

GASB 67/68 Report
For Use in Financial Statement Reporting



ALSIP FIREFIGHTERS'
PENSION FUND

Actuarial Valuation
as of May 1, 2018

LAUTERBACH & AMEN, LLP

GASB Statements 67 and 68 Actuarial Disclosures



Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

GASB 67: ALSIP FIREFIGHTERS' PENSION FUND

Fiscal Year Ended: April 30, 2019

Actuarial Valuation Date: May 1, 2018

Utilizing Data as of April 30, 2018

Measurement Date: April 30, 2019

GASB 68: VILLAGE OF ALSIP, ILLINOIS

Fiscal Year Ended: April 30, 2019

Actuarial Valuation Date: May 1, 2018

Utilizing Data as of April 30, 2018

Measurement Date: April 30, 2019

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ACTUARIAL CERTIFICATION

This certification provides supplemental information as required by the Governmental Accounting Standards Board. The enclosed schedules were prepared by the undersigned to assist in the preparation of the Comprehensive Annual Financial Report. The assumptions and methods used in the preparation of this report meet the parameters set for the disclosures presented in the financial section as required by the Governmental Accounting Standards Board. Additional information is provided solely to assist the Auditors in their preparation of the required footnote disclosures.

The results in this report are based on the participant data and financial information submitted by the Village of Alsip, Illinois, and may include results from the prior Actuary. We did not prepare the Actuarial Valuations for the years prior to May 1, 2015. Those valuations were prepared by the prior Actuary whose reports have been furnished to us, and our disclosures are based on those reports. An audit of the prior Actuary's results was not performed, but high-level reviews were completed for general reasonableness, as appropriate, based on the purpose of this valuation. The accuracy of the results is dependent on the precision and completeness of the underlying information.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The Village of Alsip, Illinois selected certain assumptions, while others were the result of guidance and/or judgment from the Plan's Actuary or Advisors. We believe that the assumptions used in this valuation are reasonable and appropriate for the purposes for which they have been used.

To the best of our knowledge, all calculations are in accordance with the applicable accounting requirements, and the procedures followed and presentation of results conform to generally accepted actuarial principles and practices. The undersigned consultants of Lauterbach & Amen, LLP, with actuarial credentials, meet the Qualification Standards of the American Academy of Actuaries to render this Actuarial Certification. There is no relationship between the Alsip Firefighters' Pension Fund or the Village of Alsip, Illinois and Lauterbach & Amen, LLP that impairs our objectivity.

Respectfully Submitted,

LAUTERBACH & AMEN, LLP

Todd A. Schroeder, ASA, FCA, EA, MAAA

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PLAN FIDUCIARY NET POSITION

Statement of Plan Fiduciary Net Position
Statement of Changes in Plan Fiduciary Net Position



STATEMENT OF PLAN FIDUCIARY NET POSITION

	<u>2018</u>	<u>2019</u>
Assets		
Cash and Cash Equivalents	\$ 410,024	\$ 518,607
Total Cash	<u>410,024</u>	<u>518,607</u>
Receivables:		
Due from Treasury	16,143	17,446
Investment Income - Accrued Interest	<u>64,956</u>	<u>65,256</u>
Total Receivables	<u>81,099</u>	<u>82,702</u>
Investments:		
U.S. Govt and Agency Obligations	11,780,039	12,865,336
Mutual Funds	14,825,896	15,032,778
Common Stock	<u>-</u>	<u>169,186</u>
Total Investments	<u>26,605,935</u>	<u>28,067,300</u>
Total Assets	<u>27,097,058</u>	<u>28,668,609</u>
Liabilities		
Payables:		
Expenses Due/Unpaid	<u>-</u>	<u>-</u>
Total Liabilities	<u>-</u>	<u>-</u>
Net Position Restricted for Pensions	<u>\$ 27,097,058</u>	<u>\$ 28,668,609</u>

The Plan Fiduciary Net Position shown above is intended to be in accordance with GAAP and the Governmental Accounting Standards Board. The Fair Market Value of Investments have been provided by the reporting entity, and the results are being audited by an independent Auditor. The level of the assets has been reviewed for reasonableness, but we make no representation as to the accuracy of the measurement of the Fair Market Value of Investments. The Statement of Plan Fiduciary Net Position for 2019 is based on audited financials.



STATEMENT OF CHANGES IN PLAN FIDUCIARY NET POSITION

	<u>2019</u>
Additions	
Contributions	
Employer	\$ 2,340,228
Member	310,996
Total Contributions	<u>2,651,224</u>
Investment Income	
Net Appreciation in Fair Value of Investments	1,157,262
Interest and Dividends	173,216
Less Investment Expense	<u>(113,831)</u>
Net Investment Income	<u>1,216,647</u>
Total Additions	<u>3,867,871</u>
Deductions	
Benefit Payments and Refunds of Member Contributions	2,255,921
Administrative Expense	40,399
Total Deductions	<u>2,296,320</u>
Net Increase in Net Position	<u>1,571,551</u>
Net Position Restricted for Pensions	
Beginning of Year	<u>27,097,058</u>
End of Year	<u>\$ 28,668,609</u>

The change in Plan Fiduciary Net Position shown above is intended to be in accordance with GAAP and the Governmental Accounting Standards Board. The Plan activity has been provided by the reporting entity, and the results are being audited by an independent Auditor. The cash flows have been reviewed for reasonableness, but we make no representation as to the accuracy of the measurement of the Fair Market Value of Investments. The Statement of Changes in Plan Fiduciary Net Position for 2019 is based on audited financials.



ACTUARIAL PENSION LIABILITY INFORMATION

Statement of Total Pension Liability
Statement of Changes in Total Pension Liability
Statement of Changes in Net Pension Liability
Deferred Outflows and Inflows of Resources
Deferred Outflows and Inflows of Resources – Detail
Pension Expense Development



STATEMENT OF TOTAL PENSION LIABILITY

	<u>2018</u>	<u>2019</u>
Active Employees	\$ 19,816,103	\$ 20,629,830
Inactive Employees		
Terminated Employees - Vested	-	-
Retired Employees	19,546,893	20,726,105
Disabled Employees	10,048,076	9,377,933
Other Beneficiaries	<u>1,491,505</u>	<u>2,006,468</u>
Total Inactive Employees	<u>31,086,474</u>	<u>32,110,506</u>
Total Pension Liability	<u>\$ 50,902,577</u>	<u>\$ 52,740,336</u>

The Total Pension Liability (“TPL”) shown above is dependent on several factors such as Plan Provisions and actuarial assumptions used in this report. In addition, the calculation of the TPL may be dependent on the Plan Fiduciary Net Position shown in the prior section of this report. Changes in the Plan Fiduciary Net Position due to any factor, including adjustments on final audit, may change the TPL. The dependence of the TPL on the Plan Fiduciary Net Position is due to the role of the Plan Fiduciary Net Position (and the Plan’s Projected Fiduciary Net Position) on the determination of the Discount Rate used for the TPL.

The TPL has been determined for GASB 67/68 reporting purposes only. The resulting TPL is intended to be used in the financial statement reporting of the Plan and/or Employer. The resulting liability is not intended to be a representation of the Plan liability for other purposes, including but not limited to, determination of cash funding requirements and recommendations. The TPL is based on data used for the Actuarial Valuation Date as shown in this report. The TPL has been determined as of the Actuarial Valuation Date and based on the assumptions shown in this report, adjusted to the Measurement Date as needed.



STATEMENT OF CHANGES IN TOTAL PENSION LIABILITY

	<u>2019</u>
Changes in Total Pension Liability	
Service Cost	\$ 878,753
Interest	3,235,350
Changes of Benefit Terms	-
Differences Between Expected and Actual Experience	(20,423)
Changes in Assumptions	-
Benefit Payments and Refunds	<u>(2,255,921)</u>
Net Change in Total Pension Liability	1,837,759
Total Pension Liability - Beginning	<u>50,902,577</u>
Total Pension Liability - Ending (a)	<u>\$ 52,740,336</u>
Plan Fiduciary Net Position - Ending (b)	<u>\$ 28,668,609</u>
Employer's Net Pension Liability - Ending (a) - (b)	<u>\$ 24,071,727</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	54%
Covered-Employee Payroll	\$ 3,538,768
Employer's Net Pension Liability as a Percentage of Employee Payroll	680%

The Plan Fiduciary Net Position was detailed in the prior section of this report. The employer's Net Pension Liability is the excess of the Total Pension Liability over the Plan Fiduciary Net Position.

Total Pension Liability may be dependent on the Fiduciary Net Position of the Fund. Changes in the Fiduciary Net Position could change the determination of the Total Pension Liability. Any changes in Fiduciary Net Position including adjustments on final audit can have an impact on Net Pension Liability that extends beyond the dollar-for-dollar change in Fiduciary Net Position.

Covered Employee Payroll is based on Total Covered Payroll for the Fund members during the fiscal year.



STATEMENT OF CHANGES IN NET PENSION LIABILITY

The table below illustrates the change in the Net Pension Liability (NPL) from the prior Measurement Date to the current Measurement Date. Under Statement 68, the difference between the NPL from the prior Measurement Date to the current Measurement Date should be recognized as a component of Pension Expense, unless permitted to be recognized as a Deferred Outflow or Inflow of Resources.

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
	(a)	(b)	(a) - (b)
Balances Beginning at 05/01/18	<u>\$ 50,902,577</u>	<u>\$ 27,097,058</u>	<u>\$ 23,805,519</u>
Changes for the year:			
Service Cost	878,753	-	878,753
Interest	3,235,350	-	3,235,350
Actuarial Experience	(20,423)	-	(20,423)
Assumptions Changes	-	-	-
Plan Changes	-	-	-
Contributions - Employer	-	2,340,228	(2,340,228)
Contributions - Employee	-	310,996	(310,996)
Contributions - Other	-	-	-
Net Investment Income	-	1,216,647	(1,216,647)
Benefit Payments and Refunds	(2,255,921)	(2,255,921)	-
Administrative Expense	-	(40,399)	40,399
Net Changes	<u>1,837,759</u>	<u>1,571,551</u>	<u>266,208</u>
Balances Ending at 04/30/19	<u>\$ 52,740,336</u>	<u>\$ 28,668,609</u>	<u>\$ 24,071,727</u>

The changes in Total Pension Liability above are described on the prior page. The Plan Fiduciary Net Position was detailed in the prior section of this report. The employer's Net Pension Liability is the excess of the Total Pension Liability over the Plan Fiduciary Net Position.



DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES

The table below shows the cumulative amounts to be shown as Deferred Outflows and Inflows of Resources. Changes in Total Pension Liability related to the difference in actual and expected experience, or changes in assumptions regarding future events, are recognized in Pension Expense over the expected remaining service life of all employees (active and retired) in the Pension Fund. Differences in projected and actual earnings over the measurement period are recognized over a 5-year period. Amounts not yet recognized are summarized below:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Differences Between Expected and Actual Experience	\$ 82,496	\$ 323,512
Changes of Assumptions	2,735,436	188,397
Net Difference Between Projected and Actual Earnings on Pension Plan Investments	790,423	307,279
Contributions Subsequent to the Measurement Date*	-	-
Total	<u>\$ 3,608,355</u>	<u>\$ 819,188</u>

* Contributions subsequent to the Measurement Date may be recognized as a reduction to the Net Pension Liability. The amount is not known as of the date of this report. Subsequent to the Measurement Date, the following amounts will be recognized in Pension Expense in the upcoming years:

Year Ended	
April 30:	
2020	\$ 831,048
2021	485,585
2022	571,220
2023	461,325
2024	441,872
Thereafter	(1,883)



DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES – DETAIL

The table below shows the annual detail amounts that have been summarized on the prior page. Under Statement 68, the level of detail shown on the prior page is sufficient for financial statement reporting. The detail shown below is primarily for tracking purposes.

Pension Expense Source	Date Established	Initial Period	Initial Balance	Remaining Period	4/30/2019 Expense Recognized	4/30/2019 Deferred Balance
Asset Loss	4/30/2019	5.00	\$ 556,196	5.00	\$ 111,240	\$ 444,956
Actuarial Gain	4/30/2019	6.61	(20,423)	6.61	(3,090)	(17,333)
Asset Gain	4/30/2018	5.00	(226,683)	4.00	(45,337)	(136,009)
Change in Assumptions Loss	4/30/2018	6.96	3,242,788	5.96	465,918	2,310,952
Actuarial Gain	4/30/2018	6.96	(16,832)	5.96	(2,419)	(11,994)
Asset Gain	4/30/2017	5.00	(428,181)	3.00	(85,637)	(171,270)
Change in Assumptions Gain	4/30/2017	6.96	(331,122)	4.96	(47,575)	(188,397)
Actuarial Gain	4/30/2017	6.96	(517,055)	4.96	(74,290)	(294,185)
Asset Loss	4/30/2016	5.00	1,727,335	2.00	345,467	345,467
Change in Assumptions Loss	4/30/2016	7.04	983,020	4.04	139,634	424,484
Actuarial Loss	4/30/2016	7.04	\$ 191,044	4.04	\$ 27,137	\$ 82,496
Total			\$ 5,160,087		\$ 831,048	\$ 2,789,167

Each detail item in the chart above was established as of the fiscal year end shown and the full amount deferred has been determined as of that time. Any events that occur in subsequent fiscal years do not have an impact on the prior fiscal year. The bases are established independently each year.



PENSION EXPENSE DEVELOPMENT

The table below displays the Pension Expense development for the current year. The Pension Expense includes items that change the Net Pension Liability from one year to the next, netted out for amounts that are deferred under GASB pronouncement, plus any amounts that are being recognized that were deferred previously.

See below for development of the Pension Expense:

	<u>2019</u>
Pension Expense/(Income) Under GASB 68	
Service Cost	\$ 878,753
Interest	3,235,350
Plan Changes	-
Contributions - Employee	(310,996)
Contributions - Other	-
Expected Investment Income	(1,772,844)
Administrative Expense	40,399
Other Changes	-
Initial Pension Expense/(Income)	<u>2,070,662</u>
Recognition of Outflow/(Inflow) of Resources due to Liabilities	505,315
Recognition of Outflow/(Inflow) of Resources due to Assets	325,733
Total Pension Expense/(Income)	<u>\$ 2,901,710</u>



ACTUARIAL ASSUMPTIONS INFORMATION

Statement of Significant Actuarial Assumptions
Assumption Changes

Notes on Actuarial Assumptions
Postemployment Benefit Changes

Expected Return on Pension Plan Investments
Municipal Bond Rate

Discount Rate
Sensitivity of the Discount Rate



STATEMENT OF SIGNIFICANT ACTUARIAL ASSUMPTIONS

Actuarial Assumptions (Economic)

Discount Rate used for the Total Pension Liability	6.50%
Long-Term Expected Rate of Return on Plan Assets	6.50%
High Quality 20 Year Tax-Exempt G.O. Bond Rate	3.79%
Projected Individual Pay Increases	4.00% - 35.82%
Projected Increase in Total Payroll	3.25%
Consumer Price Index (Urban)	2.50%
Inflation Rate Included	2.50%

Actuarial Assumptions (Demographic)

Mortality Table	RP-2014 Adjusted for Plan Status, Collar, and Illinois Public Pension Data, as Appropriate
Retirement Rates	L&A 2016 Illinois Firefighters Retirement Rates Capped at age 65
Disability Rates	L&A 2016 Illinois Firefighters Disability Rates
Termination Rates	L&A 2016 Illinois Firefighters Termination Rates
Percent Married	80%

All rates shown in the economic assumptions are assumed to be annual rates, compounded on an annual basis. For more information on the selection of the actuarial assumptions, please see the Assumption Summary prepared for the Fund, available upon request.

ASSUMPTION CHANGES

The assumptions were changed from the prior year.

The assumed rate on High Quality 20 Year Tax-Exempt General Obligation (G.O.) Bonds was changed from 3.97% to 3.79% for the current year. The underlying index used is The Bond Buyer 20-Bond G.O. Index as discussed in more detail later in this section. The choice of index is unchanged from the prior year. The rate has been updated to the current fiscal year end based on changes in market conditions as reflected in the Index. The change was made to reflect our understanding of the requirements of GASB under Statement 67 and Statement 68.



The discount rate used in the determination of the Total Pension Liability remained constant at 6.50%. The discount rate is impacted by a couple of metrics. Any change in the underlying High Quality 20 Year Tax Exempt G.O. Bond Rate will impact the blended discount rate.

In the current valuation, we have reviewed the individual pay scale assumption to reflect the settled bargaining agreement between the Village of Alsip, Illinois and the Professional Firefighters of Alsip Local 3074, affiliated with the International Association of Firefighters, for the period May 1, 2018 through April 30, 2022. The year over year step increases dictated by the wage schedule did not change significantly from the prior year contract, therefore, we have not updated the assumption for individual pay increases.

In addition, there are changes that can be made that impact the projection of the Fiduciary Net Position of the Fund. For example, changes in the Formal or Informal Funding Policy can impact the discount rate. Actual changes in the Fiduciary Net Position from one year to the next can impact the projections as well.



NOTES ON ACTUARIAL ASSUMPTIONS

Individual Pay Increases

Individual pay increases include provisions for annual cost of living increases, plus any additional increases in pensionable pay provided (step increases, longevity increases, promotions, educations, etc). Sample rates are as follows:

Service	Rate	Service	Rate
0	6.50%	8	4.00%
1	6.35%	9	4.00%
2	6.20%	10	4.00%
3	9.64%	15	4.00%
4	10.83%	20	4.00%
5	35.82%	25	4.00%
6	4.00%	30	4.00%
7	4.00%	35	4.00%

Demographic Assumptions

Active Mortality follows the Sex Distinct Raw Rates as developed in the RP-2014 Study, with Blue Collar Adjustment. These rates are improved generationally using MP-2016 Improvement Rates.

Retiree Mortality follows the L&A Assumption Study for Firefighters 2016. These rates are experience-weighted with the Raw Rates as developed in the RP-2014 Study, with Blue Collar Adjustment and improved generationally using MP-2016 Improvement Rates.

Disabled Mortality follows the Sex Distinct Raw Rates as developed in the RP-2014 Study for Disabled Participants. These rates are improved generationally using MP-2016 Improvement Rates.

Spouse Mortality follows the Sex Distinct Raw Rates as developed in the RP-2014 Study. These rates are improved generationally using MP-2016 Improvement Rates.

Other demographic assumption rates are based on a review of assumptions in the L&A 2016 study for Illinois Firefighters.



POSTEMPLOYMENT BENEFIT CHANGES

Eligibility for postemployment benefit increases is determined based on the Illinois Pension code. Tier 1 Firefighter retirees are provided with an annual 3.0% increase in retirement benefits by statute when eligible. Tier 2 Firefighter retirees are provided postemployment benefit increases based on one-half of the Consumer Price Index (Urban) for the prior September.

The CPI-U for September 1985 was 108.3. The CPI-U for September 2018 was 252.4. The average increase in the CPI-U for September 1985 through September 2018 was 2.61% (on a compounded basis).



EXPECTED RETURN ON PENSION PLAN INVESTMENTS

The Long-Term Expected Rate of Return on assets is intended to represent the best estimate of future real rates of return and is shown for each of the major asset classes in the investment policy. The Expected Rates of Return shown below have been provided by the State of Illinois Department of Insurance Actuarial Experience Study dated September 26, 2012. The table below illustrates the best estimate of Long-Term Expected Real Rates of Return developed for each of the major asset classes, adjusted for expected inflation.

<u>Asset Class</u>	<u>Long-Term Expected Rate of Return</u>	<u>Long-Term Inflation Expectations</u>	<u>Long-Term Expected Real Rate of Return</u>
US Large Cap Equity	8.30%	2.50%	5.80%
US Mid Cap Equity	9.30%	2.50%	6.80%
US Small Cap Equity	9.30%	2.50%	6.80%
Non-US Developed Large Cap Equity Unhedged	8.40%	2.50%	5.90%
Emerging Markets Equity Unhedged	10.50%	2.50%	8.00%
US Corporate Bonds	4.20%	2.50%	1.70%
US Government Fixed Income	3.20%	2.50%	0.70%
US Cash	3.00%	2.50%	0.50%
Global Real Estate - REITS	8.30%	2.50%	5.80%
Commodities - Long Only	4.90%	2.50%	2.40%

Long-Term Expected Real Rates of Return under GASB are expected to reflect the period of time that begins when a Plan member begins to provide service to the employer and ends at the point when all benefits to the Plan member have been paid. The rates provided above are intended to estimate those figures.

The Long-Term Inflation Expectation is 2.50% and is included in the Long-Term Expected Rates of Return. The Long-Term Inflation Expectation is from the same source as the Long-Term Expected Real Rates of Return, and is not necessarily reflective of the inflation measures used for other purposes in the report.

Geometric rates of return are equal to arithmetic rates of return when the annual returns exhibit no volatility over time. When arithmetic returns are volatile on a year-to-year basis, the actual realized geometric returns over time will be lower. Higher volatility results in a greater difference.



MUNICIPAL BOND RATE

The municipal bond rate assumption is based on The Bond Buyer 20-Bond G.O. Index. The rate shown earlier in this section of the report is the April 25, 2019 rate. The 20-Bond G.O. Index is based on an average of certain general obligation municipal bonds maturing in 20 years and having an average rating equivalent of Moody's Aa2 and Standard & Poor's AA.

The 20-Bond G.O. Index consists of 20 general obligation bonds that mature in 20 years. The average rating of the 20 bonds is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA.

The indices represent theoretical yields rather than actual price or yield quotations. Municipal bond traders are asked to estimate what a current-coupon bond for each issuer in the indices would yield if the bond was sold at par value. The indices are simple averages of the average estimated yields of the bonds.

DISCOUNT RATE

The discount rate used in the determination of the Total Pension Liability is based on a combination of the Long-Term Expected Rate of Return on Plan investments and the municipal bond rate.

Cash flow projections were used to determine the extent to which the Plan's future Fiduciary Net Position will be able to cover future benefit payments. To the extent future benefit payments are covered by the Plan's projected Fiduciary Net Position, the Long-Term Expected Rate of Return on Plan investments is used to determine the portion of the Net Pension Liability associated with those payments. To the extent future benefit payments are not covered by the Plan's projected Net Position, the municipal bond rate is used to determine the portion of the Net Pension Liability associated with those payments.

Projected benefit payments are determined during the actuarial process based on the assumptions. More details on the assumptions are in the prior section. The expected contributions are based on the funding policy of the Plan. The funding policy is discussed in more detail in the *Funding Policy* section of this report.



SENSITIVITY OF THE DISCOUNT RATE

The Net Pension Liability has been determined using the discount rate listed in this section of the report. Below is a table illustrating the sensitivity of the Net Pension Liability to the discount rate assumption.

	1% Decrease (5.50%)	Current Discount Rate (6.50%)	1% Increase (7.50%)
Employer Net Pension Liability	\$31,830,029	\$24,071,727	\$17,767,498

The sensitivity of the Net Pension Liability to the discount rate is based primarily on two factors:

1. The duration of the Plan's expected benefit payments. Younger plans with benefit payments further in the future will be more sensitive to changes in the discount rate.
2. The funded percentage of the Plan (ratio of the Net Position to the Total Pension Liability). The higher the funded percentage, the higher the sensitivity to the discount rate.



PARTICIPANT DATA

Participant Demographic Data
Expected Future Working Lifetime



PARTICIPANT DEMOGRAPHIC DATA

The chart below summarizes the employee count and payroll as of April 30:

	<u>2017</u>	<u>2018</u>
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	36	39
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	0	0
Active Plan Members	<u>35</u>	<u>35</u>
Total	<u>71</u>	<u>74</u>
Payroll of Active Plan Members	<u>\$ 3,010,259</u>	<u>\$ 3,069,553</u>

Participant counts shown above are as of the Actuarial Valuation Date for the two most recent fiscal years. Payroll of Active Plan Members is the pensionable rate of salary for active Plan members as of the data collection date for the Actuarial Valuation. For the fiscal year ending April 30, 2019, a beginning of the year valuation date was used along with a rollforward of liabilities to the end of the fiscal year based on assumptions and standard rollforward techniques.

The census information used in this valuation is based on the report filed with the Illinois Department of Insurance for the fiscal year ended April 30, 2018.

EXPECTED FUTURE WORKING LIFETIME

The chart below summarizes the expected future working lifetime of Fund Members as of April 30:

	<u>2017</u>	<u>2018</u>
Average Future Working Career (In Years)		
Active Plan Members	14.12	13.97
Inactive Plan Members	0.00	0.00
Total	6.96	6.61

The expected future working lifetime is measured as of the Actuarial Valuation Date and is based on the demographic assumptions used in the preparation of this report.



FUNDING POLICY

Components of the Actuarially Determined Contributions
Formal Funding Policy
Informal Funding Policy
Funding Policy – Other Considerations



COMPONENTS OF THE ACTUARIALLY DETERMINED CONTRIBUTION

The Actuarially Determined Contribution (ADC) includes the determination of the Normal Cost contribution for active Plan members, as well as a provision for the payment towards Unfunded Liability.

The actuarial funding method used in the determination of the Normal Cost and the Actuarial Accrued Liability is the Entry Age Normal Cost method (level percent of pay). The method allocates Normal Cost contributions by employee over the working career of the employee as a level percent of their pay.

Unfunded Liability is the excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The Actuarially Determined Contribution includes a payment towards Unfunded Liability existing at the Actuarial Valuation Date. The payment towards Unfunded Liability is set up as a level percent of payroll payment that is expected to increase during the payment period. The current year's employer contributions are being compared to the Actuarially Determined Contribution as developed in the May 1, 2017 actuarial valuation. The period of repayment as of that valuation is 16 years.

Beginning with the fiscal year ended April 30, 2018, the Village has implemented layered amortization to mitigate future volatility in the determination of the actuarial contribution. Any unfunded liability as of April 30, 2017 will be full-amortized by April 30, 2040. Any new unfunded liability of this date, and any that should emerge in a subsequent fiscal year, will be paid over a separate 15-year period.

The Actuarial Value of Assets smooths gains and losses on the Market Value of Assets over a 5-year period.

Under no circumstances will the Actuarially Determined Contribution be less than the amount determined as the Statutory Minimum Contribution under Illinois statutes.

FORMAL FUNDING POLICY

There is a Sustainable Retiree Defined Benefit Funding Policy that exists between the Pension Board and the Village at this time. Adopted by the Village on May 21, 2018, the policy states that the Village will contribute 100% of the Actuarially Determined Contribution, calculated based on the above-stated Funding Policy parameters. The economic and demographic assumptions disclosed in this report are the same as those referenced in the Funding Policy. Please refer to this document for full details on the assumptions and objectives between the Village and Pension Board.

INFORMAL FUNDING POLICY

In determining the most appropriate Informal Funding Policy, GASB provides the following guidance in the Statement:



Application of professional judgment should consider the most recent five-year contribution history of the employers and nonemployer contributing entities as a key indicator of future contributions from those sources and should reflect all other known events and conditions.... the amount of projected cash flows for contributions from employers and nonemployer contributing entities should be limited to an average of contributions from those sources over the most recent five-year period and may be modified based on consideration of subsequent events. For this purpose, the basis for the average (for example, percentage of covered payroll contributed or percentage of Actuarially Determined Contributions made) should be a matter of professional judgment.

In our review of Informal Funding Policy, the following factors are considered and described herein:

1. The five-year contribution history of the Employer (with a focus on the average contributions from those sources)
2. All other known events and conditions
3. Consideration of subsequent events

Five-Year Contribution History of the Employer

Employer contributions (under the informal policy) should be limited to the average over the most recent five years. In determining the basis for the average, we reviewed three possibilities: (a) the average dollar contribution; (b) the average percent of pensionable pay; and (c) the average percent of the Actuarially Determined Contribution. Please see the table below for a summary of these values:

<u>Fiscal Year End</u>	<u>Employer Contributions</u>	<u>Most Applicable ADC</u>	<u>% of ADC</u>	<u>Covered Payroll</u>	<u>% of Payroll</u>
4/30/2019	\$2,340,228	\$2,179,521	107.37%	\$3,538,768	66.13%
4/30/2018	\$1,765,714	\$2,119,572	83.31%	\$3,580,058	49.32%
4/30/2017	\$1,694,818	\$1,964,649	86.27%	\$3,475,471	48.77%
4/30/2016	\$1,541,749	\$1,538,355	100.22%	\$2,971,004	51.89%
4/30/2015	\$1,538,881	\$1,480,436	103.95%	\$3,011,302	51.10%

When compared to the other policies reviewed, history suggests that a contribution as a percent of the Actuarially Determined Contribution is the least volatile, and as a result, the most stable contribution method under an Informal Funding Policy.



Other Known Events and Conditions

GASB has a provision for consideration of any other known events or conditions in the most recent five-year history in applying judgement for the Informal Funding Policy. There are no events or conditions that have been considered in the development of the Informal Funding Policy.

Consideration of Subsequent Events

GASB has a provision for modification based on consideration of subsequent events in development of the Informal Funding Policy. There are no subsequent events that have been considered in the development of the Informal Funding Policy.

Informal Funding Policy – Selected

There is a Formal Funding Policy that exists between the Pension Fund and the Village. See the *Formal Funding Policy* section of this report for further details. For this reason, we have not determined an Informal Funding Policy for GASB 67/68 reporting purposes.

FUNDING POLICY – OTHER CONSIDERATIONS

Under GASB, the future contribution amount is not intended to include dollars contributed on behalf of future employees. Contributions are only intended to cover contributions towards the Normal Cost of existing employees as of the Actuarial Valuation Date as well as payment of Unfunded Liability on behalf of the current existing employees. Contributions under the funding policy have been adjusted as necessary to exclude dollars that would be anticipated to be contributed on behalf of future employees hired after the Actuarial Valuation Date.

The contribution level may not pay off the Unfunded Liability during the active working lifetimes of current employees. In that case contributions will persist beyond the working lifetimes of current employees. To the extent a portion of the above total contribution is anticipated to pay contributions for future employee Normal Cost, the amount has been netted out. The remaining amount is anticipated to be paid towards the Unfunded Liability existing for current employees.

The Actuarially Determined Contribution is determined annually based on the parameters previously discussed. The funding methods and procedures are assumed to continue into the future. The tax levy in the next December is assumed to be the Actuarially Determined Contribution. Funding is assumed to go into the Fund during the next full fiscal year.



SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in the Net Pension Liability
Schedule of Total Pension Liability and Related Ratios
Schedule of Contributions



SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total Pension Liability										
Service Cost	\$ 878,753	\$ 759,133	\$ 709,470	\$ 659,594	\$ 725,003					
Interest	3,235,350	3,137,406	3,075,843	2,882,499	2,763,171					
Changes of Benefit Terms	-	-	-	-	-					
Differences Between Expected and Actual Experience	(20,423)	(16,832)	(517,055)	191,044	-					
Changes in Assumptions	-	3,242,788	(331,122)	983,020	-					
Benefit Payments and Refunds	(2,255,921)	(2,080,017)	(2,035,303)	(1,872,896)	(1,694,070)					
Net Change In Total Pension Liability	\$ 1,837,759	\$ 5,042,478	\$ 901,833	\$ 2,843,261	\$ 1,794,104					
Total Pension Liability - Beginning	50,902,577	45,860,099	44,958,266	42,115,005	40,320,901					
Total Pension Liability - Ending (a)	\$ 52,740,336	\$ 50,902,577	\$ 45,860,099	\$ 44,958,266	\$ 42,115,005					
Plan Fiduciary Net Position										
Contributions - Employer	\$ 2,340,228	\$ 1,765,714	\$ 1,694,818	\$ 1,541,749	\$ 1,538,881					
Contributions - Member	310,996	307,846	294,101	313,228	286,786					
Contributions - Other	-	-	-	-	-					
Net Investment Income	1,216,647	1,862,812	2,051,133	(93,181)	1,654,617					
Benefit Payments and Refunds	(2,255,921)	(2,080,017)	(2,035,303)	(1,872,896)	(1,694,070)					
Administrative Expense	(40,399)	(30,298)	(45,473)	(24,740)	(16,982)					
Prior Period Audit Adjustment	-	81,401	-	-	-					
Net Change in Plan Fiduciary Net Position	\$ 1,571,551	\$ 1,907,457	\$ 1,959,277	\$ (135,840)	\$ 1,769,232					
Plan Fiduciary Net Position - Beginning	27,097,058	25,189,601	23,230,324	23,366,164	21,596,932					
Plan Fiduciary Net Position - Ending (b)	\$ 28,668,609	\$ 27,097,058	\$ 25,189,601	\$ 23,230,324	\$ 23,366,164					
Employer Net Pension Liability - Ending (a) - (b)	\$ 24,071,727	\$ 23,805,519	\$ 20,670,498	\$ 21,727,942	\$ 18,748,841					

The current year information was developed in the completion of this report.



SCHEDULE OF TOTAL PENSION LIABILITY AND RELATED RATIO

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>
Total Pension Liability - Ending (a)	<u>\$ 52,740,336</u>	<u>\$ 50,902,577</u>	<u>\$ 45,860,099</u>	<u>\$ 44,958,266</u>	<u>\$ 42,115,005</u>					
Plan Fiduciary Net Position - Ending (b)	<u>\$ 28,668,609</u>	<u>\$ 27,097,058</u>	<u>\$ 25,189,601</u>	<u>\$ 23,230,324</u>	<u>\$ 23,366,164</u>					
Employer Net Pension Liability - Ending (a) - (b)	<u>\$ 24,071,727</u>	<u>\$ 23,805,519</u>	<u>\$ 20,670,498</u>	<u>\$ 21,727,942</u>	<u>\$ 18,748,841</u>					
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	54.36%	53.23%	54.93%	51.67%	55.48%					
Covered-Employee Payroll	\$ 3,538,768	\$ 3,580,058	\$ 3,475,471	\$ 2,971,004	\$ 3,011,302					
Employer Net Pension Liability as a Percentage of Covered-Employee Payroll	680.23%	664.95%	594.75%	731.33%	622.62%					

Covered Employee Payroll shown for the current year is the Total Covered Payroll for the fiscal year for all Fund members.



SCHEDULE OF CONTRIBUTIONS

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Actuarially Determined Contribution	\$2,179,521	\$2,119,572	\$1,964,649	\$1,538,355	\$1,480,436					
Contributions in Relation to the Actuarially Determined Contribution	<u>2,340,228</u>	<u>1,765,714</u>	<u>1,694,818</u>	<u>1,541,749</u>	<u>1,538,881</u>					
Contribution Deficiency/(Excess)	<u>\$ (160,707)</u>	<u>\$ 353,858</u>	<u>\$ 269,831</u>	<u>\$ (3,394)</u>	<u>\$ (58,445)</u>					
Covered-Employee Payroll	<u>\$ 3,538,768</u>	<u>\$ 3,580,058</u>	<u>\$ 3,475,471</u>	<u>\$ 2,971,004</u>	<u>\$ 3,011,302</u>					
Contributions as a Percentage of Covered-Employee Payroll	66.13%	49.32%	48.77%	51.89%	51.10%					

NOTES TO SCHEDULE OF CONTRIBUTIONS

The Actuarially Determined Contribution shown for the current year is from the May 1, 2017 Actuarial Report completed by Lauterbach & Amen, LLP for the tax levy recommendation for the December 2017 tax levy. The methods and assumptions shown below are based on the same Actuarial Valuation. For more detail on the age-based and service-based rates disclosed below, please see the Actuarial Valuation.

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level % Pay (Closed)
Remaining Amortization Period	16 Years
Asset Valuation Method	5-Year Smoothed Market Value
Inflation	2.50%
Payroll Increases	3.25%
Individual Pay Increases	3.81% - 18.58%
Investment Rate of Return	6.50%
Mortality Rates	RP-2014 Adjusted for Plan Status, Collar, and Illinois Public Pension Data, as Appropriate
Retirement Rates	L&A 2016 Illinois Firefighters Retirement Rates Capped at age 65
Termination Rates	L&A 2016 Illinois Firefighters Termination Rates
Disability Rates	L&A 2016 Illinois Firefighters Disability Rates



GASB METHODS AND PROCEDURES

GASB Methods and Procedures
Methodology for Deferred Outflows and Inflows



GASB METHODS AND PROCEDURES

	<u>Statement 67</u> <u>Pension Fund Financials</u>	<u>Statement 68</u> <u>Employer Financials</u>
Fiscal Year End for Reporting	April 30, 2019	April 30, 2019
Measurement Date	April 30, 2019	April 30, 2019
Actuarial Valuation Date	May 1, 2018	May 1, 2018
Actuarial Valuation - Data Date	April 30, 2018	April 30, 2018
Asset Valuation Method	Market Value	Market Value
Actuarial Cost Method	Entry Age Normal (Level %)	Entry Age Normal (Level %)

Methodology Used in the Determination of Deferred Inflows and Outflows of Resources

Amortization Method	Straight Line	Straight Line
Amortization Period		
Actuarial Experience (TPL)	6.61 Years	6.61 Years
Changes in Assumptions	6.61 Years	6.61 Years
Asset Experience	5.00 Years	5.00 Years



SUPPLEMENTARY TABLES

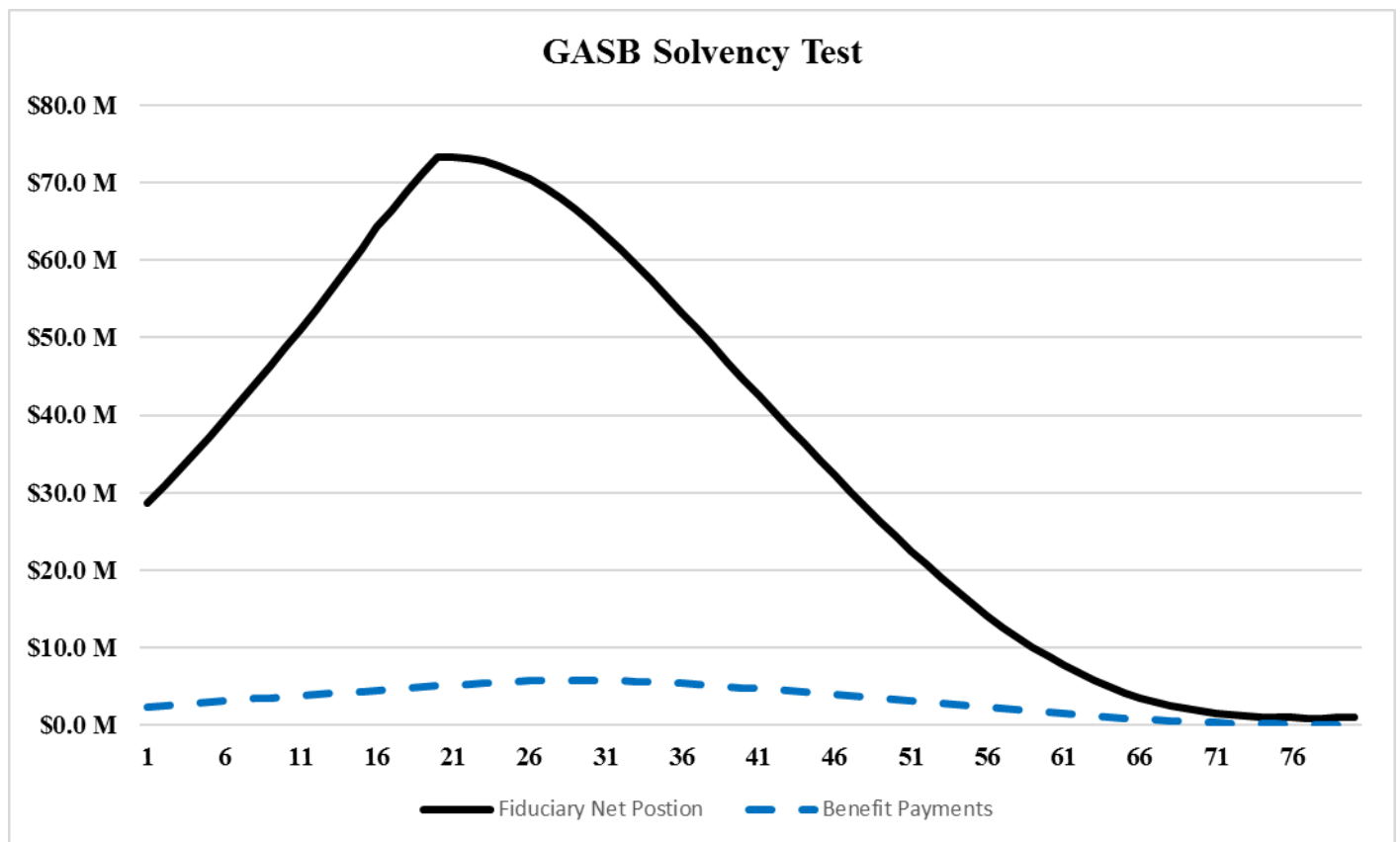
GASB Projections – Summary and Procedure
GASB Projections - Limitations
Projection of Contributions
Projection of the Pension Fund's Fiduciary Net Position
Actuarial Present Value of Projected Benefit Payments



GASB PROJECTIONS – SUMMARY AND PROCEDURE

GASB requires a solvency test to use in the determination of the Discount Rate each year. The Plan Fiduciary Net Position is projected forward. To the extent that the Plan Fiduciary Net Position is anticipated to be greater than \$0, Projected Benefit Payments are discounted based on the current Long-Term Expected Rate of Return on Plan Assets assumption.

If the Plan Fiduciary Net Position is anticipated to reach \$0 prior to the payment of Projected Benefit Payments for employees who are in the Plan as of the Actuarial Valuation Date, then the remaining Projected Benefit Payments are discounted using the High-Quality Municipal Bond Rate assumption, as described in the *Actuarial Assumptions Information* section of this report. The chart below is a high-level summary of the projections:



The Plan's Projected Fiduciary Net Position is anticipated to cover Projected Benefit Payments in full for the current employees.



GASB PROJECTIONS – LIMITATIONS

Projections of any type require assumptions about future events. The projections required for GASB reporting are deterministic in nature. That means that values are projected forward under one set of assumptions, which can be thought of as the average result. Actual results could vary, and projections of one deterministic assumption set do not necessarily provide a framework for making risk management or Funding Policy decisions. Projections that deal with risk management are outside the scope of this report.

In addition, GASB requirements create results that are specific only to financial statement reporting, and should not be used or interpreted for other purposes. For example, GASB cash flow projections do not entail the total expected cash flows of the Plan, but rather a subset of cash flows specific to Members who are in the Plan as of the Actuarial Valuation Date. While the likely expectation may be that future employees are hired to replace the current employees, cash flows attributable to their benefits are not considered. Under GASB, when the Plan Fiduciary Net Position reaches \$0, that represents the Plan Fiduciary Net Position for the assets attributable to the current Plan Members.

Also, GASB mandates certain assumptions that are made in the projection process. Most notably, Projected Contributions under an Informal Funding Policy. In proposing an Informal Funding Policy, GASB suggests a focus be placed on the average contributions over the past 5 years. Projected Contributions in this section may be based on the five-year average, unless a Formal Funding Policy is in place.

Contributions reflecting an Informal Funding Policy are applied under GASB, whether or not the projected results dictate a need for more or less contributions. This would not be the case with other uses for projections. Any events that are taken into account (past or future) in the Informal Funding Policy are discussed in the *Funding Policy* section of this report.

Projections further into the future are more sensitive to assumption changes. For projections that run out close to 80 years, a small change in an assumption may have a dramatic impact on the projections. If the solvency of the Plan as determined by GASB remains constant, then dramatic changes in the projection results may not necessarily lead to big changes in the determination of the Total Pension Liability.

We recommend the projections are not used for any other purposes, other than providing information for purposes of the financial statement report.

The following pages provide the detail behind the chart shown on the prior page.



PROJECTION OF CONTRIBUTIONS – YEARS 1 TO 30

Year	Projected Covered-Employee Payroll			Projected Contributions			
	Current Employees (a)	Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Current Employees (d) - Notes	Employer Contributions for Current Employees (e) - Notes	Contributions Related to Pay of Future Employees (f) - Notes	Total Contributions (d) + (e) + (f)
1	\$ 3,075,708	\$ 93,605	\$ 3,169,313	\$ 290,808	\$ 2,231,438	\$ -	\$ 2,522,246
2	3,044,316	228,000	3,272,316	287,840	2,332,526	-	2,620,366
3	3,001,436	377,230	3,378,666	283,786	2,379,223	-	2,663,009
4	2,981,299	507,174	3,488,473	281,882	2,427,110	-	2,708,992
5	2,938,774	663,074	3,601,848	277,861	2,483,308	-	2,761,169
6	2,906,184	812,725	3,718,909	274,780	2,534,104	-	2,808,883
7	2,829,918	1,009,855	3,839,773	267,569	2,590,214	-	2,857,783
8	2,737,369	1,227,197	3,964,566	258,818	2,639,704	-	2,898,522
9	2,643,831	1,449,583	4,093,414	249,974	2,687,218	-	2,937,193
10	2,577,567	1,648,883	4,226,450	243,709	2,737,501	-	2,981,210
11	2,489,834	1,873,976	4,363,810	235,414	2,796,351	-	3,031,765
12	2,404,678	2,100,955	4,505,633	227,362	2,853,621	-	3,080,984
13	2,336,363	2,315,704	4,652,067	220,903	2,913,253	-	3,134,156
14	2,276,966	2,526,293	4,803,259	215,287	2,979,673	-	3,194,960
15	2,200,895	2,758,470	4,959,365	208,095	3,050,867	-	3,258,962
16	2,112,113	3,008,431	5,120,544	199,700	2,475,652	-	2,675,353
17	2,018,831	3,268,131	5,286,962	190,880	2,524,663	-	2,715,544
18	1,879,499	3,579,289	5,458,788	177,707	2,575,673	-	2,753,379
19	1,751,751	3,884,448	5,636,199	165,628	2,411,761	-	2,577,389
20	1,615,655	4,203,720	5,819,375	152,760	285,681	-	438,441
21	1,452,353	4,556,152	6,008,505	137,320	257,873	-	395,193
22	1,291,887	4,911,894	6,203,781	122,148	224,287	-	346,435
23	1,144,569	5,260,835	6,405,404	108,219	192,677	-	300,896
24	1,006,076	5,607,504	6,613,580	95,124	163,916	-	259,040
25	851,765	5,976,756	6,828,521	80,534	139,533	-	220,067
26	721,777	6,328,671	7,050,448	68,244	115,507	-	183,751
27	586,600	6,692,987	7,279,587	55,463	94,957	-	150,420
28	496,124	7,020,050	7,516,174	46,909	73,027	-	119,936
29	388,247	7,372,203	7,760,450	36,709	59,252	-	95,961
30	288,056	7,724,608	8,012,664	27,236	42,924	-	70,160

Column d – Contributions from current employees to the Plan (employees in the Plan as of the Actuarial Valuation Date).

Column e – Employer Contributions to the Plan excluding contributions for employees hired after the Actuarial Valuation Date.

Column f – Contributions from future employees to the extent that contributions are assumed to be greater than their Normal Cost.



PROJECTION OF CONTRIBUTIONS – YEARS 31 TO 60

Year	Projected Covered-Employee Payroll			Projected Contributions			
	Current Employees (a)	Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Current Employees (d) - Notes	Employer Contributions for Current Employees (e) - Notes	Contributions Related to Pay of Future Employees (f) - Notes	Total Contributions (d) + (e) + (f)
31	\$ 198,499	\$ 8,074,577	\$ 8,273,076	\$ 18,768	\$ 28,008	\$ -	\$ 46,776
32	148,230	8,393,721	8,541,951	14,015	17,164	-	31,179
33	110,140	8,709,424	8,819,564	10,414	11,798	-	22,212
34	68,613	9,037,587	9,106,200	6,487	9,096	-	15,583
35	54,280	9,347,872	9,402,152	5,132	5,904	-	11,036
36	39,691	9,668,030	9,707,721	3,753	4,620	-	8,373
37	28,968	9,994,254	10,023,222	2,739	3,376	-	6,115
38	13,476	10,335,501	10,348,977	1,274	2,463	-	3,737
39	9,814	10,675,505	10,685,319	928	995	-	1,923
40	-	11,032,592	11,032,592	-	724	-	724
41	-	11,391,151	11,391,151	-	-	-	-
42	-	11,761,363	11,761,363	-	-	-	-
43	-	12,143,608	12,143,608	-	-	-	-
44	-	12,538,275	12,538,275	-	-	-	-
45	-	12,945,769	12,945,769	-	-	-	-
46	-	13,366,506	13,366,506	-	-	-	-
47	-	13,800,918	13,800,918	-	-	-	-
48	-	14,249,448	14,249,448	-	-	-	-
49	-	14,712,555	14,712,555	-	-	-	-
50	-	15,190,713	15,190,713	-	-	-	-
51	-	15,684,411	15,684,411	-	-	-	-
52	-	16,194,154	16,194,154	-	-	-	-
53	-	16,720,464	16,720,464	-	-	-	-
54	-	17,263,879	17,263,879	-	-	-	-
55	-	17,824,956	17,824,956	-	-	-	-
56	-	18,404,267	18,404,267	-	-	-	-
57	-	19,002,405	19,002,405	-	-	-	-
58	-	19,619,983	19,619,983	-	-	-	-
59	-	20,257,633	20,257,633	-	-	-	-
60	-	20,916,006	20,916,006	-	-	-	-

Column d – Contributions from current employees to the Plan (employees in the Plan as of the Actuarial Valuation Date).
 Column e – Employer Contributions to the Plan excluding contributions for employees hired after the Actuarial Valuation Date.
 Column f – Contributions from future employees to the extent that contributions are assumed to be greater than their Normal Cost.



PROJECTION OF CONTRIBUTIONS – YEARS 61 TO 80

Year	Projected Covered-Employee Payroll			Projected Contributions			
	Current Employees (a)	Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Current Employees (d) - Notes	Employer Contributions for Current Employees (e) - Notes	Contributions Related to Pay of Future Employees (f) - Notes	Total Contributions (d) + (e) + (f)
61	\$ -	\$ 21,595,776	\$ 21,595,776	\$ -	\$ -	\$ -	\$ -
62	-	22,297,639	22,297,639	-	-	-	-
63	-	23,022,312	23,022,312	-	-	-	-
64	-	23,770,537	23,770,537	-	-	-	-
65	-	24,543,080	24,543,080	-	-	-	-
66	-	25,340,730	25,340,730	-	-	-	-
67	-	26,164,304	26,164,304	-	-	-	-
68	-	27,014,643	27,014,643	-	-	-	-
69	-	27,892,619	27,892,619	-	-	-	-
70	-	28,799,129	28,799,129	-	-	-	-
71	-	29,735,101	29,735,101	-	-	-	-
72	-	30,701,492	30,701,492	-	-	-	-
73	-	31,699,290	31,699,290	-	-	-	-
74	-	32,729,517	32,729,517	-	-	-	-
75	-	33,793,227	33,793,227	-	-	-	-
76	-	34,891,507	34,891,507	-	-	-	-
77	-	36,025,480	36,025,480	-	-	-	-
78	-	37,196,309	37,196,309	-	-	-	-
79	-	38,405,189	38,405,189	-	-	-	-
80	-	39,653,357	39,653,357	-	-	-	-

NOTES TO PROJECTION OF CONTRIBUTIONS

Total Employee Payroll is projected to increase annually at the Projected Increase in Total Payroll rate shown in the *Actuarial Assumptions Information* section of this report. Payroll for current employees (employees in the Plan as of the Actuarial Valuation Date) are projected on an employee by employee basis, using the Projected Individual Pay Increases and probability of remaining an employee in the future.

Employer Contributions are related to current employees in the Plan as of the Actuarial Valuation Date. To the extent that Projected Contributions under the Funding Policy are made to cover the Normal Cost of benefit payments for future employees, those contributions are excluded for purposes of these projections and this report.

Contributions are based on the Funding Policy as described in the *Funding Policy* section of this report. The contributions do not factor in changes in the Funding Policy based on an assumed Employer decision; if, the projections were to play out in this fashion. The only future events that are considered were outlined in the *Funding Policy* section of this report. Contributions from future employees have not been included. It is assumed that contributions made by future employees will not exceed the Normal Cost of their participation in the Plan. In addition, Employer Contributions on behalf of future employees have not been included per the GASB parameters.



PROJECTION OF THE PENSION PLAN'S FIDUCIARY NET POSITION – YEARS 1 TO 30

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (a)+(b)-(c)-(d)+(e)
1	\$ 28,668,609	\$ 2,522,246	\$ 2,324,037	\$ 32,368	\$ 1,868,849	\$ 30,703,299
2	30,703,299	2,620,366	2,473,604	33,177	1,999,406	32,816,290
3	32,816,290	2,663,009	2,605,741	34,007	2,133,815	34,973,366
4	34,973,366	2,708,992	2,745,689	34,857	2,270,943	37,172,755
5	37,172,755	2,761,169	2,885,365	35,728	2,411,032	39,423,863
6	39,423,863	2,808,883	3,048,592	36,621	2,553,570	41,701,103
7	41,701,103	2,857,783	3,208,758	37,537	2,697,945	44,010,536
8	44,010,536	2,898,522	3,370,348	38,475	2,844,100	46,344,335
9	46,344,335	2,937,193	3,526,364	39,437	2,991,952	48,707,678
10	48,707,678	2,981,210	3,681,500	40,423	3,141,926	51,108,891
11	51,108,891	3,031,765	3,835,048	41,434	3,294,625	53,558,799
12	53,558,799	3,080,984	3,969,637	42,470	3,451,060	56,078,736
13	56,078,736	3,134,156	4,091,662	43,531	3,612,584	58,690,283
14	58,690,283	3,194,960	4,217,757	44,620	3,780,177	61,403,044
15	61,403,044	3,258,962	4,348,902	45,735	3,954,288	64,221,657
16	64,221,657	2,675,353	4,474,136	46,878	4,114,424	66,490,419
17	66,490,419	2,715,544	4,617,250	48,050	4,258,510	68,799,172
18	68,799,172	2,753,379	4,747,288	49,252	4,405,543	71,161,556
19	71,161,556	2,577,389	4,883,847	50,483	4,548,901	73,353,515
20	73,353,515	438,441	5,025,202	51,745	4,617,227	73,332,236
21	73,332,236	395,193	5,155,045	53,039	4,610,176	73,129,522
22	73,129,522	346,435	5,277,538	54,365	4,591,391	72,735,445
23	72,735,445	300,896	5,374,953	55,724	4,561,086	72,166,750
24	72,166,750	259,040	5,485,853	57,117	4,519,111	71,401,932
25	71,401,932	220,067	5,577,893	58,545	4,465,094	70,450,655
26	70,450,655	183,751	5,668,872	60,008	4,399,076	69,304,601
27	69,304,601	150,420	5,707,829	61,509	4,322,184	68,007,868
28	68,007,868	119,936	5,749,667	63,046	4,235,496	66,550,586
29	66,550,586	95,961	5,785,385	64,623	4,138,782	64,935,321
30	64,935,321	70,160	5,786,960	66,238	4,032,847	63,185,130

Column b – Contributions on behalf of current employees in the Plan as of the Actuarial Valuation Date.

Column d – Based on the average Administrative Expenses in recent years, and projected to increase in the future.

Column e – Based on the current Long-Term Expected Rate of Return on Plan Assets assumption, and does not factor in allocation changes.



PROJECTION OF THE PENSION PLAN'S FIDUCIARY NET POSITION – YEARS 31 TO 60

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (a)+(b)-(c)-(d)+(e)
31	\$ 63,185,130	\$ 46,776	\$ 5,749,418	\$ 67,894	\$ 3,919,491	\$ 61,334,085
32	61,334,085	31,179	5,692,738	69,591	3,800,453	59,403,388
33	59,403,388	22,212	5,636,542	69,387	3,676,499	57,396,170
34	57,396,170	15,583	5,545,053	67,124	3,548,862	55,348,437
35	55,348,437	11,036	5,454,066	64,794	3,418,644	53,259,258
36	53,259,258	8,373	5,344,693	62,416	3,286,393	51,146,914
37	51,146,914	6,115	5,231,715	60,002	3,152,767	49,014,079
38	49,014,079	3,737	5,104,198	57,562	3,018,279	46,874,336
39	46,874,336	1,923	4,975,562	55,107	2,883,398	44,728,987
40	44,728,987	724	4,835,303	52,644	2,748,549	42,590,314
41	42,590,314	-	4,690,964	50,182	2,614,283	40,463,451
42	40,463,451	-	4,543,437	47,731	2,480,911	38,353,194
43	38,353,194	-	4,393,175	45,296	2,348,707	36,263,431
44	36,263,431	-	4,240,711	42,882	2,217,906	34,197,744
45	34,197,744	-	4,086,467	40,494	2,088,727	32,159,511
46	32,159,511	-	3,930,641	38,135	1,961,383	30,152,117
47	30,152,117	-	3,773,302	35,810	1,836,091	28,179,097
48	28,179,097	-	3,614,416	33,523	1,713,083	26,244,241
49	26,244,241	-	3,453,987	31,277	1,592,605	24,351,582
50	24,351,582	-	3,292,041	29,077	1,474,916	22,505,380
51	22,505,380	-	3,128,730	26,929	1,360,291	20,710,012
52	20,710,012	-	2,963,961	24,836	1,249,015	18,970,230
53	18,970,230	-	2,797,802	22,804	1,141,395	17,291,019
54	17,291,019	-	2,630,250	20,839	1,037,756	15,677,686
55	15,677,686	-	2,461,514	18,947	938,435	14,135,660
56	14,135,660	-	2,291,755	17,134	843,779	12,670,550
57	12,670,550	-	2,121,625	15,405	754,132	11,287,652
58	11,287,652	-	1,952,040	13,769	669,809	9,991,652
59	9,991,652	-	1,784,166	12,229	591,075	8,786,331
60	8,786,331	-	1,619,353	10,792	518,132	7,674,318

Column b – Contributions on behalf of current employees in the Plan as of the Actuarial Valuation Date.

Column d – Based on the average Administrative Expenses in recent years, and projected to increase in the future.

Column e – Based on the current Long-Term Expected Rate of Return on Plan Assets assumption, and does not factor in allocation changes.



PROJECTION OF THE PENSION PLAN'S FIDUCIARY NET POSITION – YEARS 61 TO 80

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (a)+(b)-(c)-(d)+(e)
61	\$ 7,674,318	\$ -	\$ 1,458,748	\$ 9,460	\$ 451,114	\$ 6,657,224
62	6,657,224	-	1,303,526	8,236	390,087	5,735,549
63	5,735,549	-	1,154,638	7,122	335,054	4,908,843
64	4,908,843	-	1,013,060	6,117	285,952	4,175,617
65	4,175,617	-	879,729	5,221	242,654	3,533,322
66	3,533,322	-	755,356	4,430	204,973	2,978,508
67	2,978,508	-	640,850	3,742	172,654	2,506,570
68	2,506,570	-	536,901	3,152	145,375	2,111,892
69	2,111,892	-	443,916	2,654	122,759	1,788,081
70	1,788,081	-	362,145	2,241	104,383	1,528,077
71	1,528,077	-	291,452	1,906	89,791	1,324,510
72	1,324,510	-	231,365	1,639	78,521	1,170,026
73	1,170,026	-	181,166	1,434	70,117	1,057,544
74	1,057,544	-	139,979	1,280	64,149	980,434
75	980,434	-	106,716	1,171	60,222	932,769
76	932,769	-	80,296	1,100	57,985	909,358
77	909,358	-	59,648	1,059	57,135	905,787
78	905,787	-	43,728	1,043	57,421	918,437
79	918,437	-	31,638	1,048	58,636	944,386
80	944,386	-	22,567	1,071	60,617	981,366

NOTES TO PROJECTION OF THE PENSION PLAN'S FIDUCIARY NET POSITION

Projected Total Contributions are Employee and Employer Contributions projected to be made under the Funding Policy on behalf of current employees in the Plan as of the Actuarial Valuation Date. The amounts shown are detailed earlier in this section.

Projected Benefit Payments shown represents current employees as of the Actuarial Valuation Date. The Plan will pay benefits in the future on behalf of employees hired after the Actuarial Valuation Date, but those benefit payments are not projected for this purpose.

Projected Investment Earnings are based on the current Long-Term Expected Rate of Return on Plan Assets assumption. Administrative Expenses are typically not charged on a per employee basis. Administrative Expenses shown are not projected to distinguish between current and future employees.

The Projected Net Position represents assets held or projected to be held on behalf of current employees in the Plan as of the Actuarial Valuation Date. The Plan will hold assets in the future on behalf of employees hired after the Actuarial Valuation Date, but those assets are not projected for this purpose.



ACTUARIAL PRESENT VALUE OF PROJECTED BENEFIT PAYMENTS – YEARS 1 TO 30

Year	Projected Benefit Payments		Present Value (PV) of Projected Benefit Payments				
	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	PV of "Funded" Portion of Benefit Payments (6.50%)	PV of "Unfunded" Portion of Benefit Payments (3.79%)	PV of Total Projected Payments Using the Single Discount Rate (6.50%)
1	\$ 28,668,609	\$ 2,324,037	\$ 2,324,037	\$ -	\$ 2,251,999	\$ -	\$ 2,251,999
2	30,703,299	2,473,604	2,473,604	-	2,250,639	-	2,250,639
3	32,816,290	2,605,741	2,605,741	-	2,226,164	-	2,226,164
4	34,973,366	2,745,689	2,745,689	-	2,202,560	-	2,202,560
5	37,172,755	2,885,365	2,885,365	-	2,173,339	-	2,173,339
6	39,423,863	3,048,592	3,048,592	-	2,156,138	-	2,156,138
7	41,701,103	3,208,758	3,208,758	-	2,130,907	-	2,130,907
8	44,010,536	3,370,348	3,370,348	-	2,101,613	-	2,101,613
9	46,344,335	3,526,364	3,526,364	-	2,064,693	-	2,064,693
10	48,707,678	3,681,500	3,681,500	-	2,023,967	-	2,023,967
11	51,108,891	3,835,048	3,835,048	-	1,979,702	-	1,979,702
12	53,558,799	3,969,637	3,969,637	-	1,924,112	-	1,924,112
13	56,078,736	4,091,662	4,091,662	-	1,862,214	-	1,862,214
14	58,690,283	4,217,757	4,217,757	-	1,802,444	-	1,802,444
15	61,403,044	4,348,902	4,348,902	-	1,745,060	-	1,745,060
16	64,221,657	4,474,136	4,474,136	-	1,685,739	-	1,685,739
17	66,490,419	4,617,250	4,617,250	-	1,633,484	-	1,633,484
18	68,799,172	4,747,288	4,747,288	-	1,576,985	-	1,576,985
19	71,161,556	4,883,847	4,883,847	-	1,523,331	-	1,523,331
20	73,353,515	5,025,202	5,025,202	-	1,471,757	-	1,471,757
21	73,332,236	5,155,045	5,155,045	-	1,417,639	-	1,417,639
22	73,129,522	5,277,538	5,277,538	-	1,362,746	-	1,362,746
23	72,735,445	5,374,953	5,374,953	-	1,303,192	-	1,303,192
24	72,166,750	5,485,853	5,485,853	-	1,248,902	-	1,248,902
25	71,401,932	5,577,893	5,577,893	-	1,192,353	-	1,192,353
26	70,450,655	5,668,872	5,668,872	-	1,137,841	-	1,137,841
27	69,304,601	5,707,829	5,707,829	-	1,075,738	-	1,075,738
28	68,007,868	5,749,667	5,749,667	-	1,017,486	-	1,017,486
29	66,550,586	5,785,385	5,785,385	-	961,321	-	961,321
30	64,935,321	5,786,960	5,786,960	-	902,895	-	902,895

The Projected Fiduciary Net Position and Benefit Payments are based on current employees in the Plan as of the Actuarial Valuation Date. The development of the Projected Fiduciary Net Position is shown in more detail earlier in this section.



ACTUARIAL PRESENT VALUE OF PROJECTED BENEFIT PAYMENTS – YEARS 31 TO 60

Year	Projected Benefit Payments		Present Value (PV) of Projected Benefit Payments				
	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	PV of "Funded" Portion of Benefit Payments (6.50%)	PV of "Unfunded" Portion of Benefit Payments (3.79%)	PV of Total Projected Payments Using the Single Discount Rate (6.50%)
31	\$ 63,185,130	\$ 5,749,418	\$ 5,749,418	\$ -	\$ 842,288	\$ -	\$ 842,288
32	61,334,085	5,692,738	5,692,738	-	783,084	-	783,084
33	59,403,388	5,636,542	5,636,542	-	728,032	-	728,032
34	57,396,170	5,545,053	5,545,053	-	672,502	-	672,502
35	55,348,437	5,454,066	5,454,066	-	621,096	-	621,096
36	53,259,258	5,344,693	5,344,693	-	571,494	-	571,494
37	51,146,914	5,231,715	5,231,715	-	525,271	-	525,271
38	49,014,079	5,104,198	5,104,198	-	481,191	-	481,191
39	46,874,336	4,975,562	4,975,562	-	440,435	-	440,435
40	44,728,987	4,835,303	4,835,303	-	401,896	-	401,896
41	42,590,314	4,690,964	4,690,964	-	366,103	-	366,103
42	40,463,451	4,543,437	4,543,437	-	332,948	-	332,948
43	38,353,194	4,393,175	4,393,175	-	302,287	-	302,287
44	36,263,431	4,240,711	4,240,711	-	273,987	-	273,987
45	34,197,744	4,086,467	4,086,467	-	247,908	-	247,908
46	32,159,511	3,930,641	3,930,641	-	223,901	-	223,901
47	30,152,117	3,773,302	3,773,302	-	201,820	-	201,820
48	28,179,097	3,614,416	3,614,416	-	181,523	-	181,523
49	26,244,241	3,453,987	3,453,987	-	162,879	-	162,879
50	24,351,582	3,292,041	3,292,041	-	145,767	-	145,767
51	22,505,380	3,128,730	3,128,730	-	130,081	-	130,081
52	20,710,012	2,963,961	2,963,961	-	115,709	-	115,709
53	18,970,230	2,797,802	2,797,802	-	102,556	-	102,556
54	17,291,019	2,630,250	2,630,250	-	90,530	-	90,530
55	15,677,686	2,461,514	2,461,514	-	79,552	-	79,552
56	14,135,660	2,291,755	2,291,755	-	69,545	-	69,545
57	12,670,550	2,121,625	2,121,625	-	60,453	-	60,453
58	11,287,652	1,952,040	1,952,040	-	52,226	-	52,226
59	9,991,652	1,784,166	1,784,166	-	44,821	-	44,821
60	8,786,331	1,619,353	1,619,353	-	38,198	-	38,198

The Projected Fiduciary Net Position and Benefit Payments are based on current employees in the Plan as of the Actuarial Valuation Date. The development of the Projected Fiduciary Net Position is shown in more detail earlier in this section.



ACTUARIAL PRESENT VALUE OF PROJECTED BENEFIT PAYMENTS – YEARS 61 TO 80

Year	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	Projected Benefit Payments		Present Value (PV) of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	PV of "Funded" Portion of Benefit Payments (6.50%)	PV of "Unfunded" Portion of Benefit Payments (3.79%)	PV of Total Projected Payments Using the Single Discount Rate (6.50%)
61	\$ 7,674,318	\$ 1,458,748	\$ 1,458,748	\$ -	\$ 32,309	\$ -	\$ 32,309
62	6,657,224	1,303,526	1,303,526	-	27,109	-	27,109
63	5,735,549	1,154,638	1,154,638	-	22,547	-	22,547
64	4,908,843	1,013,060	1,013,060	-	18,575	-	18,575
65	4,175,617	879,729	879,729	-	15,146	-	15,146
66	3,533,322	755,356	755,356	-	12,211	-	12,211
67	2,978,508	640,850	640,850	-	9,728	-	9,728
68	2,506,570	536,901	536,901	-	7,652	-	7,652
69	2,111,892	443,916	443,916	-	5,941	-	5,941
70	1,788,081	362,145	362,145	-	4,551	-	4,551
71	1,528,077	291,452	291,452	-	3,439	-	3,439
72	1,324,510	231,365	231,365	-	2,563	-	2,563
73	1,170,026	181,166	181,166	-	1,885	-	1,885
74	1,057,544	139,979	139,979	-	1,367	-	1,367
75	980,434	106,716	106,716	-	979	-	979
76	932,769	80,296	80,296	-	692	-	692
77	909,358	59,648	59,648	-	482	-	482
78	905,787	43,728	43,728	-	332	-	332
79	918,437	31,638	31,638	-	226	-	226
80	944,386	22,567	22,567	-	151	-	151

NOTES TO THE ACTUARIAL PRESENT VALUE OF PROJECTED BENEFIT PAYMENTS

The Projected Fiduciary Net Position and Benefit Payments are based on current employees in the Plan as of the Actuarial Valuation Date. The development of the Projected Fiduciary Net Position is shown in more detail earlier in this section.

The Funded and Unfunded Portion of Benefit Payments are split based on the time that the Projected Fiduciary Net Position is to reach \$0 (based on assets for current Plan Members).

The Present Value ("PV") of the Funded and Unfunded Portion of Benefit Payments are determined separately. The PV of the Funded Portion of Benefit Payments uses the current Long-Term Expected Rate of Return on Plan Assets assumption. The PV of the Unfunded Portion of Benefit Payments are determined using the High-Quality Municipal Bond Rate assumption as of the Measurement Date, as described in the *Actuarial Assumptions Information* section of this report.

The Discount Rate used for GASB purposes is the rate such that when applied to the Total Projected Benefit Payments results in a Present Value that equals the sum of the Present Value of the Funded and Unfunded Portion of Benefit Payments. The Discount Rate is rounded to four decimal places; therefore, the resulting Present Value comparisons may show a slight difference due to rounding.



Lauterbach & Amen, LLP

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