

November 5, 2018

William P. Hanes, Esq. Administrator Town of Palm Beach Retirement System P.O. Box 2112 Palm Beach, Florida 33480

# Re: Town of Palm Beach Retirement System – Additional Projections Reflecting Alternative Amortization Scenario and Change in Salary Increase Assumption Effective 9/30/2017

Dear Bill:

As requested, we have prepared additional projection scenarios for the Town of Palm Beach Retirement System (Plan) reflecting an alternative amortization method and a change in the salary increase assumption, as described below. The enclosed exhibits present projected assets, liabilities and contribution requirements for the Plan in the aggregate over the next 15 years. The contribution requirements (ADECs) are displayed assuming beginning-of-year payment timing.

This letter complements the letter dated July 5, 2018, which presented a 15-year projection of the current amortization policy (Baseline) and an alternative scenario which limited the period for amortizing changes in the UAAL to 15 years effective September 30, 2017 (Alternative 1); and the letter dated August 3, 2018, which presented a 15-year projection of an alternative scenario which limited the period for amortizing changes in the UAAL to 20 years effective September 30, 2017 (Scenario 2).

## **Summary of Projection Scenarios and Exhibits**

- Scenario 1 same policy and assumptions as used in the September 30, 2017 Actuarial Valuation Report (including \$5.42 million additional contribution per year until the Plan becomes fully funded), with the following exceptions:
  - The investment return assumption is assumed to decrease by 0.1% per year from 7.3% used in the September 30, 2017 Actuarial Valuation Report to 7.0% as of September 30, 2020;
  - the payroll growth assumption is assumed to decrease by 0.25% per year, from 3.00% used in the September 30, 2017 Actuarial Valuation Report to 2.75% as of September 30, 2018;
  - effective September 30, 2017, the amortization period for amortizing changes in the UAAL is limited to 20 years for assumption or method changes and to 15 years for plan changes or experience gains or losses (hybrid amortization policy).
- Scenario 1A same as Scenario 1 described above, but reflecting an actual return on the market value of assets of 5.0% each year.

William P. Hanes, Esq. November 5, 2018 Page 2

- Scenario 2 same as Scenario 1, except the salary increase assumption is changed from 3.5% per year to 5.5% per year effective September 30, 2017.
- Scenario 2A same as Scenario 2, but reflecting an actual return on the market value of assets of 5.0% each year.

# Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

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 due to changing conditions; and changes in Plan provisions or applicable law. The scope of this project limits the analysis of the potential range of such future measurements to the four projection scenarios presented herein.

Examples of risk that may reasonably be anticipated to significantly affect the Plan's future financial condition include:

- 1. Investment risk actual investment returns may differ from the either assumed or forecasted returns;
- 2. Contribution risk actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the Plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
- 3. Salary and Payroll risk actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
- 4. Longevity risk members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
- 5. Other demographic risks members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example if the investment return is less (or more) than the assumed rate, the cost of the Plan can be expected to increase (or decrease). Likewise if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.



William P. Hanes, Esq. November 5, 2018 Page 3

The computed contribution amounts may be considered as a minimum contribution that complies with the pension Board's funding policy and the State statutes. The timely receipt of the actuarially determined contributions is critical to support the financial health of the Plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

## **Risk Assessment**

Risk assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability. The scope of this report limits risk assessment to the four projection scenarios presented herein. We are prepared to perform additional assessment to aid the Board in the decision making process.

# **Actuarial Disclosures**

Throughout the projection period, new members are assumed to be hired each year at a rate sufficient to maintain a constant active headcount. New employees are assumed to have the same average demographic characteristics (age, gender, salary – adjusted each year for inflation) at their dates of employment as those of current members with 5 years of service or less as of September 30, 2017. Additionally, DROP and Share accounts are projected forward assuming 40% payout in the first projection year, 30% in year two, 20% in year three and the remainder paid out in year four.

Projections are deterministic, meaning that throughout the projection period, Plan experience is expected to match the actuarial assumptions. For the stress test scenarios (Scenarios 1A and 2A) the investment return on the market value of assets each year is assumed to be 5.0% throughout the projection period.

The calculations are based upon assumptions regarding future events, which may or may not materialize. 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. If you have reason to believe that the assumptions that were used are unreasonable, that the plan provisions are incorrectly described, that important plan provisions relevant to this proposal are not described, or that conditions have changed since the calculations were made, you should contact the author of the report prior to relying on information in the report.

The calculations in this report are based upon information furnished by the Town of Palm Beach and the Plan Administrator for the September 30, 2017 Actuarial Valuation concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We reviewed this information 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 Town or the Plan Administrator.



William P. Hanes, Esq. November 5, 2018 Page 4

This report complements the September 30, 2017 Actuarial Valuation Report previously delivered to the Plan Administrator and the Town and should be considered in conjunction with the report. Please see the Actuarial Valuation Report as of September 30, 2017, dated February 22, 2018, for additional discussion of the nature of actuarial calculations and information related to participant data, economic and demographic assumptions, and benefit provisions.

Peter N. Strong 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 undersigned actuaries are independent of the plan sponsor.

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 Plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes. Respectfully submitted,

te Shore

Peter N. Strong, FSA, EA, MAAA Senior Consultant and Actuary

Enclosures

cc: Jane Le Clainche, Finance Director (electronic)

Jeffrey Amrose, EA, MAAA Senior Consultant and Actuary





#### 15-Year Projections - Scenario 1: Current Salary Increase Assumption (3.5% Per Year) and

Hybrid Amortization of UAL in ADEC (15-Year for Experience Gains/Losses and Plan Changes; 20-Year for Assumption/Method Changes)

Actual Rate of Return on Plan Assets Earned Each Year = Expected

						Unfunded			То	tal Employer Co	ntribution	
Valuation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Actuarial Accrued Liability	Funded Ratio	Fiscal Year Ending	BOY ADEC as % of Payroll	BOY ADEC as Illustrative Dollar Amount	Additional Contribution	Total Contribution
								2018	47.72%	8,877,620	5,420,000	14,297,620
9/30/2017	290	18,687,904	23,856,242	318,100,840	219,105,699	98,995,141	68.9%	2019	52.12%	10,181,437	5,420,000	15,601,437
9/30/2018	290	19,091,771	23,098,170	322,667,145	223,040,153	99,626,992	69.1%	2020	53.57%	10,652,986	5,420,000	16,072,986
9/30/2019	290	19,518,348	22,486,968	328,053,381	229,165,613	98,887,768	69.9%	2021	53.91%	10,958,583	5,420,000	16,378,583
9/30/2020	290	19,989,378	21,884,632	334,250,169	241,384,145	92,866,024	72.2%	2022	52.10%	10,846,303	5,420,000	16,266,303
9/30/2021	290	20,446,824	21,323,400	337,585,458	255,403,906	82,181,552	75.7%	2023	48.71%	10,372,706	5,420,000	15,792,706
9/30/2022	290	20,923,847	21,882,270	341,803,045	269,533,993	72,269,052	78.9%	2024	45.45%	9,904,884	5,420,000	15,324,884
9/30/2023	290	21,377,318	22,437,498	345,792,613	283,505,324	62,287,289	82.0%	2025	42.10%	9,374,143	5,420,000	14,794,143
9/30/2024	290	21,747,802	23,106,758	349,524,307	297,300,964	52,223,343	85.1%	2026	38.62%	8,748,934	5,420,000	14,168,934
9/30/2025	290	22,187,981	23,693,465	352,886,644	310,893,045	41,993,599	88.1%	2027	34.58%	7,991,762	5,420,000	13,411,762
9/30/2026	290	22,550,809	24,310,383	355,913,786	324,081,394	31,832,392	91.1%	2028	27.78%	6,525,924	5,420,000	11,945,924
9/30/2027	290	22,810,204	24,884,474	358,546,731	336,701,474	21,845,257	93.9%	2029	23.02%	5,469,803	5,420,000	10,889,803
9/30/2028	290	23,267,946	25,389,189	360,838,003	348,107,722	12,730,281	96.5%	2030	17.70%	4,288,718	5,420,000	9,708,718
9/30/2029	290	23,758,018	25,920,633	362,844,042	358,699,307	4,144,735	98.9%	2031	11.35%	2,808,741	0	2,808,741
9/30/2030	290	24,155,584	26,501,042	364,504,679	368,183,545	(3,678,866)	101.0%	2032	7.61%	1,915,007	0	1,915,007
9/30/2031	290	24,562,191	26,995,760	365,749,230	370,699,184	(4,949,954)	101.4%	2033	7.65%	1,957,759	0	1,957,759
9/30/2032	290	25,008,003	27,450,155	366,634,298	371,919,421	(5,285,123)	101.4%	2034	7.68%	2,001,063	0	2,001,063

#### Total:

### Total Present Value at 9/30/2017 (using 7% discount rate):

\$122,876,373 \$70,460,000 \$193,336,373 \$85,306,071 \$48,469,360 \$133,775,431

#### Assumptions

Mortality Assumption: FRS Non-Special Risk Mortality for General Employees; FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters

Investment Return Assumption: 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

Actual Return on Plan Assets: Same as assumed above

Salary Increase Assumption: 3.5% per year

Payroll Growth Assumption: 3.0% as of 9/30/17, 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2018, 30% in FYE 2019, 20% in FYE 2020, and 10% in FYE 2021.

We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 or 185 monies.

Additional contributions of \$5.42 million per year beginning in FYE 2017 until the Plan is fully funded, subject to total annual contribution cap of \$16 million, indexed after 2017; allocated between the benefit groups based on each group's proportion of the total amount of unfunded actuarial accrued liability as of the prior valuation year. Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

Prepared by Gabriel, Roeder, Smith & Company November 5, 2018 Page 5 of 11

### 15 Year Projections - Scenario 1A (Stress Test): Current Salary Increase Assumption (3.5% Per Year) and

Hybrid Amortization of UAL in ADEC (15-Year for Experience Gains/Losses and Plan Changes; 20-Year for Assumption/Method Changes)

Actual Rate of Return on Plan Assets Earned Each Year = 5%

						Unfunded			Тс	otal Employer Co	ontribution	
Valuation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Actuarial Accrued Liability	Funded Ratio	Fiscal Year Ending	BOY ADEC as % of Payroll	BOY ADEC as Illustrative Dollar Amount	Additional Contribution	Total Contribution
								2018	47.72%	8,877,620	5,420,000	14,297,620
9/30/2017	290	18,687,904	23,856,242	318,100,840	219,105,699	98,995,141	68.9%	2019	52.12%	10,181,437	5,420,000	15,601,437
9/30/2018	290	19,091,771	23,098,170	322,667,145	222,048,581	100,618,564	68.8%	2020	53.99%	10,735,897	5,420,000	16,155,897
9/30/2019	290	19,518,348	22,486,968	328,053,381	226,133,120	101,920,261	68.9%	2021	55.18%	11,217,463	5,420,000	16,637,463
9/30/2020	290	19,989,378	21,884,632	334,250,169	235,313,136	98,937,033	70.4%	2022	54.62%	11,372,017	5,420,000	16,792,017
9/30/2021	290	20,446,824	21,323,400	337,585,458	245,310,497	92,274,961	72.7%	2023	52.90%	11,266,341	5,420,000	16,686,341
9/30/2022	290	20,923,847	21,882,270	341,803,045	254,404,160	87,398,885	74.4%	2024	51.77%	11,282,259	5,420,000	16,702,259
9/30/2023	290	21,377,318	22,437,498	345,792,613	263,324,692	82,467,921	76.2%	2025	50.70%	11,288,309	5,420,000	16,708,309
9/30/2024	290	21,747,802	23,106,758	349,524,307	272,131,676	77,392,631	77.9%	2026	49.78%	11,276,252	5,420,000	16,696,252
9/30/2025	290	22,187,981	23,693,465	352,886,644	280,819,803	72,066,841	79.6%	2027	48.56%	11,220,922	5,420,000	16,640,922
9/30/2026	290	22,550,809	24,310,383	355,913,786	289,210,278	66,703,508	81.3%	2028	44.25%	10,392,082	5,420,000	15,812,082
9/30/2027	290	22,810,204	24,884,474	358,546,731	297,270,609	61,276,122	82.9%	2029	42.94%	10,202,002	5,420,000	15,622,002
9/30/2028	290	23,267,946	25,389,189	360,838,003	304,368,326	56,469,677	84.4%	2030	41.46%	10,046,775	5,420,000	15,466,775
9/30/2029	290	23,758,018	25,920,633	362,844,042	311,153,723	51,690,319	85.8%	2031	39.76%	9,839,662	5,420,000	15,259,662
9/30/2030	290	24,155,584	26,501,042	364,504,679	317,501,759	47,002,920	87.1%	2032	37.97%	9,552,463	5,420,000	14,972,463
9/30/2031	290	24,562,191	26,995,760	365,749,230	323,318,849	42,430,381	88.4%	2033	33.13%	8,475,458	5,420,000	13,895,458
9/30/2032	290	25,008,003	27,450,155	366,634,298	328,589,683	38,044,615	89.6%	2034	26.83%	6,989,257	5,420,000	12,409,257
Total:										\$ 174.216.216	\$ 92.140.000	\$266.356.216

#### Total:

#### Total Present Value at 9/30/2017 (using 7% discount rate):

\$ 174,216,216 \$ 92,140,000 \$ 266,356,216 \$108,666,993 \$56,620,835 \$165,287,828

#### Assumptions

Mortality Assumption:

FRS Non-Special Risk Mortality for General Employees; FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter Investment Return Assumption:

Actual Return on Plan Assets: 5.0% per annum

Salary Increase Assumption: 3.5% per year

Payroll Growth Assumption: 3.0% as of 9/30/17, 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2018, 30% in FYE 2019, 20% in FYE 2020, and 10% in FYE 2021.

We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 or 185 monies.

Additional contributions of \$5.42 million per year beginning in FYE 2017 until the Plan is fully funded, subject to total annual contribution cap of \$16 million, indexed after 2017; allocated between the benefit groups based on each group's proportion of the total amount of unfunded actuarial accrued liability as of the prior valuation year. Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

> Prepared by Gabriel, Roeder, Smith & Company November 5, 2018 Page 6 of 11

15-Year Projections - Scenario 2: Salary Increase Assumption = 5.5% Per Year and

Hybrid Amortization of UAL in ADEC (15-Year for Experience Gains/Losses and Plan Changes; 20-Year for Assumption/Method Changes)

Actual Rate of Return on Plan Assets Earned Each Year = Expected

						Unfunded			То	tal Employer Co	ntribution	
Valuation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Actuarial Accrued Liability	Funded Ratio	Fiscal Year Ending	BOY ADEC as % of Payroll	BOY ADEC as Illustrative Dollar Amount	Additional Contribution	Total Contribution
								2018	47.72%	8,877,620	5,420,000	14,297,620
9/30/2017	290	18,687,904	23,858,384	319,241,016	219,105,699	100,135,317	68.6%	2019	54.92%	10,727,991	5,420,000	16,147,991
9/30/2018	290	19,433,029	23,100,249	324,449,889	223,064,226	101,385,663	68.8%	2020	55.79%	11,292,572	5,420,000	16,712,572
9/30/2019	290	20,207,613	22,488,992	330,608,772	229,856,213	100,752,559	69.5%	2021	55.44%	11,667,838	5,420,000	17,087,838
9/30/2020	290	21,038,480	21,886,602	337,724,688	243,161,147	94,563,541	72.0%	2022	52.95%	11,602,102	5,420,000	17,022,102
9/30/2021	290	21,862,249	21,325,311	342,093,050	258,441,642	83,651,408	75.5%	2023	49.00%	11,157,830	5,420,000	16,577,830
9/30/2022	290	22,718,909	21,892,165	347,486,066	273,988,964	73,497,102	78.8%	2024	45.30%	10,719,611	5,420,000	16,139,611
9/30/2023	290	23,547,183	22,460,714	352,800,057	289,511,015	63,289,042	82.1%	2025	41.67%	10,219,140	5,420,000	15,639,140
9/30/2024	290	24,252,701	23,152,925	358,005,451	304,975,566	53,029,885	85.2%	2026	38.08%	9,619,248	5,420,000	15,039,248
9/30/2025	290	25,052,554	23,766,133	362,994,279	320,356,648	42,637,631	88.3%	2027	34.09%	8,895,193	5,420,000	14,315,193
9/30/2026	290	25,708,888	24,427,483	367,800,738	335,470,089	32,330,649	91.2%	2028	27.84%	7,454,995	5,420,000	12,874,995
9/30/2027	290	26,210,035	25,056,237	372,345,575	350,114,475	22,231,100	94.0%	2029	23.52%	6,420,124	5,420,000	11,840,124
9/30/2028	290	26,994,908	25,608,513	376,688,503	363,659,368	13,029,135	96.5%	2030	18.77%	5,276,868	5,420,000	10,696,868
9/30/2029	290	27,828,941	26,199,222	380,916,213	376,551,550	4,364,663	98.9%	2031	13.25%	3,841,485	0	3,841,485
9/30/2030	290	28,508,611	26,858,698	384,960,668	388,485,402	(3,524,734)	100.9%	2032	9.90%	2,940,397	0	2,940,397
9/30/2031	290	29,203,875	27,445,819	388,736,508	393,580,708	(4,844,200)	101.2%	2033	9.93%	3,021,750	0	3,021,750
9/30/2032	290	29,908,795	28,005,380	392,292,734	397,466,857	(5,174,123)	101.3%	2034	9.94%	3,097,537	0	3,097,537
										+	+	****

#### Total:

### Total Present Value at 9/30/2017 (using 7% discount rate):

\$136,832,301 \$70,460,000 \$207,292,301 \$93,103,698 \$48,469,360 \$141,573,058

Δςςι	imp	tions
~330	111111111111111111111111111111111111111	10113

Mortality Assumption: FRS Non-Special Risk Mortality for General Employees; FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters

Investment Return Assumption: 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

Actual Return on Plan Assets: Same as assumed above

Salary Increase Assumption: 5.5% per year

Payroll Growth Assumption: 3.0% as of 9/30/17, 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2018, 30% in FYE 2019, 20% in FYE 2020, and 10% in FYE 2021.

We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 or 185 monies.

Additional contributions of \$5.42 million per year beginning in FYE 2017 until the Plan is fully funded, subject to total annual contribution cap of \$16 million, indexed after 2017; allocated between the benefit groups based on each group's proportion of the total amount of unfunded actuarial accrued liability as of the prior valuation year. Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

Prepared by Gabriel, Roeder, Smith & Company November 5, 2018 Page 7 of 11

### 15 Year Projections - Scenario 2A (Stress Test): Salary Increase Assumption = 5.5% Per Year and

Hybrid Amortization of UAL in ADEC (15-Year for Experience Gains/Losses and Plan Changes; 20-Year for Assumption/Method Changes)

Actual Rate of Return on Plan Assets Earned Each Year = 5%

						Unfunded			Тс	otal Employer Co	ontribution	
			Expected	Actuarial	Actuarial	Actuarial		Fiscal	BOY ADEC	BOY ADEC as		
Valuation	Active		Benefit	Accrued	Value of	Accrued	Funded	Year	as % of	Illustrative	Additional	Total
Date	Count	Payroll	Payments	Liability	Assets	Liability	Ratio	Ending	Payroll	Dollar Amount	Contribution	Contribution
								2018	47.72%	8,877,620	5,420,000	14,297,620
9/30/2017	290	18,687,904	23,858,384	319,241,016	219,105,699	100,135,317	68.6%	2019	54.92%	10,727,991	5,420,000	16,147,991
9/30/2018	290	19,433,029	23,100,249	324,449,889	222,072,549	102,377,340	68.4%	2020	56.21%	11,376,155	5,420,000	16,796,155
9/30/2019	290	20,207,613	22,488,992	330,608,772	226,820,667	103,788,105	68.6%	2021	56.66%	11,925,574	5,420,000	17,345,574
9/30/2020	290	21,038,480	21,886,602	337,724,688	237,078,564	100,646,124	70.2%	2022	55.35%	12,127,827	5,420,000	17,547,827
9/30/2021	290	21,862,249	21,325,311	342,093,050	248,319,497	93,773,553	72.6%	2023	52.93%	12,052,399	5,420,000	17,472,399
9/30/2022	290	22,718,909	21,892,165	347,486,066	258,800,487	88,685,579	74.5%	2024	51.13%	12,098,182	5,420,000	17,518,182
9/30/2023	290	23,547,183	22,460,714	352,800,057	269,224,395	83,575,662	76.3%	2025	49.47%	12,131,931	5,420,000	17,551,931
9/30/2024	290	24,252,701	23,152,925	358,005,451	279,631,712	78,373,739	78.1%	2026	48.08%	12,144,049	5,420,000	17,564,049
9/30/2025	290	25,052,554	23,766,133	362,994,279	290,014,518	72,979,761	79.9%	2027	46.47%	12,126,648	5,420,000	17,546,648
9/30/2026	290	25,708,888	24,427,483	367,800,738	300,210,649	67,590,089	81.6%	2028	42.33%	11,333,964	5,420,000	16,753,964
9/30/2027	290	26,210,035	25,056,237	372,345,575	310,140,588	62,204,987	83.3%	2029	40.94%	11,176,099	5,420,000	16,596,099
9/30/2028	290	26,994,908	25,608,513	376,688,503	319,187,953	57,500,550	84.7%	2030	39.39%	11,075,419	5,420,000	16,495,419
9/30/2029	290	27,828,941	26,199,222	380,916,213	328,065,788	52,850,425	86.1%	2031	37.70%	10,927,935	5,420,000	16,347,935
9/30/2030	290	28,508,611	26,858,698	384,960,668	336,629,914	48,330,754	87.4%	2032	36.04%	10,699,951	5,420,000	16,119,951
9/30/2031	290	29,203,875	27,445,819	388,736,508	344,755,695	43,980,813	88.7%	2033	31.87%	9,692,965	5,420,000	15,112,965
9/30/2032	290	29,908,795	28,005,380	392,292,734	352,427,221	39,865,513	89.8%	2034	26.55%	8,270,256	5,420,000	13,690,256
Total:										\$ 188,764,965	\$ 92,140,000	\$280,904,965
	Total Present Value at 9/30/2017 (using 7% discount rate):								\$ 116,689,000	\$ 56,620,835	\$173,309,835	

,003,000 730,020,033 7173,303,0	,689,000	\$ 56,620,835	\$173,309,8
---------------------------------	----------	---------------	-------------

#### Assumptions

Mortality Assumption: FRS Non-Special Risk Mortality for General Employees; FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters Investment Return Assumption: 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

Actual Return on Plan Assets: 5.0% per annum

Salary Increase Assumption: 5.5% per year

Payroll Growth Assumption: 3.0% as of 9/30/17, 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2018, 30% in FYE 2019, 20% in FYE 2020, and 10% in FYE 2021.

We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 or 185 monies.

Additional contributions of \$5.42 million per year beginning in FYE 2017 until the Plan is fully funded, subject to total annual contribution cap of \$16 million, indexed after 2017; allocated between the benefit groups based on each group's proportion of the total amount of unfunded actuarial accrued liability as of the prior valuation year. Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

> Prepared by Gabriel, Roeder, Smith & Company November 5, 2018 Page 8 of 11





