

DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1) Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2019	(\$1,593,389)
(2) Expected UAAL as of October 1, 2020	(1,792,945)
(3) Summary of Actuarial (Gain)/Loss, by component:	
Investment Return (Actuarial Asset Basis)	(33,580)
Active Decrements	(14,297)
Inactive Mortality	32,442
Other	<u>(46,806)</u>
Increase in UAAL due to (Gain)/Loss	(62,241)
Assumption Changes	163,286
(4) Actual UAAL as of October 1, 2020	(\$1,691,900)

HISTORY OF FUNDING PROGRESS



ACTUARIAL ASSUMPTIONS AND METHODS

Mortality Rate

Healthy Active Lives:

Female: PubS.H-2010 for Employees, set forward one year. Prior year assumption: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.

Male: PubS.H-2010 (Below Median) for Employees, set forward one year. Prior year assumption: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.

Healthy Retiree Lives:

Female: PubS.H-2010 for Healthy Retirees, set forward one year. Prior year assumption: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: PubS.H-2010 (Below Median) for Healthy Retirees, set forward one year. Prior year assumption: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

Beneficiary Lives:

Female: PubG.H-2010 (Below Median) for Healthy Retirees. Prior year assumption: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: PubG.H-2010 (Below Median) for Healthy Retirees, set back one year. Prior year assumption: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

Disabled Lives:

80% PubG.H-2010 for Disabled Retirees / 20% PubS.H-2010 for Disabled Retirees.

Prior year assumption (Female): 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale

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

All rates are projected generationally with Mortality Improvement Scale MP-2018. This sufficiently accommodates future mortality improvements.

The previously described mortality 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, 2019 FRS valuation report for special risk employees.

Interest Rate

6.00% (prior year 7.00%) 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.

Payroll Growth

None.

Administrative Expenses

\$28,568 annually, based on the average of actual expenses incurred in the prior two fiscal years.

Normal Retirement

The earlier of attainment of age 55 with 10 years of credited service, age 52 with 25 years of credited service, or age 62 with 5 years of credited service. Also, any member who has reached Normal Retirement is assumed to continue employment for one additional year. This assumption was evaluated in conjunction with a November 2020 actuarial experience study.

Early Retirement

None. (Previously assumed 5% per year upon attainment of age 50 with 10 years of service.) This assumption was updated in conjunction with a November 2020 actuarial experience study.

Termination Rates

Below are assumed termination rates:

<u>Years of Service</u>	<u>Termination Rate</u>
0 – 1	25.0%
2 – 5	15.0%
6 – 10	5.0%
11+	0.0%

(Previously had an age based assumption.) This assumption was updated in conjunction with a November 2020 actuarial experience study.

Disability Rates

75% of disabled lives are assumed to be service-related. Below are sample disability rates:

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

This assumption was evaluated in conjunction with a November 2020 actuarial experience study.

Funding Method

Entry Age Normal Actuarial Cost Method.
An interest load of 1.5 years (at the current valuation assumption of 6.00%) has been applied for the determination of Sponsor funding requirement.

Asset Valuation Method

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

Amortization Method

New UAAL amortization amounts are amortized over the following amortization periods:

Experience: 30 Years.

Assumption/Method Changes: 30 Years.

Benefit Changes: 30 Years.

GLOSSARY

Actuarial Value of Assets is the asset value used in the valuation to determine contribution requirements. It represents the plan's Market Value of Assets (see below), with adjustments according to the plan's Actuarial Asset Method. These adjustments produce a "smoothed" value that is likely to be less volatile from year to year than the Market Value of Assets.

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

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

Market Value of Assets is the fair market value of plan assets as of the valuation date. This amount may be adjusted to produce an Actuarial Value of Assets for plan funding purposes.

Normal (Current Year's) Cost is the current year's cost for benefits yet to be funded. Under the Entry Age Normal cost method, it is determined for each participant as the present value of future benefits, determined as of the Member's entry age, amortized as a level percentage of compensation over the anticipated number of years of participation, determined as of the entry age.

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current plan participants.

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

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

Unfunded Actuarial Accrued Liability (UAAL) is the difference between the actuarial accrued liability (described above) and the Actuarial Value of Assets. Under the Entry Age Normal Actuarial Cost Method, an actuarial gain or loss, based on actual versus expected UAAL, is determined in conjunction with each valuation of the plan.

DISCUSSION OF RISK

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

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

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

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

Impact of Plan Maturity on Risk

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

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

- The Support Ratio, determined as the ratio of active to inactive members, has decreased from 338.5% on October 1, 2010 to 69.7% on October 1, 2020, indicating that the plan has been maturing during the period.
- The Accrued Liability Ratio, determined as the ratio of the Inactive Accrued Liability, which is the liability associated with members who are no longer employed but are due a benefit from the plan, to the Total Accrued Liability, is 41.3%. With a plan of this maturity, losses due to lower than expected investment returns or demographic factors may result in lower volatility in contribution requirements when compared to a more mature plan. Please note Chapter 112, Florida Statutes, requires that the plan sponsor contributes the minimum required contribution; thus, there is minimal solvency risk to the plan.
- The Funded Ratio, determined as the ratio of the Actuarial Value of Assets to the Total Accrued Liability, has increased from 120.4% to 153.5% during the period October 1, 2010 to October 1, 2020.
- The Net Cash Flow Ratio, determined as the ratio of the Net Cash Flow (contributions minus benefit payments and administrative expenses) to the Market Value of Assets, decreased from 15.7% on October 1, 2010 to -1.3% on October 1, 2020. The current Net Cash Flow Ratio of -1.3% indicates that contributions are not currently covering the plan's benefit payments and administrative expenses.

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

PLAN MATURITY MEASURES AND OTHER RISK METRICS

	<u>10/1/2010</u>	<u>10/1/2015</u>	<u>10/1/2019</u>	<u>10/1/2020</u>
<u>Support Ratio</u>				
Total Actives	44	31	23	23
Total Inactives ¹	13	23	30	33
Actives / Inactives ¹	338.5%	134.8%	76.7%	69.7%
<u>Accrued Liability (AL) Ratio</u>				
Inactive Accrued Liability	521,039	891,622	1,138,632	1,307,154
Total Accrued Liability (EAN)	1,544,705	2,627,408	2,974,232	3,164,660
Inactive AL / Total AL	33.7%	33.9%	38.3%	41.3%
<u>Funded Ratio</u>				
Actuarial Value of Assets (AVA)	1,859,732	3,632,462	4,567,621	4,856,560
Total Accrued Liability (EAN)	1,544,705	2,627,408	2,974,232	3,164,660
AVA / Total Accrued Liability (EAN)	120.4%	138.3%	153.6%	153.5%
<u>Net Cash Flow Ratio</u>				
Net Cash Flow ²	285,235	(259,801)	(32,540)	(62,289)
Market Value of Assets (MVA)	1,819,246	3,544,142	4,581,418	4,766,611
Ratio	15.7%	-7.3%	-0.7%	-1.3%

¹ Determined as total contributions minus benefit payments and administrative expenses.

PARTIAL HISTORY OF PREMIUM TAX REFUNDS

Received During <u>Fiscal Year</u>	<u>Amount</u>	Increase from <u>Previous Year</u>
2003	14,328.55	N/A
2004	62,129.98	333.6%
2005	96,546.34	55.4%
2006	128,816.42	33.4%
2007	242,231.00	88.0%
2008	380,757.00	57.2%
2009	499,181.00	31.1%
2010	339,246.90	-32.0%
2011	359,373.51	5.9%
2012	377,962.48	5.2%
2013	364,571.49	-3.5%
2014	381,967.45	4.8%
2015	324,642.30	-15.0%
2016	273,487.45	-15.8%
2017	232,596.92	-15.0%
2018	263,090.68	13.1%
2019	247,471.42	-5.9%
2020	271,790.64	9.8%

STATEMENT OF FIDUCIARY NET POSITION
SEPTEMBER 30, 2020

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Cash	38,132.89
Total Cash and Equivalents	38,132.89
Total Receivable	0.00
Investments:	
Mutual Funds:	
Fixed Income	1,329,884.45
Equity	2,964,831.97
Pooled/Common/Commingled Funds:	
Real Estate	433,761.59
Total Investments	4,728,478.01
Total Assets	4,766,610.90
<u>LIABILITIES</u>	
Total Liabilities	0.00
NET POSITION RESTRICTED FOR PENSION:	4,766,610.90

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED SEPTEMBER 30, 2020
Market Value Basis

ADDITIONS

Contributions:

State	271,790.64	
Total Contributions		271,790.64

Investment Income:

Earnings/(Losses) as disclosed in FMPTF statement	256,211.83	
Less Investment Expense ¹	(8,729.26)	
Net Investment Income		247,482.57

Total Additions		519,273.21
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DEDUCTIONS

Distributions to Members:

Benefit Payments	138,194.49	
Lump Sum Share Distributions	168,092.90	
Total Distributions		306,287.39

Administrative Expense		27,793.06
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Total Deductions		334,080.45
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Net Increase in Net Position		185,192.76
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NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year		4,581,418.14
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End of the Year		4,766,610.90
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¹Investment related expenses include investment advisory, custodial and performance monitoring fees.

ACTUARIAL ASSET VALUATION
SEPTEMBER 30, 2020

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

Details of the derivation are set forth as follows:

Plan Year End	Rate of Return ¹	
09/30/2017	13.21%	
09/30/2018	7.30%	
09/30/2019	5.08%	
09/30/2020	5.57%	
Annualized Rate of Return for prior four (4) years:		7.74%
(A) 10/01/2019 Actuarial Assets:		\$4,567,621.39
(I) Net Investment Income:		
1. Earnings/(Losses) in FMPTF	256,211.83	
2. Change in Actuarial Value	103,745.41	
3. Investment Related Expenses	(8,729.26)	
Total		351,227.98
(B) 10/01/2020 Actuarial Assets:		\$4,856,559.56
Actuarial Asset Rate of Return = 2I/(A+B-I):		7.74%
10/01/2020 Limited Actuarial Assets:		\$4,856,559.56
10/01/2020 Market Value of Assets:		\$4,766,610.90
Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis)		\$33,579.94

¹Market Value Basis, net of investment related expenses.

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
SEPTEMBER 30, 2020
Actuarial Asset Basis

REVENUES

Contributions:		
State	271,790.64	
Total Contributions		271,790.64
Earnings from Investments:		
Earnings/(Losses) as disclosed in FMPTF statement	256,211.83	
Change in Actuarial Value	103,745.41	
Total Earnings and Investment Gains		359,957.24
	EXPENDITURES	
Distributions to Members:		
Benefit Payments	138,194.49	
Lump Sum Share Distributions	168,092.90	
Total Distributions		306,287.39
Expenses:		
Investment related ¹	8,729.26	
Administrative	27,793.06	
Total Expenses		36,522.32
Change in Net Assets for the Year		288,938.17
Net Assets Beginning of the Year		4,567,621.39
Net Assets End of the Year ²		4,856,559.56

¹Investment related expenses include investment advisory, custodial and performance monitoring fees.

²Net Assets may be limited for actuarial consideration.

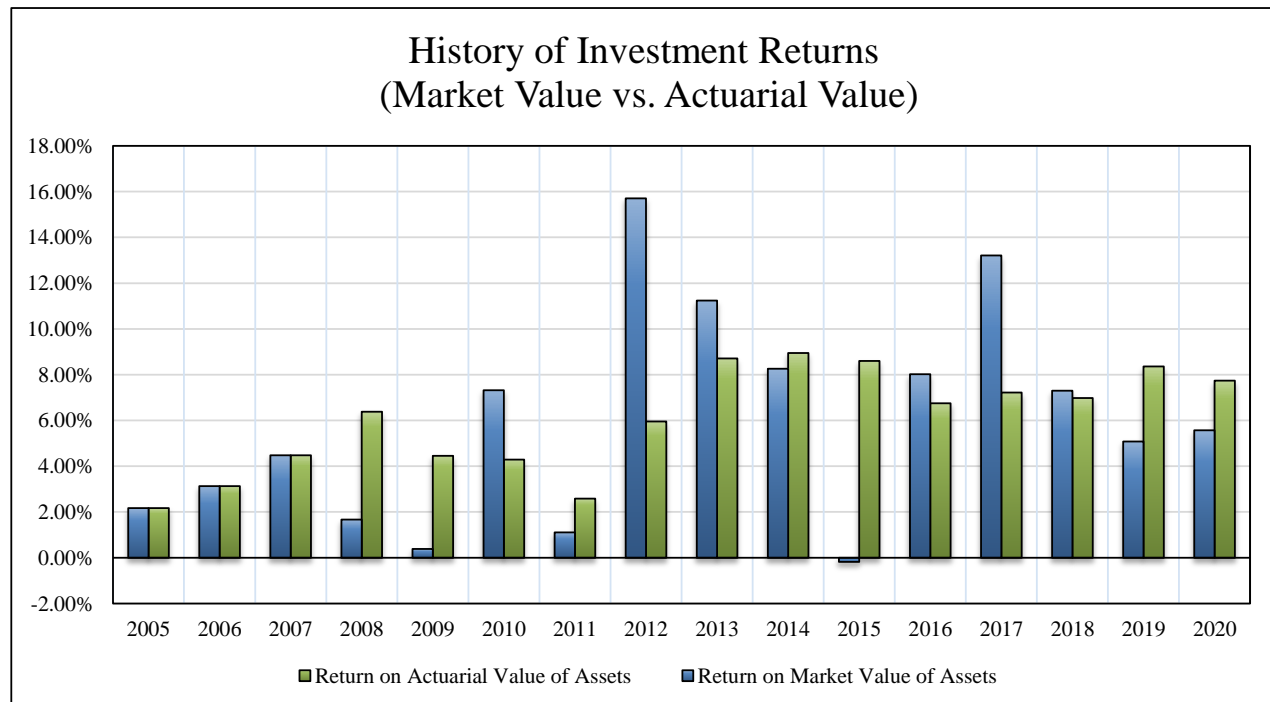
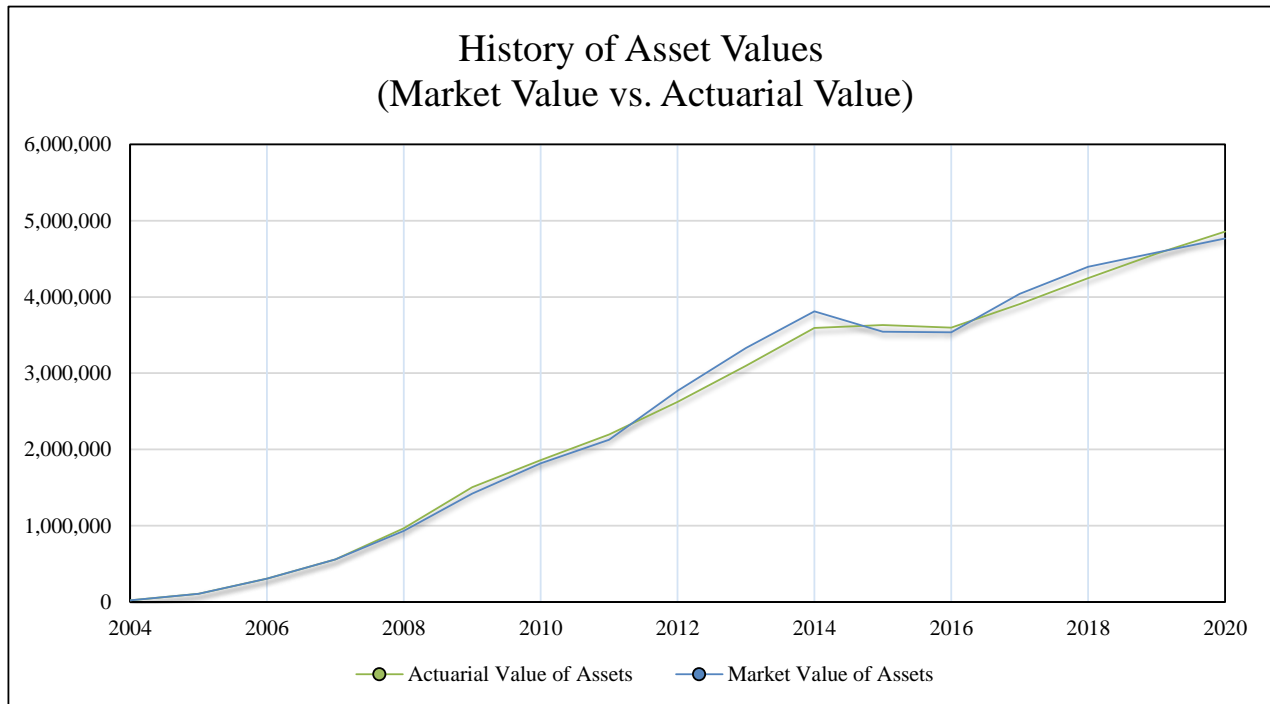
SUPPLEMENTAL CHAPTER 175 SHARE PLAN ACTIVITY
October 1, 2019 through September 30, 2020

9/30/2019 Balance (est.)	846,779
Prior Year Adjustment	(13,932)
Plus Additions	71,791
Investment Return Earned (est.)	46,390
Administrative Fees	0
Less Distributions	<u>(168,093)</u>
9/30/2020 Balance (est.)	782,935

RECONCILIATION OF CITY'S SHORTFALL/(PREPAID) CONTRIBUTION
FOR THE FISCAL YEAR ENDED (FYE) SEPTEMBER 30, 2020

(1) Required City and State Contributions	\$91,485.00
(2) Less Allowable State Contribution	<u>(200,000.00)</u>
(3) Required City Contribution for Fiscal 2020	0.00
(4) Less 2019 Prepaid Contribution	0.00
(5) Less Actual City Contributions	<u>0.00</u>
(6) Equals City's Shortfall/(Prepaid) Contribution as of September 30, 2020	\$0.00

HISTORY OF ASSET VALUES AND INVESTMENT RETURNS



STATISTICAL DATA

	<u>10/1/2017</u>	<u>10/1/2018</u>	<u>10/1/2019</u>	<u>10/1/2020</u>
<u>Actives</u>				
Number	39	27	23	23
Average Current Age	41.5	39.2	42.9	41.1
Average Age at Employment	38.6	35.3	38.1	37.1
Average Past Service	2.9	3.9	4.8	4.0
<u>Service Retirees</u>				
Number	22	25	25	28
Average Current Age	75.9	75.8	76.8	76.5
Average Annual Benefit	\$5,418	\$5,430	\$5,430	\$5,339
<u>Beneficiaries</u>				
Number	1	0	0	0
Average Current Age	85.4	N/A	N/A	N/A
Average Annual Benefit	\$3,600	N/A	N/A	N/A
<u>Disability Retirees</u>				
Number	0	0	0	0
Average Current Age	N/A	N/A	N/A	N/A
Average Annual Benefit	N/A	N/A	N/A	N/A
<u>Terminated Vested</u>				
Number	3	4	5	5
Average Current Age ¹	29.2	37.3	36.9	37.9
Average Annual Benefit	\$3,900	\$3,900	\$3,900	\$3,900

AGE AND SERVICE DISTRIBUTION

PAST SERVICE

AGE	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30+	Total
15 - 19	1											1
20 - 24	2											2
25 - 29	1	1										2
30 - 34		2	1									3
35 - 39	2				1							3
40 - 44					1			1				2
45 - 49	2					1	2					5
50 - 54												0
55 - 59	1											1
60 - 64						2						2
65+				1			1					2
Total	9	3	1	1	2	3	3	1	0	0	0	23

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

a. Number in prior valuation 10/1/2019	23
b. Terminations	
i. Vested (partial or full) with deferred annuity	0
ii. Nonvested Termination	(8)
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	0
e. Retired	(3)
f. Continuing participants	12
g. New entrants	<u>11</u>
h. Total active life participants in valuation	23

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

	Service Retirees, Vested Receiving <u>Benefits</u>	Receiving Death <u>Benefits</u>	Receiving Disability <u>Benefits</u>	Vested (Deferred Annuity) <u> </u>	<u>Total</u>
a. Number prior valuation	25	0	0	5	30
Retired	3	0	0	0	3
Vested (Deferred Annuity)	0	0	0	0	0
Death, With Survivor	0	0	0	0	0
Death, No Survivor	0	0	0	0	0
Disabled	0	0	0	0	0
Rehires	0	0	0	0	0
Expired Annuities	0	0	0	0	0
Data Corrections	0	0	0	0	0
b. Number current valuation	28	0	0	5	33

SUMMARY OF CURRENT PLAN

Credited Service

Total years and fractional parts of years of service with the City as Firefighter. Credited Service is based on "Length of Service Award Pension Program – Qualification Criteria."

Normal Retirement

Date

Earlier of age 62 with the completion of 5 years of Credited Service, age 55 with the completion of 10 years of Credited Service, or age 52 with the completion of 25 years of Credited Service.

Benefit (Monthly)

\$65.00 times Credited Service.

Form of Benefit

10 Year Certain and Life thereafter (options available).

Early Retirement

Date

Age 50 & 10 years of Credited Service.

Benefit Amount

Accrued benefit, reduced 3% per year, from Age 55 or 62.

Disability Benefits

Eligibility

Service Incurred

Covered from Date of Employment.

Non-Service Incurred

Ten years of Credited Service.

Exclusions

Disability resulting from use of drugs, illegal participation in riots, service in military, etc.

Benefit

Benefit accrued to date of disability.

Duration

Payable for life (with 120 payments guaranteed) or until recovery (as determined by the Board).

Death Benefits

Eligibility

Five years of Credited Service.

Benefit

Accrued benefit paid to Beneficiary for ten years, beginning at the Member's Normal Retirement Date (unreduced) or Early Retirement Date (reduced).

Post-Retirement

According to option selected, if any.

Vesting (Termination)

Eligibility

Five years of Credited Service.

Benefit

Accrued benefit payable at the Member's election, on his otherwise Early or Normal Retirement Date.

Contributions

Premium Tax	1.85% tax on premiums for fire insurance policies.
City	Remaining amount necessary for payment of Normal (current year's) Cost and amortization of the accrued past service liability over 30 years.

Supplement Benefit (Share Accounts)

Initial Crediting	80% of the \$1,505,738 Excess State Monies Reserve, established as of September 30, 2014, is allocated to eligible participants.
Annual Crediting	Annual Premium tax revenues received by the City in excess of the \$200,000 applicable frozen amount shall be allocated to participant accounts on a pro-rata basis (based on Credited Service).
Investment earnings	Eligible Share Accounts shall be credited or debited annually, based on the Plan's net-of-fees investment performance for the immediately preceding Plan Year.
Maximum Benefit	\$3,000 combined for benefits payable under the "Length of Service Award Pension Program" and allocations pursuant to the Supplement Benefit program.
Vesting	Five years of Credited Service.
Eligibility for Distribution	Eligible for Normal or Early Retirement.

Board of Trustees

- a. Two appointees of City Council;
- b. Two Firefighters elected by the members of the department; and
- c. Fifth member elected by the other four and appointed by Council (as a ministerial duty).

STATEMENT OF FIDUCIARY NET POSITION
SEPTEMBER 30, 2020

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Cash	38,133
Total Cash and Equivalents	38,133
Total Receivable	0
Investments:	
Mutual Funds:	
Fixed Income	1,329,884
Equity	2,964,832
Pooled/Common/Commingled Funds:	
Real Estate	433,762
Total Investments	4,728,478
Total Assets	4,766,611
Total Liabilities	0
NET POSITION RESTRICTED FOR PENSIONS	4,766,611

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED SEPTEMBER 30, 2020
Market Value Basis

ADDITIONS

Contributions:

State	271,790	
Total Contributions		271,790
Investment Income:		
Interest & Dividends	256,212	
Less Investment Expense ¹	(8,729)	
Net Investment Income		247,483
Total Additions		519,273

DEDUCTIONS

Distributions to Members:

Benefit Payments	138,194	
Lump Sum Share Distributions	168,093	
Total Distributions		306,287
Administrative Expense		27,793
Total Deductions		334,080
Net Increase in Net Position		185,193

NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year	4,581,418
End of the Year	4,766,611

0

NOTES TO THE FINANCIAL STATEMENTS

(For the Year Ended September 30, 2020)

Plan Administration

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

- a. Two appointees of City Council;
- b. Two Firefighters elected by the members of the department; and
- c. Fifth member elected by the other four and appointed by Council (as a ministerial duty).

Plan Membership as of October 1, 2019:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	25
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	5
Active Plan Members	23
	<u>53</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, 2019 Actuarial Valuation Report for the City of Palm Coast Volunteer Firefighters' Retirement Trust Fund prepared by Foster & Foster Actuaries and Consultants.

Contributions

Premium Tax: 1.85% tax on premiums for fire insurance policies.

City: Remaining amount necessary for payment of Normal (current year's) Cost and amortization of the accrued past service liability over 30 years.

Investment Policy:

The following was the Board's adopted asset allocation policy as of September 30, 2020:

Asset Class	Target Allocation
Core Bonds	15.0%
Core Plus	15.0%
U.S. Large Cap Equity	34.0%
U.S. Small Cap Equity	11.0%
Non - U.S. Equity	15.0%
Core Real Estate	10.0%
Total	<u>100.0%</u>

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, 2020, the annual money-weighted rate of return on Pension Plan investments, net of Pension Plan investment expense, was 5.57 percent.

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

NET PENSION LIABILITY OF THE SPONSOR

The components of the Net Pension Liability of the Sponsor on September 30, 2020 were as follows:

Total Pension Liability	\$ 3,151,940
Plan Fiduciary Net Position	<u>\$ (4,766,611)</u>
Sponsor's Net Pension Liability	<u>\$ (1,614,671)</u>
Plan Fiduciary Net Position as a percentage of Total Pension Liability	151.23%

Actuarial Assumptions:

The Total Pension Liability was determined by an actuarial valuation as of October 1, 2019 updated to September 30, 2020 using the following actuarial assumptions:

Inflation	3.00%
Salary Increases	N/A
Discount Rate	6.00%
Investment Rate of Return	6.00%

Mortality Rate Healthy Lives:

Female: PubS.H-2010 for Employees, set forward one year.

Male: PubS.H-2010 (Below Median) for Employees, set forward one year.

Mortality Rate Healthy Retiree Lives:

Female: PubS.H-2010 for Healthy Retirees, set forward one year.

Male: PubS.H-2010 (Below Median) for Healthy Retirees, set forward one year.

Mortality Rate Beneficiary Lives:

Female: PubG.H-2010 (Below Median) for Healthy Retirees.

Male: PubG.H-2010 (Below Median) for Healthy Retirees, set back one year.

Mortality Rate Disabled Lives:

80% PubG.H-2010 for Disabled Retirees / 20% PubS.H-2010 for Disabled Retirees.

All rates are projected generationally with Mortality Improvement Scale MP-2018. We feel this assumption sufficiently accommodates future mortality improvements.

The above described mortality 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, 2019 FRS valuation report for special risk employees.

The most recent actuarial experience study used to review the other significant assumptions was dated November 11, 2020.

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 2020 the inflation rate assumption of the investment advisor was 2.80%.

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, 2020 are summarized in the following table:

Asset Class	Long Term Expected Real Rate of Return ¹
Core Bonds	1.6%
Core Plus	2.1%
U.S. Large Cap Equity	4.6%
U.S. Small Cap Equity	5.5%
Non - U.S. Equity	6.7%
Core Real Estate	5.0%

¹ Source: Florida League of Cities

Discount Rate:

The Discount Rate used to measure the Total Pension Liability was 6.00 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 5.00%	Current Discount Rate 6.00%	1% Increase 7.00%
Sponsor's Net Pension Liability	\$ (1,381,933)	\$ (1,614,671)	\$ (1,805,476)

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
Last 2 Fiscal Years

	09/30/2020	09/30/2019
Total Pension Liability		
Service Cost	78,352	83,162
Interest	183,686	189,732
Share Plan Allocation	71,791	47,471
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	(35,681)	(123,444)
Changes of assumptions	160,053	-
Benefit Payments, including Refunds of Employee Contributions	(306,287)	(250,668)
Net Change in Total Pension Liability	151,914	(53,747)
Total Pension Liability - Beginning	3,000,026	3,053,773
Total Pension Liability - Ending (a)	<u>\$ 3,151,940</u>	<u>\$ 3,000,026</u>
Plan Fiduciary Net Position		
Contributions - State	271,790	247,471
Net Investment Income	247,483	217,265
Benefit Payments, including Refunds of Employee Contributions	(306,287)	(250,668)
Administrative Expense	(27,793)	(29,343)
Net Change in Plan Fiduciary Net Position	185,193	184,725
Plan Fiduciary Net Position - Beginning	4,581,418	4,396,693
Plan Fiduciary Net Position - Ending (b)	<u>\$ 4,766,611</u>	<u>\$ 4,581,418</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ (1,614,671)</u>	<u>\$ (1,581,392)</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	151.23%	152.71%
Covered Payroll	N/A	N/A
Net Pension Liability as a percentage of Covered Payroll	N/A	N/A

Notes to Schedule:*Changes of assumptions:*

For measurement date 09/30/2020, amounts reported as changes of assumptions resulted from an actuarial experience study dated November 11, 2020. The Board adopted the following changes:

- The annual assumed rate of investment return was decreased from 7.0% to 6.0%, net of investment related expenses.
- As mandated by Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the rates used in Milliman's July 1, 2019 FRS valuation report for special risk employees.
- The assumption for retirement prior to Normal Retirement eligibility was removed.
- The assumed rates of withdrawal were updated to a service-based table to better align with plan experience.

SCHEDULE OF CONTRIBUTIONS

Last 2 Fiscal Years

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a percentage of Covered Payroll
09/30/2020	\$ 91,485	\$ 200,000	\$ (108,515)	N/A	N/A
09/30/2019	\$ 149,747	\$ 200,000	\$ (50,253)	N/A	N/A

Notes to Schedule

Valuation Date: 10/01/2018

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

Methods and assumptions used to determine contribution rates can be found in the October 1, 2018 Actuarial Valuation for the City of Palm Coast Volunteer Firefighters' Retirement Trust Fund prepared by Foster & Foster Actuaries and Consultants.

SCHEDULE OF INVESTMENT RETURNS
Last 2 Fiscal Years

Fiscal Year Ended	Annual Money-Weighted Rate of Return Net of Investment Expense
09/30/2020	5.57%
09/30/2019	5.08%

NOTES TO THE FINANCIAL STATEMENTS

(For the Year Ended September 30, 2020)

Plan Description

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

- a. Two appointees of City Council;
- b. Two Firefighters elected by the members of the department; and
- c. Fifth member elected by the other four and appointed by Council (as a ministerial duty).

All volunteer firefighters as of February 17, 2009, and all future new volunteer firefighters, shall become members of this system as a condition of employment or upon being added to the roll of volunteer firefighters by the fire chief. All volunteer firefighters are therefore eligible for plan benefits as provided for in the plan document and by applicable law.

Plan Membership as of October 1, 2019:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	25
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	5
Active Plan Members	23
	53

Benefits Provided

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

A summary of the benefit provisions can be found in the October 1, 2019 Actuarial Valuation Report for the City of Palm Coast Volunteer Firefighters' Retirement Trust Fund prepared by Foster & Foster Actuaries and Consultants.

Contributions

Premium Tax: 1.85% tax on premiums for fire insurance policies.

City: Remaining amount necessary for payment of Normal (current year's) Cost and amortization of the accrued past service liability over 30 years.

Net Pension Liability

The measurement date is September 30, 2020.

The measurement period for the pension expense was October 1, 2019 to September 30, 2020.

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

The Sponsor's Net Pension Liability was measured as of September 30, 2020.

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, 2019 updated to September 30, 2020 using the following actuarial assumptions:

Inflation	3.00%
Salary Increases	N/A
Discount Rate	6.00%
Investment Rate of Return	6.00%

Mortality Rate Healthy Lives:

Female: PubS.H-2010 for Employees, set forward one year.

Male: PubS.H-2010 (Below Median) for Employees, set forward one year.

Mortality Rate Healthy Retiree Lives:

Female: PubS.H-2010 for Healthy Retirees, set forward one year.

Male: PubS.H-2010 (Below Median) for Healthy Retirees, set forward one year.

Mortality Rate Beneficiary Lives:

Female: PubG.H-2010 (Below Median) for Healthy Retirees.

Male: PubG.H-2010 (Below Median) for Healthy Retirees, set back one year.

Mortality Rate Disabled Lives:

80% PubG.H-2010 for Disabled Retirees / 20% PubS.H-2010 for Disabled Retirees.

All rates are projected generationally with Mortality Improvement Scale MP-2018. We feel this assumption sufficiently accommodates future mortality improvements.

The above described mortality 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, 2019 FRS valuation report for special risk employees.

The most recent actuarial experience study used to review the other significant assumptions was dated November 11, 2020.

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 2020 the inflation rate assumption of the investment advisor was 2.80%.

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, 2020 are summarized in the following table:

Asset Class	Target Allocation	Long Term Expected Real Rate of Return ¹
Core Bonds	15.0%	1.6%
Core Plus	15.0%	2.1%
U.S. Large Cap Equity	34.0%	4.6%
U.S. Small Cap Equity	11.0%	5.5%
Non - U.S. Equity	15.0%	6.7%
Core Real Estate	10.0%	5.0%
Total	100.0%	

¹ Source: Florida League of Cities

Discount Rate:

The Discount Rate used to measure the Total Pension Liability was 6.00 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, 2019	\$ 3,000,026	\$ 4,581,418	\$ (1,581,392)
Changes for a Year:			
Service Cost	78,352	-	78,352
Interest	183,686	-	183,686
Share Plan Allocation	71,791	-	71,791
Differences between Expected and Actual Experience	(35,681)	-	(35,681)
Changes of assumptions	160,053	-	160,053
Changes of benefit terms	-	-	-
Contributions - State	-	271,790	(271,790)
Net Investment Income	-	247,483	(247,483)
Benefit Payments, including Refunds of Employee Contributions	(306,287)	(306,287)	-
Administrative Expense	-	(27,793)	27,793
Net Changes	151,914	185,193	(33,279)
Balances at September 30, 2020	\$ 3,151,940	\$ 4,766,611	\$ (1,614,671)

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

	Current Discount		
	1% Decrease	Rate	1% Increase
	5.00%	6.00%	7.00%
Sponsor's Net Pension Liability	\$ (1,381,933)	\$ (1,614,671)	\$ (1,805,476)

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, 2020, the Sponsor will recognize a Pension Expense of \$48,877.

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	4,773	118,895
Changes of assumptions	120,039	-
Net difference between Projected and Actual Earnings on Pension Plan investments	66,590	-
Total	<u>\$ 191,402</u>	<u>\$ 118,895</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:	
2021	\$ (8,651)
2022	\$ 28,467
2023	\$ 38,484
2024	\$ 14,207
2025	\$ -
Thereafter	\$ -

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 2 Fiscal Years

	09/30/2020	09/30/2019
Total Pension Liability		
Service Cost	78,352	83,162
Interest	183,686	189,732
Share Plan Allocation	71,791	47,471
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	(35,681)	(123,444)
Changes of assumptions	160,053	-
Benefit Payments, including Refunds of Employee Contributions	(306,287)	(250,668)
Net Change in Total Pension Liability	151,914	(53,747)
Total Pension Liability - Beginning	3,000,026	3,053,773
Total Pension Liability - Ending (a)	<u>\$ 3,151,940</u>	<u>\$ 3,000,026</u>
Plan Fiduciary Net Position		
Contributions - State	271,790	247,471
Net Investment Income	247,483	217,265
Benefit Payments, including Refunds of Employee Contributions	(306,287)	(250,668)
Administrative Expense	(27,793)	(29,343)
Net Change in Plan Fiduciary Net Position	185,193	184,725
Plan Fiduciary Net Position - Beginning	4,581,418	4,396,693
Plan Fiduciary Net Position - Ending (b)	<u>\$ 4,766,611</u>	<u>\$ 4,581,418</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ (1,614,671)</u>	<u>\$ (1,581,392)</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	151.23%	152.71%
Covered Payroll	N/A	N/A
Net Pension Liability as a percentage of Covered Payroll	N/A	N/A

Notes to Schedule:

Changes of assumptions:

For measurement date 09/30/2020, amounts reported as changes of assumptions resulted from an actuarial experience study dated November 11, 2020. The Board adopted the following changes:

- The annual assumed rate of investment return was decreased from 7.0% to 6.0%, net of investment related expenses.
- As mandated by Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the rates used in Milliman's July 1, 2019 FRS valuation report for special risk employees.
- The assumption for retirement prior to Normal Retirement eligibility was removed.
- The assumed rates of withdrawal were updated to a service-based table to better align with plan experience.

SCHEDULE OF CONTRIBUTIONS

Last 2 Fiscal Years

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a percentage of Covered Payroll
09/30/2020	\$ 91,485	\$ 200,000	\$ (108,515)	N/A	N/A
09/30/2019	\$ 149,747	\$ 200,000	\$ (50,253)	N/A	N/A

Notes to Schedule

Valuation Date: 10/01/2018

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

Methods and assumptions used to determine contribution rates can be found in the October 1, 2018 Actuarial Valuation for the City of Palm Coast Volunteer Firefighters' Retirement Trust Fund prepared by Foster & Foster Actuaries and Consultants.

COMPONENTS OF PENSION EXPENSE
FISCAL YEAR SEPTEMBER 30, 2020

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	\$ (1,581,392)	\$ 235,294	\$ 118,167	\$ -
Total Pension Liability Factors:				
Service Cost	78,352	-	-	78,352
Interest	183,686	-	-	183,686
Share Plan Allocation	71,791	-	-	71,791
Changes in benefit terms	-	-	-	-
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	(35,681)	35,681	-	-
Current year amortization of experience difference	-	(65,062)	(4,773)	(60,289)
Change in assumptions about future economic or demographic factors or other inputs	160,053	-	160,053	-
Current year amortization of change in assumptions	-	-	(77,143)	77,143
Benefit Payments	(306,287)	-	-	-
Net change	<u>151,914</u>	<u>(29,381)</u>	<u>78,137</u>	<u>350,683</u>
Plan Fiduciary Net Position:				
Contributions - State	271,790	-	-	-
Projected Net Investment Income	318,519	-	-	(318,519)
Difference between projected and actual earnings on Pension Plan investments	(71,036)	-	71,036	-
Current year amortization	-	(43,161)	(32,081)	(11,080)
Benefit Payments	(306,287)	-	-	-
Administrative Expenses	(27,793)	-	-	27,793
Net change	<u>185,193</u>	<u>(43,161)</u>	<u>38,955</u>	<u>(301,806)</u>
Ending Balance	<u><u>\$ (1,614,671)</u></u>	<u><u>\$ 162,752</u></u>	<u><u>\$ 235,259</u></u>	<u><u>\$ 48,877</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)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2020	\$ 71,036	5	\$ 14,208	\$ 14,207	\$ 14,207	\$ 14,207	\$ 14,207	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2019	\$ 89,365	5	\$ 17,873	\$ 17,873	\$ 17,873	\$ 17,873	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ (4,915)	5	\$ (983)	\$ (983)	\$ (983)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ (209,454)	5	\$ (41,891)	\$ (41,891)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ (1,433)	5	\$ (287)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ (11,080)	\$ (10,794)	\$ 31,097	\$ 32,080	\$ 14,207	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

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)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2020	\$ 160,053	4	\$ 40,014	\$ 40,013	\$ 40,013	\$ 40,013	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ 185,644	5	\$ 37,129	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 77,143	\$ 40,013	\$ 40,013	\$ 40,013	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

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)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2020	\$ (35,681)	4	\$ (8,921)	\$ (8,920)	\$ (8,920)	\$ (8,920)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2019	\$ (123,444)	5	\$ (24,689)	\$ (24,689)	\$ (24,689)	\$ (24,689)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ (45,171)	5	\$ (9,034)	\$ (9,034)	\$ (9,034)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ 23,865	5	\$ 4,773	\$ 4,773	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ (57,517)	5	\$ (11,503)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ (65,491)	6	\$ (10,915)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ (60,289)	\$ (37,870)	\$ (42,643)	\$ (33,609)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -