

City of Boca Raton Executive Employees' Retirement Plan

ACTUARIAL VALUATION REPORT AS OF
OCTOBER 1, 2022

ANNUAL EMPLOYER CONTRIBUTION FOR THE FISCAL YEAR
ENDING SEPTEMBER 30, 2024





February 9, 2023

Board of Trustees
City of Boca Raton Executive Employees' Retirement Plan
Boca Raton, Florida

Re: Boca Raton Executive Employees' Retirement Plan Actuarial Valuation as of October 1, 2022 and Actuarial Disclosures

Dear Trustees:

The results of the October 1, 2022 Annual Actuarial Valuation of the Boca Raton Executive Employees' Retirement Plan (Plan) are presented in this report.

The computed contribution rates 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 Plan 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 does not include a robust assessment of the risks of future experience not meeting the actuarial assumptions, as the assessment of these 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 Plan and those designated or approved by the Board. This report may be provided to parties other than the Plan only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The purposes of the valuation are to measure the Plan's funding progress and to determine the employer contribution rate for the fiscal year ending September 30, 2024. This report should not be relied on for any purpose other than the purposes described herein. 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 census data and financial information through September 30, 2022. 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 potential 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 and methods approved by the Board and prescribed by the Florida Statutes as described in the section of this report entitled Actuarial Assumptions and Cost Methods. The prescribed assumptions are the assumed mortality rates detailed in the Actuarial Assumptions and Cost Methods section in accordance with Florida House Bill 1309 (codified in Chapter 2015-157).

This report was prepared using ProVal's valuation model, a software product of Winklevoss Technologies. We are relying on the ProVal model. We performed tests of the ProVal model with this assignment and made a reasonable attempt to understand the developer's intended purpose of, general operation of, major sensitivities and dependencies within, and key strengths and limitations of the ProVal model. In our professional judgment, the ProVal valuation model has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses.

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 Boca Raton Executive 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.

Peter N. Strong and Jeffrey Amrose are members of the American Academy of Actuaries. These actuaries 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 & COMPANY



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SECTION A

DISCUSSION OF VALUATION RESULTS

DISCUSSION OF VALUATION RESULTS

Comparison of Required Employer Contributions

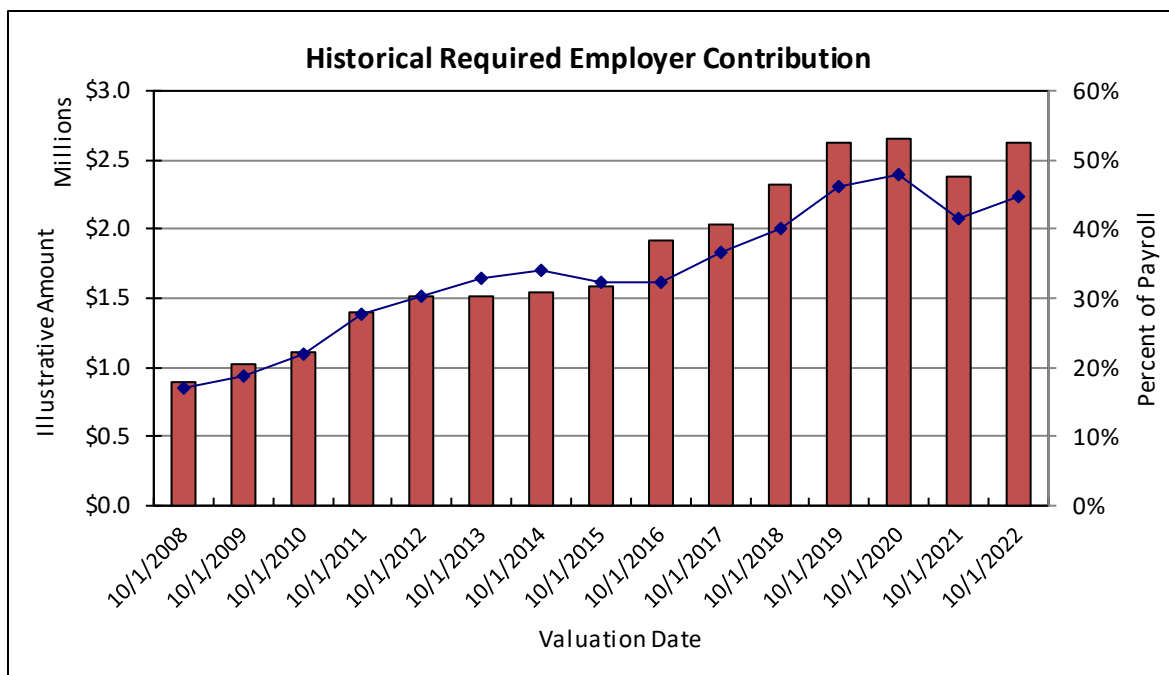
The required employer contribution developed in this year's valuation is compared below to the last valuation.

| | For FYE 9/30/24 Based on 10/1/2022 Valuation | For FYE 9/30/23 Based on 10/1/2021 Valuation | Increase (Decrease) |
|-----------------------------------|---|---|------------------------|
| Required Employer Contribution | \$ 2,619,189 | \$ 2,382,391 | \$ 236,798 |
| As % of Contribution Year Payroll | 44.79 % | 41.46 % | 3.33 % |

Payment of Required Contribution

The required employer contributions developed in this valuation have been calculated as though the payment is contributed in 12 equal monthly installments as of the end of each month beginning October 31st of the year that begins one year after the valuation date. If payment is made in full at the beginning of the year, the required employer contribution for the fiscal year ending 9/30/2024 would be \$2,525,416.

The actual employer (City) contributions for the year ending September 30, 2022 was \$2,560,502, an amount equal to the required employer contribution with interest adjusted to the beginning of the year.



Revisions in Benefits

There have been no changes in benefits that have an impact on the actuarial liabilities or costs of the Plan.

Revisions in Funding Policy

There have been no changes in funding policy since the previous valuation.

Revisions in Actuarial Assumptions and Methods

The investment return assumption has been reduced by 0.05% from 7.05% to 7.00%, compounded annually and net of investment expenses. This change caused the required City contribution for FY 2024 to increase by \$34,090.

Actuarial Experience

There were net actuarial experience losses totaling \$3,105,259 during the past year, which means that actual experience was less favorable than expected.

Investment experience (on the Actuarial Value of Assets) resulted in an experience loss of \$847,001. The investment return on the smoothed Actuarial Value of Assets was 5.65% compared to the assumed annual investment return of 7.05%. The investment return on the Market Value of Assets was -14.67%. Investment gains and losses are spread over a five-year smoothing period, with gains and losses from prior years being smoothed into the current year.

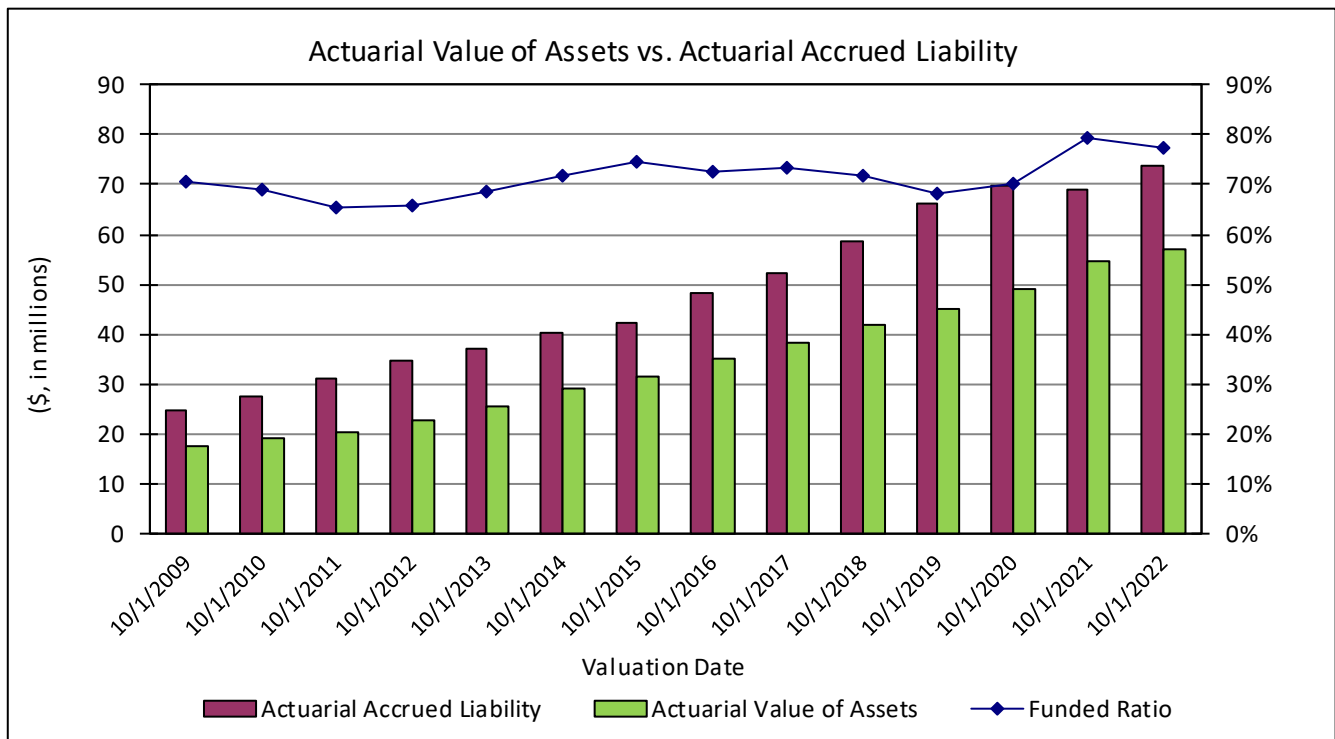
Experience from other sources resulted in a net experience loss of \$2,258,258. More than half of this experience loss (about \$1.2 million) is attributable to a higher increase in the IRC Section 415 limit for 2023 than expected (8.2% actual versus 2.75% expected) resulting in more benefits being projected to be paid from the EERP rather than the City's Preservation of Benefits Plan (SERP). There were also demographic experience losses due to retirement experience, higher average salary increases than expected (5.14% actual versus 4.30% assumed), lower inactive mortality experience than expected (0 deaths versus approximately 1 expected), and data adjustments (including a promotion to a higher division and two transfers from the General Employees Retirement Plan with higher initial actuarial liabilities in the EERP than the amount of assets transferred).

Overall, the net actuarial experience loss caused the required City contribution to increase by \$275,085.

Funded Ratio

The funded ratio is equal to the actuarial value of assets divided by the actuarial accrued (past service) liability. This year's funded ratio is 77.21% compared to 79.26% last year. Prior to reflecting the assumption changes, the funded ratio would have been 77.64%. Below is a historical comparison of the total actuarial value of assets versus the total actuarial accrued liability:





Analysis of Employer Contribution

The components of change in the required City contribution are as follows:

| | | |
|---|-----------|------------------|
| Required City Contribution for the 2022-2023 Plan Year | \$ | 2,382,391 |
| Experience (Gains) or Losses | | |
| Investment Experience | | 75,033 |
| Other Sources Experience | | 200,052 |
| Revision in Assumptions | | 34,090 |
| Benefit Changes | | 0 |
| Amortization Payment on UAAL | | (52,539) |
| Change in Net Employer Normal Cost | | (62,629) |
| Administrative Expenses | | 42,791 |
| Required City Contribution for the 2023-2024 Plan Year | \$ | 2,619,189 |

The change in the contribution rate attributed to the Amortization Payment on the UAAL was mostly caused by the increase in the payroll growth rate used in the UAAL amortization from 1.29% to 1.67%. According to the Florida Administrative Code (Statute 112), the payroll growth assumption may not exceed the average payroll growth over the last ten years. The long-term payroll growth rate is 3.5%, but the ten-year average payroll growth rate is 1.67% (which is an increase from 1.29% last year). Since the actual ten-year average payroll growth rate is less than 3.5%, the ten-year average payroll growth rate is used for the payroll growth assumption for amortizing bases.

Required Contributions in Later Years

It is important to keep in mind that under the asset smoothing method, gains and losses are recognized over five years. As of September 30, 2022, the actuarial value of assets exceeded the market value by \$5,475,741. This difference will be gradually recognized in the absence of offsetting gains. In turn, the computed City contribution rate is expected to increase by approximately \$483,000.

Relationship to Market Value

If Market Value had been the basis for the valuation, the required City contribution would have been \$3,102,532 and the funded ratio would have been 69.79%. The market value-based funded ratio was 88.69% last year. In the absence of other gains and losses or other changes, the City contribution rate is expected to increase towards this level over the next few years.

Conclusion

In consideration of Actuarial Standard of Practice No. 51 regarding the assessment of risks, which is addressed on the next three pages, we recommend a numerical risk assessment to be conducted at least once every 3 to 5 years.

It is important to note that plan assets are not sufficient to cover the liabilities for current retirees. As of October 1, 2022, the market value of assets is \$51.5 million, and the liability for inactive members currently receiving benefits (including DROP members) is about \$53.9 million.

The remainder of this Report includes detailed actuarial valuation results, information relating to the pension fund, financial accounting information, miscellaneous employee data and summaries of Plan provisions.



RISKS ASSOCIATED WITH THE 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, as illustrated in this report, 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; 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 potential range of such future measurements.

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 expected returns;
2. Asset/Liability mismatch – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. 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;
4. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. 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 since the most recent actuarial valuation 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.

The computed contribution rate shown on page 1 may be considered as a minimum contribution rate that complies with the Board's funding policy. 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.



PLAN MATURITY MEASURES

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

| | 2022 | 2021 |
|---|-------------|-------------|
| Ratio of the market value of assets to payroll | 9.05 | 10.92 |
| Ratio of actuarial accrued liability to payroll | 12.97 | 12.31 |
| Ratio of actives to retirees and beneficiaries | 0.90 | 0.94 |
| Ratio of net cash flow to market value of assets (net of DROP accounts) | (1.2%) | (0.7%) |

RATIO OF MARKET VALUE OF ASSETS TO PAYROLL

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll. We note that this ratio for the Boca Raton Executive Employees' Retirement Plan (9.05) is higher than it is for most other plans we work with, which means the required contributions as a percentage of payroll are more volatile than most other plans.

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll. We note that this ratio for the Boca Raton Executive Employees' Retirement Plan (12.97) is higher than it is for most of the plans we work with, which means the changes in liability and required contributions are more volatile than most other plans.

RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES

A young plan with many active members and few retirees will have a high ratio of active to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.



RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

ADDITIONAL RISK ASSESSMENT

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional 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.



SECTION B

VALUATION RESULTS

| PARTICIPANT DATA | | |
|---|-----------------|-----------------|
| | October 1, 2022 | October 1, 2021 |
| ACTIVE MEMBERS | | |
| Number | 46 | 46 |
| Annual Payroll | \$ 5,690,798 | \$ 5,592,240 |
| Average Annual Payroll | \$ 123,713 | \$ 121,570 |
| Average Age | 49.9 | 48.8 |
| Average Past Benefit Service | 9.9 | 10.3 |
| Average Past Vesting Service | 9.2 | 9.3 |
| Average Age at Hire | 40.7 | 39.5 |
| RETIREES, BENEFICIARIES & DROP | | |
| Number | 51 | 49 |
| Annual Benefits* | \$ 4,117,638 | \$ 3,825,073 |
| Average Annual Benefit | \$ 80,738 | \$ 78,063 |
| Average Age | 67.3 | 66.6 |
| DISABILITY RETIREES | | |
| Number | 0 | 0 |
| Annual Benefits | \$ 0 | \$ 0 |
| Average Annual Benefit | \$ 0 | \$ 0 |
| Average Age | N/A | N/A |
| TERMINATED VESTED MEMBERS | | |
| Number | 14 | 12 |
| Annual Benefits | \$ 461,688 | \$ 383,877 |
| Average Annual Benefit | \$ 32,978 | \$ 31,990 |
| Average Age | 51.8 | 50.6 |
| PENDING REFUNDS | | |
| Number | 2 | 1 |
| Total Refund Amounts | \$ 236,018 | \$ 22,874 |
| Average Refund Amount | \$ 118,009 | \$ 22,874 |
| Average Age | 50.3 | 47.7 |

*Note: The current annual benefit amounts for DROP members do not include supplemental benefits because these amounts cannot be determined yet as they are deferred to the DROP exit date and will be based on all service, including service while in the DROP.



| ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTION (ADEC) | | | |
|---|--|---|----------------------|
| A. Valuation Date | October 1, 2022 <i>After Assumption Changes</i> | October 1, 2022 <i>Before Assumption Changes</i> | October 1, 2021 |
| B. ADEC to Be Paid During Fiscal Year Ending | 9/30/2024 | 9/30/2024 | 9/30/2023 |
| C. Assumed Date of Employer Contributions* | Monthly | Monthly | Monthly |
| D. Expected Covered Payroll for the Year Beginning on the Valuation Date | \$ 5,690,798 | \$ 5,690,798 | \$ 5,592,240 |
| E. Annual Payment to Amortize Unfunded Actuarial Liability | 1,811,226 | 1,789,568 | 1,580,785 |
| F. Employer Normal Cost | 646,600 | 635,660 | 654,271 |
| G. City Contribution (ADEC) if Paid on the Valuation Date: E + F | 2,457,826 | 2,425,228 | 2,235,056 |
| H. ADEC Adjusted for Frequency of Payments | 2,549,090 | 2,515,911 | 2,318,628 |
| I. ADEC as % of Covered Payroll | 44.79 % | 44.21 % | 41.46 % |
| J. Assumed Rate of Increase in Covered Payroll to Contribution Year | 2.75 % | 2.75 % | 2.75 % |
| K. Covered Payroll for Contribution Year | 5,847,295 | 5,847,295 | 5,746,027 |
| L. ADEC for Contribution Year: I x K as % of Covered Payroll | 2,619,189 44.79 % | 2,585,099 44.21 % | 2,382,391 41.46 % |
| M. ADEC if contributed October 1st | 2,525,416 | 2,491,922 | 2,296,520 |

*Assumed payable in 12 equal installments beginning October 31 of the year following the valuation date.



| ACTUARIAL VALUE OF BENEFITS AND ASSETS | | | |
|---|--|---|-----------------|
| A. Valuation Date | October 1, 2022 <i>After Assumption Changes</i> | October 1, 2022 <i>Before Assumption Changes</i> | October 1, 2021 |
| B. Actuarial Present Value of All Projected Benefits for | | | |
| 1. Active Members | | | |
| a. Service Retirement Benefits | \$ 20,827,239 | \$ 20,649,732 | \$ 21,806,905 |
| b. Vesting Benefits | 1,059,739 | 1,046,881 | 1,162,987 |
| c. Disability Benefits | 922,593 | 914,832 | 921,177 |
| d. Preretirement Death Benefits | 149,168 | 147,843 | 155,643 |
| e. Return of Member Contributions | 475,927 | 475,732 | 446,105 |
| f. Total | 23,434,666 | 23,235,020 | 24,492,817 |
| 2. Inactive Members | | | |
| a. Service Retirees | 40,344,047 | 40,155,617 | 33,226,481 |
| b. DROP Retirees | 12,331,262 | 12,254,076 | 14,652,157 |
| c. Disability Retirees | - | - | - |
| d. Beneficiaries | 1,236,576 | 1,230,191 | 1,225,746 |
| e. Terminated Vested Members | 3,450,766 | 3,423,419 | 2,707,525 |
| f. Pending Refunds | 236,018 | 236,018 | 22,874 |
| g. Total | 57,598,669 | 57,299,321 | 51,834,783 |
| 3. Total for All Members | 81,033,335 | 80,534,341 | 76,327,600 |
| C. Actuarial Accrued (Past Service) Liability | | | |
| 1. Active Members | 16,214,166 | 16,104,309 | 16,991,350 |
| 2. Inactive Members | 57,598,669 | 57,299,321 | 51,834,783 |
| 3. Total for All Members | 73,812,835 | 73,403,630 | 68,826,133 |
| D. Actuarial Value of Accumulated Plan Benefits per FASB No. 35 | 71,347,033 | 70,952,541 | 66,516,904 |
| E. Plan Assets | | | |
| 1. Market Value of Assets | 51,515,033 | 51,515,033 | 61,044,067 |
| 2. Actuarial Value of Assets | 56,990,774 | 56,990,774 | 54,549,561 |
| F. Unfunded Actuarial Accrued Liability: C3 - E2 | 16,822,061 | 16,412,856 | 14,276,572 |
| G. Actuarial Present Value of Projected Covered Payroll | 41,008,403 | 40,905,895 | 40,556,523 |
| H. Funded Ratio: E2 / C3 | 77.21% | 77.64% | 79.26% |



| CALCULATION OF EMPLOYER NORMAL COST | | | |
|---|--|---|-----------------|
| A. Valuation Date | October 1, 2022 <i>After Assumption Changes</i> | October 1, 2022 <i>Before Assumption Changes</i> | October 1, 2021 |
| B. Normal Cost (Individual Entry Age) for | | | |
| 1. Service Retirement Benefits | 904,485 | 895,289 | 938,826 |
| 2. Vesting Benefits | 79,288 | 78,286 | 86,922 |
| 3. Disability Benefits | 78,634 | 77,974 | 74,743 |
| 4. Preretirement Death Benefits | 8,659 | 8,577 | 8,971 |
| 5. Return of Member Contributions | 66,127 | 66,127 | 64,705 |
| 6. Total for Future Benefits | 1,137,193 | 1,126,253 | 1,174,167 |
| 7. Assumed Amount for Expenses | 135,395 | 135,395 | 95,250 |
| 8. Total Normal Cost | 1,272,588 | 1,261,648 | 1,269,417 |
| C. Expected Member Contribution | 625,988 | 625,988 | 615,146 |
| D. Employer Normal Cost: B8 - C | 646,600 | 635,660 | 654,271 |
| E. Employer Normal Cost as a % of Covered Payroll | 11.36% | 11.17% | 11.70% |

LIQUIDATION OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

Before Changes

| UAAL AMORTIZATION PERIOD AND PAYMENTS | | | | | | |
|---------------------------------------|---------------------------|-----------------------------|------------------|-----------------|------------------|----------------|
| Original UAAL | | | | Current UAAL | | |
| Date Established | Type of Amortization Base | Amortization Period (Years) | Amount | Years Remaining | Amount | Payment |
| 10/1/2003 | Initial | 30 | \$ 2,240,543 | 11 | \$ 1,676,895 | \$ 194,681 |
| 10/1/2004 | 2004 Increase | 30 | 1,291,030 | 12 | 1,248,377 | 135,979 |
| 10/1/2005 | 2005 Loss | 18 | 159,792 | 1 | 5,555 | 5,555 |
| 10/1/2006 | 2006 Loss | 18 | 126,096 | 2 | 14,625 | 7,501 |
| 10/1/2007 | 2007 Gain | 18 | (102,389) | 3 | (21,738) | (7,623) |
| 10/1/2008 | 2008 Loss | 18 | 1,617,418 | 4 | 503,380 | 135,739 |
| 10/1/2008 | 2008 Increase | 30 | 440,783 | 16 | 464,925 | 41,593 |
| 10/1/2009 | 2009 Loss | 18 | 2,201,117 | 5 | 896,013 | 198,143 |
| 10/1/2009 | 2009 Decrease | 30 | (432,173) | 17 | (460,638) | (39,655) |
| 10/1/2010 | 2010 Loss | 18 | 557,597 | 6 | 277,218 | 52,357 |
| 10/1/2010 | 2010 Increase | 30 | 693,920 | 18 | 744,846 | 61,903 |
| 10/1/2011 | 2011 Loss | 18 | 1,777,394 | 7 | 1,031,377 | 171,078 |
| 10/1/2011 | 2011 Increase | 30 | 519,511 | 19 | 559,873 | 45,050 |
| 10/1/2012 | 2012 Loss | 18 | 1,331,895 | 8 | 873,627 | 129,894 |
| 10/1/2012 | 2012 Decrease | 30 | (328,136) | 20 | (354,085) | (27,656) |
| 10/1/2013 | 2013 Gain | 18 | (154,216) | 9 | (111,663) | (15,115) |
| 10/1/2014 | 2014 Gain | 18 | (957,633) | 10 | (751,610) | (93,759) |
| 10/1/2014 | 2014 Increase | 30 | 1,055,238 | 22 | 1,133,575 | 83,979 |
| 10/1/2015 | 2015 Gain | 18 | (73,175) | 11 | (61,367) | (7,124) |
| 10/1/2016 | 2016 Gain | 18 | 1,220,332 | 12 | 1,080,872 | 117,734 |
| 10/1/2016 | 2016 Increase | 30 | 1,853,018 | 24 | 1,965,867 | 139,172 |
| 10/1/2017 | 2017 Loss | 18 | 725,968 | 13 | 672,658 | 69,209 |
| 10/1/2017 | 2017 Decrease | 30 | 453,501 | 25 | 476,898 | 33,082 |
| 10/1/2018 | 2018 Loss | 18 | 2,983,997 | 14 | 2,802,090 | 273,888 |
| 10/1/2019 | 2019 Loss | 18 | 810,816 | 15 | 736,144 | 68,692 |
| 10/1/2019 | 2019 Increase | 30 | 3,696,857 | 27 | 3,602,447 | 240,922 |
| 10/1/2020 | 2020 Gain | 18 | (288,988) | 16 | (263,518) | (23,575) |
| 10/1/2021 | Experience (Gain)/Loss | 18 | (5,262,348) | 17 | (5,072,112) | (436,639) |
| 10/1/2021 | Assumption Changes | 30 | (367,544) | 29 | (362,934) | (23,510) |
| 10/1/2022 | Experience (Gain)/Loss | 18 | <u>3,105,259</u> | 18 | <u>3,105,259</u> | <u>258,073</u> |
| | | | 20,895,480 | | 16,412,856 | 1,789,568 |

After Assumption Changes

| UAAL AMORTIZATION PERIOD AND PAYMENTS | | | | | | |
|---------------------------------------|---------------------------|-----------------------------|----------------|-----------------|----------------|---------------|
| Original UAAL | | | | Current UAAL | | |
| Date Established | Type of Amortization Base | Amortization Period (Years) | Amount | Years Remaining | Amount | Payment |
| 10/1/2003 | Initial | 30 | \$ 2,240,543 | 11 | \$ 1,676,895 | \$ 194,273 |
| 10/1/2004 | 2004 Increase | 30 | 1,291,030 | 12 | 1,248,377 | 135,669 |
| 10/1/2005 | 2005 Loss | 18 | 159,792 | 1 | 5,555 | 5,555 |
| 10/1/2006 | 2006 Loss | 18 | 126,096 | 2 | 14,625 | 7,499 |
| 10/1/2007 | 2007 Gain | 18 | (102,389) | 3 | (21,738) | (7,619) |
| 10/1/2008 | 2008 Loss | 18 | 1,617,418 | 4 | 503,380 | 135,648 |
| 10/1/2008 | 2008 Increase | 30 | 440,783 | 16 | 464,925 | 41,468 |
| 10/1/2009 | 2009 Loss | 18 | 2,201,117 | 5 | 896,013 | 197,967 |
| 10/1/2009 | 2009 Decrease | 30 | (432,173) | 17 | (460,638) | (39,529) |
| 10/1/2010 | 2010 Loss | 18 | 557,597 | 6 | 277,218 | 52,299 |
| 10/1/2010 | 2010 Increase | 30 | 693,920 | 18 | 744,846 | 61,697 |
| 10/1/2011 | 2011 Loss | 18 | 1,777,394 | 7 | 1,031,377 | 170,855 |
| 10/1/2011 | 2011 Increase | 30 | 519,511 | 19 | 559,873 | 44,893 |
| 10/1/2012 | 2012 Loss | 18 | 1,331,895 | 8 | 873,627 | 129,698 |
| 10/1/2012 | 2012 Decrease | 30 | (328,136) | 20 | (354,085) | (27,555) |
| 10/1/2013 | 2013 Gain | 18 | (154,216) | 9 | (111,663) | (15,089) |
| 10/1/2014 | 2014 Gain | 18 | (957,633) | 10 | (751,610) | (93,580) |
| 10/1/2014 | 2014 Increase | 30 | 1,055,238 | 22 | 1,133,575 | 83,647 |
| 10/1/2015 | 2015 Gain | 18 | (73,175) | 11 | (61,367) | (7,110) |
| 10/1/2016 | 2016 Gain | 18 | 1,220,332 | 12 | 1,080,872 | 117,465 |
| 10/1/2016 | 2016 Increase | 30 | 1,853,018 | 24 | 1,965,867 | 138,582 |
| 10/1/2017 | 2017 Loss | 18 | 725,968 | 13 | 672,658 | 69,038 |
| 10/1/2017 | 2017 Decrease | 30 | 453,501 | 25 | 476,898 | 32,937 |
| 10/1/2018 | 2018 Loss | 18 | 2,983,997 | 14 | 2,802,090 | 273,163 |
| 10/1/2019 | 2019 Loss | 18 | 810,816 | 15 | 736,144 | 68,498 |
| 10/1/2019 | 2019 Increase | 30 | 3,696,857 | 27 | 3,602,447 | 239,802 |
| 10/1/2020 | 2020 Gain | 18 | (288,988) | 16 | (263,518) | (23,504) |
| 10/1/2021 | Experience (Gain)/Loss | 18 | (5,262,348) | 17 | (5,072,112) | (435,257) |
| 10/1/2021 | Assumption Changes | 30 | (367,544) | 29 | (362,934) | (23,395) |
| 10/1/2022 | Experience (Gain)/Loss | 18 | 3,105,259 | 18 | 3,105,259 | 257,214 |
| 10/1/2022 | Assumption Changes | 30 | <u>409,205</u> | 30 | <u>409,205</u> | <u>25,997</u> |
| | | | 21,304,685 | | 16,822,061 | 1,811,226 |

Amortization Schedule

The UAAL is being amortized as a level percent of pay over the number of years remaining in each amortization period. The following schedule illustrates the expected amortization of the UAAL:

| Amortization Schedule | |
|-----------------------|---------------|
| Year | Expected UAAL |
| 2022 | \$ 16,822,061 |
| 2023 | 16,061,609 |
| 2024 | 15,221,585 |
| 2025 | 14,298,256 |
| 2026 | 13,268,507 |
| 2027 | 12,287,852 |
| 2032 | 8,345,459 |
| 2037 | 5,236,769 |
| 2042 | 3,216,740 |
| 2047 | 754,208 |
| 2052 | - |

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. The net actuarial gain (loss) for the past year is computed as follows:

| | |
|---|---------------|
| 1. UAAL at 10/1/2021 | \$ 14,276,572 |
| 2. 2021-22 Total Normal Cost for Benefits (BOY) | 1,174,167 |
| 3. 2021-22 Contributions (net of Administrative Expenses) | 3,288,889 |
| 4. Interest at the Assumed Rate on: | |
| a. 1 and 2 for one year | 1,089,277 |
| b. 3 from dates paid | 202,144 |
| c. a - b | 887,133 |
| 5. Expected UAAL at 10/1/2022 (before changes): 1 + 2 - 3 + 4c | 13,048,983 |
| 6. Change in UAAL Due to: | |
| a. Rollover Contributions from the General Plan | 200,920 |
| b. Service Purchases | 57,694 |
| c. Change in Actuarial Assumptions | 409,205 |
| d. Plan Changes | 0 |
| e. Total | 667,819 |
| 7. This Year's Expected UAAL: 5 + 6e | 13,716,802 |
| 8. Actual UAAL at 10/1/2022 | 16,822,061 |
| 9. Net Actuarial Gain/(Loss): 7 - 8 | (3,105,259) |
| 10. Gain/(Loss) Due to Investments | (847,001) |
| 11. Gain/(Loss) Due to Other Sources | (2,258,258) |

The annual experience gains/(losses) in previous years have been as follows:

| Year Ending | Experience Gain / (Loss) |
|-------------|-----------------------------|
| 9/30/2005 | \$ (159,792) |
| 9/30/2006 | (126,096) |
| 9/30/2007 | 102,389 |
| 9/30/2008 | (1,617,418) |
| 9/30/2009 | (2,201,117) |
| 9/30/2010 | (557,597) |
| 9/30/2011 | (1,777,394) |
| 9/30/2012 | (1,331,895) |
| 9/30/2013 | 154,216 |
| 9/30/2014 | 957,633 |
| 9/30/2015 | 73,175 |
| 9/30/2016 | (1,220,332) |
| 9/30/2017 | (725,968) |
| 9/30/2018 | (2,983,997) |
| 9/30/2019 | (810,816) |
| 9/30/2020 | 288,988 |
| 9/30/2021 | 5,262,348 |
| 9/30/2022 | (3,105,259) |

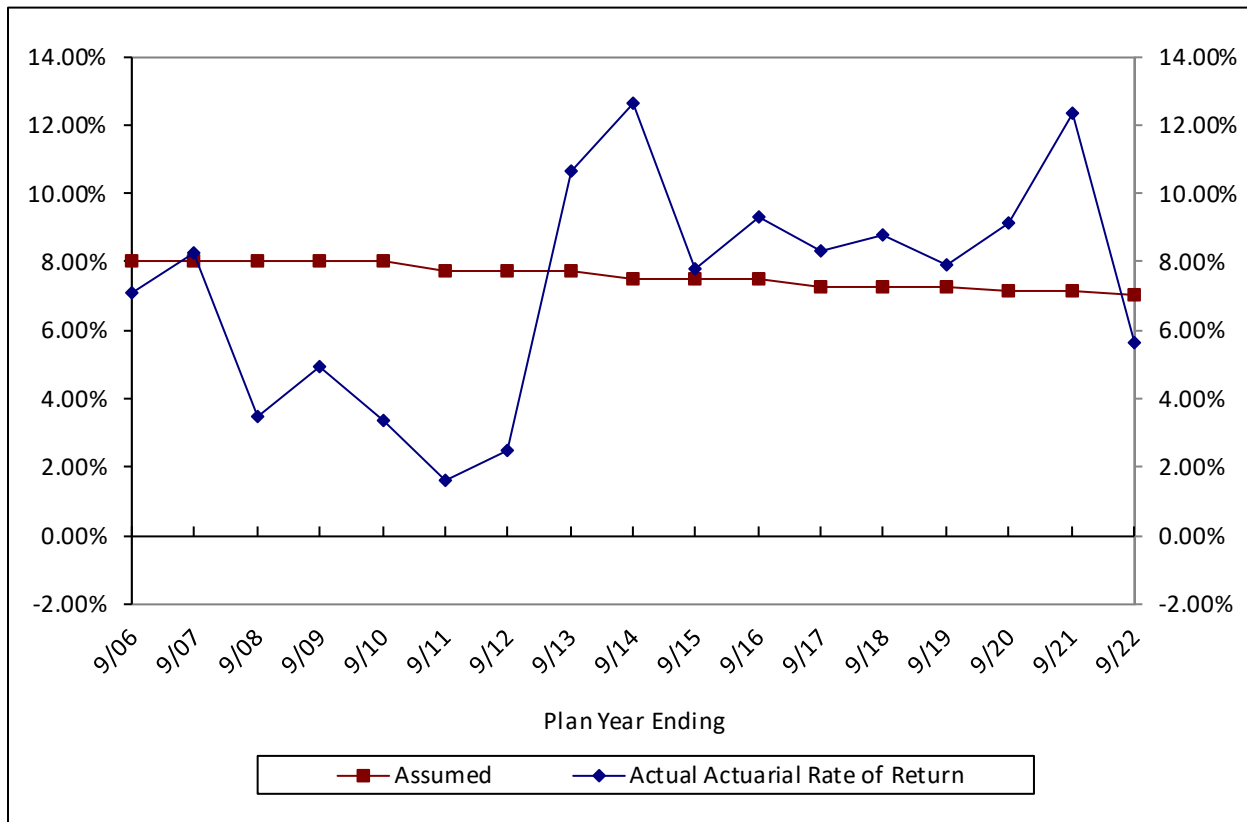
The fund earnings and salary increase assumptions have considerable impact on the cost of the plan so it is important that they are in line with the actual experience. The following table shows the actual fund earnings and salary increase rates compared to the assumed rates for the last few years:

| Period Ending | Investment Return | | Salary Increases | |
|------------------|-------------------|---------|------------------|----------|
| | Actual | Assumed | Actual* | Assumed* |
| 9/30/2006 | 7.08 % | 8.00 % | 6.71 % | 4.43 % |
| 9/30/2007 | 8.28 | 8.00 | 5.62 | 4.34 |
| 9/30/2008 | 3.49 | 8.00 | 6.84 | 4.46 |
| 9/30/2009 | 4.92 | 8.00 | 6.29 | 4.63 |
| 9/30/2010 | 3.38 | 8.00 | 1.82 | 2.50 |
| 9/30/2011 | 1.58 | 7.75 | 1.12 | 0.00 |
| 9/30/2012 | 2.48 | 7.75 | 0.74 | 1.00 |
| 9/30/2013 | 10.62 | 7.75 | 1.23 | 1.00 |
| 9/30/2014 | 12.61 | 7.50 | 0.44 | 1.00 |
| 9/30/2015 | 7.80 | 7.50 | 5.36 | 3.78 |
| 9/30/2016 | 9.28 | 7.50 | 8.85 | 3.65 |
| 9/30/2017 | 8.30 | 7.25 | 2.03 | 3.82 |
| 9/30/2018 | 8.79 | 7.25 | 6.15 | 4.02 |
| 9/30/2019 | 7.92 | 7.25 | 5.02 | 4.02 |
| 9/30/2020 | 9.13 | 7.15 | 7.27 | 4.06 |
| 9/30/2021 | 12.35 | 7.15 | 6.95 | 4.15 |
| 9/30/2022 | 5.65 | 7.05 | 5.14 | 4.30 |
| Average | 7.23 % | 7.58 % | 4.53 % | 3.23 % |

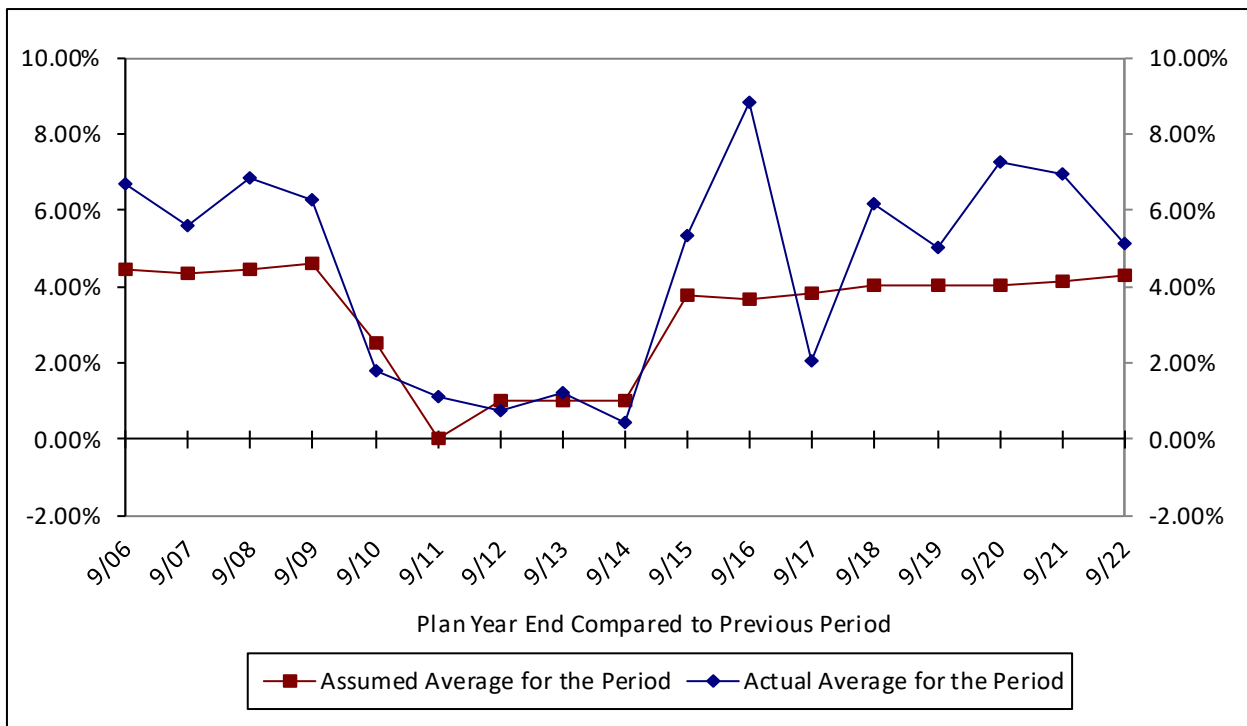
*Actual and assumed rates are based on average compound increases for the period

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 valuations both at the beginning and end of each period.

History of Investment Return Based on Actuarial Value of Assets



History of Salary Increases



Number Added To and Removed from Active Participation
Actual (A) Compared to Expected (E)

| Year Ended | Number Added During Year | | Service & DROP Retirement | | Disability Retirement | | Died In Service | | Terminations | | | | Active Members End of Year |
|---------------|-----------------------------------|----|---------------------------------|---|--------------------------|---|--------------------|---|--------------|-------|--------|---|-------------------------------------|
| | A | E | A | E | A | E | A | E | Vested | Other | Totals | | |
| | | | | | | | | | A | A | A | E | |
| 9/30/2021 | 6 | 8 | 5 | 3 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 2 | 46 |
| 9/30/2022 | 5 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 3 | 46 |
| 2-Yr Total | 11 | 13 | 7 | 6 | 0 | 0 | 1 | 0 | 3 | 2 | 5 | 5 | |

RECENT HISTORY OF VALUATION RESULTS

| Valuation Date | Number of | | Covered Annual Payroll | Actuarial Accrued Liability (AAL) | Actuarial Value of Assets | Funded Ratio | Unfunded AAL (UAAL) | UAAL as a % of Covered Payroll |
|----------------|----------------|------------------|------------------------|-----------------------------------|---------------------------|--------------|---------------------|--------------------------------|
| | Active Members | Inactive Members | | | | | | |
| 10/1/2009 | 47 | 19 | \$ 5,264,102 | \$ 24,713,430 | \$ 17,480,309 | 70.7 % | \$ 7,233,121 | 137.4 % |
| 10/1/2010 | 44 | 23 | 4,896,787 | 27,612,044 | 19,058,673 | 69.0 | 8,553,371 | 174.7 |
| 10/1/2011 | 44 | 26 | 4,918,157 | 31,316,268 | 20,537,605 | 65.6 | 10,778,663 | 219.2 |
| 10/1/2012 | 45 | 31 | 4,821,123 | 34,630,704 | 22,789,967 | 65.8 | 11,840,737 | 245.6 |
| 10/1/2013 | 41 | 32 | 4,463,155 | 36,961,625 | 25,402,538 | 68.7 | 11,559,087 | 259.0 |
| 10/1/2014 | 40 | 35 | 4,374,217 | 40,378,493 | 29,026,334 | 71.9 | 11,352,159 | 259.5 |
| 10/1/2015 | 43 | 37 | 4,748,431 | 42,439,913 | 31,636,316 | 74.5 | 10,803,597 | 227.5 |
| 10/1/2016 | 49 | 38 | 5,748,308 | 48,146,731 | 34,971,141 | 72.6 | 13,175,590 | 229.2 |
| 10/1/2017 | 48 | 43 | 5,361,342 | 52,253,590 | 38,231,743 | 73.2 | 14,021,847 | 261.5 |
| 10/1/2018 | 49 | 48 | 5,593,482 | 58,658,574 | 41,983,569 | 71.6 | 16,675,005 | 298.1 |
| 10/1/2019 | 48 | 51 | 5,549,081 | 66,240,465 | 45,224,813 | 68.3 | 21,015,652 | 378.7 |
| 10/1/2020 | 48 | 56 | 5,401,742 | 69,583,170 | 48,936,615 | 70.3 | 20,646,555 | 382.2 |
| 10/1/2021 | 46 | 62 | 5,592,240 | 68,826,133 | 54,549,561 | 79.3 | 14,276,572 | 255.3 |
| 10/1/2022 | 46 | 67 | 5,690,798 | 73,812,835 | 56,990,774 | 77.2 | 16,822,061 | 295.6 |

| RECENT HISTORY OF REQUIRED AND ACTUAL CITY CONTRIBUTIONS | | | | |
|--|--|---------------------------------|--------------|-----------------------|
| Valuation Date | End of Year To Which Valuation Applies | Required Employer Contribution* | | Actual Contribution** |
| | | Amount | % of Payroll | |
| 10/1/2008 | 9/30/2010 | \$ 899,928 | 16.92 % | \$ 899,298 |
| 10/1/2009 | 9/30/2011 | 1,029,022 | 18.89 | 1,083,506 |
| 10/1/2010 | 9/30/2012 | 1,111,897 | 21.94 | 1,098,407 |
| 10/1/2011 | 9/30/2013 | 1,405,697 | 27.62 | 1,367,748 |
| 10/1/2012 | 9/30/2014 | 1,518,821 | 30.44 | 1,458,974 |
| 10/1/2013 | 9/30/2015 | 1,517,026 | 32.84 | 1,457,248 |
| 10/1/2014 | 9/30/2016 | 1,543,472 | 34.09 | 1,482,115 |
| 10/1/2015 | 9/30/2017 | 1,585,811 | 32.27 | 1,525,219 |
| 10/1/2016 | 9/30/2018 | 1,921,235 | 32.29 | 1,850,134 |
| 10/1/2017 | 9/30/2019 | 2,029,667 | 36.58 | 1,954,554 |
| 10/1/2018 | 9/30/2020 | 2,320,275 | 40.08 | 2,234,407 |
| 10/1/2019 | 9/30/2021 | 2,628,306 | 46.10 | 2,600,459 |
| 10/1/2020 | 9/30/2022 | 2,657,573 | 47.88 | 2,560,502 |
| 10/1/2021 | 9/30/2023 | 2,382,391 | 41.16 | --- |
| 10/1/2022 | 9/30/2024 | 2,619,189 | 44.79 | --- |

*Required contribution is assumed payable in 12 equal installments beginning October 31 of the year following the valuation date.

**Actual contribution is the actual amount paid for the year ended and reflects a discount for beginning of year contribution timing.

ACTUARIAL ASSUMPTIONS AND COST METHOD

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 dates of expected 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 were amortized as a level (principal & interest combined) percent of payroll over a prescribed period of up to 30 years for plan, assumption or method changes and up to 18 years for experience gains or losses (hybrid amortization policy). The average payroll growth average over the last 10 years was 1.67% compared to the assumed rate of 3.50%. Florida administrative code requires using the lesser of the two rates for purposes of amortizing unfunded liabilities as a level percent of pay, but not less than zero. *The payroll growth rate used for amortizing unfunded liabilities as a level percent of pay was 1.29% in the previous valuation.*

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 7.00% per year, compounded annually (net after investment expenses). *This rate was 7.05% in the previous valuation.*



The **inflation rate** assumed in this valuation was 2.75% per year.

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 7.00% investment return rate translates to an assumed real rate of return over inflation of 4.25%.

The **rates of salary increase** used are in accordance with the following tables below. Part of the assumption is for merit and/or seniority service increase, and 2.75% recognizes inflation. This assumption is used to project a member's current salary to the salaries upon which benefits will be based.

| Years of Service | % Increase in Salary |
|-------------------------|-----------------------------|
| 2 & Under | 6.00% |
| 3 - 4 | 5.00% |
| 5 - 6 | 4.00% |
| 7 & Over | 3.25% |

Demographic Assumptions

The **mortality table** is the PUB-2010 Headcount Weighted General Below-Median Employee Mortality Table (for pre-retirement mortality) and the PUB-2010 Headcount Weighted General Below-Median Healthy Retiree Mortality Table (for postretirement mortality), with separate rates for males and females and mortality improvements projected to all future years after 2010 using Scale MP-2018. For males, the base mortality rates are set back one year. These are the same rates in use for Regular (other than K-12 School Instructional Personnel) members of the Florida Retirement System (FRS) in their July 1, 2021 Actuarial Valuation. Florida Statutes Chapter 112.63(1)(f) mandates the use of the mortality tables used in either of the two most recently published actuarial valuation reports of FRS.

The following tables present postretirement mortality rates and life expectancies at illustrative ages. These assumptions are used to measure the probabilities of each benefit payment being made after retirement.

FRS Healthy Post-Retirement Mortality

| Sample Attained Ages in 2022 | Probability of Dying Next Year | | Future Life Expectancy (years) | |
|-------------------------------------|---------------------------------------|--------------|---------------------------------------|--------------|
| | Men | Women | Men | Women |
| 50 | 0.19 % | 0.58 % | 33.24 | 37.04 |
| 55 | 0.95 | 0.57 | 28.87 | 32.59 |
| 60 | 1.13 | 0.59 | 24.77 | 28.04 |
| 65 | 1.29 | 0.68 | 20.70 | 23.46 |
| 70 | 1.79 | 1.08 | 16.68 | 18.98 |
| 75 | 2.84 | 1.87 | 12.97 | 14.79 |
| 80 | 4.78 | 3.38 | 9.68 | 11.03 |



The following tables present pre-retirement mortality rates and life expectancies at illustrative ages. These assumptions are used to measure the probabilities of active members dying prior to retirement.

FRS Healthy Pre-Retirement Mortality

| Sample Attained Ages in 2022 | Probability of Dying Next Year | | Future Life Expectancy (years) | |
|------------------------------------|-----------------------------------|--------|-----------------------------------|-------|
| | Men | Women | Men | Women |
| 50 | 0.19 % | 0.11 % | 37.80 | 40.34 |
| 55 | 0.30 | 0.17 | 32.79 | 35.21 |
| 60 | 0.46 | 0.26 | 27.93 | 30.18 |
| 65 | 0.65 | 0.37 | 23.24 | 25.25 |
| 70 | 0.90 | 0.56 | 18.68 | 20.43 |
| 75 | 1.34 | 0.93 | 14.24 | 15.74 |
| 80 | 2.11 | 1.56 | 9.94 | 11.23 |

For disabled retirees, the mortality table is the PUB-2010 Headcount Weighted General Disabled Retiree Table with ages set forward 3 years for males and females, with no provision being made for future mortality improvements. These are the same rates in use for Regular (other than K-12 School Instructional Personnel) members of FRS in the July 1, 2021 FRS Actuarial Valuation.

FRS Disabled Mortality

| Sample Attained Ages in 2022 | Probability of Dying Next Year | | Future Life Expectancy (years) | |
|------------------------------------|-----------------------------------|--------|-----------------------------------|-------|
| | Men | Women | Men | Women |
| 50 | 2.02 % | 1.64 % | 20.99 | 23.92 |
| 55 | 2.53 | 1.91 | 18.18 | 20.88 |
| 60 | 3.08 | 2.27 | 15.50 | 17.88 |
| 65 | 3.93 | 2.83 | 12.94 | 14.91 |
| 70 | 5.08 | 3.79 | 10.53 | 12.07 |
| 75 | 6.98 | 5.46 | 8.29 | 9.45 |
| 80 | 10.12 | 8.31 | 6.33 | 7.19 |

The active member population is assumed to remain constant.

The **rates of retirement** used to measure the probability of eligible members retiring during the next year were as follows:

Divisions 1, 2 and 3

| Retirement Age | Years of Service | Percent Retiring |
|----------------|------------------|------------------|
| 50 - 54 | 10 & Over | 15% |
| 55 - 61 | 10 - 19 | 15% |
| | 20 & Over | 20% |
| 62 - 69 | 10 & Over | 25% |
| 70 & Over | 10 & Over | 100% |

Division 4

| Retirement Age | Years of Service | Percent Retiring |
|----------------|------------------|------------------|
| 51 | 10 & Over | 10% |
| 52 | 10 & Over | 15% |
| 53 | 10 & Over | 25% |
| 54 | 10 - 19 | 50% |
| | 20 & Over | 35% |
| 55 - 69 | 10 & Over | 50% |
| 70 & Over | 10 & Over | 100% |

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 separating from employment for reasons other than death, disability or retirement.

Percent Separating Within Next Year

| Age | Service | | | | | | | | | | | |
|---------|--------------|--------------|--------------|--------------|--------------|-----------|--------------|--------------|--------------|--------------|--------------|-----------|
| | Male | | | | | | Female | | | | | |
| | <u>0 - 1</u> | <u>1 - 2</u> | <u>2 - 3</u> | <u>3 - 4</u> | <u>4 - 5</u> | <u>5+</u> | <u>0 - 1</u> | <u>1 - 2</u> | <u>2 - 3</u> | <u>3 - 4</u> | <u>4 - 5</u> | <u>5+</u> |
| < 30 | 40.0% | 5.0% | 5.0% | 5.0% | 10.0% | 10.0% | 12.5% | 5.0% | 5.0% | 7.0% | 5.0% | 5.0% |
| 30 - 34 | 40.0% | 5.0% | 5.0% | 5.0% | 8.0% | 8.0% | 12.5% | 5.0% | 5.0% | 7.0% | 8.0% | 5.0% |
| 35 - 39 | 40.0% | 5.0% | 5.0% | 5.0% | 8.0% | 8.0% | 12.5% | 5.0% | 5.0% | 7.0% | 8.0% | 3.0% |
| 40 - 44 | 40.0% | 5.0% | 5.0% | 5.0% | 5.0% | 5.0% | 12.5% | 5.0% | 5.0% | 7.0% | 5.0% | 2.0% |
| 45 - 49 | 40.0% | 5.0% | 5.0% | 5.0% | 5.0% | 5.0% | 12.5% | 5.0% | 5.0% | 7.0% | 5.0% | 2.0% |
| 50+ | 40.0% | 5.0% | 5.0% | 5.0% | 1.0% | 1.0% | 12.5% | 5.0% | 5.0% | 7.0% | 5.0% | 8.0% |

Rates of disability among active members are shown below.

% Becoming Disabled Within Next Year

| <u>Sample Ages</u> | <u>Male/Female</u> |
|---------------------------|---------------------------|
| 25 | 0.06% |
| 35 | 0.06 |
| 45 | 0.16 |
| 55 | 0.60 |
| 65 | 1.00 |

Changes from the previous valuation

- The investment return assumption has been reduced by 0.05% from 7.05% to 7.00%, compounded annually and net of investment expenses.

Miscellaneous and Technical Assumptions

| | |
|--|---|
| <i>Administrative & Investment Expenses</i> | Annual administrative expenses are assumed to be equal to the average of the expenses over the previous 2 years. Assumed administrative expenses are added to the Normal Cost. Investment expenses are an offset against total investment income. |
| <i>Benefit Service</i> | Exact fractional service is used to determine the amount of benefit payable. |
| <i>Decrement Operation</i> | Disability and mortality decrements operate during retirement eligibility. |
| <i>Decrement Relativity</i> | Decrement rates are used without adjustment for multiple decrement table effects. |
| <i>Decrement Timing</i> | Decrements of all types are assumed to occur at the beginning of the year. |
| <i>Early Retirement</i> | Early retirement benefits are generally more favorable on an actuarially equivalent basis, so members who separate from employment after becoming eligible for early retirement are assumed to commence early retirement benefits immediately after separating from employment. For members who separate from employment prior to becoming eligible for early or normal retirement, it has been assumed that early retirement elections will be infrequent and will not add much additional liability to the Plan when they do occur, so these members are assumed to defer their benefit commencement until they are eligible for normal retirement. Therefore, any liability attributed to subsidized early retirement for vested deferred members was not recognized in the valuation. |
| <i>Eligibility Testing</i> | 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. |
| <i>Forfeitures</i> | For vested separations from service, it is assumed that the liability at termination is the greater of the present value of the vested deferred benefit or the member's accumulated contributions with interest. |

| | |
|--|--|
| <i>Incidence of Contributions</i> | Member contributions are assumed to be received continuously throughout the year based upon the member contribution rate. Employer contributions are assumed to be paid in 12 equal installments at the end of each month with total equal to the dollar amount shown. |
| <i>Internal Revenue Code (IRC) Section 415 Limitation</i> | The Plan's definition of actuarial equivalence for 415 maximum benefit limit purposes is a 5% interest rate and the RP-2000 Mortality Table (unisex). IRC Section 415 limits are projected into the future assuming annual inflation increases of 2.75% per year and no changes in the applicable prescribed mortality assumptions. For the purpose of valuing the liability for Plan members whose benefits exceed or are expected to exceed the IRC Section 415 limits, the present value of future annual benefits which exceed the projected IRC Section 415 limits was subtracted from the total liabilities without applying any limitations. For current DROP participants, DROP balances are projected with continued monthly payments and interest to the assumed DROP exit date. The assumed DROP participation period for this purpose is 5 years. Benefits payable from the Plan are then reduced to reflect the projected IRC Section 415 limit and the annuitized value of the projected DROP exit balances. Future interest credits in the DROP are assumed to be 5.0% per year for this purpose. |
| <i>Marriage Assumption</i> | 100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Males are assumed to be three years older than their spouses for active member valuation purposes. |
| <i>Normal Form of Benefit</i> | The assumed normal form of benefit is a 25% joint and survivor life annuity for Division 1 members, a 50% joint and survivor life annuity for Division 2 members, a 75% joint and survivor life annuity for Division 3 members and a 100% joint and survivor life annuity for Division 4 members. |
| <i>Pay Increase Timing</i> | Beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date. |
| <i>Service Credit Accruals</i> | It is assumed that members accrue one year of service credit per year. |

GLOSSARY

| | |
|--|---|
| <i>Actuarial Accrued Liability (AAL)</i> | The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs. |
| <i>Actuarial Assumptions</i> | 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. |
| <i>Actuarial Cost Method</i> | 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. |
| <i>Actuarial Equivalent</i> | Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions. |
| <i>Actuarial Present Value (APV)</i> | 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. |
| <i>Actuarial Present Value of Future Benefits (APVFB)</i> | 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. |
| <i>Actuarial Valuation</i> | 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. |
| <i>Actuarial Value of Assets</i> | 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 employer contribution (ADEC). |

| | |
|---|--|
| <i>Actuarially Determined Employer Contribution (ADEC)</i> | The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under GASB. The ADEC consists of the Employer Normal Cost and Amortization Payment. |
| <i>Amortization Method</i> | 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. |
| <i>Amortization Payment</i> | That portion of the plan contribution or ADEC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability. |
| <i>Amortization Period</i> | The period used in calculating the Amortization Payment. |
| <i>Closed Amortization Period</i> | 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. |
| <i>Employer Normal Cost</i> | The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions. |
| <i>Equivalent Single Amortization Period</i> | 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. |
| <i>Experience Gain/Loss</i> | 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. |

| | |
|--|---|
| <i>Funded Ratio</i> | The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability. |
| <i>GASB</i> | Governmental Accounting Standards Board. |
| <i>Normal Cost</i> | The annual cost assigned, under the Actuarial Cost Method, to the current plan year. |
| <i>Unfunded Actuarial Accrued Liability</i> | The difference between the Actuarial Accrued Liability and Actuarial Value of Assets. |
| <i>Valuation Date</i> | 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 Total Plan Assets at Market Value

| Item | September 30 | |
|---|----------------|----------------|
| | 2022 | 2021 |
| A. Cash and Short-Term Investments (Operating Cash) | \$ - | \$ - |
| B. Receivables: | | |
| 1. Member Contributions | \$ 57,694 | \$ - |
| 2. Employer Contributions | - | - |
| 3. Contributions from General Plan | 57,110 | - |
| 4. Prepaid Expenses | - | - |
| 5. Investment Income and Other Receivables | - | - |
| 6. Total Receivables | \$ 114,804 | \$ - |
| D. Investments | | |
| 1. Cash and Cash Equivalents | \$ 427,701 | \$ 257,562 |
| 2. Domestic Equities | 22,721,595 | 29,941,575 |
| 3. International Equities | 10,639,053 | 15,196,154 |
| 4. Fixed Income Securities | 10,478,665 | 13,908,344 |
| 5. Real Estate | 9,195,564 | 5,086,848 |
| 6. Self-Directed DROP | 1,201,802 | - |
| 7. Total Investments | \$ 54,664,380 | \$ 64,390,483 |
| E. Liabilities | | |
| 1. Accounts Payable | \$ - | \$ - |
| 2. DROP Account Balance | (3,264,151) | (3,346,416) |
| 3. Due to Brokers | - | - |
| 4. Accrued Expenses and Other Payables | - | - |
| 5. Total Liabilities | \$ (3,264,151) | \$ (3,346,416) |
| F. Total Market Value of Assets | \$ 51,515,033 | \$ 61,044,067 |
| G. Allocation of Investments | | |
| 1. Cash and Cash Equivalents | 0.8% | 0.4% |
| 2. Domestic Equities | 41.6% | 46.5% |
| 3. International Equities | 19.4% | 23.6% |
| 4. Fixed Income Securities | 19.2% | 21.6% |
| 5. Real Estate | 16.8% | 7.9% |
| 6. Self-Directed DROP | 2.2% | 0.0% |
| 7. Total Investments | 100.0% | 100.0% |



Reconciliation of Plan Assets

| Item | September 30 | |
|---|------------------|-----------------|
| | 2022 | 2021 |
| A. Market Value of Assets at Beginning of Year | \$ 64,390,483 | \$ 52,369,210 |
| B. Revenues and Expenditures | | |
| 1. Contributions | | |
| a. Member Contributions | \$ 632,861 | \$ 632,714 |
| b. Rollover Contributions from General Plan | 200,920 | 15,441 |
| c. Receivable Contributions from the General Plan | - | - |
| d. Service Purchases | 57,694 | 66,076 |
| e. Employer Contributions | 2,560,502 | 2,600,459 |
| f. State Contributions | - | - |
| g. Other Income | - | - |
| h. Total | \$ 3,451,977 | \$ 3,314,690 |
| 2. Investment Income | | |
| a. Interest, Dividends and Other Income | \$ (9,074,735) * | \$ 12,107,989 * |
| b. Realized Gains (Losses) | - * | - * |
| c. Unrealized Gains/(Losses) | - * | - * |
| d. Investment Expenses | (49,000) | (49,000) |
| e. Net Investment Income | \$ (9,123,735) | \$ 12,058,989 |
| 3. Benefits and Refunds | | |
| a. Regular Monthly Benefits | \$ (2,823,009) | \$ (2,448,239) |
| b. Refunds | (19,528) | (34,712) |
| c. DROP Payments | (933,916) | (761,753) |
| d. Total | \$ (3,776,453) | \$ (3,244,704) |
| 4. Administrative and Miscellaneous Expenses | \$ (163,088) | \$ (107,702) |
| C. Market Value of Assets at End of Year | \$ 54,779,184 | \$ 64,390,483 |
| D. Less: DROP Account Balance | \$ (3,264,151) | \$ (3,346,416) |
| E. Final Market Value of Assets at End of Year | \$ 51,515,033 | \$ 61,044,067 |

*The FMTPF Fund is a Pooled Trust and the breakdown of investment income is not available.



| RECONCILIATION OF DROP ACCOUNT | |
|--------------------------------|------------------|
| Account Value, 9/30/2021 | \$ 3,346,416 |
| Payments credited to accounts | + 1,068,173 |
| Investment Earnings credited | + (216,522) |
| Withdrawals | - <u>933,916</u> |
| Account Value, 9/30/2022 | 3,264,151 |

DERIVATION OF ACTUARIAL VALUE OF ASSETS AS OF OCTOBER 1,

| | 2022 | 2021 |
|--|--------------------|------------------|
| A. Market Value of Assets at Beginning of Year | \$ 61,044,067 | \$ 49,558,007 |
| B. Contributions with interest & Misc. Income | 3,659,870 | 3,526,157 |
| C. Benefit Payments with interest | 4,048,563 | 3,751,876 |
| C2. Administrative Expense with interest | 168,837 | 111,552 |
| D. Investment Return Assumption | 7.05% | 7.15% |
| D2. Expected Investment Income on BOY MV: i% * A | 4,303,607 | 3,543,398 |
| E. Expected Assets End of Year: A+B-C-C2+D2 | 64,790,144 | 52,764,134 |
| F. Actual Market Value End of Year | 51,515,033 | 61,044,067 |
| G. Excess/(Shortfall) of Actual over Expected Assets: F-E | | |
| 1. From This Year | (13,275,111) | 8,279,933 |
| 2. From One Year Ago (interest-adjusted) | 8,863,668 | 6,205 |
| 3. From Two Years Ago (interest-adjusted) | 6,643 | (824,432) |
| 4. From Three Years Ago (interest-adjusted) | (882,554) | 983,047 |
| 5. From Four Years Ago (interest-adjusted) | 1,052,352 | 3,811,489 |
| H. Decreasing Fractions of Excess/(Shortfall) | | |
| 1. 80% From This Year | (10,620,089) | 6,623,946 |
| 2. 60% From One Year Ago | 5,318,201 | 3,723 |
| 3. 40% From Two Years Ago | 2,657 | (329,773) |
| 4. 20% From Three Years Ago | (176,510) | 196,610 |
| 5. Total | <u>(5,475,741)</u> | <u>6,494,506</u> |
| I. Preliminary Actuarial Value of Assets: F-H5 | 56,990,774 | 54,549,561 |
| J. Final Actuarial Value of Assets must be within the range of 80% to 120% of Market Value | | |
| 1. 80% of Market Value | 41,212,026 | 48,835,254 |
| 2. 120% of Market Value | 61,818,040 | 73,252,880 |
| 3. Final Actuarial Value of Assets | 56,990,774 | 54,549,561 |
| K. 1. Difference between Market & Actuarial Value of Assets | (5,475,741) | 6,494,506 |
| 2. Actuarial Rate of Return | 5.65% | 12.35% |
| 3. Market Value Rate of Return | -14.67% | 24.09% |
| 4. Ratio of Actuarial Value of Assets to Market Value | 110.63% | 89.36% |



**ACTUARIAL VALUE OF ASSETS AS OF OCTOBER 1
GAINS/(LOSSES) SMOOTHED INTO THE FUTURE**

| | 2026 | 2025 | 2024 | 2023 | 2022 |
|---|--------------------|------------------|--------------|------------------|----------------|
| A. Preliminary Funding value prior year | | | | | \$ 54,549,561 |
| B. Market value end of year | | | | | 51,515,033 |
| C. Market value beginning of year | | | | | 61,044,067 |
| D. Non-investment net cash flow | | | | | (621,821) |
| E. Investment return | | | | | |
| 1. Total market value return: B - C - D | | | | | (8,907,213) |
| 2. Expected Return on BOY Market Value | | | | | 4,303,607 |
| 3. Interest on non-investment net cash flow | | | | | <u>64,291</u> |
| 4. Total Expected Return: E2 + E3 | | | | | 4,367,898 |
| 5. Amount for phased-in recognition: E1 - E4 | | | | | (13,275,111) |
| F. Phased-in recognition of investment return | | | | | |
| 1. Current year: 20% of E3 | - | - | - | - | (2,655,022) |
| 2. First prior year | - | - | - | (2,655,022) | 1,772,734 |
| 3. Second prior year | - | - | (2,655,022) | 1,772,734 | 1,329 |
| 4. Third prior year | - | (2,655,022) | 1,772,734 | 1,329 | (176,511) |
| 5. Fourth prior year | <u>(2,655,023)</u> | <u>1,772,733</u> | <u>1,328</u> | <u>(176,510)</u> | <u>210,469</u> |
| 6. Total phased-in recognition of investment return | (2,655,023) | (882,289) | (880,960) | (1,057,469) | (847,001) |
| G. Funding value end of year: A x (1+ i%) + D + E3 + F6 | | | | | 56,990,774 |

Calculation of Actual Rate of Investment Return

Year Ending: 9/30/2022 9/30/2021

| | | | | |
|---------------------|----|-----------------------|----------------|---------------|
| Market Value | A. | Total Last Year: | 61,044,067 | 49,558,007 |
| | B. | Total This Year: | 51,515,033 | 61,044,067 |
| | I. | Net Investment Income | (8,907,213) | 11,891,059 |
| | i. | ROR=2I/(A+B-I) | -14.67% | 24.09% |

| | | | | |
|------------------------|----|-----------------------|--------------|---------------|
| Actuarial Value | A. | Total Last Year: | 54,549,561 | 48,936,615 |
| | B. | Total This Year: | 56,990,774 | 54,549,561 |
| | I. | Net Investment Income | 3,063,034 | 6,017,945 |
| | i. | ROR=2I/(A+B-I) | 5.65% | 12.35% |



| Period Ending | Net Investment Rate of Return | |
|-------------------------|-------------------------------|-----------------------|
| | Total Market Value | Total Actuarial Value |
| 9/30/2006 | 7.65 % | 7.08 % |
| 9/30/2007 | 12.74 | 8.28 |
| 9/30/2008 | (15.18) | 3.49 |
| 9/30/2009 | 2.09 | 4.92 |
| 9/30/2010 | 9.64 | 3.38 |
| 9/30/2011 | 0.05 | 1.58 |
| 9/30/2012 | 19.36 | 2.48 |
| 9/30/2013 | 14.86 | 10.62 |
| 9/30/2014 | 10.12 | 12.61 |
| 9/30/2015 | 0.28 | 7.80 |
| 9/30/2016 | 9.07 | 9.28 |
| 9/30/2017 | 15.43 | 8.30 |
| 9/30/2018 | 10.98 | 8.79 |
| 9/30/2019 | 5.63 | 7.92 |
| 9/30/2020 | 6.35 | 9.13 |
| 9/30/2021 | 24.09 | 12.35 |
| 9/30/2022 | (14.67) | 5.65 |
| Average Returns: | | |
| Last 3 Years | 4.04 % | 9.01 % |
| Last 5 Years | 5.71 % | 8.75 % |
| Last 10 Years | 7.74 % | 9.23 % |
| All Years Shown Above | 6.46 % | 7.23 % |

The above rates are based on the retirement system's financial information reported to the actuary. They may differ from figures that the investment consultant reports, in part because of differences in the handling of administrative and investment expenses, and in part because of differences in the handling of cash flows.

SECTION D

FINANCIAL ACCOUNTING INFORMATION

| FASB NO. 35 INFORMATION | | |
|---|--------------------|--------------------|
| A. Valuation Date | October 1, 2022 | October 1, 2021 |
| B. Actuarial Present Value of Accumulated Plan Benefits | | |
| 1. Vested Benefits | | |
| a. Members Currently Receiving Payments | \$ 53,911,885 | \$ 49,104,384 |
| b. Terminated Vested Members & Pending Refunds | 3,686,784 | 2,730,399 |
| c. Other Members | 12,738,021 | 13,590,552 |
| d. Total | <u>70,336,690</u> | <u>65,425,335</u> |
| 2. Non-Vested Benefits | 1,010,343 | 1,091,569 |
| 3. Total Actuarial Present Value of Accumulated Plan Benefits: 1d + 2 | 71,347,033 | 66,516,904 |
| 4. Accumulated Contributions of Active Members | 5,213,816 | 5,156,443 |
| C. Changes in the Actuarial Present Value of Accumulated Plan Benefits | | |
| 1. Total Value at Beginning of Year | 66,516,904 | 66,631,030 |
| 2. Increase (Decrease) During the Period Attributable to: | | |
| a. Plan Amendments | 0 | 0 |
| b. Change in Actuarial Assumptions | 394,492 | (349,841) |
| c. Latest Member Data, Benefits Accumulated and Decrease in the Discount Period | 8,346,347 | 3,847,702 |
| d. Benefits Paid (Net of DROP Accounts) | <u>(3,910,710)</u> | <u>(3,611,987)</u> |
| e. Net Increase | 4,830,129 | (114,126) |
| 3. Total Value at End of Period | 71,347,033 | 66,516,904 |
| D. Assumed Rate of Return | 7.00% | 7.05% |
| E. Market Value of Assets | 51,515,033 | 61,044,067 |
| F. Funded Ratio Using Market Value: E / C3 | 72.2% | 91.8% |
| G. Actuarial Assumptions - See page entitled Actuarial Assumptions and Methods | | |

SECTION F

MISCELLANEOUS INFORMATION

| RECONCILIATION OF TOTAL MEMBERSHIP DATA | | |
|--|----------------------------|----------------------------|
| | From 10/1/21 To 10/1/22 | From 10/1/20 To 10/1/21 |
| A. Active Members | | |
| 1. Number Included in Last Valuation | 46 | 48 |
| 2. New Members Included in Current Valuation | 3 | 5 |
| 3. Non-Vested Employment Terminations | (1) | (1) |
| 4. Vested Employment Terminations | (2) | (1) |
| 5. DROP Retirement | (1) | (3) |
| 6. Service Retirements | (1) | (2) |
| 7. Disability Retirements | 0 | 0 |
| 8. Deaths | 0 | (1) |
| 9. Transfer from General Plan | 2 | 1 |
| 10. Other - Rehires | 0 | 0 |
| 11. Number Included in This Valuation | 46 | 46 |
| B. Pending Refunds | | |
| 1. Number Included in Last Valuation | 1 | 1 |
| 2. Additions from Active Members | 1 | 2 |
| 3. Lump Sum Payment | 0 | (2) |
| 4. Number Included in This Valuation | 2 | 1 |
| C. Terminated Vested Members | | |
| 1. Number Included in Last Valuation | 12 | 13 |
| 2. Additions from Active Members | 2 | 1 |
| 3. Lump Sum Payments/Refund of Contributions | 0 | 0 |
| 4. Payments Commenced | 0 | (2) |
| 5. Deaths | 0 | 0 |
| 6. Rehire | 0 | 0 |
| 7. Other - Data Corrections | 0 | 0 |
| 8. Number Included in This Valuation | 14 | 12 |
| D. DROP Retirees, Service Retirees, Disability Retirees and Beneficiaries | | |
| 1. Number Included in Last Valuation | 49 | 42 |
| 2. Additions from Active Members | 2 | 5 |
| 3. Additions from Terminated Vested Members | 0 | 2 |
| 4. Deaths | 0 | (1) |
| 5. Additions from New Survivor Benefits | 0 | 1 |
| 6. End of Certain Period - No Further Payments | 0 | 0 |
| 7. Other - Data Corrections/Adjustments/QDROs | 0 | 0 |
| 8. Number Included in This Valuation | 51 | 49 |

ACTIVE MEMBERS AS OF OCTOBER 1, 2022

| Age Group | Years of Service to Valuation Date | | | | | | | | Total | Earnings | |
|-----------------|------------------------------------|--------------|--------------|------------|------------|------------|-------|------------|--------------|-----------|---------|
| | 0-1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | | Total | Average |
| < 25 | - | - | - | - | - | - | - | - | - | \$ - | \$ - |
| 25-29 | - | - | - | - | - | - | - | - | - | - | - |
| 30-34 | - | 1 | 2 | - | - | - | - | - | 3 | 288,913 | 96,304 |
| 35-39 | - | 4 | 4 | 1 | - | - | - | - | 9 | 1,021,876 | 113,542 |
| 40-44 | - | 1 | - | 1 | - | - | - | - | 2 | 228,554 | 114,277 |
| 45-49 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | 6 | 727,502 | 121,250 |
| 50-54 | 1 | 2 | 2 | 1 | - | 2 | - | 1 | 9 | 1,175,922 | 130,658 |
| 55-59 | 1 | 1 | 1 | 3 | 2 | 2 | - | - | 10 | 1,333,469 | 133,347 |
| 60-64 | - | 2 | 4 | - | - | - | - | - | 6 | 673,370 | 112,228 |
| 65-69 | - | - | - | - | - | - | - | - | - | - | - |
| 70+ | - | - | - | - | - | 1 | - | - | 1 | 217,609 | 217,609 |
| Total | 3 | 12 | 14 | 7 | 3 | 6 | - | 1 | 46 | 5,667,215 | 123,200 |
| Earnings | | | | | | | | | | | |
| Total | \$ 370,970 | \$ 1,432,280 | \$ 1,600,994 | \$ 934,747 | \$ 370,032 | \$ 831,489 | \$ - | \$ 126,703 | \$ 5,667,215 | | |
| Average | 123,657 | 119,357 | 114,357 | 133,535 | 123,344 | 138,582 | - | 126,703 | 123,200 | | |

Non-Vested Active: 21

Vested Active: 25

Average Age: 49.9

Average Benefit Service: 9.9

Average Vesting Service: 9.2



INACTIVE MEMBERS AS OF OCTOBER 1, 2022

| | <u>Terminated Vested</u> | | <u>Disabled</u> | | <u>Retired</u> | | <u>DROP</u> | | <u>Beneficiaries</u> | | <u>Grand Total</u> | |
|----------------------|--------------------------|-----------------|-----------------|-----------------|----------------|-----------------|---------------|------------------|----------------------|-----------------|--------------------|------------------|
| | Current Total | | Current Total | | Current Total | | Current Total | | Current Total | | Current Total | |
| <u>Age</u> | <u>Number</u> | <u>Benefits</u> | <u>Number</u> | <u>Benefits</u> | <u>Number</u> | <u>Benefits</u> | <u>Number</u> | <u>Benefits*</u> | <u>Number</u> | <u>Benefits</u> | <u>Number</u> | <u>Benefits*</u> |
| Under 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 - 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 - 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 - 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 - 44 | 3 | 102,847 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 102,847 |
| 45 - 49 | 1 | 25,630 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 25,630 |
| 50 - 54 | 6 | 222,297 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 222,297 |
| 55 - 59 | 3 | 72,703 | 0 | 0 | 3 | 235,034 | 5 | 697,572 | 0 | 0 | 11 | 1,005,309 |
| 60 - 64 | 1 | 38,211 | 0 | 0 | 10 | 788,300 | 1 | 49,272 | 1 | 86,248 | 13 | 962,031 |
| 65 - 69 | 0 | 0 | 0 | 0 | 12 | 1,010,751 | 1 | 138,560 | 0 | 0 | 13 | 1,149,311 |
| 70 - 74 | 0 | 0 | 0 | 0 | 9 | 559,273 | 0 | 0 | 0 | 0 | 9 | 559,273 |
| 75 - 79 | 0 | 0 | 0 | 0 | 9 | 552,628 | 0 | 0 | 0 | 0 | 9 | 552,628 |
| 80 - 84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 - 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 - 94 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 - 99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 & Over | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 14 | 461,688 | 0 | 0 | 43 | 3,145,986 | 7 | 885,404 | 1 | 86,248 | 65 | 4,579,326 |
| Average Age: | | 51.8 | | 0.0 | | 68.5 | | 60.6 | | 61.0 | | 63.9 |
| Avg. Annual Benefit: | | 32,978 | | 0 | | 73,162 | | 126,486 | | 86,248 | | 70,451 |

*Note: The current annual benefit amounts for DROP members do not include supplemental benefits because these amounts cannot be determined yet as they are deferred to the DROP exit date and will be based on all service, including service while in the DROP.



SECTION G

SUMMARY OF PLAN PROVISIONS

SUMMARY OF PLAN PROVISIONS

A. Ordinances

The Plan was established under the Code of Ordinances for the City of Boca Raton, Florida, Chapter 12, Article V, and was most recently amended under Ordinance No. 5618 passed and adopted on July 26, 2022. The Plan is also governed by certain provisions of Part VII, Chapter 112, Florida Statutes and the Internal Revenue Code.

B. Effective Date

December 1, 2003

C. Plan Year

October 1 through September 30

D. Type of Plan

Qualified, governmental defined benefit retirement plan; for GASB purposes it is a single employer plan.

E. Eligibility Requirements

All employees employed by the City in a position classified as D or DD in the City's pay and classification schedule (excluding sworn police officers and certified firefighters) or employed by the City as a City Manager or City Attorney are eligible for membership.

Managers actively employed as of November 30, 2003, may elect to participate as of December 1, 2003. All eligible managers hired on or after December 1, 2003, and before November 1, 2007, must participate upon date of hire. All eligible managers hired after November 1, 2007 may elect to participate.

Managers are assigned one of the following divisions, based on their current employment classification or position, as applicable:

- a) Division 1: Includes positions classified as D-1, D-2, and D-3.
- b) Division 2: Includes positions classified as D-4 and higher D classifications.
- c) Division 3: Includes positions classified as DD (e.g., Assistant City Manager, Senior Assistant City Attorney and all department heads).
- d) Division 4: Includes the City Manager and City Attorney, if they elect to participate in this plan.



F. Vesting Service

Vesting Service is measured as the full and fractional years (measured in complete pay periods) of City employment from the later of the effective date or date of hire, to date of separation from employment, during which time prescribed member contributions are made, and any service purchased/received for City employment worked prior to participating in this Plan.

Employees who were an active member of the City's General Employees' Pension Plan (GEPP) or the Police and Firefighters' Pension Plan (PFPP) receive vesting service under this plan upon transfer of liabilities attributable to the member's accrued benefit and a cash payment equal to the member's actuarial accrued liability from the prior plan. Members may purchase up to 5 additional years of eligible Vesting Service for periods of City employment interrupted by military service. No service is credited for any periods of employment for which the member received a refund of their contributions.

G. Benefit Service

Total of Vesting service plus any service purchased for Benefit Service credit. Members may purchase up to 5 additional years of Benefit Service for prior full-time employment in military service or governmental service of any kind (excluding service with the City of Boca Raton).

H. Compensation

Base wages received from the City, including employee-elected salary reductions or deferrals of base wages; and excluding longevity pay or payments made for any portion of a cost of living adjustment and/or merit increases which exceed the maximum of the employee's respective salary range. Compensation in excess of Internal Revenue Code 401(a)(17) limitations are disregarded.

I. Average Final Compensation (AFC)

The average of Compensation over the highest 5 years during the last 10 years of vesting service.

Division 4 members who retired or entered the DROP before January 26, 2021: The average of Compensation over the highest 2 years during the last 10 years of vesting service.

J. Normal Retirement

Eligibility: A member may retire on the first day of the month coincident with or next following the earlier of:

For employees who became Members before October 1, 2010:

- (1) Age 55 and 10 years of Vesting Service, or
- (2) Age 65 and 6 years of Vesting Service.*

*Transition Members who became members on or before the Effective Date are exempt from the 6 years of Vesting Service requirement.



For employees who become Members after September 30, 2010:

- (1) Age 58 and 10 years of Vesting Service, or
- (2) Age 65 and 6 years of Vesting Service.

Benefit: Benefit Service multiplied by the percentage of AFC as provided below:

For employees who became Members before October 1, 2010:

Division 1 – Same percentage as the greatest multiplier provided to option B of the members of the GEPP plus 0.05%.

Division 2 – Division 1 percentage plus 0.10%.

Division 3 – Division 2 percentage plus 0.10%.

Division 4 – For members who retire or enter the DROP before January 26, 2021:

Division 3 percentage plus 1.30% for the first 10 years and plus 0.10% thereafter. For members who retire or enter the DROP on or after January 26, 2021: Division 3 percentage plus 0.10%

The applicable GEPP multiplier and the corresponding EERP multiplier are shown below:

| | Termination Date | | |
|------------------|---|---|---|
| | <u>Before Oct. 1, 2004</u> | <u>Oct. 1, 2004 to Sept. 30, 2007</u> | <u>On and After Oct. 1, 2007</u> |
| GEPP Option B: | 2.50% | 2.75% | 3.00% |
| EERP Division 1: | 2.50% | 2.85% | 3.05% |
| EERP Division 2: | 2.60% | 2.95% | 3.15% |
| EERP Division 3: | 2.70% | 3.05% | 3.25% |
| EERP Division 4: | 4.00% for the first 10 years and 2.80% thereafter | 4.35% for the first 10 years and 3.15% thereafter | Before 1/26/21: 4.55% for the first 10 years and 3.35% thereafter. After 1/26/21: 3.35% |

For employees who become Members after September 30, 2010:

Division 1 – Same percentage as the greatest multiplier provided to option C of the members of the GEPP plus 0.60%.

Division 2 – Division 1 percentage plus 0.10%.

Division 3 – Division 2 percentage plus 0.10%.

Division 4 – Division 3 percentage plus 0.10%.

The applicable GEPP multiplier and the corresponding EERP multiplier are shown below:

| | Termination Date |
|----------------|----------------------------------|
| | <u>On and After Oct. 1, 2007</u> |
| GEPP Option C: | 1.75% |
| Division 1: | 2.35% |
| Division 2: | 2.45% |
| Division 3: | 2.55% |
| Division 4: | 2.65% |



For Members who transferred from the City's GEPP or PFPP plans after September 30, 2010, benefit for service credit transferred is based on the formula of the former pension plan with the AFC of this plan.

The maximum benefit is the lesser of 90% of AFC for employees who became Members before October 1, 2010 and 80% of AFC for employees who become Members after September 30, 2010, or the maximum adjusted benefit defined in IRC Section 415(b).

Normal Form

of Benefit: Division 1 – 25% Joint & Survivor Annuity
 Division 2 – 50% Joint & Survivor Annuity
 Division 3 – 75% Joint & Survivor Annuity
 Division 4 – 100% Joint & Survivor Annuity

K. Early Retirement

Eligibility: A member may elect to retire earlier than the Normal Retirement Eligibility after attainment of:

- a) For employees who became Members before October 1, 2010: Age 50 and 10 years of Vesting Service.
- b) For employees who become Members after September 30, 2010: Age 53 and 10 years of Vesting Service.

Benefit: The Normal Retirement Benefit is reduced by 5.0% for each year by which the Early Retirement date precedes age 55 for employees who became Members before October 1, 2010 and age 58 for employees who become Members after September 30, 2010. However, the early retirement benefit reduction for Division 4 members who retired or entered the DROP before January 26, 2021 is 2.0% for each year.

Normal Form

of Benefit: Same as Normal Retirement.

L. Delayed Retirement

Same as Normal Retirement taking into account Compensation earned and Benefit Service credited until the date of actual retirement.

M. Disability Retirement

Eligibility: Any member who terminates by reason of total and permanent disability is immediately eligible for a disability benefit.

Benefit: 60% of AFC in effect at date of disability and increased by 2% per year from the date of disability to age 65, payable beginning at age 65, with offsets for any Social Security disability benefits and worker's compensation wage-loss benefit paid in connection with the same disability.



Normal Form
of Benefit: Same as Normal Retirement.

N. Pre-Retirement Death

Eligibility: Members are eligible for survivor benefits after the completion of 6 or more years of Vesting Service. Transition Members who became members on or before the Effective Date are exempt from the 6 years of Vesting Service requirement.

Benefit: Division 1 – 25% of Accrued Benefit
Division 2 – 50% of Accrued Benefit
Division 3 – 75% of Accrued Benefit
Division 4 – 100% of Accrued Benefit

The above accrued benefit is subject to the same actuarial adjustment provided for a joint annuitant as described under **Section S**.

For employees who became Members before October 1, 2010, the death benefit is payable either:

- a) Immediately, if the member dies after reaching age 55, or
- b) The date the member would have attained age 55.

For employees who become Members after September 30, 2010, the death benefit is payable either:

- a) Immediately, if the member dies after reaching age 58, or
- b) The date the member would have attained age 58.

Normal Form
of Benefit: Payable for the life of the beneficiary.

The beneficiary of a plan member with less than 6 years of Vesting Service at the time of death will receive a refund of the member's accumulated contributions with interest (at 5% per year).

O. Vested Termination

Eligibility: A member has earned a non-forfeitable right to Plan benefits after the completion of 6 years of Vesting Service. Transition Members who became members on or before the Effective Date are exempt from the 6 years of Vesting Service requirement.

Benefit: The benefit is the member's accrued Normal Retirement Benefit. The benefit begins on the date that would have been the member's Normal Retirement date based on years of Vesting Service at the termination date. Optionally, vested members may elect a refund of accumulated member contributions with interest (at 5% per year) in lieu of the vested deferred benefits otherwise due.



Normal Form
of Benefit: Same as Normal Retirement.

P. Refunds

Eligibility: All members terminating employment with less than 6 years of Vesting Service are eligible. Optionally, vested members (those with 6 or more years of Vesting Service) may elect a refund of accumulated member contributions with interest (at 5% per year) in lieu of the vested deferred benefits otherwise due.

Benefit: Refund of the member's accumulated contributions with interest. Interest is currently credited at a rate of 5.0% per year.

Q. Member Contributions

| | Contribution Rate as a Percent-of-Payroll | | |
|-----------------------|--|--|--|
| | <u>Before Jan. 4, 2008</u> | <u>Jan. 4, 2008 to Oct. 21, 2010</u> | <u>On and After Oct. 22, 2010*</u> |
| Divisions 1, 2 and 3: | 9.0% | 10.0% | 11.0% |
| Division 4: | 10.0% | 10.0% | 11.0% |

*In the event the City's contribution should decrease to a percentage less than 11.0%, as determined by an annual actuarial valuation report for the plan establishing the required city contribution for the fiscal year beginning on October 1, the contribution made by members shall be reduced to 10.0% commencing with the second payday immediately following October 1 of the plan year specified in the annual valuation report.

R. Employer Contributions

Any additional amount determined by the actuary needed to fund the plan properly according to State laws.

S. Standard (Unreduced) Form of Benefit

Division 1 – 25% Joint & Survivor Annuity
Division 2 – 50% Joint & Survivor Annuity
Division 3 – 75% Joint & Survivor Annuity
Division 4 – 100% Joint & Survivor Annuity

The above standard benefit forms assume that the joint annuitant is both the member's spouse and is within ten years of age of the member. Otherwise, the standard benefit is actuarially adjusted as follows:

- (1) If the joint annuitant is the member's spouse who is more than ten years younger or older than the member - The standard benefit is adjusted to be actuarially equivalent to the benefit of a joint annuitant ten years older or younger than the member.
- (2) If the joint annuitant is not the member's spouse - The standard benefit forms assume that the joint annuitant is the same age as the member and the benefit is actuarially adjusted based on the actual age of the joint annuitant.



T. Optional Forms of Benefit

In lieu of electing the Standard Form of benefit, the optional forms of benefit available to all retirees are a Single Life Annuity, a 5 Years Certain and Life thereafter, or the 25%, 50%, 75% and 100% Joint and Survivor options, actuarially equivalent to the Standard Form.

Note that the 75% and 100% Joint and Survivor options may not be available to certain retiree and non-spouse beneficiary age combinations per Internal Revenue Code Section 401(a)(9)-6.

U. Supplemental Benefit

Eligibility: Members who began participating on the Effective Date and purchased Vesting Service for at least 50% of their prior city employment are eligible irrespective of when termination occurs, with the supplemental benefit commencing on the date normal or early retirement benefits commence. All other Members are eligible for the supplemental benefit after separating from City employment after completion of 10 or more years of Benefit Service and attaining eligibility for immediate early or normal retirement benefits.

Benefit: For Members who separated from City employment before January 26, 2021: Monthly benefit of \$10.00 multiplied by complete years of Benefit Service. For members with less than 25 years of Benefit Service, the corresponding early retirement reduction factor applies for retirement preceding age 55 for employees who became Members before October 1, 2010 and age 58 for employees who become Members after September 30, 2020.

For Members who separated from City Employment on or after January 26, 2021: Monthly benefit of \$20.00 multiplied by complete years of Benefit Service and DROP participation. For members with less than 25 years of Benefit Service, the corresponding early retirement reduction factor applies for retirement preceding age 55 for employees who became Members before October 1, 2010 and age 58 for employees who become Members after September 30, 2020. For any member who transfers from the City's GEPP or PFPP plans after January 26, 2021, the supplement benefit calculation excludes years of employment transferred from the respective plans, if any.

**Normal Form
of Benefit:** Same as Normal Retirement.

V. Cost of Living Increases

Eligibility: Members who began participating on the Effective Date are eligible irrespective of when termination occurs; all other Members are eligible if they terminate after becoming eligible for immediate early or normal retirement benefits.



Benefit: 2.0% increase in benefits on October 1st of each year beginning 5 years after retirement plus a one-time prorated 2.0% increase for time elapsed between the fifth-year anniversary date and the following October 1st, if any.

Division 4 members who retired or entered the DROP before January 26, 2021 (and beneficiaries of such members) receive a 3.0% increase in benefits each year, subject to the same five-year delay and prorated first COLA as described above.

For Members who transferred from the City's GEPP or PFPP plans after September 30, 2010, the COLA is applied to the portions of the retirement and supplemental benefit that is not based on years of employment transferred from the City's GEPP and PFPP plans, if any.

W. Deferred Retirement Option Plan

Eligibility: Members are eligible to enter the DROP after attainment of:

- a) For employees who became Members before October 1, 2010: Age 55 and 10 years of Vesting Service. Additionally, Division 4 members who reach age 50 on or before January 26, 2021 with at least 10 years of Vesting Service while actively employed by the City are eligible to participate in the DROP.
- b) For employees who become Members after September 30, 2010: Age 58 and 10 years of Vesting Service.

Members who meet eligibility must submit a written election to participate in the DROP.

Benefit: The member's Benefit Service and AFC are frozen upon entry into the DROP. The monthly retirement benefit as described under Normal Retirement is deposited into member's DROP account, credited with fund earnings as elected by the Member for a period not to exceed the maximum DROP period. The monthly supplement benefit as described under **Section U – Supplemental Benefit** commences upon DROP exit.

Maximum

DROP Period: For those members who enter the DROP before January 26, 2021: 60 months.
For those members who enter the DROP on or after January 26, 2021: 84 months.

Members who are participating in the DROP on January 26, 2021 may elect to extend their maximum DROP participation period from 60 months to 84 months.

Interest

Credited: The member's DROP account is credited at an interest rate based upon the option chosen by the member. Members must elect from 1 of the 3 following options:

- (1) Gain or loss at the same rate earned by the Plan, or
- (2) The rate of return equal to the lesser of (i) the U.S. Fed Funds Target Rate published by the U.S. Federal Reserve and in effect on the last business day of each month or (ii) the assumed actuarial rate of return on pension fund investments in effect on the last business day of each month, or



(3) Gain or loss earned by a self-directed DROP.

Normal Form
of Benefit: Lump Sum or Direct Rollover.

X. Other Ancillary Benefits

There are no ancillary retirement type benefits not required by statutes but which might be deemed a City of Boca Raton Executive Employees' Retirement Plan liability if continued beyond the availability of funding by the current funding source.