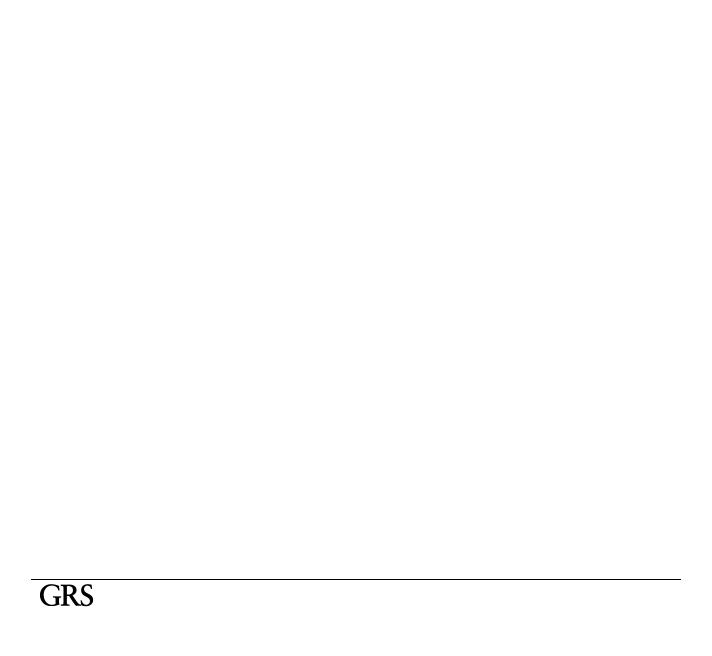


# **CITY OF MIAMI BEACH EMPLOYEES' RETIREMENT PLAN** ACTUARIAL VALUATION REPORT AS OF OCTOBER 1, 2016

ANNUAL EMPLOYER CONTRIBUTION FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 2018





May 1, 2017

Board of Trustees City of Miami Beach Employees' Retirement Plan Miami Beach, Florida

Dear Board Members:

The results of the October 1, 2016 Actuarial Valuation of the City of Miami Beach Employees' Retirement Plan are presented in this report.

The computed contribution rate shown on page 1 may be considered as a minimum contribution rate that complies with the Board's funding policy. Users of this report should be aware that contributions made at that rate do not guarantee benefit security. Given the importance of benefit security to any retirement system, we suggest that contributions to the System in excess of those presented in this report be considered.

The contribution rate in this report is determined using the actuarial assumptions and methods disclosed in Section B of this report. This report includes risk metrics in Section A but does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment. We encourage a review and assessment of investment and other significant risks that may have a material effect on the Plan's financial condition.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The purpose of the valuation is to measure the System's funding progress, to determine the employer contribution rate for the fiscal year ending September 30, 2018, and to determine the actuarial information for Governmental Accounting Standards Board (GASB) No. 67 for fiscal year ending September 30, 2016. This report also includes estimated GASB No. 67 information for the fiscal year ending September 30, 2017. This report should not be relied on for any purpose other than the purpose described above. Determinations of financial results associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

The findings in this report are based on data or other information through September 30, 2016. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the range of such future measurements.

This valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

The valuation was based upon information furnished by the Plan Administrator concerning Retirement Plan benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the Plan Administrator.

In addition, this report was prepared using certain assumptions prescribed by the Board and prescribed by the Florida Statues as described in the section of this report entitled Actuarial Assumptions and Cost Method. The prescribed assumptions are the assumed mortality rates detailed in the Actuarial Assumptions and Cost Method section in accordance with Florida House Bill 1309 (codified in Chapter 2015-257).

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the City of Miami Beach Employees' Retirement Plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Melissa R. Moskovitz and Jeffrey Amrose are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

The signing actuaries are independent of the plan sponsor.

This actuarial valuation and/or cost determination was prepared and completed by us or under our direct supervision, and we acknowledge responsibility for the results. To the best of our knowledge, the results are complete and accurate. In our opinion, the techniques and assumptions used are reasonable, meet the requirements and intent of Part VII, Chapter 112, Florida Statutes, and are based on generally accepted actuarial principles and practices. 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.

Gabriel, Roeder, Smith & Company will be pleased to review this valuation report with the Board of Trustees and to answer any questions pertaining to the valuation.

Respectfully submitted,

GABRIEL, ROEDER, SMITH AND COMPANY

Melissa R. Moskovitz, MAAA, FCA Enrolled Actuary No. 17-06467

Jeffrey Amrose, MAAA

Enrolled Actuary No. 17-06599



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# SECTION A DISCUSSION OF VALUATION RESULTS

### DISCUSSION OF VALUATION RESULTS

### **Comparison of Required Employer Contributions**

A comparison of the required employer contribution developed in this and the last actuarial valuation is shown below.

_	Rec	quired City Contrib	_		
		% of Non-DROP	% of Total	Non-DROP	Total
	Amount	Payroll	Payroll	Covered Payroll	Covered Payroll
For FYE 9/30/18 Based					
on 10/1/16 Valuation \$	31,892,485	41.41 %	37.35 %	\$ 77,013,213	\$ 85,395,344
For FYE 9/30/17 Based					
on 10/1/15 Valuation \$	29,358,098	40.85 %	36.48 %	\$ 71,863,150	\$ 80,473,472
Increase (Decrease)	2,534,387	0.56	0.87	5,150,063	4,921,872

The contribution has been adjusted for interest on the basis that the employer contribution is made in a single payment on the first day of the fiscal year. The actual employer contribution for the year ending September 30, 2016 was \$27,783,852. The minimum required contribution was \$27,783,852.

### **Revisions in Benefits**

There have been no revisions in benefits since the last valuation.

### **Revisions in Actuarial Assumptions and Methods**

The investment return assumption was lowered from 7.70% to 7.65%. This rate will be lowered to 7.60% effective October 1, 2017, to 7.50% effective October 1, 2018, and to 7.40% effective October 1, 2019.

Additionally, the mortality assumption was changed from the RP-2000 Combined Healthy Participant Mortality Table for males and females with mortality improvements projected to the year 2010 using Scale AA to the mortality assumption used by the Florida Retirement System (FRS) for Regular Class members in the actuarial valuation as of July 1, 2016. The current FRS mortality tables for healthy lives are the RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for post-retirement mortality), with mortality improvements projected to all future years after

2000 using Scale BB. For males, the base mortality rates include a 50% blue collar adjustment and a 50% white collar adjustment. For females, the base mortality rates include a 100% white collar adjustment. This change was made in compliance with Florida House Bill 1309, which requires all public pension plans in Florida to use the same mortality tables used in either of the last two actuarial valuations reports of FRS no later than October 1, 2016.

These changes have increased the required employer contribution by approximately \$5.32 million, or 6.90% of non-DROP payroll.

### **Actuarial Experience**

There was a net actuarial gain of \$13,413,330 for the year which means actual experience was more favorable than expected. The actuarial gains were primarily due to greater than expected recognized return on investments and lower than expected average salary increases. The return on the Actuarial Value of Assets was 9.6% and the return on the Market Value of Assets was 10.8%. Actual average salary increases were 4.5% versus 5.8% assumed. The actuarial gain translates into a decrease in the employer contribution equal to 1.50% of non-DROP payroll.

### **Funded Ratio**

The funded ratio this year is 68.8% compared to 69.9% last year. The funded ratio was 73.3% before the changes in assumptions. The funded ratio is equal to the actuarial value of assets divided by the actuarial accrued (past service) liability.

### **Analysis of Change in Employer Contribution**

The components of change in the required employer contribution as a percent of non-DROP payroll are as follows:

Contribution rate last year	40.85 %
Change in assumptions/methods	6.90
Payment on unfunded liability	(4.02)
Change in employer normal cost rate	(0.76)
Experience gain/loss	(1.50)
Change in administrative expense	(0.06)
Contribution rate this year	41.41 %

### **Variability of Future Contribution Rates**

It is important to keep in mind that under the asset smoothing method, the difference between actual and expected return is recognized over five years. As of September 30, 2016 the actuarial value of assets



exceeded the market value by \$2,572,689. Once all the gains and losses through September 30, 2016 are fully recognized in the actuarial asset values, the contribution will increase by roughly \$221,000 or 0.3% of non-DROP payroll unless there are further gains or losses.

If we were not using an asset smoothing method, the City contribution rate would have been 41.70% and the funded ratio would have been 68.5%.

### **Projections of Required Contributions and Funded Ratio**

The following three pages show the estimated City contributions and funded ratios over the next ten years, and a projection of the unfunded accrued liability and amortization payments over the next thirty years. The projections are based on these assumptions:

- A 7.65% return for 2017, a 7.60% return for 2018, a 7.50% return for 2019, and 7.40% for each year thereafter
- Use of the same Mortality Tables from the most recent actuarial valuation for regular class employees of the Florida Retirement System starting with the October 1, 2016 valuation
- Cash flow remains constant
- No future gains or losses other than the recognition of prior investment experience
- 3% payroll growth

The projections reflect the expiration of amortization bases. For example, for the 2032 valuation, the amortization payments will decrease by approximately \$1.9 million.

### Conclusion

It is important to note that system assets are insufficient to cover the liabilities for inactive members. As of October 1, 2016, the assets are \$540.9 million and the liability for current inactive members is \$574.2 million. Additionally, the funded ratio has dropped from over 100% in 2000 to the current level of 68.8%. Some steps have been taken to address these issues, such as strengthening the actuarial assumptions and lowering the investment return rate. Given the low funded ratio, it is advisable to consider further steps, such as a shortening of the amortization period and further strengthening of the actuarial assumptions. Any of these steps would result in higher contributions in the short-term for the City. For each additional \$5 million contributed, the funded ratio will increase by 0.63%.

The remainder of this Report includes detailed actuarial valuation results, financial information, miscellaneous information and statistics, and a summary of plan provisions.



### 10-Year Projection of Actuarially Determined Contribution (ADC)

**Total ADC Current Assumptions** 

Fiscal Year Ending 9/30	Dollar Amount (thousands)	% of Payroll
2018	\$ 31,892	41.41 %
2019	32,272	40.68
2020	33,501	41.00
2021	35,004	41.59
2022	34,792	40.14
2023	34,812	38.99
2024	34,824	37.87
2025	34,827	36.77
2026	34,878	35.75
2027	34,913	34.75
2028	34,955	33.77

### **Assumptions**

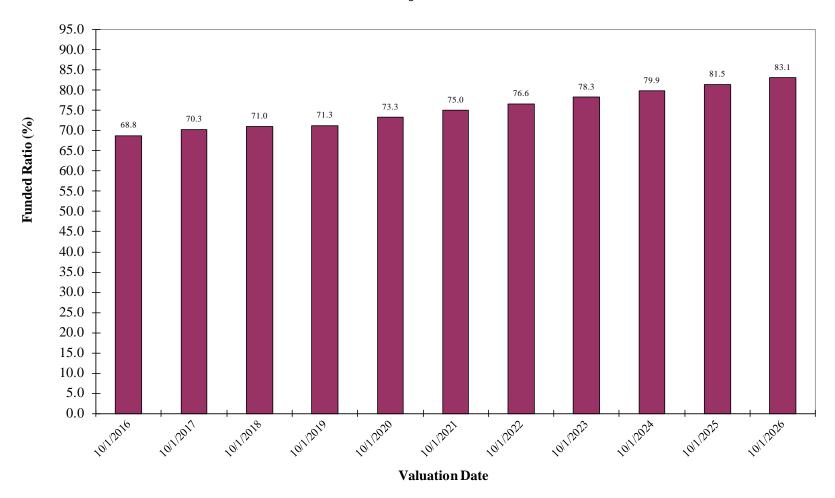
7.65% investment return assumption as of 10/1/2016; further lowered to 7.60% effective 10/1/2017, 7.50% effective 10/1/2018, and 7.40% effective 10/1/2019

Beginning 10/1/2016, use of the same mortality tables from the most recent actuarial valuation for regular class employees of the Florida Retirement System

No gains or losses other than recognition of prior investment experience

Constant cash flow
3.0% payroll growth

### City of Miami Beach Employees' Retirement Plan 10-Year Projection of Funded Ratio



### **Assumptions**

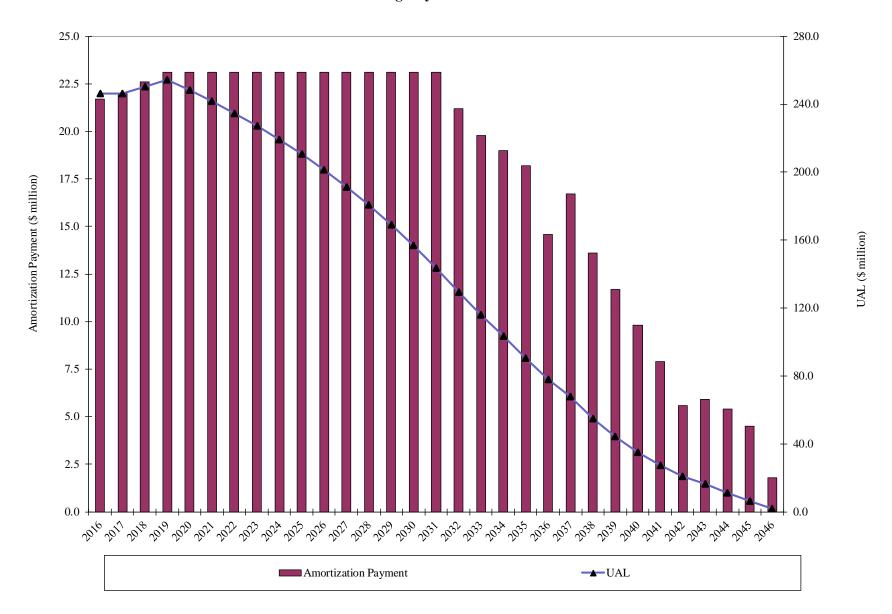
7.65% investment return assumption as of 10/1/2016; further lowered to 7.60% effective as of 10/1/2017, 7.50% effective as of 10/1/2018, and 7.40% effective as of 10/1/2019

Use of the same mortality tables from the most recent actuarial valuation for regular class employees of the Florida Retirement System No gains or losses other than recognition of prior investment experience

Constant cash flow

3.0% payroll growth

30-Year Projection of Unfunded Actuarial Accrued Liability (UAL) and Amortization Payments Reflecting only Current UAL Bases



# SECTION B VALUATION RESULTS

PARTICIPANT DATA					
October 1, 2016 October 1, 2015					
ACTIVE MEMBERS					
Number (Non-DROP)		1,166		1,082	
Covered Annual Non-DROP Payroll	\$	77,013,213	\$	71,863,150	
Average Annual Non-DROP Pay	\$	66,049	\$	66,417	
Total Covered Annual Payroll	\$	85,395,344	\$	80,473,472	
Average Total Annual Pay	\$	66,767	\$	67,286	
Average Age (Non-DROP)		44.1		44.5	
Average Past Service (Non-DROP)		8.8		9.4	
Average Age at Hire (Non-DROP)		35.3		35.1	
DROP PARTICIPANTS					
Number		113		114	
Annual Benefits	\$	5,039,059	\$	5,353,331	
Average Annual Benefit	\$	44,593	\$	46,959	
Average Age Average Age	Ψ	60.5	Ψ	59.7	
Average Age		00.5		39.1	
RETIREES & BENEFICIARIES			1		
Number		1,002		1,008	
Annual Benefits	\$	39,163,308	\$	37,580,912	
Average Annual Benefit	\$	39,085	\$	37,283	
Average Age		71.1		71.5	
DISABILITY RETIREES					
Number		35		38	
Annual Benefits	\$	1,062,697	\$	1,065,905	
Allidai Belieffts Average Annual Benefit	\$	30,363	\$	28,050	
Average Aminar Benefit  Average Age	ΙΨ	65.0	Ψ	65.9	
Average rige		05.0		03.7	
TERMINATED VESTED MEMBERS					
Number		94		93	
Annual Benefits	\$	2,230,273	\$	2,156,080	
Average Annual Benefit	\$	23,726	\$	23,184	
Average Age	'	46.1		46.2	
3					



	ACTUARIALLY DETERMINED CONTRIBUTION (ADC)				
A.	Valuation Date	October 1, 2016  After Assumption Changes	After Assumption Before Assumption		
В.	ADC to Be Paid During				
	Fiscal Year Ending	9/30/2018	9/30/2018	9/30/2017	
C.	Assumed Date of Employer Contrib.	10/1/2017	10/1/2017	10/1/2016	
D.	Annual Payment to Amortize Unfunded Actuarial Liability	\$ 21,689,894	\$ 17,920,897	\$ 20,412,968	
E.	Employer Normal Cost	7,936,195	6,755,849	6,846,176	
F.	ADC if Paid on the Valuation Date: D+E	29,626,089	24,676,746	27,259,144	
G.	ADC Adjusted for Frequency of Payments	31,892,485	26,576,855	29,358,098	
Н.	ADC as % of Covered Payroll - Non-DROP Payroll - Total Payroll	41.41 % 37.35 %	34.51 % 31.12 %		
I.	Expected Covered Payroll - Non-DROP Payroll - Total Payroll	77,013,213 85,395,344	77,013,213 85,395,344	71,863,150 80,473,472	

ACTUARIAL VALUE OF BENEFITS AND ASSETS				
A. Valuation Date	October 1, 2016  After Assumption Changes	October 1, 2016  Before Assumption Changes	October 1, 2015	
B. Actuarial Present Value of All Projected Benefits for				
Active Members     a. Service Retirement Benefits	\$ 294,484,206	\$ 273,637,402	\$ 264,473,207	
b. Vesting Benefits	34,460,868	32,501,310	32,404,992	
c. Disability Benefits	7,458,979	8,245,029	7,949,372	
d. Preretirement Death Benefits	4,278,278	3,992,041	3,942,728	
e. Return of Member Contributions	1,412,196	1,420,280	1,188,857	
f. Total	342,094,527	319,796,062	309,959,156	
2 Institut Manufact				
Inactive Members     a. Service Retirees & Beneficiaries	540 266 296	504.706.709	492,014,187	
b. Disability Retirees	540,366,386 11,436,386	504,796,798 11,947,917	11,939,346	
c. Terminated Vested Members	22,429,055	21,368,770	20,178,548	
d. Total	574,231,827	538,113,485	524,132,081	
3. Total for All Members	916,326,354	857,909,547	834,091,237	
C. Actuarial Accrued (Past Service) Liability (under Entry Age Normal)	789,615,932	741,611,868	722,488,087	
D. Actuarial Value of Accumulated Plan Benefits per FASB No. 35	753,725,131	709,169,736	687,192,884	
E. Plan Assets				
1. Market Value	540,876,019	540,876,019	496,718,840	
2. Actuarial Value	543,448,708	543,448,708	504,716,897	
F. Unfunded Actuarial Accrued Liability: C-E2	246,167,224	198,163,160	217,771,190	
G. Actuarial Present Value of Projected Covered Payroll	700,324,351	698,358,188	644,113,265	
H. Actuarial Present Value of Projected Member Contributions	65,194,917	65,025,012	60,281,042	
I. Accumulated Contributions of Active Members	65,031,761	65,031,761	62,289,667	



CALCULATION OF EMPLOYER NORMAL COST				
A. Valuation Date	October 1, 2016  After Assumption  Changes	October 1, 2016  Before Assumption Changes	October 1, 2015	
B. Normal Cost for				
<ol> <li>Service Retirement Benefits</li> <li>Vesting Benefits</li> <li>Disability Benefits</li> <li>Preretirement Death Benefits</li> <li>Return of Member Contributions</li> <li>Total for Future Benefits</li> <li>Assumed Amount for Administrative Expenses</li> <li>Total Normal Cost         <ul> <li>of Covered Payroll</li> <li>Non-DROP Payroll</li> <li>Total Payroll</li> </ul> </li> </ol>	\$ 11,422,669 2,368,049 560,382 280,045 269,697 14,900,842 691,896 15,592,738 20.25 % 18.26 %	\$ 10,343,991 2,211,962 623,282 269,393 271,868 13,720,496 691,896 14,412,392 18.71 % 16.88 %	\$ 10,051,669 2,152,958 601,312 270,121 251,517 13,327,577 687,567 14,015,144 19.50 % 17.42 %	
C. Expected Member Contribution % of Covered Payroll - Non-DROP Payroll - Total Payroll	7,656,543 9.94 % 8.97 %	7,656,543 9.94 % 8.97 %	7,168,968 9.98 % 8.91 %	
D. Employer Normal Cost: B8-C % of Covered Payroll - Non-DROP Payroll - Total Payroll	7,936,195 10.30 % 9.29 %	6,755,849 8.77 % 7.91 %	6,846,176 9.53 % 8.51 %	

## LIQUIDATION OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

A. Derivation of the Current UAAL				
Last Year's UAAL	\$ 217,771,190			
2. Employer Normal Cost for Contribution Year	6,462,514			
3. Last Year's Contributions	27,783,852			
<ul> <li>4. Interest at the Assumed Rate on:</li> <li>a. 1 and 2 for one year</li> <li>b. 3 from dates paid</li> <li>c. a - b</li> </ul>	17,265,995 2,139,357 15,126,638			
5. This Year's Expected UAAL Prior to Revision: 1 + 2 - 3 + 4c	211,576,490			
6. Change in UAAL Due to Plan Amendments and/or Changes in Actuarial Assumptions	48,004,064			
7. This Year's Expected UAAL After Revisions: 5 + 6	259,580,554			
8. This Year's Actual UAAL After Revisions	246,167,224			
9. This Year's Gain (Loss): 7 - 8	13,413,330			
10. Gain (Loss) Due to Investments	9,947,457			
11. Gain (Loss) Due to Other Causes	3,465,873			

Original UAAL					Curre	nt UAAL	
		Amortization				Pay	ment
Date Established	Source	Period (Years)	Amount	Years Remaining	Amount	After Assumption Changes	Before Assumption Changes
10/1/02	(Gain) Loss	30	\$ 24,017,296	16	\$18,698,952	\$ 1,918,730	\$ 1,924,052
10/1/03	(Gain) Loss	30	16,972,622	17	14,867,012	1,478,873	1,483,186
10/1/04	(Gain) Loss	30	9,682,048	18	8,380,957	810,652	813,128
10/1/05	(Gain) Loss and Assum. Change*	30	9,377,578	19	7,963,466	750,998	753,391
10/1/06	(Gain) Loss	30	11,796,972	20	10,116,011	932,326	935,417
10/1/06	(Gain) Loss	30	34,747,408	20	29,796,230	2,746,122	2,755,225
10/1/07	(Gain) Loss	30	(14,036,710)	21	(12,262,459)		
10/1/07	Assum. and Method Change**	30	(12,143,754)	21	(10,608,775)	(957,537)	
10/1/08	(Gain) Loss	30	29,844,325	22	27,779,631	2,460,138	2,468,889
10/1/08	Assum. Change	30	8,228,994	22	7,659,693	678,335	680,748
10/1/09	(Gain) Loss	30	28,291,986	23	26,371,807	2,295,305	2,303,733
10/1/09	Assum. Change	30	8,975,372	23	8,366,212	728,164	730,838
10/1/09	Assum. Change	30	(7,968,884)	23	(7,428,035)	(646,509)	` ′ ′
10/1/09	Plan Change	30	(6,161,412)	23	(5,743,238)	(499,870)	, , ,
10/1/10	(Gain) Loss	30	15,123,488	24	14,572,508	1,248,397	1,253,119
10/1/10	Assum. Change	30	8,061,915	24	7,768,201	665,486	668,003
10/1/11	(Gain) Loss	30	22,163,141	25	21,435,642	1,809,915	1,816,953
10/1/11	Assum. Change	30	1,658,668	25	1,604,222	135,452	135,979
10/1/12	***	29	869,791	25	831,496	70,207	70,480
10/1/12	(Gain) Loss	30	23,859,099	26	22,894,406	1,907,579	1,915,191
10/1/12	Assum. Change	30	10,160,600	26	9,749,777	812,359	815,600
10/1/12	Plan Change	30	(5,160,035)	26	(4,951,400)	(412,554)	
10/1/13	(Gain) Loss	30	(3,358,961)	27	(3,219,866)	(265,033)	
10/1/13	Plan Change	30	(1,053,975)	27	(1,010,332)	(83,162)	` ′ ′
10/1/14	(Gain) Loss	30	(3,236,333)	28	(3,150,722)	(256,457)	(257,530)
10/1/14	Assum. Change	30	10,779,808	28	10,494,653	854,226	857,799
10/1/15	(Gain) Loss	30	(664,417)	29	(655,191)	` ' '	, , ,
10/1/15	Assum. Change	30	11,414,118	29	11,255,632	906,797	910,672
10/1/16	(Gain) Loss	30	(13,413,330)	30	(13,413,330)		(1,075,126)
	Assum. Change	30	48,004,064	30	48,004,064	3,830,997	N/A
10/1/16	Assum. Change	30	40,004,004	30	40,004,004	3,030,777	17,920,897

Loss of 7,060,041 plus assumption change of 2,317,537.

<sup>\*\*</sup> 

Assumption change of 5,311,398 plus method change of (17,455,152). Charge Base established to reflect excess contribution for fiscal year ending 9/30/11 that was included in assets. This base is established as of 10/1/12.

## C. Amortization Schedule

The UAAL is being liquidated as a level dollar amount over the number of years remaining in the amortization period. The expected amortization schedule is as follows:

Amortization Schedule				
Year	Expected UAAL			
2016 2017 2018 2019 2020	\$ 246,167,224 241,649,845 236,786,887 231,551,913 225,916,463			
2021 2026 2031 2036 2041 2046	219,849,902 181,803,652 126,801,204 64,316,274 18,348,955			

### **ACTUARIAL GAINS AND LOSSES**

The assumptions used to anticipate mortality, employment turnover, investment income, expenses, salary increases, and other factors have been based on long range trends and expectations. Actual experience can vary from these expectations. The variance is measured by the gain and loss for the period involved. If significant long term experience reveals consistent deviation from what has been expected and that deviation is expected to continue, the assumptions should be modified.

Net actuarial gains in previous years are as follows:

Year Ended	Gain (Loss)
9/30/1990	\$ (9,106,524)
9/30/1991	2,727,904
9/30/1992	4,954,823
9/30/1993	5,370,894
9/30/1994	(1,696,061)
9/30/1995	6,661,918
9/30/1996	7,568,621
9/30/1997	13,539,264
9/30/1998	6,894,790
9/30/1999	16,168,137
9/30/2000	6,540,306
9/30/2001	(6,572,791)
9/30/2002	(32,586,068)
9/30/2003	(18,414,901)
9/30/2004	(9,682,048)
9/30/2005	(7,060,041)
9/30/2006	(11,796,971)
9/30/2007	14,036,710
9/30/2008	(29,844,325)
9/30/2009	(28,291,986)
9/30/2010	(15,123,488)
9/30/2011	(22,163,141)
9/30/2012	(23,859,099)
9/30/2013	3,358,961
9/30/2014	3,236,333
9/30/2015	664,417
9/30/2016	13,413,330

### HISTORY OF INVESTMENT RETURNS AND SALARY INCREASES

The fund earnings and salary increase assumptions have considerable impact on the cost of the Plan so it is important that they are consistent with the actual experience. The following table shows the actual fund earnings and salary increase rates compared to the assumed rates for the last several years:

		Unclassified Plan							
	Investment Return		Salary In	Salary Increases		Investment Return		Salary Increases	
Year Ending	Actual	Assumed	Actual	Assumed	Actual	Assumed	Actual	Assumed	
9/30/1989	11.6 %	8.0 %	1.9 %	6.0 %	14.6 %	8.0 %	3.2 %	6.0 %	
9/30/1990	7.3	8.5	7.5	6.0	(2.3)	8.0	12.3	6.0	
9/30/1991	8.1	8.5	3.0	6.0	21.6	8.5	3.4	6.0	
9/30/1992	13.7	8.5	2.0 *	6.0	5.8	9.0	2.4	6.0	
9/30/1993	11.4	8.5	3.1	6.0	14.1	9.0	6.3	6.0	
9/30/1994	6.8	8.5	3.9	6.0	4.8	9.0	6.0	6.0	
9/30/1995	11.4	8.5	8.8	6.0	24.1	9.0	7.6	6.0	
9/30/1996	15.3	8.5	4.2	6.0	13.9	9.0	8.6	6.0	
9/30/1997	13.8	8.5	6.0	6.0	19.1	9.0	7.4	6.0	
9/30/1998	12.5	8.5	5.0	6.0	4.3	9.0	4.1	6.0	
9/30/1999	14.4	8.5	7.3	6.0	18.8	9.0	7.1	6.0	
9/30/2000	10.7	8.5	6.7	6.0	16.5	9.0	6.7	6.0	
9/30/2001	7.2	8.5	9.3	6.0	9.7	9.0	7.0	6.0	
9/30/2002	0.3	8.5	8.9	6.0	1.7	9.0	9.2	6.0	
9/30/2003	4.3	8.5	8.1	6.0	4.6	9.0	7.5	6.0	
9/30/2004	4.1	8.5	3.1	6.0	9.7	9.0	5.7	6.0	
9/30/2005	4.4	8.5	4.7	6.0	10.7	9.0	6.8	6.0	
9/30/2006	7.7	8.5	11.9	6.0	10.2	8.75	7.9	6.0	
9/30/2007 **	12.0	8.75	(3.6)	6.0	NA	NA	NA	NA	
9/30/2008 **	5.2	8.65	11.3	6.0	NA	NA	NA	NA	
9/30/2009 **	1.1	8.50	4.8	6.0	NA	NA	NA	NA	
9/30/2010 **	5.0	8.35	2.5	6.0	NA	NA	NA	NA	
9/30/2011 **	1.1	8.25	0.8	6.8	NA	NA	NA	NA	
9/30/2012 **	2.1	8.15	1.7	5.7	NA	NA	NA	NA	
9/30/2013 **	7.4	8.00	2.3	5.6	NA	NA	NA	NA	
9/30/2014 **	9.9	8.00	3.6	5.6	NA	NA	NA	NA	
9/30/2015 **	7.7	7.85	6.0	5.7	NA	NA	NA	NA	
9/30/2016 **	9.6	7.70	4.5	5.8	NA	NA	NA	NA	
Averages	8.0 %		4.9 %		11.0 %		6.6 %		

<sup>\*</sup> Approximate rate

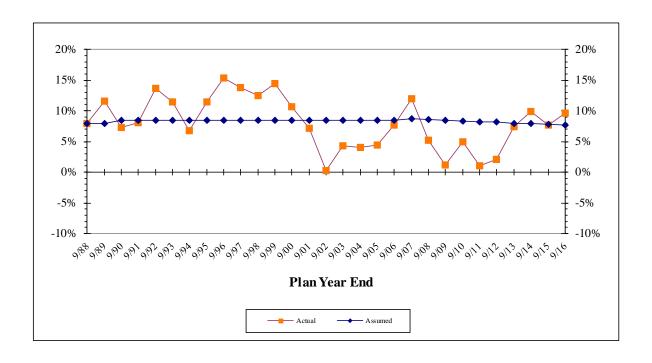
Note: Figures before 1992 were taken from Reports of Buck Consultants.

The actual investment return rates shown above are based on the actuarial value of assets. The actual salary increase rates shown above are the increases received by those active members who were included in the actuarial valuation both at the beginning and the end of each period. The exhibits that follow illustrate the table above in graphic form.

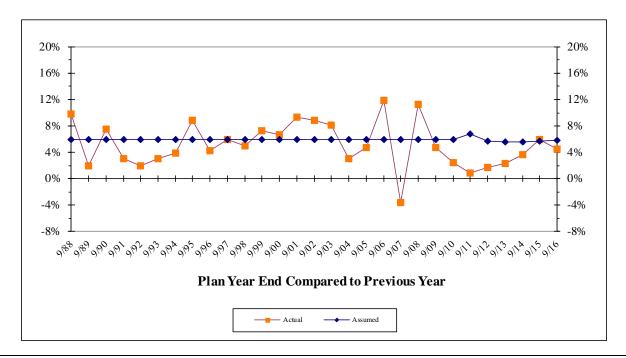


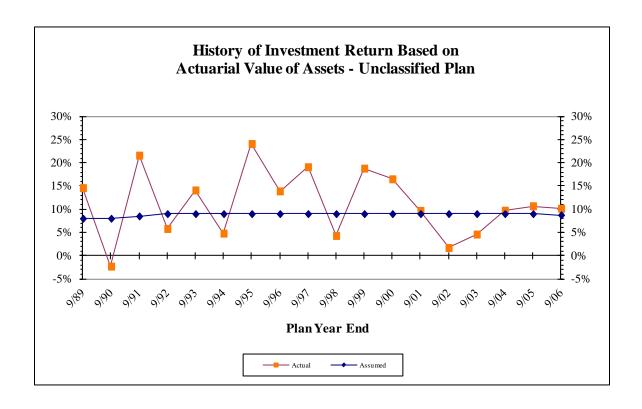
<sup>\*\*</sup> Represents salary increases and investment return for the total group

# History of Investment Return Based on Actuarial Value of Assets – General Plan and Combined Plan after 2006



# History of Salary Increases – General Plan and Combined Plan after 2006







### Actual (A) Compared to Expected (E) Decrements Among Active Employees

	Nun Ado	ded		ice &									Active
	Dur	_		ROP	Disab	•				erminat		_	Members
Year	Ye			ement	Retire			ath	Vested	Other		tals	End of
Ended	A	E	A	E	A	E	A	E	A	A	A	E	Year
9/30/2003	109	46	20	40	0	3	2	1	15	9	24	33	714
9/30/2004	65	54	24	37	2	3	1	1	18	9	27	35	725
9/30/2005	73	62	16	43	2	3	2	1	23	19	42	37	736
9/30/2006 *	357	75	40	40	0	3	1	1	21	13	34	37	1018
9/30/2007	149	106	40	86	2	3	1	2	17	46	63	49	1061
9/30/2008	182	85	29	92	1	3	1	2	24	30	54	61	1158
9/30/2009	78	29	55	123	2	3	1	2	12	12	24	64	1154
9/30/2010	35	72	31	114	0	3	1	2	10	30	40	69	1117
9/30/2011	37	82	27	38	3	1	3	2	9	40	49	43	1072
9/30/2012	60	83	41	46	2	1	1	2	16	23	39	39	1049
9/30/2013	52	87	37	45	2	1	1	2	21	26	47	38	1014
9/30/2014	113	116	62	41	0	1	1	2	34	19	53	37	1011
9/30/2015	180	109	49	30	0	1	1	1	21	38	59	42	1082
9/30/2016	186	102	38	25	1	1	1	1	22	40	62	48	1166
9/30/2017				27		1		2				55	
14 Yr Totals **	1676	1108	509	800	17	30	18	22	263	354	617	632	

<sup>\*</sup> Includes 401a transfers

<sup>\*\*</sup> Totals are through current Plan Year only

RECENT HISTORY OF REQUIRED AND ACTUAL CONTRIBUTIONS							
	End of Year To	Required Employer Contribution		Actual Employer Contribution	Expected Employee Contribution		
Valuation Date	Which Valuation Applies	Amount	% of Payroll <sup>1</sup>	Amount	Amount	% of Payroll	
10/1/92	9/30/94	\$ 3,004,556	13.59 %	\$ 3,004,556	2,210,760	10.00 %	
10/1/93	9/30/95	2,809,509	13.32	2,809,509	2,109,411	10.00	
10/1/94	9/30/96	4,151,807	18.92	4,151,807	2,194,453	10.00	
10/1/95	9/30/97	3,982,477	16.97	3,982,477	2,346,131	10.00	
10/1/96	9/30/98	3,091,359	12.29	3,091,359	2,514,836	10.00	
10/1/97	9/30/99	1,293,920	4.99	1,293,920	2,593,998	10.00	
10/1/98	9/30/00	666,897	2.66	666,897	2,507,033	10.00	
10/1/99	9/30/01	-	-	-	2,541,861	10.00	
10/1/00	9/30/02	-	-	-	2,588,940	10.00	
10/1/01	9/30/03	-	-	-	2,766,409	10.00	
10/1/02	9/30/04	2,476,702	8.16	2,476,702	3,035,064	10.00	
10/1/03	9/30/05	5,082,595	14.74	5,082,595	3,448,863	10.00	
10/1/04	9/30/06	5,500,329	15.89	5,500,329	3,461,920	10.00	
10/1/05	9/30/07	12,234,519 *	23.11	13,053,231	4,550,013 *	8.59	
10/1/06	9/30/08	13,911,545	24.24	13,911,545	4,901,855	8.54	
10/1/07	9/30/09	12,863,823	21.57	12,863,823	4,987,739	8.36	
10/1/08	9/30/10	17,137,394	25.20	17,137,394	5,627,519	8.27	
10/1/09	9/30/11	14,474,678	20.65	14,474,678	7,146,837	10.20	
10/1/10	9/30/12	17,583,191	25.54	17,583,191 **	6,995,774	10.16	
10/1/11	9/30/13	21,222,051	31.99	21,222,051	6,613,338	9.97	
10/1/12	9/30/14	25,602,030 *	*** 39.36	25,602,030	6,504,355 ***	10.00	
10/1/13	9/30/15	26,317,983	41.43	26,456,580	6,363,367	10.02	
10/1/14	9/30/16	27,783,852	43.33	27,783,852	6,399,516	9.98	
10/1/15	9/30/17	29,358,098	40.85	NA	7,168,968	9.98	
10/1/16	9/30/18	31,892,485	41.41	NA	7,656,543	9.94	
Average % of Payroll	7,23,10	21,072,100	20.01 %		.,,55 5,5 15	9.76 %	

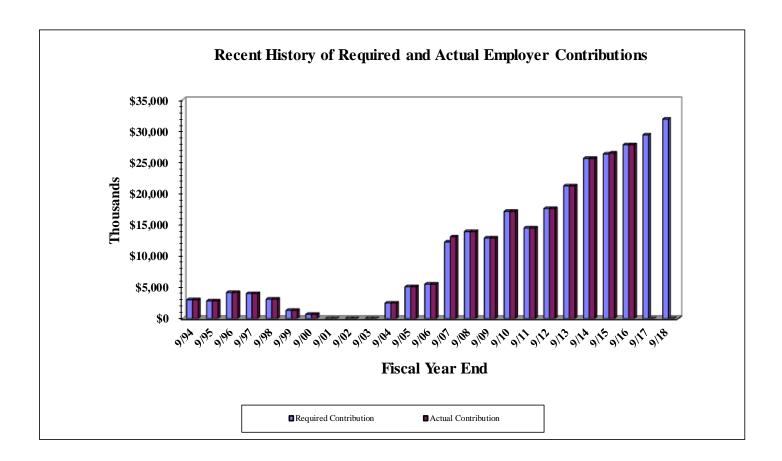
<sup>\*</sup> From February 28, 2006 Actuarial Impact Statement.

<sup>(1)</sup> Non-DROP Payroll



<sup>\*\*</sup> Reflects use of \$1,271,123 prepaid contribution

<sup>\*\*\*</sup> From September 6, 2013 Actuarial Impact Statement.



### RECENT HISTORY OF UAAL AND FUNDED RATIO

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) - Entry Age (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL As % of Covered Payroll (b - a) / c
10/1/1993	\$ 185,721,855	\$ 187,130,465	\$ 1,408,610	99.2 %	\$ 21,094,111	6.7 %
10/1/1994	188,997,087	202,078,377	13,081,290	93.5	21,944,531	59.6
10/1/1995	208,877,297	213,844,465	4,967,168	97.7	23,461,309	21.2
10/1/1996	226,633,680	222,221,064	(4,412,616)	102.0	25,148,361	(17.5)
10/1/1997	251,171,973	232,871,332	(18,300,641)	107.9	25,939,981	(70.5)
10/1/1998	266,716,007	240,760,472	(25,955,535)	110.8	25,070,334	(103.5)
10/1/1999	305,344,213	263,462,059	(41,882,154)	115.9	25,418,614	(164.8)
10/1/2000	326,816,322	277,933,325	(48,882,997)	117.6	25,889,403	(188.8)
10/1/2001	336,024,366	292,748,088	(43,276,278)	114.8	27,664,085	(156.4)
10/1/2002	322,181,146	319,831,292	(2,349,854)	100.7	30,350,644	(7.7)
10/1/2003	320,053,468	338,904,200	18,850,732	94.4	34,488,630	54.7
10/1/2004	320,735,755	352,105,058	31,369,303	91.1	34,619,199	90.6
10/1/2005	325,727,087	368,096,409	42,369,322	88.5	36,680,110	115.5
10/1/2006	358,458,949	448,933,278	90,474,329	79.8	57,390,894	157.6
10/1/2007	412,824,235	478,067,829	65,243,594	86.4	59,632,425	109.4
10/1/2008	425,714,565	526,481,586	100,767,021	80.9	68,009,550	148.2
10/1/2009	420,520,122	545,536,965	125,016,843	77.1	70,097,549	178.3
10/1/2010	431,479,305	580,246,165	148,766,860	74.4	68,844,264	216.1
10/1/2011	425,781,050	602,577,503	176,796,453	70.7	66,346,904	266.5
10/1/2012	421,376,041	632,203,739	210,827,698	66.7	65,053,945	324.1
10/1/2013	440,912,751	648,743,246	207,830,495	68.0	63,526,903	327.2
10/1/2014	475,203,581	687,011,560	211,807,979	69.2	64,115,083	330.4
10/1/2015	504,716,897	722,488,087	217,771,190	69.9	71,863,150	303.0
10/1/2016 (b)	543,448,708	741,611,868	198,163,160	73.3	77,013,213	257.3
10/1/2016 (a)	543,448,708	789,615,932	246,167,224	68.8	77,013,213	319.6

<sup>(</sup>a) After Changes(b) Before Changes

### ACTUARIAL ASSUMPTIONS AND COST METHOD

Both the economic and decrement assumptions were established following the Experience Study Report as of October 1, 2010. The investment return and salary increase assumptions have been adjusted in accordance with subsequent analyses. The covered group is too small to provide statistically significant experience on which to base the mortality assumption. Mortality is based on a commonly used mortality table and projection scale.

### **Valuation Methods**

**Actuarial Cost Method** - Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using an **Individual Entry-Age Actuarial Cost Method** having the following characteristics:

- (i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement;
- (ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains/(losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.

*Financing of Unfunded Actuarial Accrued Liabilities* - Unfunded Actuarial Accrued Liabilities (full funding credit if assets exceed liabilities) were amortized by level (principal & interest combined) dollar contributions over a reasonable period of future years.

Actuarial Value of Assets - The Actuarial Value of Assets phase in the difference between the expected actuarial value and actual market value of assets at the rate of 20% per year. The Actuarial Value of Assets will be further adjusted to the extent necessary to fall within the corridor whose lower limit is 80% of the Market Value of plan assets and whose upper limit is 120% of the Market Value of plan assets. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than Market Value. During periods when investment performance is less than assumed rate, Actuarial Value of Assets will tend to be greater than Market Value.

### **Valuation Assumptions**

The actuarial assumptions used in the valuation are shown in this Section.

### **Economic Assumptions**

**The investment return rate** assumed in the valuation is 7.65% per year, compounded annually (net after investment expenses). The reduction in the assumed investment return rate from 8.00% to 7.40% is being phased-in over a six-year period starting October 1, 2014.

*The Inflation Rate* assumed in this valuation is 3% per year. The Inflation Rate is defined to be the long-term rate of annual increases in goods and services.

The assumed *real rate of return* over inflation is defined to be the portion of total investment return that is more than the assumed inflation rate. Considering other economic assumptions, the 7.65% investment return rate translates to an assumed real rate of return over wage inflation of 4.65%.



**Rates of salary increases** used are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which benefits will be based.

	% Increase in Salary				
Years of	Merit and	Base	Total		
Service	Seniority	(Economic)	Increase		
1	4.0%	3.0%	7.0%		
2	3.9%	3.0%	6.9%		
3	3.8%	3.0%	6.8%		
4	3.7%	3.0%	6.7%		
5	3.6%	3.0%	6.6%		
6	3.5%	3.0%	6.5%		
7	3.0%	3.0%	6.0%		
8	2.9%	3.0%	5.9%		
9	2.8%	3.0%	5.8%		
10	2.7%	3.0%	5.7%		
11	2.6%	3.0%	5.6%		
12	2.5%	3.0%	5.5%		
13	2.4%	3.0%	5.4%		
14	2.3%	3.0%	5.3%		
15	2.2%	3.0%	5.2%		
16	2.1%	3.0%	5.1%		
17	2.0%	3.0%	5.0%		
18	1.9%	3.0%	4.9%		
19	1.8%	3.0%	4.8%		
20	1.7%	3.0%	4.7%		
21+	1.5%	3.0%	4.5%		

### **Demographic Assumptions**

*The mortality table* for healthy lives is the RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for post-retirement mortality), with mortality improvements projected to all future years after 2000 using Scale BB. For males, the base mortality rates include a 50% blue collar adjustment and a 50% white collar adjustment. For females, the base mortality rates include a 100% white collar adjustment. These are the same rates used for Regular Class members of the Florida Retirement System (FRS) in their Actuarial Valuation as of July 1, 2016, as mandated by Florida House Bill 1309.

FRS Healthy Post-Retirement Mortality for Regular Class Members

Sample	Probabili	ity of	Future	Life
Attained	Dying Nex	xt Year	Expectancy	y (years)
Ages (in 2016)	Men	Women	Men	Women
50	0.55 %	0.23 %	34.55	38.21
55	0.60	0.32	29.92	33.19
60	0.77	0.48	25.25	28.29
65	1.16	0.75	20.73	23.56
70	1.81	1.25	16.49	19.10
75	3.01	2.12	12.64	15.04
80	5.10	3.55	9.33	11.43

This assumption is used to measure the probabilities of each benefit payment being made after retirement.

FRS Healthy Pre-Retirement Mortality for Regular Class Members					
Sample	Probabil	ity of	<b>Future Life</b>		
Attained	Dying Nex	xt Year	Expectancy	y (years)	
Ages (in 2016)	Men	Women	Men	Women	
50	0.21 %	0.15 %	35.47	38.56	
55	0.36	0.24	30.35	33.42	
60	0.62	0.40	25.42	28.40	
65	1.10	0.71	20.77	23.58	
70	1.81	1.25	16.49	19.10	
75	3.01	2.12	12.64	15.04	
80	5.10	3.55	9.33	11.43	

This assumption is used to measure the probabilities of active members dying prior to retirement (25% of deaths are assumed to be service-connected).

For disabled lives, the RP-2000 Mortality Table for Disabled Annuitants was used, with a two year set forward for females and a four year setback for males, with no provision being made for future mortality improvements. These are the same rates used for Regular Class members of the Florida Retirement System (FRS) in their Actuarial Valuation as of July 1, 2016, as mandated by Florida House Bill 1309.

FRS Disabled Mortality for Regular Class Members

Sample	Probabili	ity of	<b>Future Life</b>		
Attained	Dying Next Year		Expectancy	y (years)	
<b>Ages (in 2016)</b>	Men	Women	Men	Women	
50	2.38 %	1.35 %	20.25	23.74	
55	3.03	1.87	17.78	20.46	
60	3.67	2.41	15.55	17.43	
65	4.35	3.13	13.44	14.58	
70	5.22	4.29	11.39	11.96	
75	6.58	5.95	9.43	9.65	
80	8.70	8.23	7.65	7.66	

*The rates of retirement* used to measure the probability of eligible members retiring during the next year are shown in the table below.

**Normal Retirement Rates** 

		<b>Assumed Rate of</b>
Years of Service	Age	Retirement
5-9	50-54	5.0 %
	55-59	5.0
	60-64	10.0
	65-69	20.0
	70+	100.0
10-14	50-54	5.0
	55-59	5.0
	60-64	10.0
	65-69	10.0
	70+	100.0
15-19	50-54	15.0
	55-59	15.0
	60-64	20.0
	65-69	25.0
	70+	100.0
20-24	50-54	25.0
	55-59	25.0
	60-64	35.0
	65-69	50.0
	70+	100.0
25-29	50-54	70.0
	55-59	40.0
	60-64	50.0
	65-69	50.0
	70+	100.0
30+	50-54	100.0
	55-59	100.0
	60-64	100.0
	65-69	100.0
	70+	100.0

The rate of retirement is 5% for each year of eligibility for early retirement.

**Rates of separation from active membership** were as shown below (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment.

Sample	Years of	% of Active Members
Ages	Service	Separating Within Next Year
ALL	0	9.80 %
	1	7.70
	2	6.20
	3	5.00
	4	4.00
20	5 & Over	7.00
25		6.64
30		6.16
35		5.28
40		4.20
45		3.44
50		2.84
55		2.60

**Rates of disability** among active members are shown in the table below (50% of disabilities are assumed to be service connected).

Sample	% Becoming Disabled
Ages	Within Next Year
25	0.03 %
30	0.03
35	0.05
40	0.07
45	0.11
50	0.17
55	0.23
60	0.37
65	0.56

### Changes Since Previous Valuation

The investment return assumption was lowered from 7.70% to 7.65%. This rate will be lowered to 7.60% effective October 1, 2017, to 7.50% effective October 1, 2018, and to 7.40% effective October 1, 2019. The mortality assumption was changed from the RP-2000 Combined Healthy Participant Mortality Table for males and females with mortality improvements projected after 2000 to the year 2010 using Scale AA to the same mortality rates used for Regular Class members of the Florida Retirement System (FRS) in their Actuarial Valuation as of July 1, 2016.

### **Miscellaneous and Technical Assumptions**

Administrative & Investment Expenses

The investment return assumption is intended to be the return net of investment expenses. Annual administrative expenses are assumed to be the average of non-investment related expenses averaged over the last two years. Assumed administrative expenses are added to the Normal Cost.

Benefit Service

Service rounded to the nearest month is used to determine the amount of benefit payable.

**Decrement Operation** 

Disability and mortality decrements operate during retirement eligibility.

**Decrement Timing** 

Decrements of all types are assumed to occur at the beginning of the year.

Eligibility Testing

Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

**Forfeitures** 

For vested separations from service, it is assumed that 0% of members separating will withdraw their contributions and forfeit an employer financed benefit. It was further assumed that the liability at termination is the greater of the vested deferred benefit (if any) or the member's accumulated contributions.

*Incidence of Contributions* 

Employer contributions are assumed to be made in full on the first day of the fiscal year. Member contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.

Marriage Assumption

85% of males and 85% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.

Normal Form of Benefit

50% joint and survivor annuity; life annuity for members hired after September 30, 2010.

Pay Increase Timing

Middle of fiscal year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.

Cost of Living Increase

2.5% per year for Tier A and Tier B members; 1.5% per year for Tier C members. Increases are assumed to begin 4 years after retirement. This assumption reflects the COLA delay for DROP members.

Maximum Benefits

Benefits calculated for valuation purposes are limited to the maximum allowable benefits under Section 415 of the Internal Revenue Code.

### **GLOSSARY**

Actuarial Accrued Liability (AAL)

The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.

**Actuarial Assumptions** 

Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members; and other items.

Actuarial Cost Method

A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of Future Normal Costs and the Actuarial Accrued Liability.

Actuarial Equivalent

Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.

Actuarial Present Value (APV)

The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made.

Actuarial Present Value of Future Benefits (APVFB)

The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.

Actuarial Valuation

The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB No. 67.

Actuarial Value of Assets

The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially determined contribution (ADC).

#### Amortization Method

A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase.

### **Amortization Payment**

That portion of the plan contribution or ADC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

#### Amortization Period

The period used in calculating the Amortization Payment.

# Actuarially Determined Contribution (ADC)

The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The ADC consists of the Employer Normal Cost and Amortization Payment.

### **Closed Amortization Period**

A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.

### **Employer Normal Cost**

The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.

### Equivalent Single Amortization Period

For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.

#### Experience Gain/Loss

A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.

Funded Ratio The ratio of the Actuarial Value of Assets to the Actuarial Accrued

Liability.

GASB Governmental Accounting Standards Board.

GASB No. 67 and GASB No. 68 These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while

Statement No. 67 sets the rules for the systems themselves.

Normal Cost The annual cost assigned, under the Actuarial Cost Method, to the current

plan year.

Open Amortization Period An open amortization period is one which is used to determine the

Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to

covered payroll.

Unfunded Actuarial Accrued

Liability

The difference between the Actuarial Accrued Liability and Actuarial

Value of Assets.

Valuation Date The date as of which the Actuarial Present Value of Future Benefits are

determined. The benefits expected to be paid in the future are discounted

to this date.

# **SECTION C**

### PENSION FUND INFORMATION

# STATEMENT OF PLAN ASSETS AT MARKET VALUE

		September 30					
	Item	2016	2015				
A.	Cash and Cash Equivalents (Operating Cash)	\$ -	\$ -				
В.	Receivables						
	1. Member Contributions	\$ -	\$ -				
	2. Employer Contributions	-	-				
	3. Investment Income and Other Receivables	3,133,151	68,249				
	4. Total Receivables	\$ 3,133,151	\$ 68,249				
C.	Investments						
O.	Short Term Investments	\$ 1,416,967	\$ 4,526,360				
	2. Domestic Equities	224,113,565	206,778,561				
	3. International Equities	88,174,289	73,795,023				
	4. Domestic Fixed Income*	162,270,704	154,832,630				
	5. International Fixed Income		-				
	6. Real Estate	61,908,042	56,866,879				
	7. Private Equity	-	-				
	8. ICMA Account (for DROP)**	14,125,917	10,865,693				
	9. Total Investments	\$ 552,009,484	\$507,665,146				
D.	Liabilities						
	1. Benefits	\$ -	\$ -				
	2. Prepaid Employer Contribution	-	-				
	3. Expenses	(140,699)	(148,862)				
	4. Other						
	5. Total Liabilities	\$ (140,699)	\$ (148,862)				
E.	Total Market Value of Assets Available for Benefits	\$ 555,001,936	\$ 507,584,533				
F.	Reserves						
	1. DROP Accounts**	\$ (14,125,917)	\$ (10,865,693)				
	2. Total Reserves	\$ (14,125,917)	\$ (10,865,693)				
G.	Market Value Net of Reserves and Adjustments	\$ 540,876,019	\$ 496,718,840				
H.	Allocation of Investments						
	1. Short Term Investments	0.26%	0.89%				
	2. Domestic Equities	40.59%	40.73%				
	3. International Equities	15.97%	14.54%				
	4. Domestic Fixed Income*	29.40%	30.50%				
	5. International Fixed Income	0.00%	0.00%				
	6. Real Estate	11.22%	11.20%				
	7. Private Equity	0.00%	0.00%				
	8. ICMA Account (for DROP)	2.56%	2.14%				
	9. Total Investments	100.00%	100.00%				

<sup>\*</sup> The breakdown of this amount between domestic and international fixed income was not provided.

<sup>\*\*</sup> Includes outstanding loan balances.

### RECONCILIATION OF PLAN ASSETS

				September 30					
		Item		2016	2015				
A.	Market Valu	e of Assets at Beginning of Year	\$	507,584,533	\$	516,387,785			
В.	Revenues ar	d Expenditures							
	1. Contr	ributions							
	a.	Employee Contributions (Including Buybacks)	\$	7,341,533	\$	7,310,183			
	b.	Employer Contributions		27,783,852		26,456,580			
	c.	Other		-		-			
	d.	Total	\$	35,125,385	\$	33,766,763			
	2. Inves	tment Income							
	a. Interest, Dividends, and Other Income		\$	5,489,593	\$	5,433,273			
	b. Net Realized and Unrealized Gains/(Losses)*			51,589,093		(9,806,578)			
	c. Investment Expenses			(1,259,781)		(675,101)			
	d.	Net Investment Income	\$	55,818,905	\$	(5,048,406)			
	3. Bene	fits and Refunds							
	a.	Refunds	\$	(948,535)	\$	(941,310)			
	b. Regular Monthly Benefits			(38,746,835)		(34,001,557)			
	c.	DROP Disbursements		(3,154,008)		(1,872,459)			
	d.	Total	\$	(42,849,378)	\$	(36,815,326)			
	4. Administrative and Miscellaneous Expenses		\$	(677,509)	\$	(706,283)			
C.	C. Market Value of Assets at End of Year		\$	555,001,936	\$	507,584,533			
D.	Reserves								
	1. DRO	P Accounts**	\$	(14,125,917)	\$	(10,865,693)			
	2. Total	Reserves	\$	(14,125,917)	\$	(10,865,693)			
E.	E. Market Value Net of Reserves and Adjustments			540,876,019	\$	496,718,840			

<sup>\*</sup> We were not provided with the breakdown of this amount between realized gains/(losses) and unrealized gains/(losses).

<sup>\*\*</sup> Includes outstanding loan balances.

# **Reconciliation of DROP Accounts**

Value at Beginning of Year	\$ 10,865,693
Payments Credited to Accounts	5,923,221
Investment Earnings Credited to Accounts	491,011
Withdrawals from Accounts*	(3,154,008)
Value at End of Year	14,125,917

<sup>\*</sup>Reflects change in outstanding loan balance.

### DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

B. Market Value End of Year       507,584,533         C. Market Value Beginning of Year       516,387,785         D. Non-Investment/Administrative Net Cash Flow       (3,754,846)         E. Investment Income       (5,048,406)         E1. Actual Market Total: B-C-D       (5,048,406)         E2. Assumed Rate of Return       7.85%         E3. Assumed Amount of Return       37,728,181         E4. Amount Subject to Phase-In: E1-E3       (42,776,587)         F. Phase-In Recognition of Investment Income       F1. Current Year: 0.20 x E4       (8,555,317)         F2. First Prior Year       3,283,692         F3. Second Prior Year       4,227,619         F4. Third Prior Year       7,916,898         F5. Fourth Prior Year       (7,754,825)         F6. Total Phase-Ins       (881,933)         G. Actuarial Value of Assets End of Year	\$ 515,582,590 555,001,936 507,584,533 (8,401,502) 55,818,905 7.70% 40,446,080 15,372,825 3,074,565 (8,555,317) 3,283,692 4,227,619 7,916,898	7.65% \$ 3,074,565 (8,555,317) 3,283,692	7.60% \$ 3,074,565 (8,555,317)	7.50%	7.40%
C. Market Value Beginning of Year D. Non-Investment/Administrative Net Cash Flow E. Investment Income E1. Actual Market Total: B-C-D E2. Assumed Rate of Return F3. Assumed Amount of Return F4. Amount Subject to Phase-In: E1-E3 F5. Phase-In Recognition of Investment Income F1. Current Year: 0.20 x E4 F2. First Prior Year F3. Second Prior Year F4. Third Prior Year F5. Fourth Prior Year F6. Total Phase-Ins  G. Actuarial Value of Assets End of Year G1. Preliminary Actuarial Value of Assets  S 15,582,590  (3,754,846) (5,048,406) (5,048,406) (5,048,406) (42,776,587) (42,776,587) (42,776,587) (42,776,587) (88,555,317)	507,584,533 (8,401,502) 55,818,905 7.70% 40,446,080 15,372,825 3,074,565 (8,555,317) 3,283,692 4,227,619	\$ 3,074,565 (8,555,317)	\$ 3,074,565		7.40%
D. Non-Investment/Administrative Net Cash Flow E. Investment Income E1. Actual Market Total: B-C-D E2. Assumed Rate of Return F3. Assumed Amount of Return F4. Amount Subject to Phase-In: E1-E3 F5. Phase-In Recognition of Investment Income F1. Current Year: 0.20 x E4 F2. First Prior Year F3. Second Prior Year F4. Third Prior Year F5. Fourth Prior Year F6. Total Phase-Ins F6. Actuarial Value of Assets End of Year G1. Preliminary Actuarial Value of Assets  (5,048,406) (5,048,406) (42,776,587) (42,776,587) (42,776,587) (88,555,317) (88,	(8,401,502)  55,818,905 7.70% 40,446,080 15,372,825  3,074,565 (8,555,317) 3,283,692 4,227,619	\$ 3,074,565 (8,555,317)	\$ 3,074,565		7.40%
E. Investment Income E1. Actual Market Total: B-C-D (5,048,406) E2. Assumed Rate of Return 7.85% E3. Assumed Amount of Return 37,728,181 E4. Amount Subject to Phase-In: E1–E3 (42,776,587) F. Phase-In Recognition of Investment Income F1. Current Year: 0.20 x E4 (8,555,317) F2. First Prior Year 3,283,692 F3. Second Prior Year 4,227,619 F4. Third Prior Year 7,916,898 F5. Fourth Prior Year 7,916,898 F5. Fourth Prior Year (7,754,825) F6. Total Phase-Ins (881,933)  G. Actuarial Value of Assets End of Year G1. Preliminary Actuarial Value of Assets \$ 515,582,590	55,818,905 7.70% 40,446,080 15,372,825 3,074,565 (8,555,317) 3,283,692 4,227,619	\$ 3,074,565 (8,555,317)	\$ 3,074,565		7.40%
E1. Actual Market Total: B-C-D (5,048,406) E2. Assumed Rate of Return 7.85% E3. Assumed Amount of Return 37,728,181 E4. Amount Subject to Phase-In: E1–E3 (42,776,587) F. Phase-In Recognition of Investment Income F1. Current Year: 0.20 x E4 (8,555,317) F2. First Prior Year 3,283,692 F3. Second Prior Year 4,227,619 F4. Third Prior Year 7,916,898 F5. Fourth Prior Year 7,916,898 F5. Fourth Prior Year (7,754,825) F6. Total Phase-Ins (881,933)  G. Actuarial Value of Assets End of Year G1. Preliminary Actuarial Value of Assets \$ 515,582,590	7.70% 40,446,080 15,372,825 3,074,565 (8,555,317) 3,283,692 4,227,619	\$ 3,074,565 (8,555,317)	\$ 3,074,565		7.40%
E2. Assumed Rate of Return  E3. Assumed Amount of Return  E4. Amount Subject to Phase-In: E1–E3  F. Phase-In Recognition of Investment Income  F1. Current Year: 0.20 x E4  F2. First Prior Year  F3. Second Prior Year  F4. Third Prior Year  F5. Fourth Prior Year  F6. Total Phase-Ins  G. Actuarial Value of Assets End of Year  G1. Preliminary Actuarial Value of Assets  7.85%  37,728,181  (42,776,587)  (88,555,317)  (88,555,317)  7,916,898  7,916,898  (7,754,825)  (881,933)  G. Actuarial Value of Assets End of Year  G1. Preliminary Actuarial Value of Assets  \$ 515,582,590	7.70% 40,446,080 15,372,825 3,074,565 (8,555,317) 3,283,692 4,227,619	\$ 3,074,565 (8,555,317)	\$ 3,074,565		7.40%
E3. Assumed Amount of Return E4. Amount Subject to Phase-In: E1–E3 (42,776,587) F. Phase-In Recognition of Investment Income F1. Current Year: 0.20 x E4 (8,555,317) F2. First Prior Year 3,283,692 F3. Second Prior Year 4,227,619 F4. Third Prior Year 7,916,898 F5. Fourth Prior Year 7,916,898 F5. Fourth Prior Year F6. Total Phase-Ins (881,933) G. Actuarial Value of Assets End of Year G1. Preliminary Actuarial Value of Assets \$ 515,582,590	40,446,080 15,372,825 3,074,565 (8,555,317) 3,283,692 4,227,619	\$ 3,074,565 (8,555,317)	\$ 3,074,565		7.40%
E4. Amount Subject to Phase-In: E1–E3  F. Phase-In Recognition of Investment Income F1. Current Year: 0.20 x E4  F2. First Prior Year F3. Second Prior Year F4. Third Prior Year F5. Fourth Prior Year F6. Total Phase-Ins  G. Actuarial Value of Assets End of Year G1. Preliminary Actuarial Value of Assets  (42,776,587)  (8,555,317)  7,283,692  4,227,619  7,916,898  (7,754,825)  (881,933)  G. Actuarial Value of Assets End of Year G1. Preliminary Actuarial Value of Assets  \$ 515,582,590	15,372,825 3,074,565 (8,555,317) 3,283,692 4,227,619	(8,555,317)			
F. Phase-In Recognition of Investment Income  F1. Current Year: 0.20 x E4  F2. First Prior Year  F3. Second Prior Year  F4. Third Prior Year  F5. Fourth Prior Year  F6. Total Phase-Ins  G. Actuarial Value of Assets End of Year  G1. Preliminary Actuarial Value of Assets  (8,555,317)  (8,555,317)  4,227,619  7,916,898  (7,754,825)  (881,933)  (881,933)	3,074,565 (8,555,317) 3,283,692 4,227,619	(8,555,317)			
F1. Current Year: 0.20 x E4 (8,555,317) F2. First Prior Year 3,283,692 F3. Second Prior Year 4,227,619 F4. Third Prior Year 7,916,898 F5. Fourth Prior Year (7,754,825) F6. Total Phase-Ins (881,933)  G. Actuarial Value of Assets End of Year G1. Preliminary Actuarial Value of Assets \$ 515,582,590	(8,555,317) 3,283,692 4,227,619	(8,555,317)			
F2. First Prior Year       3,283,692         F3. Second Prior Year       4,227,619         F4. Third Prior Year       7,916,898         F5. Fourth Prior Year       (7,754,825)         F6. Total Phase-Ins       (881,933)         G. Actuarial Value of Assets End of Year       515,582,590         G1. Preliminary Actuarial Value of Assets       \$ 515,582,590	(8,555,317) 3,283,692 4,227,619	(8,555,317)		<b>.</b>	
F3. Second Prior Year 4,227,619 F4. Third Prior Year 7,916,898 F5. Fourth Prior Year (7,754,825) F6. Total Phase-Ins (881,933)  G. Actuarial Value of Assets End of Year G1. Preliminary Actuarial Value of Assets \$ 515,582,590	3,283,692 4,227,619	(8,555,317)			
F4. Third Prior Year 7,916,898 F5. Fourth Prior Year (7,754,825) F6. Total Phase-Ins (881,933)  G. Actuarial Value of Assets End of Year G1. Preliminary Actuarial Value of Assets \$ 515,582,590	4,227,619			<b>.</b>	
F5. Fourth Prior Year (7,754,825) F6. Total Phase-Ins (881,933)  G. Actuarial Value of Assets End of Year G1. Preliminary Actuarial Value of Assets \$ 515,582,590		3,283,692	(8 555 317)	A A A = 4 = 4 =	
F6. Total Phase-Ins  G. Actuarial Value of Assets End of Year  G1. Preliminary Actuarial Value of Assets  \$ 515,582,590	7,916,898		(0,333,317)	\$ 3,074,565	
G. Actuarial Value of Assets End of Year G1. Preliminary Actuarial Value of Assets \$ 515,582,590		4,227,619	3,283,692	(8,555,317)	\$ 3,074,565
G1. Preliminary Actuarial Value of Assets \$ 515,582,590	9,947,457	2,030,559	(2,197,060)	(5,480,752)	3,074,565
•					
G2. Upper Corridor Limit: 120%*B 609.101.440	\$ 557,574,625				
02. opper confider Zimie. 12070 Z	666,002,323				
G3. Lower Corridor Limit: 80%*B 406,067,626	444,001,549				
G4. Funding Value End of Year 515,582,590	557,574,625				
G5. Less: DROP Account Balances 10,865,693	14,125,917				
G6. Final Funding Value End of Year 504,716,897	543,448,708				
H. Difference between Market & Actuarial Value \$ (7,998,057)	\$ (2,572,689)				
I. Actuarial Rate of Return 7.67%	9.59%				
J. Market Value Rate of Return -0.98%	10.79%				
K. Ratio of Actuarial Value to Market Value 101.58%	100.46%				

#### INVESTMENT RATE OF RETURN

	General	Plan **	Unclassified Plan			
Year Ended	Market Value	Actuarial Value	Market Value	Actuarial Value		
9/30/89	NA %	11.6 %	14.6 %	14.6 %		
9/30/90	NA	7.3	(2.3)	(2.3)		
9/30/91	NA	8.1	21.6	21.6		
9/30/92	12.2	13.7	5.8	5.8		
9/30/93	14.6	11.4	14.6	14.1		
9/30/94	1.4	6.8	5.3	4.8		
9/30/95	20.0	11.4	25.9	24.1		
9/30/96	9.8	15.3	22.7	13.9		
9/30/97	23.0	13.8	35.2	19.1		
9/30/98	8.4	12.5	(0.3)	4.3		
9/30/99	13.1	14.4	19.1	18.8		
9/30/00	10.8	10.7	11.5	16.5		
9/30/01	(7.4)	7.2	(8.1)	9.7		
9/30/02	(5.9)	0.3	(9.8)	1.7		
9/30/03	17.4	4.3	16.9	4.6		
9/30/04	11.4	4.1	13.0	9.7		
9/30/05	12.8	4.4	13.8	10.7		
9/30/06	7.4 *	7.7	7.5 *	10.2 *		
9/30/07	15.3	12.0	NA	NA		
9/30/08	(13.6)	5.2	NA	NA		
9/30/09	(0.8)	1.1	NA	NA		
9/30/10	11.3	5.0	NA	NA		
9/30/11	(0.9)	1.1	NA	NA		
9/30/12	20.5	2.1	NA	NA		
9/30/13	13.0	7.4	NA	NA		
9/30/14	11.1	9.9	NA	NA		
9/30/15	(1.0)	7.7	NA	NA		
9/30/16	10.8	9.6	NA	NA		
Average Returns:						
Last 5 Years	10.7 %	7.3 %	NA %	NA %		
Last 10 Years	6.1 %	6.1 %	NA %	NA %		
All Years	8.2 %	8.0 %	10.9 %	11.0 %		

<sup>\*</sup> Note: Effective 10/1/06, the former General and Unclassified Plans were merged and assets were combined. Investment returns after this date are for the total group.

<sup>\*\*</sup> Combined Plan after 2006

# SECTION D

# FINANCIAL ACCOUNTING INFORMATION

	FASB NO. 35 INFORMATION									
A.	Valuation Date	October 1, 2016	October 1, 2015							
В.	Actuarial Present Value of Accumulated Plan Benefits									
	1. Vested Benefits									
	<ul><li>a. Members Currently Receiving Payments</li><li>b. Terminated Vested Members</li><li>c. Other Members</li><li>d. Total</li></ul>	\$ 551,802,772 22,429,055 163,885,691 738,117,518	\$ 503,953,533 20,178,548 150,097,415 674,229,496							
	2. Non-Vested Benefits	15,607,613	12,963,388							
	3. Total Actuarial Present Value of Accumulated Plan Benefits: 1d + 2	753,725,131	687,192,884							
	4. Accumulated Contributions of Active Members	65,031,761	62,289,667							
C.	Changes in the Actuarial Present Value of Accumulated Plan Benefits									
	1. Total Value at Beginning of Year	687,192,884	651,159,799							
	2. Increase (Decrease) During the Period Attributable to:									
	a. Plan Amendment	0	0							
	<ul><li>b. Change in Actuarial Assumptions</li><li>c. Latest Member Data, Benefits Accumulated</li></ul>	44,555,395	10,881,608							
	and Decrease in the Discount Period	67,595,443	65,289,298							
	d. Benefits Paid (Net Basis)	(45,618,591)	(40,137,821)							
	e. Net Increase	66,532,247	36,033,085							
	3. Total Value at End of Period	753,725,131	687,192,884							
D.	Market Value of Assets	540,876,019	496,718,840							
E.	Actuarial Assumptions - See page entitled Actuarial Assumptions and Methods									

# SCHEDULE OF CHANGES IN THE EMPLOYER'S NET PENSION LIABILITY AND RELATED RATIOS GASB Statement No. 67

Fiscal year ending September 30,	2017*	2016	2015	2014
Total Pension Liability				
Service Cost	\$ 13,720,496	\$ 12,906,811	\$ 11,795,411	\$ 12,306,795
Interest	57,756,124	56,164,518	53,832,182	51,809,378
Benefit Changes	-	-	(1,277,929)	-
Difference between actual & expected experience	(4,242,257)	(2,210,692)	5,603,144	(278,357)
Assumption Changes	52,573,947	11,676,037	11,026,357	-
Benefit Payments	(46,318,905)	(41,900,843)	(35,874,016)	(37,501,400)
Refunds	(316,499)	(948,535)	(941,310)	(1,143,866)
Other (Change in Receivable from Excess Benefit Plan)	-	-	311,076	311,077
Net Change in Total Pension Liability	73,172,906	35,687,296	44,474,915	25,503,627
Total Pension Liability - Beginning	759,676,742	723,989,446	679,514,531	654,010,904
Total Pension Liability - Ending (a)	\$ 832,849,648	\$ 759,676,742	\$ 723,989,446	\$ 679,514,531
Plan Fiduciary Net Position				
Contributions - Employer	\$ 29,358,098	\$ 27,783,852	\$ 26,456,580	\$ 25,602,030
Contributions - Non-Employer Contributing Entity	-	-	-	-
Contributions - Member (includes buybacks)	7,656,543	7,341,533	7,310,183	7,373,407
Net Investment Income	43,186,136	55,818,905	(5,048,406)	51,773,646
Benefit Payments	(46,318,905)	(41,900,843)	(35,874,016)	(37,501,400)
Refunds	(316,499)	(948,535)	(941,310)	(1,143,866)
Administrative Expense	(691,896)	(677,509)	(706,283)	(668,851)
Other	-	-	-	-
Net Change in Plan Fiduciary Net Position	32,873,477	47,417,403	(8,803,252)	45,434,966
Plan Fiduciary Net Position - Beginning	555,001,936	507,584,533	516,387,785	470,952,819
Plan Fiduciary Net Position - Ending (b)	\$ 587,875,413	\$ 555,001,936	\$ 507,584,533	\$ 516,387,785
Net Pension Liability - Ending (a) - (b)	244,974,235	204,674,806	216,404,913	163,126,746
Plan Fiduciary Net Position as a Percentage				
of Total Pension Liability	70.59 %	73.06 %	70.11 %	75.99 %
Covered Payroll	\$ 77,013,213	\$ 71,863,150	\$ 82,359,302	\$ 76,362,960
Net Pension Liability as a Percentage				
of Covered Payroll	318.09 %	284.81 %	262.76 %	213.62 %

Note: Covered Payroll for the fiscal year ending September 30, 2016 was estimated using the expected pensionable payroll from the October 1, 2015 Actuarial Valuation.



<sup>\*</sup> These figures are estimates only. Actual figures will be provided after the end of the fiscal year.

# SCHEDULE OF THE EMPLOYER'S NET PENSION LIABILITY GASB Statement No. 67

	Total			Plan Net Position		Net Pension Liability
FY Ending	Pension	Plan Net	Net Pension	as a % of Total	Covered	as a % of Covered
September 30, Liability Position		Liability	Pension Liability	Payroll	Payroll	
2014	\$679,514,531	\$516,387,785	\$ 163,126,746	75.99%	\$ 76,362,960	213.62%
2015	723,989,446	507,584,533	216,404,913	70.11%	82,359,302	262.76%
2016	759,676,742	555,001,936	204,674,806	73.06%	71,863,150	284.81%
2017*	832,849,648	587,875,413	244,974,235	70.59%	77,013,213	318.09%

Note: Covered Payroll for the fiscal year ending September 30, 2016 was estimated using the expected pensionable payroll from the October 1, 2015 Actuarial Valuation.

<sup>\*</sup> These figures are estimates only. Actual figures will be provided after the end of the fiscal year.

# NOTES TO SCHEDULE OF THE EMPLOYER'S NET PENSION LIABILITY GASB Statement No. 67

Valuation Date: October 1, 2016

Measurement Date: September 30, 2017

#### Methods and Assumptions Used to Determine Net Pension Liability:

Actuarial Cost Method Entry Age Normal

Inflation 3.0%

Salary Increases 4.5% to 7.0% depending on service, including inflation

Investment Rate of Return 7.65%

Retirement Age Experience-based table of rates that are specific to the type of eligibility

condition

Mortality The healthy post-retirement mortality table is the RP-2000 Mortality Table

for annuitants with future improvements in mortality projected to all future years using Scale BB. For females, the base mortality rates include a 100% white collar adjustment. For males, the base mortality rates include a 50% blue collar adjustment and a 50% white collar adjustment. The preretirement mortality table is the RP-2000 Combined Healthy Participant Mortality Table with the same white and blue collar adjustments and the same mortality improvement projection scales. For disabled retirees, the mortality table is the RP-2000 Mortality Table for disabled annuitants, setback 4 years for males and set-forward 2 years for females, with no provision made for future mortality improvements. These are the same rates used for Regular Class members of the Florida Retirement System

(FRS) in their Actuarial Valuation as of July 1, 2016.

#### Other Information:

Notes See Discussion of Valuation Results on page 1.



# SCHEDULE OF CONTRIBUTIONS GASB Statement No. 67

	Actuarially		Contribution	Actual Contribution		
FY Ending Determined A		Actual	Actual Deficiency		as a % of Covered	
September 30,	Contribution	Contribution	(Excess)	Payroll	Payroll	
2014	\$ 25,602,030	\$ 25,602,030	\$ -	\$ 76,362,960	33.53%	
2015	26,317,983	26,456,580	(138,597)	82,359,302	32.12%	
2016	27,783,852	27,783,852	-	71,863,150	38.66%	
2017*	29,358,098	29,358,098	-	77,013,213	38.12%	

Note: Covered Payroll for the fiscal year ending September 30, 2016 was estimated using the expected pensionable payroll from the October 1, 2015 Actuarial Valuation.

<sup>\*</sup> These figures are estimates only. Actual figures will be provided after the end of the fiscal year.

# NOTES TO SCHEDULE OF CONTRIBUTIONS GASB Statement No. 67

Valuation Date: October 1, 2015

Notes Actuarially determined contributions are calculated as of October 1, which

is two years prior to the end of the fiscal year in which contributions are

reported.

#### **Methods and Assumptions Used to Determine Contribution Rates:**

Actuarial Cost Method Entry Age Normal
Amortization Method Level Dollar, Closed

Remaining Amortization Period 30 years

Asset Valuation Method 5-year smoothed market

Inflation 3.0%

Salary Increases 4.5% to 7.0% depending on service, including inflation

Investment Rate of Return 7.70%

Retirement Age Experience-based table of rates that are specific to the type of eligibility

condition.

Mortality RP-2000 Combined Healthy Participant Mortality Table for males and

females with mortality improvements projected after 2000 to the year

2010 using Scale AA.

#### **Other Information:**

Notes See Discussion of Valuation Results in the October 1, 2015 and the

October 1, 2016 Actuarial Valuation Reports; effective as of October 1, 2016 the investment return assumption was lowered from 7.70% to 7.65% and the mortality assumption was changed to the same mortality rates used for Regular Class members of the Florida Retirement System (FRS) in

their Actuarial Valuation as of July 1, 2016.

## SINGLE DISCOUNT RATE GASB Statement No. 67

A single discount rate of 7.65% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.65%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between the total actuarially determined contribution rates and the member rate. Based on these 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 (7.65%) was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the single discount rate, the following presents the plan's net pension liability, calculated using a single discount rate of 7.65%, as well as what the plan's net pension liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

#### Sensitivity of the Net Pension Liability to the Single Discount Rate Assumption\*

Current Single Discount									
1% Decrease		Rate Assumption			1% Increase				
6.65%			7.65%		8.65%				
\$	346,737,611	\$	244,974,235	\$	160,750,046				

<sup>\*</sup> These figures are estimates projected to September 30, 2016. Actual figures will be provided after the end of the fiscal year.

# SECTION E MISCELLANEOUS INFORMATION

	RECONCILIATION OF MEMBERSHIP DATA							
		From 10/1/15	From 10/1/14					
		To 10/1/16	To 10/1/15					
A.	Active Members							
1.	Number Included in Last Valuation	1,082	1,011					
2.	New Members Included in Current Valuation	186	140					
3.	Employment Terminations	(62)	(59)					
4.	Service Retirements	(13)	(8)					
5.	DROP Retirements	(25)	(41)					
6.	Disability Retirements	(1)	o o					
7.	Deaths	(1)	(1)					
8.	Other - Data Adjustments	0	40					
9.	Number Included in This Valuation	1,166	1,082					
В.	Terminated Vested Members							
	V 1 7 1 1 1 7 1 1 1 1 1 1 1 1 1 1 1 1 1	0.0	00					
1.	Number Included in Last Valuation	93	88					
2.	Additions from Active Members	22	21					
3.	Lump Sum Payments/Refund of Contributions	(10)	(9)					
4.	Payments Commenced	(10)	(7)					
5.		0	0					
6.	Other - Data Adjustments	(1)	0					
7.	Number Included in This Valuation	94	93					
C.	DROP Plan Members							
1	N. adam I. d. d. d. d. ad Wil. adam	114	0.2					
1. 2.	Number Included in Last Valuation Additions from Active Members	114 25	93 41					
l		_						
3. 4.		(24)	(20)					
5.	Other	0	_					
6.	Number Included in This Valuation	113	114					
0.	Number included in this valuation	113	114					
D.	Service Retirees, Disability Retirees and Beneficia	ries						
1.	Number Included in Last Valuation	1,046	1,066					
2.	Additions from Active Members	14	8					
3.	Additions from Terminated Vested Members	10	7					
4.	Additions from DROP Plan	26	20					
5.	Deaths Resulting in No Further Payments	(58)	(44)					
6.	Deaths Resulting in New Survivor Benefits	o o	o o					
7.	End of Certain Period - No Further Payments	0	0					
8.	Other - Data Adjustments	(1)	(11)					
9.	•	1,037	1,046					



# **ACTIVE MEMBERS ON OCTOBER 1, 2016**

Age				Years of	Service			
Group	0-4	5-9	10-14	15-19	20-24	25-29	30 & Up	Totals
15 10	1							1
15-19 Total Pay	38,584							1 38,584
Avg Pay	38,584							38,584
Avgray	30,304							30,304
20-24	16							16
Total Pay	712,983							712,983
Avg Pay	44,561							44,561
25-29	101	6						107
Total Pay	4,920,365	294,326						5,214,691
Avg Pay	48,716	49,054						48,735
76		.,						-,
30-34	96	45	17					158
Total Pay	5,300,575	2,332,889	860,170					8,493,634
Avg Pay	55,214	51,842	50,598					53,757
35-39	51	32	45	6				134
Total Pay	3,004,425	1,661,277	2,796,802	385,760				7,848,264
Avg Pay	58,910	51,915	62,151	64,293				58,569
,								
40-44	47	30	44	28	6			155
Total Pay	2,834,781	1,702,137	2,720,387	2,072,119	449,449			9,778,873
Avg Pay	60,314	56,738	61,827	74,004	74,908			63,090
45-49	52	26	44	31	20	4		177
Total Pay	3,445,102	1,614,864	2,969,441	2,359,682	1,635,413	344,176		12,368,678
Avg Pay	66,252	62,110	67,487	76,119	81,771	86,044		69,880
50-54	53	20	49	46	42	6	1	217
Total Pay	4,078,834	1,481,023	3,227,834	3,505,948	3,198,567	690,697	72,778	16,255,681
Avg Pay	76,959	74,051	65,874	76,216	76,156	115,116	72,778	74,911
55-59	32	19	28	21	14	2		116
Total Pay	2,380,095	1,165,238	1,680,697	1,323,129	1,165,556	333,631		8,048,346
Avg Pay	74,378	61,328	60,025	63,006	83,254	166,816		69,382
60-64	19	5	12	8	8			52
Total Pay	1,603,328	302,682	828,573	541,901	637,635			3,914,119
Avg Pay	84,386	60,536	69,048	67,738	79,704			75,272
65-99	16	2	9	1	4		1	33
Total Pay	1,054,144	72,635	683,966	54,948	221,162		69,297	2,156,152
Avg Pay	65,884	36,318	75,996	54,948	55,291		69,297	65,338
Total No.	484	185	248	141	94	12	2	1,166
Total Pay	29,373,216	10,627,071	15,767,870	10,243,487	7,307,782	1,368,504	142,075	74,830,005
Avg Pay	60,688	57,444	63,580	72,649	77,742	114,042	71,038	64,177

# **INACTIVE MEMBERS ON OCTOBER 1, 2016**

			Retirees, Beneficiaries &						
	Tern	Terminated Vested		Disabled		DROP		Grand Total	
		Annual		Annual		Annual		Annual	
Age	No.	Benefits	No.	Benefits	No.	Benefits	No.	Benefits	
Under 45	35	\$ 539,379	0	\$ -	4	20,388	39	\$ 559,767	
45-49	25	648,385	2	46,696	4	94,123	31	789,204	
50-54	33	1,018,837	5	120,298	64	3,506,304	102	4,645,439	
55-59	1	23,672	8	287,144	158	7,387,007	167	7,697,823	
60-64	0	-	5	140,172	179	7,809,266	184	7,949,438	
65-69	0	-	4	127,733	203	9,418,082	207	9,545,815	
70-74	0	-	5	223,245	147	5,860,277	152	6,083,522	
75-79	0	-	1	47,716	113	3,677,616	114	3,725,332	
80-84	0	-	2	27,182	110	3,296,604	112	3,323,786	
85-89	0	-	2	31,034	81	2,094,342	83	2,125,376	
90 & Up	0	-	1	11,477	52	1,038,358	53	1,049,835	
_									
Total	94	\$ 2,230,273	35	\$1,062,697	1,115	\$ 44,202,367	1,244	\$ 47,495,337	

# SECTION F SUMMARY OF PLAN PROVISIONS

#### SUMMARY OF PLAN PROVISIONS

#### **Effective Date**

September 30, 2010 under Ordinance No. 2010-3693 and Ordinance No. 2010-3706. Most recent amendments were Ordinance No. 2015-3946 effective June 10, 2015 and Ordinance No. 2014-3864 effective May 21, 2014.

#### **Eligibility**

Each general employee who works more than 30 hours per week is eligible for membership on his date of employment

#### **Creditable Service**

Service credited under the predecessor system plus service after such date with respect to which member contributions are made.

#### **Tiers of Employees**

Tier C – All members hired on or after September 30, 2010 (October 27, 2010 for members of CWA)

Tier B – Members of AFSCME hired on or after April 30, 1993; members classified as GSA or "Other" hired on or after August 1, 1993; members of CWA hired on or after February 21, 1994; and Unclassified members hired on or after October 18, 1992.

Tier A – All other members

#### **Earnings**

For Tier B and C members, base pay including longevity, but excluding overtime, shift differential or extra compensation allowances. For Tier A members, actual salary or wages received. Earnings do not include lump sum payments of unused sick or vacation time. Overtime pay for Classified Tier A members is limited to 10% of regular pay.

#### **Final Average Monthly Earnings (FAME)**

One-twelfth of average annual Earnings during the two highest paid years of Creditable Service, not less than the average monthly earnings for the 12 months as of March 8, 2006 for Unclassified Tier A members

Effective September 30, 2010 averaging period is five years except for members who are less than five years away from normal retirement eligibility. Members who are eligible for normal retirement within two years or less as of September 30, 2010 will have average earnings of two years. Members who are eligible for normal retirement in within three years as of September 30, 2010 will have average earnings of three years. Members who are eligible for normal retirement within four years as of September 30, 2010 will have average earnings of four years.

**Normal Retirement** 

**Eligibility** Age 50 and five years of Creditable Service for those in Tier A

Age 55 and five years of Creditable Service for those in Tier B

Age 55 with 30 years of service or age 62 with 5 years of service for

those in Tier C

**Benefit** 3% of FAME multiplied years of Creditable Service with the total not

to exceed 80% of FAME. There is a 90% cap for certain Tier A

members.

2.5% of FAME multiplied years of Creditable Service with the total not

to exceed 80% of FAME for Tier C members.

Form of Benefit 50% joint and survivor annuity payable only to the spouse or, if no

spouse, to the surviving children until age 21; other options are also

available. Spouse's benefits cease upon remarriage.

Life annuity for Tier C members

**COLA** 2.5% for Tier A and Tier B members; 1.5% for Tier C members

**Early Retirement** 

**Eligibility** Tier B members of the General Plan whose total of age plus service is

75, not earlier than age 50

Tier C members whose total of age plus service is 75, not earlier than

age 55

**Benefit** Accrued pension actuarially reduced for number of years by which

Early Retirement Date precedes Normal Retirement Date.

Form of Benefit 50% joint and survivor annuity payable only to the spouse or, if no

spouse, to the surviving children until age 21; other options are also

available. Spouse's benefits cease upon remarriage.

Life annuity for Tier C members

**COLA** 2.5% for Tier A and Tier B members: 1.5% for Tier C members

**Delayed Retirement** 

**Eligibility** Any time after the Normal Retirement Date.

**Benefit** Calculated in the same manner as the Normal Retirement Benefit but

using the FAME and Creditable Service as of the actual retirement date.

Form of Benefit 50% joint and survivor annuity payable only to the spouse or, if no

spouse, to the surviving children until age 21; other options are also

available. Spouse's benefits cease upon remarriage.

Life annuity for Tier C members

**COLA** 2.5% for Tier A and Tier B members; 1.5% for Tier C members

**Disability Benefits** 

**Eligibility** A total and permanent disability which renders a member incapacitated

for the further performance of duty. Five years of Creditable Service is

also required unless the disability is service-connected.

**Benefit** Ordinary Disability: Accrued retirement benefit, without reduction,

with a minimum of 35% of FAME.

Service-Connected Disability: Accrued retirement benefit without reduction, with a minimum of 65% of FAME; 75% of FAME minimum

for General Tier A members.

Such amounts are reduced by workers' compensation benefits and, in certain cases, earned income will be considered in offsetting the benefit. The period of disability shall be included in Creditable Service for purposes of computing normal retirement benefits when a disability

retiree reaches normal retirement age.

Form of Benefit 50% joint and survivor annuity payable only to the spouse or, if no

spouse, to the surviving children until age 21; other options are also

available. Spouse's benefits cease upon remarriage.

Life annuity for Tier C members

**COLA** 2.5% for Tier A and Tier B members; 1.5% for Tier C members

#### **Preretirement Death Benefits**

For a member who has at least three years of Creditable Service but who dies before commencement of retirement benefits, a monthly benefit is payable to the spouse or, if no spouse, to the children until age 21. The benefit is equal to 50% of the accrued normal retirement benefit without reduction with the result being a minimum of 30% of FAME and a maximum of 40% of FAME for General members.

#### **Termination Benefits**

Any member who terminates employment and does not request a refund of his own contributions and has completed at least five years of Creditable Service will be eligible to receive his accrued benefit upon reaching his normal retirement age.



#### **Contributions**

**Tier A Members** 12% of Earnings.

Tier B and Tier C

**Members** 10% of Earnings.

Employees who have reached the applicable benefit accrual cap (90% for General Tier A employees and 80% for all others) but have not yet reached retirement age will continue to contribute to the pension Plan, but only on the amount by which pay increases

after reaching the cap

From the City

The amount necessary to fund the Plan properly according to the

Plan's actuary.

## **Deferred Retirement Option Plan (DROP)**

**Eligibility** Members who are eligible for Normal Retirement

Benefit The member's Credited Service and AFC are frozen upon entry

into the DROP. The monthly retirement benefit as described under Normal Retirement is calculated based upon the frozen Credited

Service and AFC.

Maximum

**DROP Period** 60 months

**Interest** 

Credited The investment return is determined by the self-directed

investments.

**Normal Form** 

of Benefit Lump Sum

**COLA** None

#### **Changes Since Last Valuation**

There have been no changes since the last valuation.

