

CITY OF COCOA  
GENERAL EMPLOYEES' RETIREMENT PLAN

ACTUARIAL VALUATION  
AS OF OCTOBER 1, 2019

CONTRIBUTIONS APPLICABLE TO THE  
PLAN/FISCAL YEAR ENDING SEPTEMBER 30, 2021

GASB 67/68 DISCLOSURE INFORMATION  
AS OF SEPTEMBER 30, 2019



**FOSTER & FOSTER**  
ACTUARIES AND CONSULTANTS

December 23, 2019

Board of Trustees  
City of Cocoa  
General Employees' Retirement Plan

Re: City of Cocoa General Employees' Retirement Plan

Dear Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the City of Cocoa General Employees' Retirement Plan. 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 Chapter 112, Florida Statutes, as well as applicable federal laws and regulations. In our opinion, the assumptions used in the valuations, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuation, we did not perform an analysis of the potential range of such future measurements.

In conducting the valuations, we have relied on personnel, plan design, and asset information supplied by the City of Cocoa, financial reports prepared by the custodian bank, and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

The total pension liability, net pension liability, and certain sensitivity information shown in this report are based on an actuarial valuation performed as of October 1, 2018. The total pension liability was rolled-forward from the valuation date to the plan's fiscal year ending September 30, 2019 using generally accepted actuarial principles. It is our opinion that the assumptions used for this purpose are internally consistent, reasonable, and comply with the requirements under GASB No. 67 and No. 68.

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

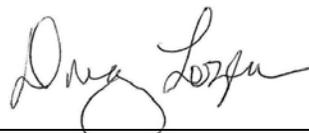
To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the City of Cocoa, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the General Employees' Retirement Plan. 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 #17-7778

By:



\_\_\_\_\_  
Sara E. Carlson, ASA, EA, MAAA  
Enrolled Actuary #17-8546

Enclosures

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## SUMMARY OF REPORT

The regular annual actuarial valuation of the City of Cocoa General Employees' Retirement Plan, performed as of October 1, 2019, has been completed and the results are presented in this Report. The contribution amounts set forth herein are applicable to the plan/fiscal year ending September 30, 2021. Funding requirements are projected for a lump sum deposit on October 1, 2020, based on the Board's adoption of a Beginning of Year Funding Method.

The contribution requirements, compared with those set forth in the October 1, 2018 actuarial valuation report, are as follows:

Valuation Date Applicable to Fiscal Year Ending	10/1/2019 <u>9/30/2021</u>	10/1/2018 <u>9/30/2020</u>
Minimum Required Contribution	\$240,212	\$345,907
Member Contributions (Est.)	4,130	3,706
City Required Contribution <sup>2</sup>	\$236,082	\$342,201

<sup>1</sup> Please note that the City has access to a prepaid contribution of \$17,982.00 that is available to offset a portion of the above stated requirements for the fiscal year ending September 30, 2020.

As you can see, the Minimum Required Contribution shows a decrease when compared to the results determined in the October 1, 2018 actuarial valuation. The decrease is attributable to the full recognition of a past loss amortization base during the past year, as well as favorable actuarial experience as described in the next paragraph.

Plan experience was favorable overall on the basis of the plan's actuarial assumptions. Sources of actuarial gain included inactive mortality experience and an investment return of 8.79% (Actuarial Asset Basis) which exceeded the 7.00% assumption. There were no significant sources of actuarial loss.

## CHANGES SINCE PRIOR VALUATION

### Plan Changes

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

### Actuarial Assumption/Method Changes

The following assumption and method changes have been made in conjunction with this report:

- The Unfunded Actuarial Accrued Liability (UAAL) has been consolidated into a single amortization layer with a 15-year period. Also, the amortization policy has been amended such that all future layers of the UAAL will be amortized over a 15-year period. Previously, UAAL layers were amortized over 10 years for experience gains and losses, 20 years for assumption and method changes, and 30 years for benefit changes.
- The investment return assumption has been lowered from 7.00% to 6.80% per year, net of investment-related expenses.

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	New Asmp/Mthd <u>10/1/2019</u>	Old Asmp/Mthd <u>10/1/2019</u>	<u>10/1/2018</u>
<b>A. Participant Data</b>			
Actives	1	1	1
Service Retirees	35	35	39
DROP Retirees	2	2	2
Beneficiaries	6	6	6
Disability Retirees	1	1	1
Terminated Vested	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total</b>	<b>45</b>	<b>45</b>	<b>49</b>
Total Annual Payroll	\$77,334	\$77,334	\$69,273
Payroll Under Assumed Ret. Age	77,334	77,334	69,273
Annual Rate of Payments to:			
Service Retirees	1,030,518	1,030,518	1,142,621
DROP Retirees	82,123	82,123	81,227
Beneficiaries	104,181	104,181	70,920
Disability Retirees	5,289	5,289	5,289
Terminated Vested	0	0	0
<b>B. Assets</b>			
Actuarial Value (AVA) <sup>1</sup>	14,533,801	14,533,801	14,331,345
Market Value (MVA) <sup>1</sup>	13,939,606	13,939,606	14,587,473
<b>C. Liabilities</b>			
Present Value of Benefits			
Actives			
Retirement Benefits	991,821	967,370	846,296
Disability Benefits	2,311	2,274	1,764
Death Benefits	938	931	765
Vested Benefits	0	0	0
Refund of Contributions	0	0	0
Service Retirees	12,039,339	11,821,997	13,255,179
DROP Retirees <sup>1</sup>	1,479,428	1,452,419	1,647,454
Beneficiaries	1,474,873	1,446,147	885,457
Disability Retirees	51,947	51,089	51,428
Terminated Vested	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total</b>	<b>16,040,657</b>	<b>15,742,227</b>	<b>16,688,343</b>

C. Liabilities - (Continued)	New Asmp/Mthd <u>10/1/2019</u>	Old Asmp/Mthd <u>10/1/2019</u>	<u>10/1/2018</u>
Present Value of Future Salaries	77,334	77,334	69,273
Present Value of Future Member Contributions	3,867	3,867	3,464
Normal Cost (Retirement)	5,119	4,767	4,246
Normal Cost (Disability)	225	218	195
Normal Cost (Death)	45	43	36
Normal Cost (Vesting)	0	0	0
Normal Cost (Refunds)	<u>0</u>	<u>0</u>	<u>0</u>
Total Normal Cost	5,389	5,028	4,477
Present Value of Future Normal Costs	5,389	5,028	4,477
Accrued Liability (Retirement)	986,702	962,603	842,050
Accrued Liability (Disability)	2,086	2,056	1,569
Accrued Liability (Death)	893	888	729
Accrued Liability (Vesting)	0	0	0
Accrued Liability (Refunds)	0	0	0
Accrued Liability (Inactives) <sup>1</sup>	<u>15,045,587</u>	<u>14,771,652</u>	<u>15,839,518</u>
Total Actuarial Accrued Liability (EAN AL)	16,035,268	15,737,199	16,683,866
Unfunded Actuarial Accrued Liability (UAAL)	1,501,467	1,203,398	2,352,521
Funded Ratio (AVA / EAN AL)	90.6%	92.4%	85.9%

D. Actuarial Present Value of Accrued Benefits	New Asmp/Mthd <u>10/1/2019</u>	Old Asmp/Mthd <u>10/1/2019</u>	<u>10/1/2018</u>
Vested Accrued Benefits			
Inactives <sup>1</sup>	15,045,587	14,771,652	15,839,518
Actives	827,701	805,867	719,796
Member Contributions	<u>59,383</u>	<u>59,383</u>	<u>55,753</u>
Total	15,932,671	15,636,902	16,615,067
Non-vested Accrued Benefits	<u>0</u>	<u>0</u>	<u>0</u>
Total Present Value Accrued Benefits (PVAB)	15,932,671	15,636,902	16,615,067
Funded Ratio (MVA / PVAB)	87.5%	89.1%	87.8%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:			
Plan Amendments	0	0	
Assumption Changes	295,769	0	
Plan Experience	0	(620,347)	
Benefits Paid	0	(1,469,442)	
Interest	0	1,111,624	
Other	<u>0</u>	<u>0</u>	
Total	295,769	(978,165)	

	New Asmp/Mthd	Old Asmp/Mthd	
Valuation Date	10/1/2019	10/1/2019	10/1/2018
Applicable to Fiscal Year Ending	<u>9/30/2021</u>	<u>9/30/2021</u>	<u>9/30/2020</u>

E. Pension Cost

Normal Cost <sup>2</sup>	\$5,755	\$5,380	\$4,790
Administrative Expenses <sup>2</sup>	71,680	71,814	69,766
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 15 years (as of 10/1/2019) <sup>2</sup>	162,777	33,802	271,351
Minimum Required Contribution	240,212	110,996	345,907
Expected Member Contributions <sup>2</sup>	4,130	4,137	3,706
Expected City Contribution	236,082	106,859	342,201

F. Past Contributions

Plan Years Ending:	<u>9/30/2019</u>
City Requirement	522,632
Actual Contributions Made:	
Members (excluding buyback)	3,631
City	<u>522,632</u>
Total	526,263

G. Net Actuarial (Gain)/Loss (823,151)

<sup>1</sup> The asset values and liabilities include accumulated DROP Plan Balances as of 9/30/2019 and 9/30/2018.

<sup>2</sup> Contributions developed as of 10/1/2019 displayed above have been adjusted to account for assumed salary increase and interest components.

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

<u>Year</u>	<u>Projected Unfunded Actuarial Accrued Liability</u>
2019	1,501,467
2020	1,440,790
2021	1,375,987
2024	1,153,918
2028	780,690
2031	428,736
2034	0

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

	<u>Actual</u>	<u>Assumed</u>
Year Ended 9/30/2019	11.64%	6.50%
Year Ended 9/30/2018	9.12%	6.50%
Year Ended 9/30/2017	2.38%	6.50%
Year Ended 9/30/2016	3.81%	6.50%
Year Ended 9/30/2015	2.72%	6.50%

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

	<u>Market Value</u>	<u>Actuarial Value</u>	<u>Assumed</u>
Year Ended 9/30/2019	2.59%	8.79%	7.00%
Year Ended 9/30/2018	11.42%	8.28%	7.00%
Year Ended 9/30/2017	13.04%	8.08%	7.20%
Year Ended 9/30/2016	8.39%	8.45%	7.40%
Year Ended 9/30/2015	0.69%	10.79%	7.60%

(iii) Average Annual Payroll Growth

(a) Payroll as of:	10/1/2019	\$77,334
	10/1/2009	474,293
(b) Total Increase		-83.69%
(c) Number of Years		10.00
(d) Average Annual Rate		-16.59%

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, MA<sup>AA</sup>  
Enrolled Actuary #17-7778

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  
(Before Assumption and Method Changes)

(1) Unfunded Actuarial Accrued Liability as of October 1, 2018	\$2,352,521
(2) Sponsor Normal Cost developed as of October 1, 2018	1,013
(3) Expected administrative expenses for the year ended September 30, 2019	65,202
(4) Expected interest on (1), (2) and (3)	167,029
(5) Sponsor contributions to the System during the year ended September 30, 2019	522,632
(6) Expected interest on (5)	36,584
(7) Expected Unfunded Actuarial Accrued Liability as of September 30, 2019 (1)+(2)+(3)+(4)-(5)-(6)	2,026,549
(8) Change to UAAL due to Actuarial (Gain)/Loss	(823,151)
(9) Unfunded Actuarial Accrued Liability as of October 1, 2019 (Before Assumption and Method Changes)	1,203,398

Type of Base	Date Established	Years Remaining	10/1/2019 Amount	Amortization Amount
Method Change	10/1/2003	14	789,848	84,407
Method Change	10/1/2004	15	422,355	43,339
Actuarial Loss	10/1/2004	9	338,555	48,564
Actuarial Gain	10/1/2005	9	(54,075)	(7,757)
Actuarial Gain	10/1/2006	9	(131,608)	(18,879)
Actuarial Gain	10/1/2007	9	(52,880)	(7,585)
Assum. Change	10/1/2007	18	54,343	5,049
Method Change	10/1/2008	9	461,713	66,231
Actuarial Loss	10/1/2010	1	46,888	46,888
Actuarial Loss	10/1/2011	2	66,465	34,356
Actuarial Loss	10/1/2012	3	61,125	21,768
Assum. Change	10/1/2012	13	233,500	26,111
Actuarial Gain	10/1/2013	4	(308,710)	(85,177)
Assum. Change	10/1/2013	14	182,886	19,544
Actuarial Gain	10/1/2014	5	(214,760)	(48,951)
Assum. Change	10/1/2014	15	197,051	20,220
Actuarial Gain	10/1/2015	6	(164,861)	(32,324)
Assum. Change	10/1/2015	16	212,659	21,039
Actuarial Gain	10/1/2016	7	(528,055)	(91,572)
Assum. Changes	10/1/2016	17	962,225	92,108
Actuarial Gain	10/1/2017	8	(326,327)	(51,074)

Type of <u>Base</u>	Date <u>Established</u>	Years <u>Remaining</u>	10/1/2019 <u>Amount</u>	Amortization <u>Amount</u>
Assum. Change	10/1/2017	18	264,546	24,579
Actuarial Gain	10/1/2018	9	(486,334)	(69,762)
Actuarial Gain	10/1/2019	10	<u>(823,151)</u>	<u>(109,531)</u>
			1,203,398	31,591

RECONCILIATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES  
(After Assumption and Method Changes)

(1)	Unfunded Actuarial Accrued Liability as of October 1, 2018	\$2,352,521
(2)	Sponsor Normal Cost developed as of October 1, 2018	1,013
(3)	Expected administrative expenses for the year ended September 30, 2019	65,202
(4)	Expected interest on (1), (2) and (3)	167,029
(5)	Sponsor contributions to the System during the year ended September 30, 2019	522,632
(6)	Expected interest on (5)	36,584
(7)	Expected Unfunded Actuarial Accrued Liability as of September 30, 2019 (1)+(2)+(3)+(4)-(5)-(6)	2,026,549
(8)	Change to UAAL due to Assumption Change	298,069
(8)	Change to UAAL due to Actuarial (Gain)/Loss	(823,151)
(9)	Unfunded Actuarial Accrued Liability as of October 1, 2019	1,501,467

Type of <u>Base</u>	Date <u>Established</u>	Years <u>Remaining</u>	10/1/2019 <u>Amount</u>	Amortization <u>Amount</u>
Consolidation Base	10/1/2019	15	1,501,467	152,413

DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1) Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2018	\$2,352,521
(2) Expected UAAL as of October 1, 2019	2,026,549
(3) Summary of Actuarial (Gain)/Loss, by component:	
Investment Return (Actuarial Asset Basis)	(247,355)
Salary Increases	31,915
Active Decrements	25,390
Inactive Mortality	(762,265)
Other	<u>129,164</u>
Increase in UAAL due to (Gain)/Loss	(823,151)
Assumption and Method Changes	<u>298,069</u>
(4) Actual UAAL as of October 1, 2019	\$1,501,467

## ACTUARIAL ASSUMPTIONS AND METHODS

### Mortality Rate

#### *Healthy Active Lives:*

**Female:** RP2000 Generational, 100% White Collar, Scale BB

**Male:** RP2000 Generational, 50% White Collar / 50% Blue Collar, Scale BB

#### *Healthy Inactive Lives:*

**Female:** RP2000 Generational, 100% Annuitant White Collar, Scale BB

**Male:** RP2000 Generational, 50% Annuitant White Collar / 50% Annuitant Blue Collar, Scale BB

#### *Disabled Lives:*

**Female:** 100% RP2000 Disabled Female set forward two years

**Male:** 100% RP2000 Disabled Male setback four years

The assumed rates of mortality are mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumption 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, 2018 FRS actuarial valuation report for non-special risk lives. We feel this assumption sufficiently accommodates future mortality improvements.

### Interest Rate

6.80% (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.

### Salary Increases

6.50% per year until the assumed retirement age. Projected salary at retirement is increased 20% to account for non-regular compensation.

The assumed rate of salary increases is reasonable, based on long-term plan experience.

### Payroll Growth

0.00% for purposes of amortizing the Unfunded Actuarial Accrued Liability. This assumption cannot exceed the ten-year average payroll growth, in compliance with Part VII of Chapter 112, Florida Statutes.

Administrative Expenses

\$67,116 annually, based on the average of actual expenses incurred in the prior two fiscal years. Previously, the actual expense in the prior fiscal year was used. Using a two-year average results in a less volatile estimate than the prior method.

Retirement Age

Age 50 and 25 years of service or age 57. Any Member who has reached Normal Retirement on the valuation date is assumed to continue employment for one additional year. We feel this is reasonable based upon plan provisions.

Early Retirement

Commencing at the earliest Early Retirement Age (55), Members are assumed to retire with an immediate subsidized benefit at the rate of 2% per year. We feel this is reasonable based upon plan provisions.

Termination Rate

See sample rates below. The assumed rates are consistent with other Florida general employee plans.

% Terminating	
<u>During the Year</u>	
<u>Age</u>	<u>Rate</u>
20	17.2%
30	15.0%
40	8.2%
50	1.7%
60+	0.5%

Disability Rate

See sample rates below It is assumed that 75% of disablements and active deaths that occur are service related. The assumed rates are consistent with other Florida general employee plans.

% Becoming Disabled	
<u>During the Year</u>	
<u>Age</u>	<u>Rate</u>
20	0.051%
30	0.058%
40	0.121%
50	0.429%
60	1.611%
65+	2.798%

Cost-of-Living Increase

3.0% per year beginning at age 65.

Funding Method

Entry Age Normal Actuarial Cost Method. An interest load equal to 1 year has been applied for determination of required sponsor and Member contributions.

Actuarial Asset Method

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

Amortization Method

Existing UAAL amortization bases as of October 1, 2019 were combined and re-amortized over a 15-year period. Future UAAL amortization bases will be amortized over 15 years.

Previously, new UAAL amortization bases were established according to the following amortization periods:

Experience: 10 Years.

Assumption/Method Changes: 20 Years.

Benefit Changes: 30 Years.

## GLOSSARY

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

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current Members, Retirees, Beneficiaries, Disability Retirees and Vested Terminations.

Normal (Current Year's) Cost is 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.

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.

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.

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.

## DISCUSSION OF RISK

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

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

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

- Investment Return: When the rate of return on the Actuarial Value of Assets falls short of the assumption, this produces a loss representing assumed investment earnings that were not realized. Further, it is unlikely that the plan will experience a scenario that matches the assumed return in each year as capital markets can be volatile from year to year. Therefore, contribution amounts can vary in the future.
- Salary Increases: When a plan participant experiences a salary increase that was greater than assumed, this produces a loss representing the cost of an increase in anticipated plan benefits for the participant as compared to the previous year. The total gain or loss associated with salary increases for the plan is the sum of salary gains and losses for all active participants.
- Payroll Growth: The plan's payroll growth assumption, if one is used, causes a predictable annual increase in the plan's amortization payment in order to produce an amortization payment that remains constant as a percentage of payroll if all assumptions are realized. If payroll does not increase according to the plan's payroll growth assumption, the plan's amortization payment can increase significantly as a percentage of payroll even if all assumptions other than the payroll growth assumption are realized. Your plan currently utilizes level dollar amortization of the UAAL.
- 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 3.6% on October 1 2016 to 2.3% on October 1, 2019, indicating that the plan has been maturing during the period.
- The Accrued Liability Ratio, determined as the ratio of the Inactive Accrued Liability, which is the liability associated with members who are no longer employed but are due a benefit from the plan, to the Total Accrued Liability, is 93.8%. With a plan of this maturity, losses due to lower than expected investment returns or demographic factors may result in larger increases in contribution requirements than would be needed for a less mature plan. Please note Chapter 112, Florida Statutes, requires that the plan sponsor contributes the minimum required contribution; thus, there is minimal solvency risk to the plan.
- The Funded Ratio, determined as the ratio of the Actuarial Value of Assets to the Total Accrued Liability, has increased from 78.7% on October 1, 2016 to 90.6% on October 1, 2019, due to net favorable experience realized by the plan during the period.
- 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 -5.2% on October 1, 2016 to -7.3% on October 1, 2019. The current Net Cash Flow Ratio of -7.3% 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>10/1/2016</u>	<u>10/1/2017</u>	<u>10/1/2018</u>	<u>10/1/2019</u>
<u>Support Ratio</u>				
Total Actives	2	2	1	1
Total Inactives <sup>1</sup>	55	51	48	44
Actives / Inactives <sup>1</sup>	3.6%	3.9%	2.1%	2.3%
<u>Asset Volatility Ratio</u>				
Market Value of Assets (MVA)	12,879,533	13,731,230	14,587,473	13,939,606
Total Annual Payroll	103,888	106,361	69,273	77,334
MVA / Total Annual Payroll	12,397.5%	12,910.0%	21,057.9%	18,025.2%
<u>Accrued Liability (AL) Ratio</u>				
Inactive Accrued Liability	16,174,046	15,935,077	15,839,518	15,045,587
Total Accrued Liability (EAN)	17,261,609	17,124,256	16,683,866	16,035,268
Inactive AL / Total AL	93.7%	93.1%	94.9%	93.8%
<u>Funded Ratio</u>				
Actuarial Value of Assets (AVA)	13,583,068	13,879,523	14,331,345	14,533,801
Total Accrued Liability (EAN)	17,261,609	17,124,256	16,683,866	16,035,268
AVA / Total Accrued Liability (EAN)	78.7%	81.1%	85.9%	90.6%
<u>Net Cash Flow Ratio</u>				
Net Cash Flow <sup>2</sup>	(664,132)	(769,805)	(669,498)	(1,012,208)
Market Value of Assets (MVA)	12,879,533	13,731,230	14,587,473	13,939,606
Ratio	-5.2%	-5.6%	-4.6%	-7.3%

<sup>1</sup> Excludes terminated participants awaiting a refund of member contributions.

<sup>2</sup> Determined as total contributions minus benefit payments and administrative expenses.

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2019

<u>ASSETS</u>	COST VALUE	MARKET VALUE
Cash and Cash Equivalents:		
Money Market	205,927.90	205,927.90
Total Cash and Equivalents	205,927.90	205,927.90
Receivables:		
Investment Income	8,545.21	8,545.21
Total Receivable	8,545.21	8,545.21
Investments:		
U. S. Bonds and Bills	187,873.76	191,097.27
Federal Agency Guaranteed Securities	484,404.50	498,284.07
Corporate Bonds	687,340.70	698,922.87
Equities	6,258,399.72	6,994,704.89
Mutual Funds:		
Fixed Income	765,238.78	669,073.15
Equity	905,989.84	2,631,100.44
Pooled/Common/Commingled Funds:		
Real Estate	1,545,108.55	2,059,932.05
Total Investments	10,834,355.85	13,743,114.74
Total Assets	11,048,828.96	13,957,587.85
<u>LIABILITIES</u>		
Prepaid City Contribution	17,982.00	17,982.00
Total Liabilities	17,982.00	17,982.00
NET POSITION RESTRICTED FOR PENSIONS	11,030,846.96	13,939,605.85

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

ADDITIONS

Contributions:

Member	3,630.77	
City		522,632.00

Total Contributions		526,262.77
---------------------	--	------------

Investment Income:

Net Realized Gain (Loss)	517,653.66		
Unrealized Gain (Loss)	(669,670.48)		
Net Increase in Fair Value of Investments		(152,016.82)	
Interest & Dividends		549,466.83	
Less Investment Expense <sup>1</sup>		(33,108.56)	

Net Investment Income		364,341.45
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Total Additions		890,604.22
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DEDUCTIONS

Distributions to Members:

Benefit Payments	1,166,629.53	
Lump Sum DROP Distributions		302,812.38
Refunds of Member Contributions		0.00

Total Distributions		1,469,441.91
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Administrative Expense		69,029.10
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Total Deductions		1,538,471.01
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Net Increase in Net Position		(647,866.79)
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NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year		14,587,472.64
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End of the Year		13,939,605.85
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<sup>1</sup>Investment related expenses include investment advisory, custodial and performance monitoring fees.

ACTUARIAL ASSET VALUATION  
SEPTEMBER 30, 2019

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

Details of the derivation are set forth as follows:

Plan Year End	Rate of Return <sup>1</sup>	
09/30/2016	8.39%	
09/30/2017	13.04%	
09/30/2018	11.42%	
09/30/2019	2.59%	
Annualized Rate of Return for prior four (4) years:		8.79%
(A) 10/01/2018 Actuarial Assets:		\$14,331,345.09
(I) Net Investment Income:		
1. Interest and Dividends	549,466.83	
2. Realized Gains (Losses)	517,653.66	
3. Unrealized Gains (Losses)	(669,670.48)	
4. Change in Actuarial Value	850,322.72	
5. Investment Related Expenses	(33,108.56)	
Total		1,214,664.17
(B) 10/01/2019 Actuarial Assets:		\$14,533,801.02
Actuarial Asset Rate of Return = 2I/(A+B-I):		8.79%
10/01/2019 Limited Actuarial Assets:		\$14,533,801.02
10/01/2019 Market Value of Assets:		\$13,939,605.85
Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis)		\$247,354.82

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

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS  
 SEPTEMBER 30, 2019  
 Actuarial Asset Basis

REVENUES

Contributions:		
Member	3,630.77	
City	522,632.00	
Total Contributions		526,262.77
Earnings from Investments:		
Interest & Dividends	549,466.83	
Net Realized Gain (Loss)	517,653.66	
Unrealized Gain (Loss)	(669,670.48)	
Change in Actuarial Value	850,322.72	
Total Earnings and Investment Gains		1,247,772.73

EXPENDITURES

Distributions to Members:		
Benefit Payments	1,166,629.53	
Lump Sum DROP Distributions	302,812.38	
Refunds of Member Contributions	0.00	
Total Distributions		1,469,441.91
Expenses:		
Investment related <sup>1</sup>	33,108.56	
Administrative	69,029.10	
Total Expenses		102,137.66
Change in Net Assets for the Year		202,455.93
Net Assets Beginning of the Year		14,331,345.09
Net Assets End of the Year <sup>2</sup>		14,533,801.02

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

<sup>2</sup>Net Assets may be limited for actuarial consideration.

DEFERRED RETIREMENT OPTION PLAN ACTIVITY  
October 1, 2018 to September 30, 2019

Beginning of the Year Balance	476,563.53
Plus Additions	84,286.87
Investment Return Earned	9,663.19
Less Distributions	(302,812.38)
End of the Year Balance	267,701.21

RECONCILIATION OF CITY'S SHORTFALL/(PREPAID) CONTRIBUTION  
FOR THE FISCAL YEAR ENDED (FYE) SEPTEMBER 30, 2019

(1) Required City Contributions	\$522,632.00
(2) Less 2018 Prepaid Contribution	0.00
(3) Less Actual City Contributions	<u>(540,614.00)</u>
(4) Equals City's Shortfall/(Prepaid) Contribution as of September 30, 2019	(\$17,982.00)

## STATISTICAL DATA

	<u>10/1/2016</u>	<u>10/1/2017</u>	<u>10/1/2018</u>	<u>10/1/2019</u>
<u>Actives</u>				
Number	2	2	1	1
Average Current Age	50.8	51.8	52.4	53.4
Average Age at Employment	24.4	24.4	21.4	21.4
Average Past Service	26.4	27.4	31.0	32.0
Average Annual Salary	\$51,944	\$53,181	\$69,273	\$77,334
<u>Service Retirees</u>				
Number	43	43	39	35
Average Current Age	75.1	74.7	74.8	75.4
Average Annual Benefit	\$25,325	\$26,718	\$29,298	\$29,443
Average Life Expectancy	14.2	14.7	14.8	14.6
<u>DROP Retirees</u>				
Number	3	2	2	2
Average Current Age	57.4	61.0	57.1	58.1
Average Annual Benefit	\$53,206	\$50,689	\$40,614	\$41,062
Average Life Expectancy	27.7	24.4	28.2	27.4
<u>Beneficiaries</u>				
Number	7	5	6	6
Average Current Age	70.5	69.8	69.5	68.0
Average Annual Benefit	\$13,997	\$12,429	\$11,820	\$17,364
Average Life Expectancy	19.4	19.3	18.2	20.3
<u>Disability Retirees</u>				
Number	1	1	1	1
Average Current Age	52.0	53.0	54.0	55.0
Average Annual Benefit	\$5,289	\$5,289	\$5,289	\$5,289
Average Life Expectancy	19.2	18.7	18.2	17.7
<u>Terminated Vested</u>				
Number	1	0	0	0
Average Current Age	54.0	N/A	N/A	N/A
Average Annual Benefit	\$17,385	N/A	N/A	N/A
Average Life Expectancy	34.2	N/A	N/A	N/A

## AGE AND SERVICE DISTRIBUTION

### PAST SERVICE

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

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

a. Number in prior valuation 10/1/2018	1
b. Terminations	
i. Vested (partial or full) with deferred annuity	0
ii. Vested in refund of member contributions only	0
iii. Refund of member contributions or full lump sum distribution received	0
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	0
e. Retired	0
f. DROP	<u>0</u>
g. Continuing participants	1
h. New entrants	<u>0</u>
i. Total active life participants in valuation	1

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

	Service Retirees, Vested Receiving <u>Benefits</u>	DROP <u>Benefits</u>	Receiving Death <u>Benefits</u>	Receiving Disability <u>Benefits</u>	Vested (Deferred Annuity) <u>Refund</u>	Vested (Due Refund) <u>Refund</u>	<u>Total</u>
a. Number prior valuation	39	2	6	1	0	0	48
Retired	0	0	0	0	0	0	0
DROP	0	0	0	0	0	0	0
Vested (Deferred Annuity)	0	0	0	0	0	0	0
Vested (Due Refund)	0	0	0	0	0	0	0
Hired/Terminated in Same Year	0	0	0	0	0	0	0
Death, With Survivor	(1)	0	1	0	0	0	0
Death, No Survivor	(3)	0	(1)	0	0	0	(4)
Disabled	0	0	0	0	0	0	0
Refund of Contributions	0	0	0	0	0	0	0
Rehires	0	0	0	0	0	0	0
Expired Annuities	0	0	0	0	0	0	0
Data Corrections	0	0	0	0	0	0	0
b. Number current valuation	35	2	6	1	0	0	44

SUMMARY OF CURRENT PLAN  
(Through Ordinance 07-2016)

<u>Original Effective Date</u>	July 1, 1969.
<u>Effective Date of Last Amendment</u>	May 10, 2016.
<u>Eligibility</u>	Full-time employees hired before 7/1/96 who are not classified as Police Officers or Firefighters are covered from date of employment.
<u>Credited Service</u>	Total years and fractional parts of years of employment with the City as a General Employee.
<u>Average Final Compensation</u>	Average total compensation (W-2 Earnings plus tax-exempt, tax-deferred and tax-sheltered income) for the 3 best years of the 10 years immediately preceding retirement or termination.
<u>Member Contributions</u>	5% of Salary.
<u>Interest on Member Contributions</u>	4 ½% per year.
<u>City Contributions</u>	Any remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, as provided in Part VII, Chapter 112, F.S..
<u>Normal Retirement</u>	
Date	Age 50 and 25 years of Credited Service, or age 57 (age 57 and 10 years of service if hired after 3/31/94).
Benefit	3% of Average Final Compensation <u>times</u> Credited Service.
Form of Benefit	Life Annuity (options available).
<u>Early Retirement</u>	
Eligibility	Age 55 and 10 Years of Credited Service.
Benefit	Accrued benefit, reduced 1/15 <sup>th</sup> for each of the first 5 years and 1/30 <sup>th</sup> for each of the next 5 years prior to Normal Retirement.
<u>Cost-of-Living Increase for Retirees</u>	3% per year beginning at age 65.

Vesting

Less Than 10 Years	Refund of Member Contributions, with interest.
10 or More Years	Accrued pension payable at Normal Retirement, or refund of Member Contributions, with interest.

Disability

Eligibility	Total and permanent; unable to perform any regular and continuous duties as a General Employee (as determined by the Board).
Benefit	
Service Incurred	50% of average pay for the 12 months preceding disability.
Non-Service Incurred	25% of average pay for the 12 months preceding disability.
Duration	Benefit payable for life with 120 payments guaranteed or until recovery (as determined by the Board).
Benefit Offsets	If Plan benefit plus Social Security and/or Worker's Compensation exceeds 100% of pay, Plan benefit is reduced so total is 100% of pay.

Pre-Retirement Death Benefits

Not Vested or Eligible to Retire	Refund of Member Contributions, with interest.
Vested or Eligible to Retire	Beneficiary receives accrued benefit for 10 years at the otherwise Normal (unreduced) or Early (reduced) Retirement Date, or refund of Member Contributions, with interest.

Board of Trustees

- a) Two Council appointees (City residents), and
- b) Three Plan Members elected by the Membership.

Deferred Retirement Option Plan

Eligibility	Satisfaction of requirements for Normal Retirement.
Participation	Not more than 60 months.
Rate of Return	Actual net rate of investment return (total return net of brokerage commissions, transaction costs, and management fees) based on Actuarial Value of plan assets.
Form of Distribution	Cash lump sum (options available) payable at termination of employment.

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2019

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Money Market	205,928
Total Cash and Equivalents	205,928
Receivables:	
Investment Income	8,545
Total Receivable	8,545
Investments:	
U. S. Bonds and Bills	191,097
Federal Agency Guaranteed Securities	498,284
Corporate Bonds	698,923
Equities	6,994,705
Mutual Funds:	
Fixed Income	669,073
Equity	2,631,101
Pooled/Common/Commingled Funds:	
Real Estate	2,059,932
Total Investments	13,743,115
Total Assets	13,957,588
Total Liabilities	0
NET POSITION RESTRICTED FOR PENSIONS	13,957,588

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

ADDITIONS

## Contributions:

Member	3,631	
City	540,614	
Total Contributions		544,245
Investment Income:		
Net Increase in Fair Value of Investments	(152,017)	
Interest & Dividends	549,467	
Less Investment Expense <sup>1</sup>	(33,109)	
Net Investment Income		364,341
Total Additions		908,586

DEDUCTIONS

## Distributions to Members:

Benefit Payments	1,166,630	
Lump Sum DROP Distributions	302,812	
Refunds of Member Contributions	0	
Total Distributions		1,469,442
Administrative Expense		69,029
Total Deductions		1,538,471
Net Increase in Net Position		(629,885)

## NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year		14,587,473
End of the Year		13,957,588

<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 Administration*

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

- a) Two Council appointees (City residents), and
- b) Three Plan Members elected by the Membership.

*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	-
Active Plan Members	1
	49

*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 Cocoa General Employees' Retirement Plan prepared by Foster & Foster Actuaries and Consultants.

*Contributions*

Member Contributions: 5% of Salary.

Interest on Member Contributions: 4 ½% per year.

City Contributions: Any remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, as provided in Part VII, Chapter 112, Florida Statutes.

*Investments**Investment Policy:*

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

Asset Class	Target Allocation
Domestic Equity	45.0%
International Equity	15.0%
Broad Market Fixed Income	10.0%
Global Fixed Income	5.0%
Real Estate	15.0%
Alternative	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 2.59 percent.

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

Deferred Retirement Option Program

Eligibility: Satisfaction of requirements for Normal Retirement.

Participation: Not more than 60 months.

Rate of Return: Actual net rate of investment return (total return net of brokerage commissions, transaction costs, and management fees) based on Actuarial Value of plan assets.

The DROP balance as September 30, 2019 is \$267,701.

## 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	\$ 16,638,723
Plan Fiduciary Net Position	\$ (13,957,588)
Sponsor's Net Pension Liability	<u>\$ 2,681,135</u>
Plan Fiduciary Net Position as a percentage of Total Pension Liability	<u>83.89%</u>

*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	6.50%
Discount Rate	6.80%
Investment Rate of Return	6.80%

*Mortality Rate Healthy Active Lives:*

Female: RP2000 Generational, 100% White Collar, Scale BB.

Male: RP2000 Generational, 50% White Collar / 50% Blue Collar, Scale BB.

*Mortality Rate Healthy Inactive Lives:*

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP2000 Generational, 50% Annuitant White Collar / 50% Annuitant Blue Collar, Scale BB.

*Mortality Rate Disabled Lives:*

Female: 100% RP2000 Disabled Female set forward two years.

Male: 100% RP2000 Disabled Male setback four years.

The assumed rates of mortality are mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumption 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 non-special risk lives. We feel this assumption sufficiently accommodates future mortality improvements.

The date of the most recent experience study for which significant assumptions are based upon is not available.

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:

<u>Asset Class</u>	<u>Long Term Expected Real Rate of Return</u>
Domestic Equity	7.50%
International Equity	8.50%
Broad Market Fixed Income	2.50%
Global Fixed Income	3.50%
Real Estate	4.50%
Alternative	6.00%

Discount Rate:

The Discount Rate used to measure the Total Pension Liability was 6.80 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 5.80%	Current Discount Rate 6.80%	1% Increase 7.80%
Sponsor's Net Pension Liability	\$ 4,371,012	\$ 2,681,135	\$ 1,261,438

**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	8,673	16,218	14,181
Interest	1,146,191	1,180,886	1,249,866
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	(449,972)	(353,443)	(810,338)
Changes of assumptions	303,069	-	320,883
Benefit Payments, including Refunds of Employee Contributions	(1,469,442)	(1,194,075)	(1,338,089)
Net Change in Total Pension Liability	(461,481)	(350,414)	(563,497)
Total Pension Liability - Beginning	17,100,204	17,450,618	18,014,115
Total Pension Liability - Ending (a)	<u>\$ 16,638,723</u>	<u>\$ 17,100,204</u>	<u>\$ 17,450,618</u>
Plan Fiduciary Net Position			
Contributions - Employer	540,614	585,825	622,133
Contributions - Employee	3,631	3,954	4,993
Net Investment Income	364,341	1,525,741	1,621,502
Benefit Payments, including Refunds of Employee Contributions	(1,469,442)	(1,194,075)	(1,338,089)
Administrative Expense	(69,029)	(65,202)	(58,842)
Net Change in Plan Fiduciary Net Position	(629,885)	856,243	851,697
Plan Fiduciary Net Position - Beginning	14,587,473	13,731,230	12,879,533
Plan Fiduciary Net Position - Ending (b)	<u>\$ 13,957,588</u>	<u>\$ 14,587,473</u>	<u>\$ 13,731,230</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 2,681,135</u>	<u>\$ 2,512,731</u>	<u>\$ 3,719,388</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	83.89%	85.31%	78.69%
Covered Payroll <sup>1</sup>	\$ 79,071	\$ 79,071	\$ 99,870
Net Pension Liability as a percentage of Covered Payroll	3390.79%	3177.81%	3724.24%

**Notes to Schedule:**

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

*Changes of assumptions:*

For measurement date 09/30/2019, amounts reported as changes of assumptions resulted from lowering the investment rate of return from 7.00% to 6.80% per year compounded annually, net of investment related expenses.

For measurement date 09/30/2017, as required by Chapter 2015-157, Laws of Florida, the assumed rates of mortality have been changed from those in the July 1, 2015 FRS valuation report to those used in the July 1, 2016 FRS valuation report. Additionally, the investment rate of return was lowered from 7.20% to 7.00% per year compounded annually, net of investment related expenses.

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

	09/30/2016	09/30/2015
Total Pension Liability		
Service Cost	29,795	42,355
Interest	1,188,448	1,212,220
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	90,981	(148,809)
Changes of assumptions	1,307,508	280,514
Benefit Payments, including Refunds of Employee Contributions	(1,265,867)	(1,261,866)
Net Change in Total Pension Liability	1,350,865	124,414
Total Pension Liability - Beginning	16,663,250	16,538,836
Total Pension Liability - Ending (a)	<u>\$ 18,014,115</u>	<u>\$ 16,663,250</u>
Plan Fiduciary Net Position		
Contributions - Employer	651,442	711,229
Contributions - Employee	8,293	11,199
Net Investment Income	1,014,663	88,087
Benefit Payments, including Refunds of Employee Contributions	(1,265,867)	(1,261,866)
Administrative Expense	(58,000)	(63,707)
Net Change in Plan Fiduciary Net Position	350,531	(515,058)
Plan Fiduciary Net Position - Beginning	12,529,002	13,044,060
Plan Fiduciary Net Position - Ending (b)	<u>\$ 12,879,533</u>	<u>\$ 12,529,002</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 5,134,582</u>	<u>\$ 4,134,248</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	71.50%	75.19%
Covered Payroll <sup>1</sup>	\$ 165,865	\$ 360,114
Net Pension Liability as a percentage of Covered Payroll	3095.64%	1148.04%

**Notes to Schedule:**

<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 assumptions:*

For measurement date 09/30/2016, as a result of Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the assumptions used by the Florida Retirement System.

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.

The investment rate of return was lowered from 7.40% to 7.20% per year compounded annually, net of investment related expenses.

For measurement date 09/30/2015, amounts reported as changes of assumptions resulted from lowering the investment rate of return from 7.60% to 7.40%.

**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	47,142	43,812
Interest	1,212,422	1,212,249
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	-	-
Changes of assumptions	-	-
Benefit Payments, including Refunds of Employee Contributions	(1,253,011)	(1,261,222)
Net Change in Total Pension Liability	6,553	(5,161)
Total Pension Liability - Beginning	16,532,283	16,537,444
Total Pension Liability - Ending (a)	<u>\$ 16,538,836</u>	<u>\$ 16,532,283</u>
Plan Fiduciary Net Position		
Contributions - Employer	789,489	632,521
Contributions - Employee	14,167	17,745
Net Investment Income	1,269,824	1,604,165
Benefit Payments, including Refunds of Employee Contributions	(1,253,011)	(1,261,222)
Administrative Expense	(48,959)	(44,257)
Net Change in Plan Fiduciary Net Position	771,510	948,952
Plan Fiduciary Net Position - Beginning	12,272,550	11,323,598
Plan Fiduciary Net Position - Ending (b)	<u>\$ 13,044,060</u>	<u>\$ 12,272,550</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 3,494,776</u>	<u>\$ 4,259,733</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	78.87%	74.23%
Covered Payroll <sup>1</sup>	\$ 282,176	\$ 354,890
Net Pension Liability as a percentage of Covered Payroll	1238.51%	1200.30%

**Notes to Schedule:**

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

**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	\$ 522,632	\$ 540,614	\$ (17,982)	\$ 79,071	683.71%
09/30/2018	\$ 585,687	\$ 585,825	\$ (138)	\$ 79,071	740.88%
09/30/2017	\$ 622,133	\$ 622,133	\$ -	\$ 99,870	622.95%
09/30/2016	\$ 651,442	\$ 651,442	\$ -	\$ 165,865	392.75%
09/30/2015	\$ 711,229	\$ 711,229	\$ -	\$ 360,114	197.50%
09/30/2014	\$ 789,489	\$ 789,489	\$ -	\$ 282,176	279.79%
09/30/2013	\$ 632,521	\$ 632,521	\$ -	\$ 354,890	178.23%

<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 (AIS 08/17/2018)

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

Methods and assumptions used to determine contribution rates:

Mortality:

*Healthy Inactive Lives:*

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP2000 Generational, 50% Annuitant White Collar / 50% Annuitant Blue Collar, Scale BB.

*Healthy Active Lives:*

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.

Male: RP2000 Generational, 50% Combined Healthy White Collar / 50% Combined Healthy Blue Collar, Scale BB.

*Disabled Lives:*

Female: 100% RP2000 Disabled Female set forward two years.

Male: 100% RP2000 Disabled Male setback four years.

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida.

This law mandates the use of the assumption used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2016 FRS valuation report. We feel this assumption sufficiently accommodates future mortality improvements.

Interest Rate:

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.

Retirement Age:

Age 50 and 25 years of service or age 57. Any Member who has reached Normal Retirement on the valuation date is assumed to continue employment for one additional year. We feel this is reasonable based upon plan provisions.

Early Retirement:

Commencing at the earliest Early Retirement Age (55), Members are assumed to retire with an immediate subsidized benefit at the rate of 2% per year. We feel this is reasonable based upon plan provisions.

Disability Rates: See table below (1202). It is assumed that 75% of disablements and active deaths that occur are service related. The assumed rates are consistent with other Florida general employee plans.

Termination Rates: See table below (1305). The assumed rates are consistent with other Florida general employee plans.

Salary Increases: 6.50% per year until the assumed retirement age; see table on following page. Projected salary at retirement is increased 20% to account for non-regular compensation.  
The assumed rate of salary increases is reasonable, based on long-term plan experience.

Payroll Growth: None.

Cost-of-Living Increase: 3.0% per year beginning at age 65.

Funding Method: Entry Age Normal Actuarial Cost Method. An interest load equal to 1.5 years has been applied for determination of required sponsor and Member contributions.

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

Termination and Disability Rate Table:

Age	% Becoming Disabled During the Year	% Terminating During the Year
20	0.051%	17.2%
30	0.058%	15.0%
40	0.121%	8.2%
50	0.429%	1.7%

SCHEDULE OF INVESTMENT RETURNS  
Last 10 Fiscal Years

Fiscal Year Ended	Annual Money-Weighted Rate of Return Net of Investment Expense
09/30/2019	2.59%
09/30/2018	11.42%
09/30/2017	13.04%
09/30/2016	8.39%
09/30/2015	0.69%
09/30/2014	10.60%
09/30/2013	14.59%

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

General Information about the Pension Plan

*Plan Description*

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

- a) Two Council appointees (City residents), and
- b) Three Plan Members elected by the Membership.

Full-time employees hired before 7/1/96 who are not classified as Police Officers or Firefighters are covered from date 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	-
Active Plan Members	1
	49
	49

*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 Cocoa General Employees' Retirement Plan prepared by Foster & Foster Actuaries and Consultants.

*Contributions*

Member Contributions: 5% of Salary.

Interest on Member Contributions: 4 ½% per year.

City Contributions: Any remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, as provided in Part VII, Chapter 112, Florida Statutes.

Net Pension Liability

The measurement date is September 30, 2019.

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

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

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

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

*Actuarial Assumptions:*

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

Inflation	2.50%
Salary Increases	6.50%
Discount Rate	6.80%
Investment Rate of Return	6.80%

*Mortality Rate Healthy Active Lives:*

Female: RP2000 Generational, 100% White Collar, Scale BB.

Male: RP2000 Generational, 50% White Collar / 50% Blue Collar, Scale BB.

*Mortality Rate Healthy Inactive Lives:*

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP2000 Generational, 50% Annuitant White Collar / 50% Annuitant Blue Collar, Scale BB.

*Mortality Rate Disabled Lives:*

Female: 100% RP2000 Disabled Female set forward two years.

Male: 100% RP2000 Disabled Male setback four years.

The assumed rates of mortality are mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumption 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 non-special risk lives. We feel this assumption sufficiently accommodates future mortality improvements.

The date of the most recent experience study for which significant assumptions are based upon is not available.

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

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

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

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

Asset Class	Target Allocation	Long Term Expected Real Rate of Return
Domestic Equity	45.00%	7.50%
International Equity	15.00%	8.50%
Broad Market Fixed Income	10.00%	2.50%
Global Fixed Income	5.00%	3.50%
Real Estate	15.00%	4.50%
Alternative	10.00%	6.00%
<b>Total</b>	<b>100.00%</b>	

**Discount Rate:**

The Discount Rate used to measure the Total Pension Liability was 6.80 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)
Balance at September 30, 2018	\$ 17,100,204	\$ 14,587,473	\$ 2,512,731
Changes for a Year:			
Service Cost	8,673	-	8,673
Interest	1,146,191	-	1,146,191
Differences between Expected and Actual Experience	(449,972)	-	(449,972)
Changes of assumptions	303,069	-	303,069
Changes of benefit terms	-	-	-
Contributions - Employer	-	540,614	(540,614)
Contributions - Employee	-	3,631	(3,631)
Net Investment Income	-	364,341	(364,341)
Benefit Payments, including Refunds of Employee Contributions	(1,469,442)	(1,469,442)	-
Administrative Expense	-	(69,029)	69,029
Net Changes	(461,481)	(629,885)	168,404
Balance at September 30, 2019	\$ 16,638,723	\$ 13,957,588	\$ 2,681,135

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

	Current Discount		
	1% Decrease	Rate	1% Increase
	5.80%	6.80%	7.80%
Sponsor's Net Pension Liability	\$ 4,371,012	\$ 2,681,135	\$ 1,261,438

*Pension Plan Fiduciary Net Position.*

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

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

For the year ended September 30, 2019, the Sponsor will recognize a Pension Expense of \$103,105.

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	-	-
Changes of assumptions	-	-
Net difference between Projected and Actual Earnings on Pension Plan investments	-	166,377
Total	\$ -	\$ 166,377

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	\$ (159,996)
2021	\$ (137,578)
2022	\$ 6,800
2023	\$ 124,397
2024	\$ -
Thereafter	\$ -

**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	8,673	16,218	14,181
Interest	1,146,191	1,180,886	1,249,866
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	(449,972)	(353,443)	(810,338)
Changes of assumptions	303,069	-	320,883
Benefit Payments, including Refunds of Employee Contributions	(1,469,442)	(1,194,075)	(1,338,089)
Net Change in Total Pension Liability	(461,481)	(350,414)	(563,497)
Total Pension Liability - Beginning	17,100,204	17,450,618	18,014,115
Total Pension Liability - Ending (a)	<u>\$ 16,638,723</u>	<u>\$ 17,100,204</u>	<u>\$ 17,450,618</u>
Plan Fiduciary Net Position			
Contributions - Employer	540,614	585,825	622,133
Contributions - Employee	3,631	3,954	4,993
Net Investment Income	364,341	1,525,741	1,621,502
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Administrative Expense	(69,029)	(65,202)	(58,842)
Net Change in Plan Fiduciary Net Position	(629,885)	856,243	851,697
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Plan Fiduciary Net Position - Ending (b)	<u>\$ 13,957,588</u>	<u>\$ 14,587,473</u>	<u>\$ 13,731,230</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 2,681,135</u>	<u>\$ 2,512,731</u>	<u>\$ 3,719,388</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	83.89%	85.31%	78.69%
Covered Payroll <sup>1</sup>	\$ 79,071	\$ 79,071	\$ 99,870
Net Pension Liability as a percentage of Covered Payroll	3390.79%	3177.81%	3724.24%

**Notes to Schedule:**

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

*Changes of assumptions:*

For measurement date 09/30/2019, amounts reported as changes of assumptions resulted from lowering the investment rate of return from 7.00% to 6.80% per year compounded annually, net of investment related expenses.

For measurement date 09/30/2017, as required by Chapter 2015-157, Laws of Florida, the assumed rates of mortality have been changed from those in the July 1, 2015 FRS valuation report to those used in the July 1, 2016 FRS valuation report. Additionally, the investment rate of return was lowered from 7.20% to 7.00% per year compounded annually, net of investment related expenses.

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

	09/30/2016	09/30/2015
Total Pension Liability		
Service Cost	29,795	42,355
Interest	1,188,448	1,212,220
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	90,981	(148,809)
Changes of assumptions	1,307,508	280,514
Benefit Payments, including Refunds of Employee Contributions	(1,265,867)	(1,261,866)
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Net Investment Income	1,014,663	88,087
Benefit Payments, including Refunds of Employee Contributions	(1,265,867)	(1,261,866)
Administrative Expense	(58,000)	(63,707)
Net Change in Plan Fiduciary Net Position	350,531	(515,058)
Plan Fiduciary Net Position - Beginning	12,529,002	13,044,060
Plan Fiduciary Net Position - Ending (b)	<u>\$ 12,879,533</u>	<u>\$ 12,529,002</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 5,134,582</u>	<u>\$ 4,134,248</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	71.50%	75.19%
Covered Payroll <sup>1</sup>	\$ 165,865	\$ 360,114
Net Pension Liability as a percentage of Covered Payroll	3095.64%	1148.04%

**Notes to Schedule:**

<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.

Effective for the City's fiscal year ending 09/30/2016, the GASB 68 measurement date of the Pension Expense has been approved and changed from 09/30/2015 to 09/30/2016.

*Changes of assumptions:*

For measurement date 09/30/2016, as a result of Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the assumptions used by the Florida Retirement System.

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.

The investment rate of return was lowered from 7.40% to 7.20% per year compounded annually, net of investment related expenses.

For measurement date 09/30/2015, amounts reported as changes of assumptions resulted from lowering the investment rate of return from 7.60% to 7.40%.

**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	47,142	43,812
Interest	1,212,422	1,212,249
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	-	-
Changes of assumptions	-	-
Benefit Payments, including Refunds of Employee Contributions	(1,253,011)	(1,261,222)
Net Change in Total Pension Liability	6,553	(5,161)
Total Pension Liability - Beginning	16,532,283	16,537,444
Total Pension Liability - Ending (a)	<u>\$ 16,538,836</u>	<u>\$ 16,532,283</u>
Plan Fiduciary Net Position		
Contributions - Employer	789,489	632,521
Contributions - Employee	14,167	17,745
Net Investment Income	1,269,824	1,604,165
Benefit Payments, including Refunds of Employee Contributions	(1,253,011)	(1,261,222)
Administrative Expense	(48,959)	(44,257)
Net Change in Plan Fiduciary Net Position	771,510	948,952
Plan Fiduciary Net Position - Beginning	12,272,550	11,323,598
Plan Fiduciary Net Position - Ending (b)	<u>\$ 13,044,060</u>	<u>\$ 12,272,550</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 3,494,776</u>	<u>\$ 4,259,733</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	78.87%	74.23%
Covered Payroll <sup>1</sup>	\$ 282,176	\$ 354,890
Net Pension Liability as a percentage of Covered Payroll	1238.51%	1200.30%

**Notes to Schedule:**

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

**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	\$ 522,632	\$ 540,614	\$ (17,982)	\$ 79,071	683.71%
09/30/2018	\$ 585,687	\$ 585,825	\$ (138)	\$ 79,071	740.88%
09/30/2017	\$ 622,133	\$ 622,133	\$ -	\$ 99,870	622.95%
09/30/2016	\$ 651,442	\$ 651,442	\$ -	\$ 165,865	392.75%
09/30/2015	\$ 711,229	\$ 711,229	\$ -	\$ 360,114	197.50%
09/30/2014	\$ 789,489	\$ 789,489	\$ -	\$ 282,176	279.79%
09/30/2013	\$ 632,521	\$ 632,521	\$ -	\$ 354,890	178.23%

<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 (AIS 08/17/2018)

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

Methods and assumptions used to determine contribution rates:

Mortality:

*Healthy Inactive Lives:*

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP2000 Generational, 50% Annuitant White Collar / 50% Annuitant Blue Collar, Scale BB.

*Healthy Active Lives:*

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.

Male: RP2000 Generational, 50% Combined Healthy White Collar / 50% Combined Healthy Blue Collar, Scale BB.

*Disabled Lives:*

Female: 100% RP2000 Disabled Female set forward two years.

Male: 100% RP2000 Disabled Male setback four years.

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida.

This law mandates the use of the assumption used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2016 FRS valuation report. We feel this assumption sufficiently accommodates future mortality improvements.

Interest Rate:

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.

Retirement Age:

Age 50 and 25 years of service or age 57. Any Member who has reached Normal Retirement on the valuation date is assumed to continue employment for one additional year. We feel this is reasonable based upon plan provisions.

Early Retirement:

Commencing at the earliest Early Retirement Age (55), Members are assumed to retire with an immediate subsidized benefit at the rate of 2% per year. We feel this is reasonable based upon plan provisions.

Disability Rates: See table below (1202). It is assumed that 75% of disablements and active deaths that occur are service related. The assumed rates are consistent with other Florida general employee plans.

Termination Rates: See table below (1305). The assumed rates are consistent with other Florida general employee plans.

Salary Increases: 6.50% per year until the assumed retirement age; see table on following page. Projected salary at retirement is increased 20% to account for non-regular compensation. The assumed rate of salary increases is reasonable, based on long-term plan experience.

Payroll Growth: None.

Cost-of-Living Increase: 3.0% per year beginning at age 65.

Funding Method: Entry Age Normal Actuarial Cost Method. An interest load equal to 1.5 years has been applied for determination of required sponsor and Member contributions.

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

Termination and Disability Rate Table:

Age	% Becoming Disabled During the Year	% Terminating During the Year
20	0.05%	17.2%
30	0.06%	15.0%
40	0.12%	8.2%
50	0.43%	1.7%

EXPENSE DEVELOPMENT AND AMORTIZATION SCHEDULES

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

COMPONENTS OF PENSION EXPENSE  
FISCAL YEAR SEPTEMBER 30, 2019

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	\$ 2,512,731	\$ 948,358	\$ 176,068	\$ -
Total Pension Liability Factors:				
Service Cost	8,673	-	-	8,673
Interest	1,146,191	-	-	1,146,191
Changes in benefit terms	-	-	-	-
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	(449,972)	449,972	-	-
Current year amortization of experience difference	-	(449,972)	-	(449,972)
Change in assumptions about future economic or demographic factors or other inputs	303,069	-	303,069	-
Current year amortization of change in assumptions	-	-	(303,069)	303,069
Benefit Payments, including Refunds of Employee Contributions	(1,469,442)	-	-	-
Net change	<u>(461,481)</u>	<u>-</u>	<u>-</u>	<u>1,007,961</u>
Plan Fiduciary Net Position:				
Contributions - Employer	540,614	-	-	-
Contributions - Employee	3,631	-	-	(3,631)
Projected Net Investment Income	986,325	-	-	(986,325)
Difference between projected and actual earnings on Pension Plan investments	(621,984)	-	621,984	-
Current year amortization	-	(284,393)	(300,464)	16,071
Benefit Payments, including Refunds of Employee Contributions	(1,469,442)	-	-	-
Administrative Expenses	(69,029)	-	-	69,029
Net change	<u>(629,885)</u>	<u>(284,393)</u>	<u>321,520</u>	<u>(904,856)</u>
Ending Balance	<u>\$ 2,681,135</u>	<u>\$ 663,965</u>	<u>\$ 497,588</u>	<u>\$ 103,105</u>

AMORTIZATION SCHEDULE - INVESTMENTS

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

Plan Year Ending	Differences Between Projected and Actual Earnings	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2019	\$ 621,984	5	\$ 124,396	\$ 124,397	\$ 124,397	\$ 124,397	\$ 124,397	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ (587,987)	5	\$ (117,597)	\$ (117,597)	\$ (117,597)	\$ (117,597)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ (721,889)	5	\$ (144,378)	\$ (144,378)	\$ (144,378)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ (112,090)	5	\$ (22,418)	\$ (22,418)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ 880,342	5	\$ 176,068	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 16,071	\$ (159,996)	\$ (137,578)	\$ 6,800	\$ 124,397	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

AMORTIZATION SCHEDULE - CHANGES OF ASSUMPTIONS

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Changes of Assumptions

Plan Year Ending	Changes of Assumptions	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2019	\$ 303,069	1	\$ 303,069	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			<u>\$ 303,069</u>	<u>\$ -</u>									

GASB 68 AMORTIZATION SCHEDULE - EXPERIENCE

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

Plan Year Ending	Differences Between Expected and Actual Experience	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2019	\$ (449,972)	1	\$ (449,972)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ (449,972)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -