



March 24, 2020

Mr. John P. Villanueva, C.P.A.
Finance Director
Town of Orange Park
2042 Park Avenue
Orange Park, Florida 32073

**Re: Town of Orange Park General Employees' Defined Benefit Plan and Trust
October 1, 2019 Actuarial Valuation**

Dear John:

As requested, we are pleased to enclose nine (9) copies of the October 1, 2019 Actuarial Valuation Report for the Town of Orange Park General Employees' Defined Benefit Plan and Trust.

We appreciate the opportunity to have performed this important assignment on behalf of the Town and look forward to presenting the highlights of our Report at an upcoming meeting.

Upon approval of the Actuarial Valuation Report, we will upload an electronic copy of the Actuarial Valuation Report along with the required disclosure information to the State portal as required by the State.

If you should have any questions concerning the above, please do not hesitate to contact us.

Sincerest regards,

A handwritten signature in black ink that reads "Michelle Jones".

Shelly L. Jones, A.S.A.
Consultant and Actuary

Enclosures

TOWN OF ORANGE PARK GENERAL EMPLOYEES DEFINED BENEFIT PLAN AND TRUST

Actuarial Valuation as of October 1, 2019

This Valuation Determines the Annual Contribution for the Plan Year October 1, 2019 through September 30, 2020 to be Paid in the Fiscal Year October 1, 2019 to September 30, 2020

March 24, 2020



**Town of Orange Park General Employees
Defined Benefit Plan and Trust**

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March 24, 2020

Town Council
Town of Orange Park General Employees'
Defined Benefit Plan and Trust
c/o Mr. John P. Villanueva, C.P.A.
Finance Director
2042 Park Avenue
Orange Park, Florida 32073

Dear Council Members:

October 1, 2019 Actuarial Valuation

We are pleased to present our October 1, 2019 Actuarial Valuation for the Town of Orange Park General Employees' Defined Benefit Plan and Trust (Plan). The purpose of this report is to indicate appropriate contribution levels, monitor minimum funding requirements, comment on the actuarial stability of the Plan and to satisfy State and accounting requirements. The Town Council has retained Gabriel, Roeder, Smith & Company (GRS) to prepare an annual actuarial valuation of the Plan.

This report consists of this commentary, detailed Tables I through XVI, the State Required Exhibit on Table XVII and a glossary on Table XVIII. The Tables contain basic Plan cost figures plus significant details on the benefits, liabilities and experience of the Plan. We suggest you thoroughly review the report at your convenience and contact us with any questions that may arise.

Retirement Plan Costs

Our Actuarial Valuation develops the required minimum Retirement Plan payment under the Florida Protection of Public Employee Retirement Benefits Act. The minimum payment consists of payment of annual normal costs including expenses and amortization of the components of the unfunded actuarial accrued liability over various periods as prescribed by law. The minimum payment for fiscal year ending September 30, 2020 is **\$242,329 (11.1%)**. The figure in parentheses is the Plan cost expressed as a percentage of covered annual payroll for employees as of October 1, 2019 - \$2,173,943.

This total cost is to be met by member and Town contributions. We anticipate that member contributions will be **\$69,408 (3.2%)** - the resulting minimum required Town contribution is **\$172,921 (8.0%)**. The Town contribution includes an interest adjustment.

Changes in Actuarial Assumptions, Methods and Plan Benefits

The Plan provisions remained unchanged from the October 1, 2018 Actuarial Valuation. Plan benefits are summarized on Table IX.

The mortality assumptions have been updated to use the mortality assumptions used by the Florida Retirement System (FRS) as required under F.S., Chapter 2015-157 based upon the July 1, 2019 FRS Actuarial Valuation. The remaining actuarial assumptions and methods are unchanged from the October 1, 2018 Actuarial Valuation and are outlined on Table X.

Comparison of October 1, 2018 and October 1, 2019 Valuation Results

Table II of our report provides information of a comparative nature. The left columns of the Table indicate the costs as calculated for the October 1, 2018 Actuarial Valuation. The center columns indicate the costs as calculated for October 1, 2019 prior to the update in actuarial assumptions. The right columns indicate the costs as calculated for October 1, 2019 after the update in actuarial assumptions.

Comparing the left and center columns of Table II shows the effect of Plan experience during the year. The number of active participants and covered payroll increased by approximately 8%. Total Plan membership increased by approximately 4%. The total normal cost and minimum Town funding requirement increased as a dollar amount but decreased as a percentage of covered payroll. The unfunded actuarial accrued liability increased both as a dollar amount and as a percentage of covered payroll.

Comparing the center and right columns of Table II shows the effect of the update of the actuarial assumptions. The total normal cost, minimum Town funding requirement and the unfunded actuarial accrued liability decreased both as a dollar amount and as a percentage of covered payroll.

The Plan assets exceed the value of vested accrued benefits, resulting in a Vested Benefit Security Ratio (VBSR) of 118.9% (116.7% prior to assumption update) which is a decrease from 119.3% as of the October 1, 2018 Actuarial Valuation. The VBSR is measured on a market value of assets basis.

Plan Experience

Table VI indicates the Plan experienced an actuarial loss of \$239,436. This suggests actual overall Plan experience was less favorable than anticipated.

Table XV (salary, turnover and investment yield) provides figures on recent plan experience. Salary experience indicates actual salary increases averaged approximately 3.78% for fiscal year ended September 30, 2019. The salary increase assumption is 4.75%. Salary experience was generally an offsetting source of actuarial gain. Three, five and ten-year salary increase experience is 5.12%, 4.50% and 3.8%, respectively.

Employee turnover this year was 50% of the assumed turnover. Employee turnover was a source of actuarial loss. Three, five and ten-year average employee turnover are 100%, 120% and 120% of assumed, respectively.



The actuarial value investment return of 5.2% was less than the assumed 7.0%. Actuarial value is the fair market value of assets. Investment return was a major source of actuarial loss during the year. Three, five and ten-year average investment returns is 8.5%, 11.6% and 7.9%, respectively on an actuarial (market) value basis.

Member Census and Financial Data

The Town submitted Member census data as of October 1, 2019 used for this actuarial valuation to us. This information contains name, Social Security number, date of birth, date of hire, employee contributions and October 1, 2019 rate of pay. Dates of termination and retirement are provided where applicable. The Town updated information on inactive participants including retirees, beneficiaries, DROPs and vested terminations.

We received financial information as of September 30, 2019 concerning Plan assets from the Town. We do not audit the Member census data and asset information that is provided to us; however, we perform certain reasonableness checks. The Plan is responsible for the accuracy of the data.

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 under 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;
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 one (1) may be considered as a minimum contribution rate that complies with the Plan’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 fund may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	<u>2018</u>	<u>2019</u>
Ratio of the market value of assets to total payroll	5.49	5.25
Ratio of actuarial accrued liability to payroll	5.15	4.93
Ratio of actives to retirees and beneficiaries	1.33	1.22
Ratio of net cash flow to market value of assets	-1.3%	-1.7%
Duration of the actuarial accrued liability	12.71	12.15



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 a difference of 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.

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 a change of 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.

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.

Duration of Actuarial Accrued Liability

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, a duration of 10 indicates that the actuarial accrued liability would increase approximately 10% if the assumed rate of return is lowered 1%.



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 to the actuarial accrued liability.

Summary

In our opinion the benefits provided for under the current Plan will be sufficiently funded through the payment of the amount as indicated in this and future Actuarial Valuation reports. We will continue to update you on the future payment requirements for the Plan through our actuarial valuation reports. These reports will also continue to monitor emerging experience of the Plan.

The actuarial assumptions used in this Actuarial Valuation are as adopted by the Plan Administrators. In 2013, the investment return assumption and salary increase assumptions were adjusted to recognize lower expected long-term inflation. The mortality assumptions are statutorily mandated under F.S., Chapter 2015-157 and are the mortality assumptions used by the Florida Retirement System (FRS). All other assumptions are set based upon Plan expected experience. We continue to suggest an Experience Study be performed this year to ensure the assumptions continue to be aligned with Plan experience. Each assumption represents an estimate of future Plan experience.

If all actuarial assumptions are met and if all future minimum required contributions are paid, Plan assets will be sufficient to pay all Plan benefits, future contributions are expected to remain relatively stable as a percent of payroll and the funded status is expected to improve. Plan minimum required contributions are determined in compliance with the requirements of the Florida Protection of Public Employee Retirement Benefits Act with normal cost determined as a level percent of covered payroll and a level dollar amortization payment using an initial amortization period of 30 years.

The Unfunded Actuarial Accrued Liability (UAAL) may not be appropriate for assessing the sufficiency of Plan assets to meet the estimated cost of settling benefit obligations but may be appropriate for assessing the need for or the amount of future contributions.

The GASB Net Pension Liability and Plan Fiduciary Net Position as a Percentage of Total Pension Liability may not be appropriate for assessing the sufficiency of Plan assets to meet the estimated cost of settling benefit obligations but may be appropriate for assessing the need for or the amount of future contributions.

This report should not be relied upon for any purpose other than the purpose described in the primary communication. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.



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

This report may be provided to parties other than the Board only in its entirety and only with the permission of an approved representative of the Plan Administrators.

The signing actuaries are independent of the Plan sponsor.

The undersigned are Members of the American Academy of Actuaries and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. We are available to respond to any questions with regards to matters covered in this report.

Very truly yours,



Shelly L. Jones, A.S.A., E.A., M.A.A.A.
Consultant and Actuary



Jennifer M. Borregard, E.A., M.A.A.A.
Consultant and Actuary



Summary of Retirement Plan Costs

	October 1, 2018		Prior Assumptions October 1, 2019		Current Assumptions October 1, 2019	
	<u>Cost Data</u>	<u>% of Payroll</u>	<u>Cost Data</u>	<u>% of Payroll</u>	<u>Cost Data</u>	<u>% of Payroll</u>
A. Participant Data Summary (Table III)						
1. Active employees	36	N/A	39	N/A	39	N/A
2. Terminated vested	49	N/A	45	N/A	45	N/A
3. Receiving benefits	27	N/A	32	N/A	32	N/A
4. Annual payroll of employees	\$ 2,008,990	100.0%	\$ 2,173,943	100.0%	\$ 2,173,943	100.0%
B. Total Normal Cost						
1. Age retirement benefits	\$ 191,104	9.5%	\$ 201,700	9.3%	\$ 198,718	9.1%
2. Termination benefits	39,029	1.9%	42,979	2.0%	41,055	1.9%
3. Survivor benefits	2,166	0.1%	2,221	0.1%	1,556	0.1%
4. Estimated administrative expense	1,000	0.0%	1,000	0.0%	1,000	0.0%
5. Total annual normal cost	\$ 233,299	11.6%	\$ 247,900	11.4%	\$ 242,329	11.1%
C. Total Actuarial Accrued Liability						
1. Age retirement benefits active employees	\$ 4,467,576	222.4%	\$ 4,816,839	221.6%	\$ 4,750,216	218.5%
2. Termination benefits active employees	18,358	0.9%	33,068	1.5%	30,677	1.4%
3. Survivor benefits active employees	28,160	1.4%	28,434	1.3%	20,671	1.0%
4. Retired or terminated vested participants receiving benefits	3,901,220	194.2%	4,261,393	196.0%	4,198,140	193.1%
5. Terminated vested participants entitled to future benefits	1,781,638	88.7%	1,651,824	76.0%	1,591,631	73.2%
6. Deceased participants whose beneficiaries are receiving benefits	131,689	6.6%	107,628	5.0%	107,637	5.0%
7. Miscellaneous liability	7,722	0.4%	13,310	0.6%	13,310	0.6%
8. Total actuarial accrued liability	\$ 10,336,363	514.5%	\$ 10,912,496	502.0%	\$ 10,712,282	492.8%
D. Assets (Table IV)	\$ 11,035,504	549.3%	\$ 11,414,711	525.1%	\$ 11,414,711	525.1%
E. Unfunded Actuarial Accrued Liability (C-D)	\$ (699,141)	(34.8%)	\$ (502,215)	(23.1%)	\$ (702,429)	(32.3%)

Summary of Retirement Plan Costs

	October 1, 2018		Prior Assumptions October 1, 2019		Current Assumptions October 1, 2019	
	<u>Cost Data</u>	<u>% of Payroll</u>	<u>Cost Data</u>	<u>% of Payroll</u>	<u>Cost Data</u>	<u>% of Payroll</u>
F. Minimum Required Contribution						
1. Total normal cost	\$ 233,299	11.6%	\$ 247,900	11.4%	\$ 242,329	11.1%
2. Amortization of unfunded liability	(53,086)	(2.6%)	(38,922)	(1.8%)	(54,001)	(2.5%)
3. Interest adjustment	7,134	0.4%	8,317	0.4%	7,437	0.3%
4. Total payment	<u>\$ 187,347</u>	<u>9.3%</u>	<u>\$ 217,295</u>	<u>10.0%</u>	<u>\$ 195,765</u>	<u>9.0%</u>
G. Minimum Required Contribution (F.S., 112.66 (13)) (Greater of F.1. and F.4.)	\$ 233,299	11.6%	\$ 247,900	11.4%	\$ 242,329	11.1%
H. Contribution Sources						
1. Expected employee	\$ 64,393	3.2%	\$ 69,408	3.2%	\$ 69,408	3.2%
2. Expected Town	\$ 168,906	8.4%	\$ 178,492	8.2%	\$ 172,921	8.0%
I. Actuarial Gain / (Loss)	\$ 164,212	8.2%	\$ (239,436)	(11.0%)	\$ (239,436)	(11.0%)
J. Actuarial Present Value of Vested Accrued Benefits						
1. Retired, terminated vested and beneficiaries receiving benefits	\$ 4,032,909	200.7%	\$ 4,369,021	201.0%	\$ 4,305,777	198.1%
2. Terminated vested participants entitled to future benefits and miscellaneous	1,789,360	89.1%	1,665,134	76.6%	1,604,941	73.8%
3. Active participants entitled to future benefits	<u>3,424,982</u>	<u>170.5%</u>	<u>3,750,606</u>	<u>172.5%</u>	<u>3,692,297</u>	<u>169.8%</u>
4. Total actuarial present value of vested accrued benefits	\$ 9,247,251	460.3%	\$ 9,784,761	450.1%	\$ 9,603,015	441.7%
K. Unfunded Actuarial Present Value of Vested Accrued Benefits (J - D, not less than zero)	\$ 0	0.0%	\$ 0	0.0%	\$ 0	0.0%
L. Vested Benefit Security Ratio (D ÷ J)	119.3%	N/A	116.7%	N/A	118.9%	N/A

Comparison of Cost Data of October 1, 2018 and October 1, 2019 Valuations

	October 1, 2018		Prior Assumptions October 1, 2019		Current Assumptions October 1, 2019	
	Cost Data	% of Annual Compensation	Cost Data	% of Annual Compensation	Cost Data	% of Annual Compensation
A. Participants						
1. Active Employees	36	N/A	39	N/A	39	N/A
2. Terminated Vested	49	N/A	45	N/A	45	N/A
3. Receiving Benefits	27	N/A	32	N/A	32	N/A
4. Annual Payroll of Active Employees	\$ 2,008,990	100.0%	\$ 2,173,943	100.0%	\$ 2,173,943	100.0%
B. Actuarial Present Value of Future Benefits	\$ 11,662,934	580.5%	\$ 12,285,874	565.1%	\$ 12,057,076	554.6%
C. Normal Cost (including expenses)	\$ 233,299	11.6%	\$ 247,900	11.4%	\$ 242,329	11.1%
D. Actuarial Accrued Liability	\$ 10,336,363	514.5%	\$ 10,912,496	502.0%	\$ 10,712,282	492.8%
E. Actuarial Value of Assets *	\$ 11,035,504	549.3%	\$ 11,414,711	525.1%	\$ 11,414,711	525.1%
F. Unfunded Actuarial Accrued Liability	\$ (699,141)	(34.8%)	\$ (502,215)	(23.1%)	\$ (702,429)	(32.3%)
G. Minimum Town Funding Requirement	\$ 168,906	8.4%	\$ 178,492	8.2%	\$ 172,921	8.0%
H. Vested Benefit Security Ratio	119.3%	N/A	116.7%	N/A	118.9%	N/A

* Fair Market Value

**Characteristics of Participants in
Actuarial Valuation as of October 1, 2019**

A. Active Plan Participants Summary

1. Active participants fully vested	27
2. Active participants partially vested	0
3. Active participants non-vested	12
4. Total active participants	39
5. Annual rate of pay of employees	\$ 2,173,943

B. Retired and Terminated Vested Participant Summary

1. Retired or terminated vested participants receiving benefits	28
2. Terminated vested participants entitled to future benefits	45
3. Deceased participants whose beneficiaries are receiving benefits	4

C. Projected Annual Retirement Benefits

1. Retired or terminated vested receiving benefits	\$ 403,033
2. Terminated vested entitled to future benefits	\$ 357,633
3. Beneficiaries of deceased participants	\$ 32,102

Statement of Assets as of October 1, 2019 *

	<u>Market Value</u>
A. <u>Cash and Cash Equivalents</u>	\$ 102,710
B. <u>General Investments</u>	
1. Broad Market HQ Bond Fund	\$ 1,643,354
2. Core Plus Fixed Income	1,631,942
3. Diversified Large Cap	3,960,026
4. Diversified Small to Mid Cap	1,312,400
5. International Blend	1,654,766
6. Core Real Estate	1,106,981
C. <u>Receivables</u>	
1. Member Contributions	\$ 2,532
2. Accrued Interest and Dividends	0
3. Accounts Receivable	0
D. <u>Payables</u>	\$ 0
E. <u>Total Market Value of Assets</u> (A + B + C - D)	\$ 11,414,711

* As reported in the Florida Municipal Pension Trust Fund (FMPTF) Statement

Reconciliation of Plan Assets

A. <u>Market Value as of October 1, 2018</u>		\$	11,035,504
B. <u>Receipts During Period</u>			
1. Town contributions			
a. Member	\$	67,573	
b. Town		168,906	
c. Total		<hr/>	\$ 236,479
2. Net investment return			
a. Earnings / (losses) as reported in FMPTF statement	\$	585,511	
b. Investment expenses		(19,317)	
c. Net investment return		<hr/>	\$ 566,194
3. Total receipts during period			\$ 802,673
C. <u>Disbursements During Period</u>			
1. Monthly benefit payments	\$	419,260	
2. Refund of member contributions		3,206	
3. Administrative expenses		1,000	
4. Net disbursements during period		<hr/>	\$ 423,466
D. <u>Market Value as of September 30, 2019</u>		\$	11,414,711

Actuarial Gain / (Loss) for
Plan Year Ended September 30, 2019

A. Derivation of Actuarial Gain / (Loss)

1. Town normal cost previous valuation	\$ 168,906
2. Unfunded actuarial accrued liability previous valuation	(699,141)
3. Town contributions previous year	168,906
4. Interest on:	
(a) Town normal cost	\$ 11,823
(b) Unfunded actuarial accrued liability	(48,940)
(c) Town contributions	5,393
(d) Net interest: (a) + (b) - (c)	<u>\$ (42,510)</u>
5. Increase (decrease) in accrued liability due to assumption changes	(200,214)
6. Expected unfunded actuarial accrued liability current year: (1. + 2. - 3. + 4. + 5.)	\$ (941,865)
7. Actual unfunded actuarial accrued liability current year	<u>(702,429)</u>
8. Actuarial gain / (loss): (6. - 7.)	<u>\$ (239,436)</u>

B. Approximate Portion of Gain / (Loss)
due to Investments

1. Actuarial (market) value of assets previous year	\$ 11,035,504
2. Contributions during year	236,479
3. Benefits and administrative expenses during year	423,466
4. Expected appreciation for period	<u>765,422</u>
5. Expected actuarial value of assets current year: (1. + 2. - 3. + 4.)	\$ 11,613,939
6. Actual actuarial value of assets current year	\$ 11,414,711
7. Approximate gain / (loss) due to investments: (6. - 5.)	\$ (199,228)

C. Approximate Portion of Gain / (Loss)
due to Liabilities: (A.8. - B.7.)

	\$ (40,208)
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Amortization of Unfunded Actuarial Accrued LiabilityA. Unfunded Actuarial Accrued Liability

<u>Date</u>	<u>Unfunded Accrued Liability</u>	<u>Amortization Payment</u>
October 1, 2019	\$ (702,429)	\$ (54,001)
October 1, 2020	\$ (693,818)	\$ (54,001)
October 1, 2021	\$ (684,604)	\$ (54,001)
October 1, 2022	\$ (674,745)	\$ (54,001)
October 1, 2023	\$ (664,196)	\$ (54,001)
...		
...		
October 1, 2049	\$ 0	\$ 0

Accounting Disclosure Exhibit

	<u>10/01/2018</u>	<u>Prior Assumptions 10/01/2019</u>	<u>Current Assumptions 10/01/2019</u>
I. <u>Number of Plan Members</u>			
a. Retirees and beneficiaries receiving benefits	27	32	32
b. Terminated plan members entitled to but not yet receiving benefits	49	45	45
c. Active plan members	36	39	39
d. Total	<u>112</u>	<u>116</u>	<u>116</u>
II. <u>Financial Accounting Standards Board Allocation</u>			
<u>As of October 1, 2019</u>			
A. <u>Statement of Accumulated Plan Benefits</u>			
1. Actuarial present value of accumulated vested plan benefits			
a. Participants currently receiving benefits	\$ 4,032,909	\$ 4,369,021	\$ 4,305,777
b. Other participants	5,214,342	5,415,740	5,297,238
c. Total	<u>\$ 9,247,251</u>	<u>\$ 9,784,761</u>	<u>\$ 9,603,015</u>
2. Actuarial present value of accumulated non-vested plan benefits			
	<u>\$ 72,840</u>	<u>\$ 78,987</u>	<u>\$ 76,719</u>
3. Total actuarial present value of accumulated plan benefits			
	\$ 9,320,091	\$ 9,863,748	\$ 9,679,734
B. <u>Statement of Change in Accumulated Plan Benefits</u>			
1. Actuarial present value of accumulated plan benefits as of October 1, 2018			\$ 9,320,091
2. Increase (decrease) during year attributable to:			
a. Change in actuarial assumptions			\$ (184,014)
b. Benefits paid including refunds			(422,466)
c. Other, including benefits accumulated, increase for interest due to decrease in the discount period			966,123
d. Net increase			<u>\$ 359,643</u>
3. Actuarial present value of accumulated plan benefits as of October 1, 2019			\$ 9,679,734
C. <u>Significant Matters Affecting Calculations</u>			
1. Assumed rate of return used in determining actuarial present values			7.0%
2. Change in plan provisions			None
3. Change in actuarial assumptions			See Table X, Item J.

Accounting Disclosure Exhibit

III. Net Pension Liability and Related Ratios (GASB No. 67)

Measurement date	9/30/2014	9/30/2015	9/30/2016 *	9/30/2017	9/30/2018	9/30/2019	Projected 9/30/2020 **
A. Total Pension Liability (TPL)							
Service Cost	\$ 181,957	\$ 217,717	\$ 184,303	\$ 214,252	\$ 242,895	\$ 232,299	\$ 241,329
Interest	569,116	604,681	642,052	689,944	697,173	725,020	751,027
Benefit Changes	(285,187)	(86,307)	(32,351)	0	0	0	0
Difference Between Actual and Expected Experience	(571,357)	2,980	19,887	(29,834)	(498,830)	(132,614)	41,280
Assumption Changes	186,132	0	120,280	0	15,088	0	(200,214)
Benefit Payments, including							
Refunds of Member Contributions	(194,264)	(196,624)	(248,893)	(316,027)	(375,627)	(422,466)	(449,322)
Net Change in Total Pension Liability (TPL)	\$ (113,603)	\$ 542,447	\$ 685,278	\$ 558,335	\$ 80,699	\$ 402,239	\$ 384,100
Total Pension Liability (TPL) - (beginning of year)	8,715,821	8,602,218	9,144,665	9,829,943	10,388,278	10,468,977	10,871,216
Total Pension Liability (TPL) - (end of year)	<u>\$ 8,602,218</u>	<u>\$ 9,144,665</u>	<u>\$ 9,829,943</u>	<u>\$ 10,388,278</u>	<u>\$ 10,468,977</u>	<u>\$ 10,871,216</u>	<u>\$ 11,255,316</u>
B. Plan Fiduciary Net Position							
Contributions - Town	\$ 408,449	\$ 439,208	\$ 419,653	\$ 311,423	\$ 177,948	\$ 168,906	\$ 172,921
Contributions - Member	9,876	25,606	48,259	65,433	66,273	67,573	69,408
Net Investment Income	208,290	342,918	2,010,513	1,213,981	759,187	566,194	791,750
Benefit Payments, including							
Refunds of Member Contributions	(194,264)	(196,624)	(248,893)	(316,027)	(375,627)	(422,466)	(449,322)
Administrative Expenses	(25,993)	(26,172)	(2,575)	(425)	(1,000)	(1,000)	(1,000)
Other	0	0	0	0	0	0	0
Net Change in Plan Fiduciary Net Position	406,358	584,936	2,226,957	1,274,385	626,781	379,207	583,757
Plan Fiduciary Net Position - (beginning of year)	5,916,087	6,322,445	6,907,381	9,134,338	10,408,723	11,035,504	11,414,711
Plan Fiduciary Net Position - (end of year)	<u>\$ 6,322,445</u>	<u>\$ 6,907,381</u>	<u>\$ 9,134,338</u>	<u>\$ 10,408,723</u>	<u>\$ 11,035,504</u>	<u>\$ 11,414,711</u>	<u>\$ 11,998,468</u>
C. Net Pension Liability (NPL) - (end of year): (A) - (B)	\$ 2,279,773	\$ 2,237,284	\$ 695,605	\$ (20,445)	\$ (566,527)	\$ (543,495)	\$ (743,152)
D. Plan Fiduciary Net Position as a Percentage of TPL: (B) / (A)	73.50 %	75.53 %	92.92 %	100.20 %	105.41 %	105.00 %	106.60 %
E. Covered Employee Payroll***	\$ 1,971,521	\$ 1,957,935	\$ 2,131,622	\$ 2,189,775	\$ 2,045,341	\$ 2,008,990	\$ 2,173,943
F. NPL as a Percentage of Covered Employee Payroll: (C) / (E)	115.64 %	114.27 %	32.63 %	(0.93)%	(27.70)%	(27.05)%	(34.18)%
G. Notes to Schedule:							
Valuation Date	10/01/2013	10/01/2014	10/01/2015	10/01/2016	10/01/2017	10/01/2018	10/01/2019
Reporting Date (GASB No. 68)	09/30/2015	09/30/2016	09/30/2017	09/30/2018	09/30/2019	09/30/2020	09/30/2021
Update procedures used to roll forward the TPL to the measurement dates	See Table VIII, Item V. for prior benefit and assumption changes.						

* As reported by prior Actuary and Town's Financial Statements

** Projected - actual amounts will be available after fiscal year end

*** Reported payroll on which contributions to the Plan are based as provided under GASB No. 82



Accounting Disclosure Exhibit

IV. Schedule of Employer Contributions (GASB No. 67)

<u>Fiscal Year Ended 9/30</u>	<u>Actuarially Determined Contribution</u>	<u>Actual Contribution ¹</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Payroll ²</u>	<u>Actual Contribution as a % of Covered Payroll</u>
2010	\$ 608,486	\$ 608,486	\$ 0	\$ 2,365,164	25.73%
2011	599,266	610,000	(10,734)	2,323,866	26.25%
2012	592,735	1,068,107	(475,372)	2,482,532	43.02%
2013	497,236	497,236	0	2,070,199	24.02%
2014	408,449	408,449	0	1,971,521	20.72%
2015	439,208	439,208	0	1,957,935	22.43%
2016	395,500	419,653	(24,153)	2,131,622	19.69%
2017 ³	257,642	311,423	(53,781)	2,189,775	14.22%
2018	177,407	177,948	(541)	2,045,341	8.70%
2019	168,906	168,906	0	2,008,990	8.41%
2020 ⁴	172,921	172,921	0	2,173,943	7.95%

¹ Per Town Financial Statements prior to September 30, 2016

² Reported payroll on which contributions to the Plan are based as provided under GASB No. 82

³ As reported by prior Actuary

⁴ Projected - actual amounts will be available after fiscal year end

Accounting Disclosure Exhibit

V. Notes to Schedule of Contributions (GASB No. 67)

Valuation Date: Actuarially determined contributions are calculated as of October 1st - one year prior the fiscal year end in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates for Fiscal Year Ended September 30, 2019:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level dollar, closed
Amortization Period	30 years
Asset Valuation Method	Fair Market Value
Inflation	2.75%
Salary Increases	4.75%
Investment Rate of Return	7.00%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition

Mortality For healthy male participants during employment, RP 2000 Combined Male Healthy Participant Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants during employment, RP 2000 Combined Female Healthy Participant Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For healthy male participants post employment, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants post employment, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

Other Information:

Benefit Changes

2015: For employees not represented by Local 630 or in dispatcher positions - final average monthly earnings changed to five year average, for participants hired after June 7, 2016 multiplier reduced to 2.0%, maximum annual benefit is 75%, effective June 7, 2016 employee contributions of 3.0% of earnings. 2013: For employees represented by Local 630 - final average monthly earnings changed to five year average, multiplier reduced to 2.0% for credited service after September 30, 2013, maximum annual benefit reduced to 75% of final average earnings, employee contributions of 1.0% of earnings effective October 1, 2013, 2% of earnings effective October 1, 2014 and 3% of earnings thereafter added to the plan. For employees in dispatcher positions - final average monthly earnings changed to five year average, multiplier reduced to 2.25% for credited service after June 3, 2014 (2.0% if hired on or after June 3, 2014), maximum annual benefit reduced to 90% of final average earnings (75% if hired on or after June 3, 2014), employee contributions of 2.0% of earnings effective June 3, 2014, 3.5% of earnings effective October 1, 2014 and 5.0% of earnings thereafter added to the plan.

Accounting Disclosure Exhibit

V. Notes to Schedule of Contributions (GASB No. 67) (cont'd)

Assumption Changes

2017: Mortality updated. 2016: Mortality updated. 2013: Investment return updated to 7% compounded annually, net of investment expenses. Salary increase factors updated. 2009: The Town will no longer purchase annuities effective October 1, 2010.

VI. Discount Rate (GASB No. 67)

A discount rate of 7.0% was used to measure the TPL. This discount rate was based on the expected rate of return on Plan investments of 7.0%. The projection of cash flows used to determine this discount rate assumed member contributions will be made at the current contribution rate and employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member contribution rate. Based on these assumptions, the Plan's fiduciary net position was projected to be available to make all projected future expected benefit payments of current Plan members. Therefore, the long-term expected rate of return on Plan investments was applied to all periods of projected benefit payments to determine the TPL.

VII. Sensitivity of the NPL to the Discount Rate Assumption (GASB No. 67)

Measurement date: September 30, 2019

	1% Decrease	Current Discount Rate	1% Increase
Discount Rate	6%	7%	8%
NPL	\$ 805,263	\$ (543,495)	\$ (1,668,230)

Measurement date: September 30, 2020 *

	1% Decrease	Current Discount Rate	1% Increase
Discount Rate	6%	7%	8%
NPL	\$ 589,970	\$ (743,152)	\$ (1,859,617)

* Projected - actual amounts will be available after fiscal year end

Accounting Disclosure Exhibit

VIII. Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions - Reporting Date (GASB No. 68)

Pension Expense for Fiscal Year Ending September 30, 2020 \$ (505,992)

Summary of Outstanding Deferred Inflows and Outflows of Resources as of September 30, 2020

	Deferred Outflows of Resources	Deferred Inflows of Resources
	<u> </u>	<u> </u>
Differences between actual and expected experience on liabilities	0	158,094
Changes of assumptions or other inputs	2,514	0
Net difference between projected and actual earnings on Plan investments	0	394,198
Total	<u>\$ 2,514</u>	<u>\$ 552,292</u>

Projected Deferred Outflows for Town Contributions to Be Recognized in Pension Expense for Fiscal Year Ending September 30, 2021 \$ 172,921

Summary of Deferred Outflows and Inflows of Resources to Be Recognized in Pension Expense in Future Years.

Year Ending 30-Sep	Amount
<u> </u>	<u> </u>
2021	\$ (523,753)
2022	(98,882)
2023	32,906
2024	39,951
2025	0
Thereafter	0

Accounting Disclosure Exhibit

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

IX. Components of Pension Expense (GASB No. 68)

Measurement Date	9/30/2014	9/30/2015 *	9/30/2016 *	9/30/2017	9/30/2018	9/30/2019	Projected 9/30/2020 **
Service Cost	\$ 181,957	\$ 217,717	\$ 184,303	\$ 214,252	\$ 242,895	\$ 232,299	\$ 241,329
Interest on Total Pension Liability	569,116	604,681	642,052	689,944	697,173	725,020	751,027
Current-Period Benefit Changes	(285,187)	(86,307)	(32,351)	0	0	0	0
Contributions - Member	(9,876)	(25,606)	(48,259)	(65,433)	(66,273)	(67,573)	(69,408)
Projected Earnings on Plan Investments	(400,129)	(451,042)	(491,092)	(641,518)	(723,976)	(765,941)	(791,750)
Administrative Expenses	25,993	26,172	2,575	425	1,000	1,000	1,000
Other Changes in Plan Fiduciary Net Position	0	0	0	0	0	0	0
Recognition of Beginning Deferred Outflows / (Inflows) due to Liabilities	(124,266)	(123,305)	(76,582)	24,206	(165,790)	(266,951)	(204,505)
Recognition of Beginning Deferred Outflows / (Inflows) due to Assets	21,625	64,179	(239,706)	(354,198)	(361,242)	(363,846)	(385,470)
Total Pension Expense	<u>\$ (20,767)</u>	<u>\$ 226,489</u>	<u>\$ (59,060)</u>	<u>\$ (132,322)</u>	<u>\$ (376,213)</u>	<u>\$ (505,992)</u>	<u>\$ (457,777)</u>

* As reported by prior Actuary

** Projected - actual amounts will be available after fiscal year end

Accounting Disclosure Exhibit

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

X. Recognition of Deferred Outflows and (Inflows) due to Liabilities - Measurement Date (GASB No. 68)

Recognition of Deferred Outflows due to Differences Between Actual and Expected Experience on Liabilities Remaining

Established	Initial Balance	Initial Recognition Period	Recognition Period as of 9/30/2019	Recognition Amount for 2018 / 2019	Balance as of 9/30/2019
2016 / 2017	\$ 0	2.7	0.0	\$ 0	\$ 0
2017 / 2018	0	2.4	0.4	0	0
2018 / 2019	0	2.3	1.3	0	0
TOTAL				\$ 0	\$ 0

Recognition of Deferred (Inflows) due to Differences Between Actual and Expected Experience on Liabilities Remaining

Established	Initial Balance	Initial Recognition Period	Recognition Period as of 9/30/2019	Recognition Amount for 2018 / 2019	Balance as of 9/30/2019
2016 / 2017	\$ (29,834)	2.7	0.0	\$ (7,734)	\$ 0
2017 / 2018	(498,830)	2.4	0.4	(207,846)	(83,138)
2018 / 2019	(132,614)	2.3	1.3	(57,658)	(74,956)
TOTAL				\$ (273,238)	\$ (158,094)

Recognition of Deferred Outflows due to Changes of Assumptions or Other Inputs on Liabilities Remaining

Established	Initial Balance	Initial Recognition Period	Recognition Period as of 9/30/2019	Recognition Amount for 2018 / 2019	Balance as of 9/30/2019
2016 / 2017	\$ 0	2.7	0.0	\$ 0	\$ 0
2017 / 2018	15,088	2.4	0.4	6,287	2,514
2018 / 2019	0	2.3	1.3	0	0
TOTAL				\$ 6,287	\$ 2,514

Accounting Disclosure Exhibit

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

X. Recognition of Deferred Outflows and (Inflows) due to Liabilities - Measurement Date (GASB No. 68) (cont'd)

Recognition of Deferred (Inflows) due to Changes of Assumptions or Other Inputs on Liabilities

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2019	Recognition Amount for 2018 / 2019	Balance as of 9/30/2019
2016 / 2017	\$ 0	2.7	0.0	\$ 0	\$ 0
2017 / 2018	0	2.4	0.4	0	0
2018 / 2019	0	2.3	1.3	0	0
TOTAL				\$ 0	\$ 0

XI. Recognition of Deferred Outflows and (Inflows) due to Assets - Measurement Date (GASB No. 68)

Recognition of Deferred Outflows / (Inflows) due to Difference Between Projected and Actual Earnings on Plan Investments

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2019	Recognition Amount for 2018 / 2019	Balance as of 9/30/2019
2014 / 2015	\$ 108,124	5	0	\$ 21,624	\$ 0
2015 / 2016	(1,519,421)	5	1	(303,884)	(303,885)
2016 / 2017	(572,463)	5	2	(114,493)	(228,984)
2017 / 2018	(35,211)	5	3	(7,042)	(21,127)
2018 / 2019	199,747	5	4	39,949	159,798
TOTAL				\$ (363,846)	\$ (394,198)

Outline of Principal Provisions of the Retirement Plan

A. Effective Date:

January 7, 1975. Latest amendment 11-16 on June 7, 2016.

B. Eligibility Requirements:

General employee of the Town and completion of one year of service.

C. Credited Service:

Years of service completed with a minimum of 1000 hours. [Plan is being administered based upon completed months from date of employment to retirement date (or date of termination, if earlier)].

D. Earnings:

Base pay excluding overtime pay, commissions, bonuses and any other extra compensation. Does not include lump sum payments for unused accumulated leave time.

E. Final Average Monthly Earnings:

For employees represented by Local 630, monthly average for the five year period immediately preceding retirement. (Plan being administered to use highest five years of the last ten years preceding retirement.)

For employees in dispatcher positions, monthly average for the highest five years of the last ten years preceding retirement.

For all other employees, monthly average for the highest five years of the last ten years preceding retirement - not less than average earnings as of June 7, 2016.

F. Normal Retirement:

1. Eligibility:

Earlier of:

(a) Attainment of age 65 and completion of 10 years of credited service.

(b) Attainment of age 62 and completion of 20 years of credited service.

2. Benefit:

For employees represented by Local 630, 2.5% times final average monthly earnings times credited service through September 30, 2013 and 2.0% times final average monthly earnings times credited service after September 30, 2013, subject to a minimum pension of \$50 and a maximum annual benefit of 75% of final average earnings (but not less than the participant's pension benefit accrued as of September 30, 2013).

Outline of Principal Provisions of the Retirement Plan

F. Normal Retirement (cont'd):

For employees in dispatcher positions hired before June 3, 2014, 2.5% times final average monthly earnings times credited service through June 3, 2014 and 2.25% times final average monthly earnings times credited service thereafter, subject to a minimum pension of \$50 and a maximum annual benefit of 90% of final average earnings.

For employees in dispatcher positions hired on or after June 3, 2014, 2.0% times final average monthly earnings times credited service, subject to a minimum pension of \$50 and a maximum annual benefit of 75% of final average earnings.

For all other employees hired before June 7, 2016, 2.5% times final average monthly earnings times credited service, subject to a minimum pension of \$50 and a maximum annual benefit of 75% of final average earnings. The maximum annual benefit cannot be less than the maximum benefit as of June 7, 2016.

For all other employees hired on or after June 7, 2016, 2.0% times final average monthly earnings times credited service, subject to a minimum pension of \$50 and a maximum annual benefit of 75% of final average earnings.

G. Early Retirement:

1. Eligibility:

Permitted within ten (10) years preceding normal retirement date.

2. Benefit:

Benefit accrued to date of retirement, reduced by 1/15th for each of the first five years and 1/30th for each year thereafter that early retirement date precedes normal retirement date.

H. Delayed Retirement:

1. Eligibility:

Any first day of a month past normal retirement date.

2. Benefit:

Accrued monthly pension based upon credited service and final average monthly earnings as of delayed retirement date.

Outline of Principal Provisions of the Retirement Plan

I. Death Benefit:

1. If a married participant dies while eligible for early retirement, the surviving spouse receives a life annuity equal to 50% of the benefit due the employee had he or she elected the joint and survivorship annuity and retired the day before death.
2. If an unmarried participant dies while eligible for early retirement, the beneficiary receives a 10 year certain benefit equal to the benefit due the employee had he or she elected the 10 year certain and life option and retired the day before death.

J. Employee Contributions

For employees represented by Local 630 - 1% of earnings effective October 1, 2013, 2% of earnings effective October 1, 2014 and 3% of earnings thereafter.

For employees in dispatcher positions - 2% of earnings effective June 3, 2014, 3.5% of earnings effective October 1, 2014 and 5% of earnings thereafter.

For all other employees - 3% of earnings effective June 7, 2016.

K. Benefit Upon Termination of Service

1. Benefit:

Accrued monthly pension based upon final average monthly earnings and credited service as of date of termination times the vesting percentage shown below payable at normal retirement date.

2. Vesting Schedule:

<u>Years of Credited Service</u>	<u>Vesting Percentage</u>
Less than 5	0%
5 or more years	100%

L. Normal Form of Payment of Retirement Income

Life annuity with optional annuity forms available. Effective October 1, 2010, Town no longer purchases annuities.

Outline of Principal Provisions of the Retirement Plan

M. Supplemental Health Benefit

1. Eligibility:

Participants who terminate employment on or after August 1, 2000 (effective date of Ordinance) and who receive monthly benefits, and their beneficiaries.

2. Benefit:

Monthly benefit calculated as \$5.00 for each year of credited service.

N. Changes Since Prior Valuation:

None

Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation

A. Mortality

For healthy participants during employment, PUB-2010 Headcount Weighted General Below Median Employee Mortality Table, separate rates for males and females, set back 1 year for males, with fully generational mortality improvements projected to each future decrement date with Scale MP-2018.

For healthy participants post employment, PUB-2010 Headcount Weighted General Below Median Healthy Retiree Mortality Table, separate rates for males and females, set back 1 year for males, with fully generational mortality improvements projected to each future decrement date with Scale MP-2018.

Sample Ages (2019)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	32.50	34.95	28.53
60	27.66	29.93	24.46	27.77
62	25.78	27.96	22.85	25.95

Sample Ages (2039)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	34.14	36.43	30.54
60	29.22	31.36	26.31	29.42
62	27.29	29.36	24.63	27.55

B. Investment Return

7.0%, compounded annually, net of investment expenses - includes inflation of 2.75%.

C. Allowances for Expenses or Contingencies

Previous year's actual administrative expenses.

Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation

D. Employee Withdrawal Rates

Withdrawal rates for males and for females were used in accordance with the following illustrative example:

<u>Age</u>	<u>Withdrawal Rates</u>	
	<u>Per 100 Employees</u>	
	<u>Males</u>	<u>Females</u>
25	14.8	16.5
35	9.1	11.9
45	7.9	10.0
55	6.1	7.9

E. Salary Increase Factors

Current salary is assumed to increase at a rate equal to 4.75% per year. General increase in wage level due to inflation is 3.75%.

F. Assumed Retirement Age

The earlier of (a) age 65 with 10 years of service and (b) age 62 with 20 years of service.

G. Disability Rates

None.

H. Asset Valuation Method

Fair Market Value

I. Cost Method

Normal Retirement, Termination and Death Benefits: Entry-Age-Normal Cost Method.

Under this method the normal cost for each active employee is the amount which is calculated to be a level percentage of pay that would be required annually from his entry age to his assumed retirement age to fund his estimated benefits, assuming the Plan had always been in effect. The normal cost for the Plan is the sum of such amounts for all employees. The actuarial accrued liability as of any valuation date for each active employee or inactive employee who is eligible to receive benefits under the Plan is the excess of the actuarial present value of estimated future benefits over the actuarial present value of current and future normal costs. The unfunded actuarial accrued liability as of any valuation date is the excess of the actuarial accrued liability over the assets of the Plan.

Vested Normal Retirement, Termination, Disability, and Death Benefits: Unit Credit Cost Method

Under this method, the actuarial present value of vested accrued benefits is an amount calculated to be the sum of the present values of each individual's vested accrued or earned benefit under the Fund as of the valuation date. Each individual's calculation is based on pay and service as of the valuation date.

Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation

J. Changes Since Prior Valuation:

Mortality was:

For healthy male participants during employment, RP 2000 Combined Male Healthy Participant Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants during employment, RP 2000 Combined Female Healthy Participant Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For healthy male participants post employment, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants post employment, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

Sample Ages (2019)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	30.64	33.66	30.21
60	25.71	28.64	25.55	28.54
62	23.81	26.68	23.71	26.62

Sample Ages (2039)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	32.78	35.50	32.37
60	27.88	30.47	27.74	30.38
62	25.97	28.49	25.89	28.44

Distribution by Attained Age Groups
and Service Groups as of October 1, 2019

Attained Age Group	-----COMPLETED YEARS OF SERVICE-----							Total
	<u>0 - 4</u>	<u>5 - 9</u>	<u>10 - 14</u>	<u>15 - 19</u>	<u>20 - 24</u>	<u>25 - 29</u>	<u>30 & Over</u>	
Under 25	1	0	0	0	0	0	0	1
25 - 29	0	0	0	0	0	0	0	0
30 - 34	1	1	0	0	0	0	0	2
35 - 39	2	1	1	0	0	0	0	4
40 - 44	5	0	0	0	1	0	0	6
45 - 49	0	2	0	0	0	0	0	2
50 - 54	2	3	1	1	0	1	0	8
55 - 59	0	1	0	2	1	0	2	6
60 - 64	1	1	3	2	0	0	0	7
65 & Over	0	1	0	0	0	1	1	3
TOTAL	12	10	5	5	2	2	3	39
				<u>10/01/2018</u>		<u>10/01/2019</u>		
				51.9 years		50.8 years		
				39.6 years		38.8 years		
				\$ 49,108		\$ 49,397		
				33.3%		33.3%		

**Statistics for Participants Entitled to Deferred Benefits
and Participants Receiving Benefits**

A. Entitled to Deferred Benefits

<u>Current Age Group</u>	<u>Count</u>	<u>Total Annual Benefit</u>	<u>Average Annual Benefit</u>
Less than 40	5	\$ 35,574	\$ 7,115
40- 44	9	84,382	9,376
45 - 49	6	53,153	8,859
50 - 54	10	83,074	8,307
55 - 59	11	66,023	6,002
60 - 64	4	35,427	8,857
65 & Over	-	-	-
TOTAL	45	\$ 357,633	\$ 7,947

B. Receiving Benefits

<u>Current Age Group</u>	<u>Count</u>	<u>Total Annual Benefit</u>	<u>Average Annual Benefit</u>
Less than 50	1	\$ 9,159	\$ 9,159
50 - 54	-	-	-
55 - 59	4	46,343	11,586
60 - 64	6	69,631	11,605
65 - 69	15	250,745	16,716
70 - 74	5	57,441	11,488
75 & Over	1	1,816	1,816
TOTAL	32	\$ 435,135	\$ 13,598

Reconciliation of Employee Data

A. <u>Active Participants</u>	
1. Active participants previous year	36
2. Retired during year	0
3. Died during year	0
4. Terminated non-vested during year	(1)
5. Terminated vested during year	(1)
6. New active participants	5
7. Reinstated during year	0
8. Active participants current year	<u>39</u>
B. <u>Participants Receiving Benefits</u>	
1. Participants receiving benefits previous year	27
2. New retired participants	0
3. New terminated vested receiving benefits	5
4. New disabled receiving benefits	0
5. New beneficiaries receiving benefits	0
6. Died or ceased payment during year	0
7. Retired or terminated vested receiving benefits current year	<u>32</u>
C. <u>Terminated Vested Participants Entitled to Future Benefits</u>	
1. Terminated vested entitled previous year	49
2. Died during year	0
3. Commenced receiving benefits during year	(5)
4. New terminated vested	1
5. Terminated vested paid lump sum	0
6. Rehired during year	0
7. Adjustment	0
8. Terminated vested entitled current year	<u>45</u>

Projected Retirement Benefits

<u>Fiscal Year</u>		<u>Projected Total Annual Payout</u>
2020	\$	449,322
2021	\$	583,503
2022	\$	650,634
2023	\$	688,568
2024	\$	715,517
2025	\$	827,913
2026	\$	868,699
2027	\$	903,036
2028	\$	919,437
2029	\$	914,829

The above projected payout of plan benefits during the next ten years is based on assumptions involving all decrements. Actual payouts may differ from the above estimates depending upon the death, salary and retirement experience of the plan. However, since the projected payment is recomputed each valuation date, there is an automatic correction to the extent that actual experience varies from expected experience.

Analysis of Investment Yield as of October 1, 2019

This Table sets forth the results of an analysis made of investment yields on the assets held under the Town of Orange Park General Employees Defined Benefit Plan and Trust.

The basic sources for this analysis were the Statements produced by the insurance carrier prior to fiscal year ending September 30, 2016 and the trust thereafter.

The basic data was initially checked for internal consistency. Since no difficulties were encountered with the data, yield rates were calculated directly from the transaction information submitted. A summary of the transaction information is set forth on the following page.

Summary of Transaction Information

Year Ending	Benefits Paid *	Administrative Expenses	Member Contributions	Town Contributions	Actuarial Value **
09/30/2019	\$ 422,466	\$ 1,000	\$ 67,573	\$ 168,906	\$ 11,414,711
09/30/2018	375,627	1,000	66,273	177,948	11,035,504
09/30/2017	316,027	425	65,433	311,423	10,408,723
09/30/2016 ***	248,893	2,575	48,259	419,653	9,134,338
09/30/2015	196,624	26,172	25,606	439,208	6,907,381
09/30/2014	194,264	25,993	9,876	408,449	6,322,445
09/30/2013	177,467	26,585	0	497,236	5,916,087
09/30/2012	85,265	25,235	0	1,068,107	5,377,948
09/30/2011	19,973	23,464	0	610,000	4,050,451
09/30/2010	1,245,882	24,132	0	608,486	3,313,330
09/30/2009	1,347,483	22,272	0	513,656	3,941,366
09/30/2008	225,726	21,609	0	498,597	4,675,206
09/30/2007	1,499,755	21,562	0	414,328	4,183,201
09/30/2006	161,497	17,503	0	338,103	5,052,147
09/30/2005	0	15,765	0	329,529	4,599,406
09/30/2004	0	14,291	0	295,398	3,990,043
09/30/2003	13,565	13,054	0	272,288	3,461,963
09/30/2002	65,277	11,796	0	267,973	3,008,054

* Includes refund of member contributions, if any.

** Actuarial Value is Insurance Contract Value for years prior to fiscal year ending September 30, 2016 and Fair Market Value thereafter.

*** As reported by prior Actuary

**Table XV
(Cont'd)**

Recent Compensation, Termination and Investment Return Experience

Valuation Date	Compensation		Termination	Actuarial Value Yield *	Assumed Rate of Return
	% Increase (Decrease)	Assumed Increase	Ratio of Actual to Expected		
10/01/2019	3.78%	4.75%	0.5	5.2%	7.0%
10/01/2018	8.67%	4.75%	1.0	7.3%	7.0%
10/01/2017	2.99%	4.75%	1.9	13.2%	7.0%
10/01/2016 **	4.14%	4.75%	2.0	28.9%	7.0%
10/01/2015	3.05%	4.75%	1.1	5.3%	7.0%
10/01/2014	3.36%	4.75%	0.7	3.5%	7.0%
10/01/2013	6.7%	6.5%	2.4	4.4%	8.0% / 7.0%
10/01/2012	1.2%	6.5%	3.3	8.2%	8.0% / 7.0%
10/01/2011	1.7%	6.5%	0.9	4.7%	8.0% / 7.0%
10/01/2010	2.6%	6.5%	0.7	0.9%	8.0% / 7.0%
Last Three Years	5.12%	4.75%	1.0	8.5%	7.0%
Last Five Years	4.50%	4.75%	1.2	11.6%	7.0%
Last Ten Years	3.8%	5.4%	1.2	7.9%	7.4% / 7.0%

* Actuarial Value is Insurance Contract Value for years prior to October 1, 2016 and Fair Market Value thereafter.

** As reported by prior Actuary

Town Contribution Information

<u>Valuation Date</u>	<u>Contribution Fiscal Year End</u>	<u>Minimum Required Employer Contributions</u>	<u>Actual Employer Contributions Made</u>
10/01/2019	09/30/2020	\$ 172,921	N/A
10/01/2018	09/30/2019	\$ 168,906	\$ 168,906
10/01/2017	09/30/2018	\$ 177,407	\$ 177,948
10/01/2016 *	09/30/2017	\$ 257,642	\$ 311,423
10/01/2015	09/30/2016	\$ 395,500	\$ 419,653
10/01/2014	09/30/2015	\$ 439,208	\$ 439,208
10/01/2013	09/30/2014	\$ 408,449	\$ 408,449
10/01/2012	09/30/2013	\$ 497,236	\$ 497,236
10/01/2011	09/30/2012	\$ 592,735	\$ 1,068,107
10/01/2010	09/30/2011	\$ 599,266	\$ 610,000
10/01/2009	09/30/2010	\$ 608,486	\$ 608,486
10/01/2008	09/30/2009	\$ 513,656	\$ 513,656
10/01/2007	09/30/2008	\$ 498,597	\$ 498,597
10/01/2006	09/30/2007	\$ 414,328	\$ 414,328
10/01/2005	09/30/2006	\$ 338,103	\$ 338,103
10/01/2004	09/30/2005	\$ 329,529	\$ 329,529
10/01/2003	09/30/2004	\$ 295,398	\$ 295,398
10/01/2002	09/30/2003	\$ 272,288	\$ 272,288

* As reported by prior Actuary

Actuarial Valuation as of October 1, 2019State Required Exhibit

	<u>10/01/2018</u>	<u>Prior Assumptions 10/01/2019</u>	<u>Current Assumptions 10/01/2019</u>
A. <u>Participant Data</u>			
1. Active participants	36	39	39
2. Retired participants and beneficiaries receiving benefits	27	32	32
3. Terminated vested participants	49	45	45
4. Annual payroll of employees	\$ 2,008,990	\$ 2,173,943	\$ 2,173,943
5. Annual benefits payable to those currently receiving benefits	\$ 397,765	\$ 435,135	\$ 435,135
B. <u>Value of Assets</u>			
1. Actuarial Value	\$ 11,035,504	\$ 11,414,711	\$ 11,414,711
2. Market Value	\$ 11,035,504	\$ 11,414,711	\$ 11,414,711
C. <u>Liabilities</u>			
1. Actuarial present value of future expected benefit payments for active members			
a. Retirement benefits	\$ 5,550,550	\$ 5,926,624	\$ 5,845,545
b. Vesting benefits	250,357	285,124	271,944
c. Death benefits	39,758	39,971	28,869
d. Total	<u>\$ 5,840,665</u>	<u>\$ 6,251,719</u>	<u>\$ 6,146,358</u>
2. Actuarial present value of future expected benefit payments for terminated vested members	\$ 1,781,638	\$ 1,651,824	\$ 1,591,631
3. Actuarial present value of future expected benefit payments for members currently receiving benefits			
a. Service retired	\$ 3,901,220	\$ 4,261,393	\$ 4,198,140
b. Beneficiaries	131,689	107,628	107,637
c. Miscellaneous	7,722	13,310	13,310
d. Total	<u>\$ 4,040,631</u>	<u>\$ 4,382,331</u>	<u>\$ 4,319,087</u>

Actuarial Valuation as of October 1, 2019

State Required Exhibit

	<u>10/01/2018</u>	<u>Prior Assumptions 10/01/2019</u>	<u>Current Assumptions 10/01/2019</u>
4. Total actuarial present value of future expected benefit payments	\$ 11,662,934	\$ 12,285,874	\$ 12,057,076
5. Actuarial accrued liability	\$ 10,336,363	\$ 10,912,496	\$ 10,712,282
6. Unfunded actuarial accrued liability	\$ (699,141)	\$ (502,215)	\$ (702,429)
D. <u>Statement of Accumulated Plan Benefits</u>			
1. Actuarial present value of accumulated vested benefits			
a. Participants currently receiving benefits	\$ 4,032,909	\$ 4,369,021	\$ 4,305,777
b. Other participants	5,214,342	5,415,740	5,297,238
c. Total	<u>\$ 9,247,251</u>	<u>\$ 9,784,761</u>	<u>\$ 9,603,015</u>
2. Actuarial present value of accumulated non-vested plan benefits	<u>72,840</u>	<u>78,987</u>	<u>76,719</u>
3. Total actuarial present value of accumulated plan benefits	\$ 9,320,091	\$ 9,863,748	\$ 9,679,734
E. <u>Statement of Change in Accumulated Plan Benefits</u>			
1. Actuarial present value of accumulated plan benefits as of October 1, 2018			\$ 9,320,091
2. Increase (decrease) during year attributable to:			
a. Change in actuarial assumptions			\$ (184,014)
b. Benefits paid			(422,466)
c. Other, including benefits accumulated and increase for interest due to decrease in the discount period			<u>966,123</u>
d. Net increase			\$ 359,643
3. Actuarial present value of accumulated plan benefits as of October 1, 2019			\$ 9,679,734

Actuarial Valuation as of October 1, 2019

State Required Exhibit

	<u>10/01/2018</u>	<u>Prior Assumptions 10/01/2019</u>	<u>Current Assumptions 10/01/2019</u>
F. Pension Cost			
1. Employer normal cost (including expenses)	\$ 233,299	\$ 247,900	\$ 242,329
2. Payment required to amortize unfunded liability	(53,086)	(38,922)	(54,001)
3. Interest adjustment	7,134	8,317	7,437
4. Total preliminary required contribution	<u>\$ 187,347</u>	<u>\$ 217,295</u>	<u>\$ 195,765</u>
5. Total required contribution (Greater of F.1. and F.4.)	\$ 233,299	\$ 247,900	\$ 242,329
6. Item 5 as a percentage of payroll	11.6%	11.4%	11.1%
7. Estimated employee contributions	\$ 64,393	\$ 69,408	\$ 69,408
8. Item 7 as a percentage of payroll	3.2%	3.2%	3.2%
9. Net amount payable by Town	\$ 168,906	\$ 178,492	\$ 172,921
10. Item 9 as a percentage of payroll	8.4%	8.2%	8.0%
G. Past Contributions			
1. Required Employer contribution	\$ 168,906	\$ 178,492	\$ 172,921
2. Actual contributions made	\$ 168,906	N/A	N/A
H. Disclosure of Following Items:			
1. Actuarial present value of future salaries - attained age	\$ 10,741,954	\$ 11,600,421	\$ 11,626,034
2. Actuarial present value of future employee contributions - attained age	\$ 342,796	\$ 366,292	\$ 367,100
3. Actuarial present value of future contributions from other sources	N/A	N/A	N/A
4. Amount of active members' accumulated contributions	\$ 163,765	\$ 219,888	\$ 219,888
5. Actuarial present value of future salaries and future benefits at entry age	N/A	N/A	N/A
6. Actuarial present value of future employee contributions at entry age	N/A	N/A	N/A

State Required Exhibit

<u>Unfunded Actuarial Accrued Liabilities</u>	<u>Current Unfunded Liabilities</u>	<u>Amortization Payment</u>	<u>Remaining Funding Period</u>
10/1/2017 Combined Bases*	\$ (584,423)	\$ (45,002)	28 years
10/1/2017 Assumption Change	16,981	1,308	28 years
10/1/2018 (Gain) / Loss	(174,209)	(13,261)	29 years
10/1/2019 (Gain) / Loss	239,436	18,033	30 years
10/1/2019 Assumption Change	<u>(200,214)</u>	<u>(15,079)</u>	30 years
TOTAL	\$ (702,429)	\$ (54,001)	

* Combined and amortized based on maximum 30 years due to combined credit base

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, and in our opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or other wise provided for in the valuation. All known events or trends which may require material increase in plan costs or required contribution rates have been taken into account in the valuation.

Michelle Jones

Shelly L. Jones, A.S.A.
Enrollment Number: 17-08646

Jennifer Borregard

Jennifer M. Borregard, E.A.
Enrollment Number: 17-07624

Dated: March 24, 2020

Glossary

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

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

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

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

Actuarial Present Value of Future Benefits. 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, non-retired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.

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

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

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

Glossary

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

Amortization Period. The period used in calculating the Amortization Payment.

Annual Required Contribution. The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The annual required contribution consists of the Employer Normal Cost and Amortization Payment plus interest adjustment.

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

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

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

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

GASB. Governmental Accounting Standards Board.

Glossary

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

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

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

Unfunded Actuarial Accrued Liability. The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.

Valuation Date. The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.

Vested Benefit Security Ratio. The ratio of the Market Value of Assets to the Actuarial Present Value of Vested Accrued Benefits.