BY E-MAIL

June 28, 2019

The Board of Trustees
West Palm Beach Police Pension Fund
2100 North Florida Mango Road
West Palm Beach, Florida 33409

Re: Report on Actuarial Audit of the West Palm Beach Police Pension Fund

Dear Board of Trustees:

We are writing to report on our actuarial audit of the West Palm Beach Police Pension Fund ("Pension Fund" or "Fund") actuarial valuation as of September 30, 2018 prepared by its actuary Gabriel, Roeder, Smith and Company (GRS) . We also reviewed the September 30, 2017 actuarial report for consistency with the 2018 report.

Overview of Audit

As requested, we have prepared an actuarial audit to provide an overall peer review of the reasonableness and appropriateness of the member data, calculation of actuarial liabilities and contribution rates, benefits, actuarial assumptions and methods used in the September 30, 2018 actuarial valuation prepared by GRS. In our audit we have reviewed the actuarial valuation of the Pension Fund for compliance with actuarial standards of practice and with Florida Statutes, Chapters 112 and 185. We have not performed a replication audit which would require the preparation of the full actuarial valuation, including data preparation, programming of benefits, assumptions and methods, and calculation of contribution requirements.

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The scope of our actuarial audit included the following with respect to the September 30, 2018 actuarial valuation of the Pension Fund:

- Comparison for reasonableness of the member data provided by the Pension Fund to GRS with the data used by GRS in the actuarial valuation.
- Review of the application of the Fund benefits and the actuarial assumptions and methods in the calculation of actuarial liabilities for 10 sample members from the valuation.
- Review of the calculation of the Fund actuarial liabilities and assets, actuarially determined contribution, including the amortization of the unfunded actuarial accrued liability.
- Comparison of the Fund's benefits as provided by the Special Act with the benefit provisions summarized in the GRS report and reflected in the valuation.
- Review that the actuarial assumptions and methods used in the actuarial valuation by GRS are reasonable and appropriate.
- Review of the valuation report prepared by GRS.

In our opinion, the September 30, 2018 actuarial valuation and report prepared by GRS is reasonable and is in accordance with generally accepted actuarial standards of practice. Based on the actuarial assumptions and methods adopted by the Board, it is our opinion that the actuarially determined contributions to the Pension Fund are accurately presented in the 2018 actuarial valuation report. In the sections below we present comments on our process and findings, and suggestions we hope the Board and GRS will consider in the preparation of future valuations.

The selection and recommendation of actuarial assumptions and methods involves a great degree of professional judgment. In making the suggestions and recommendations in this report we are not attempting to substitute our judgment for that of the consulting actuary to the Pension Fund. Rather, as part of our review, we have identified some areas for further review or study by the Pension Fund and its consulting actuary.

We would like to thank the Fund Administrator and GRS for their assistance and responsiveness in performing the audit.

Data

We compared the data for active members, terminated members, retirees and beneficiaries provided to GRS by the Fund Administrator with the data utilized in the valuation by GRS. Typically, the data used by the plan actuary in the valuation does not match exactly the data furnished by the plan. In the preparation of an actuarial valuation, the plan actuary will generally fine-tune the data furnished by the plan for a few members, such as, annualizing pay for new members, changes in status for members toward the end of the plan year and adjustments to dates of birth, hire, and retirement. We reconciled the Fund and the GRS data and found a few differences which were not material. We asked GRS about these differences and they provided a reasonable rationale for their handling of the data based on their review of the valuation data and discussions with and input from the Fund Administrator.

Funding Value of Assets

For purposes of determining the Fund's unfunded actuarial accrued liability and the City's required contribution, GRS utilizes a smoothed market value of assets, or funding value of assets. The use of a funding value of assets or valuation assets is reasonable and the common practice for public sector plans to permit a more consistent pattern of contributions.

Under the current method, differences between actual and assumed investment return are phased in over a closed four year period. The funding value of assets recognizes the assumed investment return fully each year based on the prior year's funding value of assets. We find this method is acceptable. However, because the assumed return is based on the funding value of assets and not the market value of assets, the valuation assets will not become equal to market value if assumed rates are exactly realized for three consecutive years, as stated on page C-13 of the GRS valuation report. That is, if the Fund's market asset return for the next three years is equal to 7.625% we would expect the valuation assets and market assets to become equal. However, under the current method there will be a difference between the two asset values. We suggest GRS consider modifying its funding value of assets method to recognize the investment return fully each year based on the market assets. This change will make the application of the funding value of assets method consistent with the description on page C-13 of the GRS report and current actuarial practice. The impact on costs of this change will be minimal.

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In reviewing the asset valuation method we found the market value of assets used in the valuation matches the asset information reported in the Fund's financial statements.

Actuarial Liabilities

Although under the scope of the audit we have not fully replicated the calculation of the actuarial liabilities, the liabilities appear reasonable and the changes from last year are consistent with the liabilities reported in the September 30, 2017 actuarial valuation report. The impact on the actuarial liabilities and the Fund's unfunded of the change in the annual interest rate to 7.625% from 7.875% also appear reasonable for retirees and beneficiaries, vested terminated members and active members.

For future valuation reports we suggest GRS report experience gains and losses for the actuarial liabilities by source (that is, mortality, retirement, salary, terminations, disability) and the investment gain and loss. This would provide a better understanding of the factors contributing to changes in the actuarial liabilities and the reasonableness of the actuarial assumptions used in the valuation. That is, are the actuarial assumptions a good predictor of the actual experience of the Fund.

We have also reviewed the calculation of actuarial liabilities for a sample of 10 individual Fund members, including active members, retirees, beneficiaries, and terminated vested. We requested GRS to provide us details from their valuation model on the application of the Fund benefit provisions, the actuarial assumptions and methods, and the calculation of the actuarial liabilities for the sample. GRS provided information that was limited to the liabilities for each individual without showing the details of the calculation. Based on information provided to us by GRS and our estimates we feel the calculation of the liabilities for the sample appears reasonable.

Determination of Required Contribution

Overall, we agree with the GRS determination of the required City contribution, although, as discussed below, we suggest GRS review its approach in calculating the amortization payments toward the Fund's unfunded actuarial accrued liability. The approach GRS uses to convert the percent of pay City contributions to dollar amounts is reasonable to reflect projected payroll and the timing of the contributions for the fiscal year beginning October 1, 2019.

To calculate the unfunded actuarial accrued liability amortization payments GRS uses continuous interest in which payments are made continuously instead of on fixed date(s). This approach approximates a payment in the middle of the year following the valuation date (i.e., 4/1/2019). The payment is then divided by the payroll projected to April 1, 2019 to determine the payment as a percentage of payroll. Since the City contribution is paid in the following fiscal year beginning October 1, 2019 the contribution rate should reflect an adjustment for the expected payment timing as described on page A-3 of the GRS report. However, the unfunded contribution rate calculated on the GRS basis does not reflect the adjustment for assumed quarterly City payments described on page A-3. This approach appears to understate the City's contribution toward the unfunded liability by approximately 3.7%.

As an alternative, GRS could consider calculating the amortization payment as of the beginning of the fiscal year the contribution is payable (10/1/2019), adjusting the payment to reflect quarterly payments as described on page A-3 and then dividing by the expected covered payroll of $25,417,395 to determine the unfunded liability contribution rate.

Actuarial Assumptions and Methods

We believe the actuarial assumptions and methods adopted by the Board and used in the 2018 actuarial valuation by GRS are reasonable. In the valuation report's introductory letter, GRS states that the investment return and the mortality rates assumptions are prescribed by the Board and by Florida Statutes, respectively. The other economic and demographic assumptions were established based on the experience study prepared by GRS for the ten-year period from October 1, 2000 through September 30, 2010. It is important to recognize that there is no one correct answer in the setting of actuarial assumptions. Selection of actuarial assumptions requires a great deal of professional judgment, especially for a small covered group as with the Pension Fund. The assumptions used by GRS are within a reasonable range to estimate the future experience of the Fund. As mentioned above, adding detailed experience gain and loss information in the report will be beneficial in comparing the actual Fund experience with experience expected by the assumptions.

The individual entry-age actuarial cost method used in the valuation is the most prevalent method for public sector pension plans and is a reasonable method to attempt to smooth contributions as a percentage of payroll.

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Valuation Report

We find the actuarial valuation report generally meets professional actuarial standards and fairly represents the actuarial condition of the Pension Fund. In determining compliance we reviewed the applicable Actuarial Standards of Practice (ASOP), including the recently effective ASOP No. 51 – Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions. Our review reflects the requirements of ASOP No. 41 – one of the applicable actuarial standards - that the valuation report should include information with sufficient clarity that another actuary qualified in pension practice "could make an objective appraisal of the reasonableness of the actuary's work as presented in the actuarial report".

In our opinion, the September 30, 2018 actuarial valuation report prepared by GRS meets or exceeds the actuarial standards of practice. We do have the following comments for the Board and GRS to consider for future valuation reports.

- In the second paragraph of page A-3, GRS describes projecting the payroll for a year and a half at the assumed payroll growth rate of 4.5%. We believe this would project the payroll to the <u>middle</u> of the fiscal year during which the contribution will be made, not the <u>beginning</u> of that year, as mentioned in the report.
- As discussed in the **Actuarial Liabilities** section above, we suggest GRS report experience gains and losses for the actuarial liabilities by source (that is, mortality, retirement, salary, terminations, disability) and the investment gain and loss in future valuation reports. This experience gain and loss information should be available currently to GRS in its valuation process and not require significant additional work to include in the report. The experience gain and loss information provides valuable information on whether the actual experience of the Fund is reasonably tracking the actuarial assumptions used in the valuation.
- In the 2018 valuation report, GRS has added the section *Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution* (pages A-7 through A-9) to comply with the recent ASOP No. 51. The purpose of ASOP No. 51 is to provide guidance to the actuary on the measurement and disclosure of the risk that actual future measurements may differ significantly from those expected. Under ASOP No. 51, information should be provided to the intended user (such as, the Board and the City) of the valuation report to assist them in understanding the effects of future experience (such as, investment return) differing from the assumptions used in the valuation. According to ASOP No. 51 the assessment may be qualitative only and does not need to be based on numerical calculations. Therefore, we find

the GRS report complies with ASOP No. 51. However, we believe GRS could provide additional information – which might be outside of the scope of the regular valuation – to help the Board understand the impact of the risk on the Fund if future events differ significantly from current assumptions. For example, GRS could provide more information specific to the Pension Fund on:

- The impact if future actual investment returns differ from the expected returns.
- The significance of the Plan Maturity Measures presented on page A-8.
- The *Ratio of Net Cash Flow to Market Value of Assets*.

The GRS commentary on the *Ratio of Market Value of Assets to Payroll* and the *Ratio of Actuarial Accrued Liability to Payroll* provide examples for which the ratios are 2.0 and 2.5 times the payroll, respectively. In the specific case of the Pension Fund, the ratios are much higher at 15.81 and 16.05, respectively, to payroll. This appears to indicate the Fund has a high risk of investment volatility. We suggest the Board, the Fund's investment consultant and GRS review the Fund's risk with respect to investment volatility. The Fund is nearly 100% funded and has a fairly aggressive asset allocation (only approximately 20% of the assets are invested in fixed income). The Board may want to consider asking GRS to perform additional assessments, such as, modeling of the impact on the Fund of market returns of 5% less than assumed, and review of the asset allocation policy.

- We suggest GRS review and consider the following changes in the *Summary of Benefit Provisions* section of the report:
  - Change the phrase "to the later of age 55 or 5 years after disability" in the second and third sentences in the *Duty Disability Retirement – Amount of Pension* section to "to age 55". The 5 years after disability provision does not appear in the Special Act.
  - The *Chapter 185 Share Accounts* and *Deferred Retirement Option Plan (DROP)* sections mention that the accounts are "credited with investment earnings". We suggest expanding this description to explain that before each October 1st, members elect the Fund's investment return rate or a fixed return for the coming fiscal year.

- We suggest GRS review and consider changes in the following in the *Actuarial Assumptions Used for the Valuation* section of the report:

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  - State the basis for the amortization periods for the different sources of changes in the unfunded actuarial accrued liability. That is, 20 years for changes from experience gains and losses, and 30 years for assumption changes and plan amendments.
  - State the actual payroll growth assumption used in the valuation (i.e., 1.07% in the September 30, 2018 valuation) to amortize the unfunded actuarial accrued liability to comply with Florida Statutes Sec. 112.64(5).

- In Section D – *Disclosures Required by Governmental Accounting Standards Board Statement No. 67* we suggest GRS add a schedule to show the roll forward of the total pension liability from the valuation date (i.e., September 30, 2017) to the measurement date (i.e., September 30, 2018). This information would assist another actuary and other users of the report to review the reasonableness of the work.

This is to certify that this report has been prepared by an independent consulting actuary who has substantial experience working with public employee retirement systems and who is a member of the American Academy of Actuaries. This actuarial review has been performed in accordance with principles of practice prescribed by the Actuarial Standards Board and accepted actuarial procedures. The undersigned is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Please do not hesitate to let let me if you have any questions or comments.

Sincerely,

Jose I. Fernandez, ASA, EA, MAAA
Consulting Actuary

Copies to: Bonnie S. Jensen, Esq. (Plan Legal Counsel)
David M. Williams (Plan Administrator)

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