PUBLIC MEETING NOTICE AND AGENDA
COMMITTEE OF THE WHOLE MEETING

JULY 12, 2022
7:30 P.M

AGENDA

1. Call to Order

2. Pledge of Allegiance

3. Audience Participation
   The public is invited to make an issue-oriented comment on any matter of public concern. The public comment may be no longer than 3 minutes in duration.

4. Staff Presentations
   A. Finance
      1. Informational item concerning Review of Actuarial Valuations
      2. Police Facility Funding Plan

   B. Police Department
      1. Ordinance recodifying Chapter 41, Traffic, of the Lake in the Hills Municipal Code

   C. Public Works
      1. Rejection of Bids for Security Systems & Fire Monitoring, Sprinkler Recertification, Testing and Maintenance
      2. Ordinance approving a Ground Lease with High Flying Eagles, LLC for Executive Hangar
      3. Ordinance establishing minimum Aviation Fuel Pricing Markups

5. Board of Trustees

6. Village President

7. Adjournment

MEETING LOCATION
Lake in the Hills Village Hall
600 Harvest Gate
Lake in the Hills, IL 60156

The Village of Lake in the Hills is subject to the requirements of the Americans with Disabilities Act of 1990. Individuals with disabilities who plan to attend this meeting and who require certain accommodations so that they can observe and/or participate in this meeting, or who have questions regarding the accessibility of the meeting or the Village's facilities, should contact the Village's ADA Coordinator at (847) 960-7410 [TDD (847) 658-4511] promptly to allow the Village to make reasonable accommodations for those persons.

Posted by: ____________________________Date:_________________ Time:________________

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AGENDA ITEM NO: 4.A.1

INFORMATIONAL MEMORANDUM

MEETING DATE: July 12, 2022

DEPARTMENT: Finance

SUBJECT: Review of Actuarial Valuations

EXECUTIVE SUMMARY

Each year, the Village has three actuarial valuation reports performed, the results of which are incorporated into the Annual Comprehensive Financial Report and/or used to determine the recommended amount of contributions to be made into the Lake in the Hills Police Pension Fund. Those reports are:

- Village of Lake in the Hills Postretirement Health Plan Actuarial Valuation
- Lake in the Hills Police Pension Fund GASB 67/68 Report Actuarial Valuation
- Lake in the Hills Police Pension Fund Actuarial Funding Report Actuarial Valuation

The Postretirement Health Plan Actuarial Valuation details the costs of the Village's mandated postretirement health care costs which are comprised of the direct costs of prior employees receiving Public Safety Employee Benefits Act benefits (currently one) as well as the implicit subsidies all retirees receive by only having to contribute the same premium towards health insurance continuation coverage as active employees although retiree health care costs, in general, are more expensive. Both the direct costs and the implicit subsidies are required to be shown as liabilities on the Village's financial statements.

The costs for the latter two reports are shared equally between the Village and the Pension Fund and are formally presented to the Pension Board. The Pension Board then prepares an annual Municipal Compliance Report that is presented to the Village Board prior to any tax levy being adopted. This year, in preparation for the Police Facility Funding Plan being presented as a separate agenda item, a representative from Lauterbach & Amen, LLP will be present at the Committee of the Whole meeting to review each report with the Committee.

FINANCIAL IMPACT

None

ATTACHMENTS

1. Village of Lake in the Hills Postretirement Health Plan Actuarial Valuation as of January 1, 2021
2. Lake in the Hills Police Pension Fund GASB 67/68 Report Actuarial Valuation as of January 1, 2021
3. Lake in the Hills Police Pension Fund Actuarial Funding Report Actuarial Valuation as of January 1, 2022

SUGGESTED DIRECTION

Informational item only

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Lauterbach & Amen, LLP
668 N. River Road
Naperville, IL 60563

Actuarial Valuation
as of January 1, 2021

VILLAGE OF LAKE IN THE HILLS, ILLINOIS POSTRETIREMENT HEALTH PLAN

GASB 74/75 Financial Statement Reporting
Limited-Year Reporting

LAUTERBACH & AMEN, LLP

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Actuarial GASB Disclosures Statements 74 and 75

Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

VILLAGE OF LAKE IN THE HILLS, ILLINOIS
POSTRETIREMENT HEALTH PLAN

Fiscal Year Ending: December 31, 2021
Actuarial Valuation Date: January 1, 2021
Measurement Date: December 31, 2021
Utilizing Data as of January 1, 2021

Submitted by:

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Contact:

Todd A. Schroeder
March 4, 2022

LAUTERBACH & AMEN, LLP

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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 provide general information to assist in the preparation of the Annual Financial Report. The assumptions and methods used in the preparation of this disclosure meet the parameters set for the disclosures presented in the financial section as required by the Governmental Accounting Standards Board. Additional information is also provided solely to assist the auditors in preparation of the required footnote disclosures.

The results in this report are based on information and data submitted by the Village of Lake in the Hills, Illinois. We did not prepare the Actuarial Valuations for the years prior to January 1, 2014. Those valuations were prepared by other Actuaries whose reports have been furnished to us, and our disclosures are based upon those reports. An audit of the information was not performed, but high-level reviews were performed for general reasonableness as appropriate based on the purpose of the valuation. The accuracy of the results is dependent upon the precision and completeness of the underlying information. The results of the Actuarial Valuation and these supplemental disclosures rely on the information provided.

The valuation results summarized involve actuarial calculations that require assumptions about future events. The Village of Lake in the Hills, Illinois selected certain assumptions, while others were the result of guidance and/or judgment. We believe that the assumptions used in the 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 funding requirements, and the procedures followed and presentation of results conform to generally accepted actuarial principles and practices. The undersigned consultant of Lauterbach & Amen, LLP, with actuarial credentials, meets the Qualification Standards of the American Academy of Actuaries to render this Actuarial Certification. There is no relationship between the Village of Lake in the Hills, Illinois and Lauterbach & Amen, LLP that impairs our objectivity.

Respectfully Submitted,

LAUTERBACH & AMEN, LLP

Todd A. Schroeder

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

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MANAGEMENT SUMMARY

Comments and Analysis
Limited-Year Reporting

Comments and Analysis

This report details the data, assumptions, and underlying methodology used in the GASB 74/75 valuation as of January 1, 2021. The results assumed that no significant changes have been made to the retiree medical program and a full valuation is not required. Please confirm with your auditors that limited-year reporting is acceptable for the Fiscal Year ended December 31, 2021, before relying on these results. If you made significant changes to the retiree medical plan, a full valuation may be required.

Limited-Year Reporting

GASB Statement 75 allows for reporting for the current fiscal year-end based on the Actuarial Valuation for the prior year in many circumstances, as long as there have been no significant changes. The Employer has confirmed that there have been no significant changes to the medical premiums, the group covered, or the Eligibility and Coverage provisions. Therefore, they have elected a limited valuation for the current fiscal year reporting. The limited-year valuation relies on census, medical information – including claims and premiums, and eligibility and coverage information utilized in the prior GASB 74/75 valuation. This information is not updated in the limited-year report. The limited-year report does reflect updates to the Measurement Date, discount rate, and Covered-Employee Payroll to stay consistent with the requirements of GASB 74/75.

Expected Increase in Total OPEB Liability

Each year the Total OPEB Liability is expected to increase with interest and the accrual of additional service by active plan Members. The increases are offset by decreases in liability due to benefit payments. The expected Total OPEB Liability increase for the current year was approximately $93,000.

In addition to the expected increase in Total OPEB Liability, additional changes in Total OPEB Liability occurred between the prior valuation and the current year. Below are the key components of those changes.

Demographic Experience

Limited-year reporting does not update census information, claims, or premiums from the prior year's full valuation.

Plan Changes

Limited-year reporting does not update plan provisions from the prior year's full valuation.

COMMENTS AND ANALYSIS – CONTINUED

Discount Rate
The Discount Rate was decreased from 2.12% for the Fiscal Year-Ended December 31, 2020 to 2.06% to better reflect the current high-quality fixed income environment. The underlying index used is the Bond Buyer 20-Bond G.O. Index. The rate has been updated to the current Fiscal Year-End based on changes in market conditions as reflected in the index. The rate selected is as of December 30, 2021, and is the most recent rate available prior to the Measurement Date. The change was made to reflect our understanding of the requirements for reporting under GASB Statement 75. See the *Actuarial Assumption Information* section of this report for further details.

Assumption Changes
The Actuary for the Illinois Municipal Retirement Fund performed an actuarial experience study of IMRF experience dated December 14, 2020. The actuarial assumptions were changed in the current year to the tables shown in the *Statement of Significant Assumptions* section of this report. The assumptions impacted include:

- Mortality Rates
- Mortality Improvement Rates
- Retirement Rates
- Termination Rates
- Disability Rates

In addition, the discount rate was updated as noted above.

The changes in the assumptions were made to better reflect the future anticipated experience in the plan. The changes included a review of the experience studies for the underlying pension systems for the employee groups and the requirements of GASB 75. The changes in assumptions resulted in a net decrease in the Total OPEB Liability in the current year of approximately $29,000.

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POSTRETIREMENT PLAN NET POSITION

Statement of OPEB Plan Net Position
Statement of Changes in OPEB Trust and OPEB Plan Net Position
Statement of OPEB Plan Benefit Payments and Contributions

STATEMENT OF OPEB PLAN NET POSITION

	12/31/2020	12/31/2021
Assets		
Cash and Cash Equivalents	$ -	$ -
Total Cash	-	-
Receivables:		
Due from Village	-	-
Investment Income - Accrued Interest	-	-
Other	-	-
Total Receivables	-	-
Investments:		
Common Stock	-	-
Total Investments	-	-
Total Assets	-	-
Liabilities		
Payables:		
Expenses Due/Unpaid	-	-
Other	-	-
Total Liabilities	-	-
Net Position Restricted for Postretirement Plan	$ -	$ -

The Total OPEB Liability is an unfunded obligation. The Employer does not have a trust dedicated exclusively to the payment of OPEB benefits.

Statement of Changes in OPEB Trust and OPEB Plan Net Position

	12/31/2021 OPEB Trust	12/31/2021 OPEB Plan
Additions		
Contributions		
Employer	$ -	$ 21,962
Member	-	-
Other	-	-
Total Contributions	-	21,962
Investment Income		
Net Appreciation in Fair Value of Investments	-	-
Interest and Dividends	-	-
Less Investment Expense	-	-
Net Investment Income	-	-
Total Additions	-	21,962
Deductions		
Benefit Payments	-	21,962
Administrative Expense	-	-
Other	-	-
Total Deductions	-	21,962
Net Increase in Net Position	-	-
Net Position Restricted for Postretirement Plan		
Beginning of Year	-	-
End of Year	$ -	$ -

The Total OPEB Liability is an unfunded obligation. The Employer does not have a trust dedicated exclusively to the payment of OPEB benefits.

STATEMENT OF OPEB PLAN BENEFIT PAYMENTS AND CONTRIBUTIONS

	12/31/2021
Employer Contributions	
OPEB Trust Contributions	$ -
Contributions from Other Village Resources*	21,962
Total OPEB Plan Contributions	$ 21,962
Employer Benefit Payments	
Benefit Payments from Trust	$ -
Payments from Other Village Resources*	21,962
Total OPEB Plan Benefit Payments	$ 21,962

A portion of the Employer Contributions and Benefit Payments is based on the cost sharing provisions. In addition, a portion is related to the increase in active premiums due to the presence of retirees in the determination of blended retiree/active premiums.

*Contributions from Other Village Resources and Benefit Payments from Other Village Resources refers to contributions made to and benefit payments made from the OPEB Plan that were not directly made to or from the OPEB Trust.

Of the benefit payments from Other Village Resources, $6,814 are explicit benefit payments due to PSEBA pensioners and $15,148 are implicit benefit payments due to the presence of retirees in the determination of the blended retiree/active premiums.

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ACTUARIAL OPEB LIABILITY INFORMATION

STATEMENT OF TOTAL OPEB LIABILITY

	12/31/2020	12/31/2021
Total Active Employees	$ 681,553	$ 754,352
Inactive Employees Currently Receiving Benefit Payments	344,019	334,982
Inactive Employees Entitled To But Not Yet Receiving Benefit Payments	-	-
Total Inactive Employees	344,019	334,982
Total OPEB Liability	$ 1,025,572	$ 1,089,334

The Total OPEB Liability shown is dependent on several factors such as Plan Provisions and assumptions used in the report. In addition, the calculation of the Total OPEB Liability may be dependent on the OPEB Plan Net Position shown on the prior page. Changes in the OPEB Plan Net Position due to any factor, including adjustment on final audit, could change the Total OPEB Liability. The dependence of the Total OPEB Liability on the Net Position is due to the role of the Net Position (and projected Net Position) on the determination of the discount rate used for the Total OPEB Liability.

The Total OPEB Liability has been determined for GASB 74/75 reporting purposes only. The resulting Total OPEB Liability is intended to be used in the financial statement reporting of the postretirement plan and/or the Employer. The resulting liability is not intended to be a representation of the postretirement plan liability for other purposes, including but not limited to determination of cash funding requirements and recommendations, if applicable.

EXPECTED BENEFIT PAYMENTS

Subsequent to the Measurement Date, the following amounts are expected to be paid out in benefits in upcoming years:

Year Ended December 31:	
2022	$ 27,845
2023	34,898
2024	42,505
2025	51,726
2026	60,146

The table above represents the expected benefit payments for the next 5 years under the OPEB Plan. Benefit payments in an OPEB plan do not necessarily imply the existence of an OPEB trust. The payments include obligations that come from other employer resources. Benefit payments may include direct payments made by the employer for health coverage for the retiree group. Benefit payments may also reflect implicit payments made by the employer that are based on the existence of retirees on employer medical coverage, that are not directly linked to retiree premiums or stipends.

STATEMENT OF CHANGES IN TOTAL OPEB LIABILITY

Total OPEB Liability	**12/31/2021**
Service Cost	$ 93,483
Interest	21,509
Changes of Benefit Terms	-
Differences Between Expected and Actual Experience	-
Changes in Assumptions	(29,268)
Benefit Payments*	(21,962)
Net Change in Total OPEB Liability	63,762
Total OPEB Liability - Beginning	1,025,572
Total OPEB Liability - Ending (a)	$ 1,089,334
OPEB Plan Net Position - Ending (b)	$ -
Employer's Net OPEB Liability/(Asset) - Ending (a) - (b)	$ 1,089,334
OPEB Plan Net Position as a Percentage of the Total OPEB Liability	0.00%
Covered-Employee Payroll	$ 9,371,028
Employer's Net OPEB Liability as a Percentage of Employee Payroll	11.62%

*See the benefit breakdown in the *Statement of OPEB Plan Benefit Payments and Contributions* section of this report.

The OPEB Plan Net Position was detailed in the prior section of this report. The Employer's Net OPEB Liability is the excess of the Total OPEB Liability over the OPEB Plan Net Position. The changes in the Net OPEB Liability related to changes in assumptions are due to changes detailed in the *Management Summary* section of this report.

Total OPEB Liability may be dependent on the Net Position of the postretirement plan. Any changes in Net Position, including adjustments on final audit, can have an impact on Net OPEB Liability that extends beyond the dollar-for-dollar change in Net Position.

Covered-Employee Payroll has been estimated based on Total Covered Payroll for the postretirement plan Members during the prior Fiscal Year.

STATEMENT OF CHANGES IN NET OPEB LIABILITY

The table below illustrates the change in the Net OPEB Liability from the prior Measurement Date to the current Measurement Date. Under Statement 75, the difference between the Net OPEB Liability from the prior Measurement Date to the current Measurement Date should be recognized as an expense, unless permitted to be recognized as a Deferred Outflow or Inflow of Resources.

	Increase (Decrease)		
	Total OPEB Liability (a)	OPEB Plan Net Position (b)	Net OPEB Liability (a) - (b)
Balances Beginning at 1/1/2021	$ 1,025,572	$ -	$ 1,025,572
Changes for the year:			
Service Cost	93,483	-	93,483
Interest	21,509	-	21,509
Actuarial Experience	-	-	-
Assumptions Changes	(29,268)	-	(29,268)
Plan Changes	-	-	-
Contributions - Employer	-	21,962	(21,962)
Contributions - Employee	-	-	-
Contributions - Other	-	-	-
Net Investment Income	-	-	-
Benefit Payments from the Plan	(21,962)	(21,962)	-
Administrative Expense	-	-	-
Net Changes	63,762	-	63,762
Balances Ending at 12/31/2021	$ 1,089,334	$ -	$ 1,089,334

The changes in Total OPEB Liability above are described on the prior page. The OPEB Plan Net Position was detailed in the prior section of this report. The Employer's Net OPEB Liability is the excess of the Total OPEB Liability over the OPEB Plan 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 OPEB Liability related to the difference in actual and expected experience, or changes in assumptions regarding future events, are recognized in OPEB Expense over the expected remaining service life of all employees (active and retired) in the postretirement plan. Differences in projected and actual earnings over the measurement period are recognized over a 5-year period. Amounts not yet recognized are summarized below:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences Between Expected and Actual Experience	$ -	$ 43,634
Changes of Assumptions	170,742	60,108
Net Difference Between Projected and Actual Earnings on Postretirement Plan Investments	-	-
Total Deferred to Be Recognized in Future Expense	$ 170,742	$ 103,742
Contributions Subsequent to the Measurement Date*	$ -	$ -
Total	$ 170,742	$ 103,742

*Contributions subsequent to the Measurement Date may be recognized as a reduction to the Net OPEB 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 OPEB Expense in the upcoming years:

Year Ended December 31:	
2022	$ 8,645
2023	8,645
2024	8,645
2025	8,645
2026	8,645
Thereafter	23,775

DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES - DETAILS

The table below shows the annual detail amounts that have been summarized on the prior page. Under Statement 75, the level of detail shown on the prior page is sufficient for financial statement reporting. The detail shown below is primarily for tracking purposes.

OPEB Expense Source	Date Established	Initial Period	Initial Balance	Remaining Period	12/31/2021 Expense Recognized	12/31/2021 Deferred Balance
Change in Assumptions Gain	12/31/2021	12.02	$ (29,268)	12.02	$ (2,435)	$ (26,833)
Change in Assumptions Loss	12/31/2020	12.09	41,808	11.09	3,459	34,890
Actuarial Gain	12/31/2020	12.09	(52,284)	11.09	(4,325)	(43,634)
Change in Assumptions Loss	12/31/2019	11.20	185,556	9.20	16,568	135,852
Change in Assumptions Gain	12/31/2018	11.20	$ (51,763)	8.20	$ (4,622)	$ (33,275)
Total			$ 94,049		$ 8,645	$ 67,000

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.

OPEB EXPENSE DEVELOPMENT

The table below displays the OPEB Expense development for the current year. The OPEB Expense includes items that change the Net OPEB 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 OPEB Expense:

	12/31/2021
OPEB Expense/(Income) Under GASB 75	
Service Cost	$ 93,483
Interest	21,509
Plan Changes	-
Contributions - Employee	-
Contributions - Other	-
Expected Investment Income	-
Administrative Expense	-
Other Changes	-
Initial OPEB Expense/(Income)	114,992
Recognition of Outflow/(Inflow) of Resources due to Liabilities	8,645
Recognition of Outflow/(Inflow) of Resources due to Assets	-
Total OPEB Expense/(Income)	**$ 123,637**

BREAKDOWN OF RESULTS BY GROUP

Division	IMRF	Police	Total
Total OPEB Liability - Beginning	$ 327,388	$ 698,184	$ 1,025,572
Service Cost	19,650	73,833	93,483
Interest Cost	4,521	16,988	21,509
Change of Benefit Terms	-	-	-
Changes in Proportions from Prior to Current	(111,813)	111,813	
Differences Between Expected and Actual Experience	-	-	-
Changes of Assumptions	(6,152)	(23,116)	(29,268)
Benefit Payments	(4,616)	(17,346)	(21,962)
Total OPEB Liability - Ending	$ 228,978	$ 860,356	$ 1,089,334
Market Value of Assets - Beginning	$ -	$ -	$ -
Market Value of Assets - Ending	$ -	$ -	$ -
Net OPEB Liability - Beginning	$ 327,388	$ 698,184	$ 1,025,572
Net OPEB Liability - Ending	$ 228,978	$ 860,356	$ 1,089,334
Service Cost - Ending	$ 15,465	$ 78,823	$ 94,288
Current Year Proportion	21.02%	78.98%	
Participant Counts			
Active Employees	69	38	107
Inactive Employees Currently Receiving Benefit	3	2	5
Inactive Employees Entitled to But Not Yet Receiving Benefits	0	0	0
Total Plan Members	72	40	112

BREAKDOWN OF RESULTS BY GROUP - CONTINUED

Division	IMRF	Police	Total
Deferred Outflows			
Differences Between Expected and Actual Experience	$ -	$ -	$ -
Changes of Assumptions	35,890	134,852	170,742
Net Difference Between Projected and Actual Earnings on Postretirement Plan Investments	-	-	-
Contributions Subsequent to the Measurement Date	-	-	-
Total Deferred Outflows	$ 35,890	$ 134,852	$ 170,742
Deferred Inflows			
Differences Between Expected and Actual Experience	$ 9,172	$ 34,462	$ 43,634
Changes of Assumptions	12,635	47,473	60,108
Net Difference Between Projected and Actual Earnings on Postretirement Plan Investments	-	-	-
Contributions Subsequent to the Measurement Date	-	-	-
Total Deferred Inflows	$ 21,807	$ 81,935	$ 103,742
Service Cost	$ 19,650	$ 73,833	$ 93,483
Interest	4,521	16,988	21,509
Plan Changes	-	-	-
Contributions (Employee & Other)	-	-	-
Expected Investment Income	-	-	-
Administrative Expense	-	-	-
Other Changes	-	-	-
Recognition of Outflow/(Inflow) of Resources - Liabilities	1,817	6,828	8,645
Recognition of Outflow/(Inflow) of Resources - Assets	-	-	-
Total OPEB Expense/(Income)	$ 25,988	$ 97,649	$ 123,637

NOTES ON BREAKDOWN OF RESULTS BY GROUP

Estimated Actuarially Determined Contribution (ADC)

The plan is currently an unfunded obligation. An Actuarially Determined Contribution (ADC) has been estimated here for purposes of allocating costs to various divisions for internal reporting purposes.

Purpose

The allocations provided are intended to be used internally by the Village for financial statement reporting by the Village to the extent the Village wishes to allocate these costs in general. The allocation is not required by GASB 75. The allocated amounts are not intended to provide disclosure for any component unit that requires its own individual audit.

Scope

Service Cost as of the beginning of the year, Total OPEB Liability, Deferred Inflows and Outflows of Resources related to the difference in actual and expected experience, changes in assumptions, difference between projected and actual earnings and contributions subsequent to the Measurement Date are allocated proportionally to each group based on the ADC.

Method

Service Cost and Net OPEB Liability as of the end of the year are calculated directly for each group in the calculation of the ADC. Net OPEB Liability is amortized over a 20-year time frame.

Limitations

The ADC shown is not based on the Village's funding policy and is not intended as a recommendation at this time. It is only intended to provide a metric for allocating financial statement costs to various divisions at the Village.

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ACTUARIAL ASSUMPTION INFORMATION

STATEMENT OF SIGNIFICANT ACTUARIAL ASSUMPTIONS

The assumptions detailed below are based on the baseline calculations for the Fiscal Year ended December 31, 2020, except for the assumed end of year discount rate and decrements based on the new experience study for IMRF employees.

Assumptions (Economic)

Discount Rate Used for the Total OPEB Liability	
Beginning of Year	2.12%
End of Year	2.06%
Long-Term Expected Rate of Return on Plan Assets	N/A
High Quality 20 Year Tax-Exempt G.O. Bond Rate	
Beginning of Year	2.12%
End of Year	2.06%
Total Payroll Increases	2.75%
Claims and Premiums	See Accompanying Tables
Healthcare Cost Trend Rates	See Accompanying Tables
Retiree Contribution Rates	Same as Healthcare Cost Trend Rates

Blended Premium Rates See accompanying table for premiums charged for coverage.

Annual Blended Premiums				
	Under Age 65		Age 65-&-Over	
	Retiree	Spouse	Retiree	Spouse
PPO	$8,773	$9,529	$8,773	$9,529
H.S.A.	$7,407	$8,043	$7,407	$8,043
HMO	$6,814	$7,400	$6,814	$7,400

STATEMENT OF SIGNIFICANT ACTUARIAL ASSUMPTIONS – CONTINUED

Healthcare Cost Trend Rates

Plan	First-Year Trend	Initial Trend	Ultimate Trend	Amount of Trend Decrease	Years Between Trend Decreases	Year Ultimate Trend Reached
PPO	4.50%	6.50%	5.50%	0.50%	2	2026
H.S.A.	4.50%	6.50%	5.50%	0.50%	2	2026
HMO	4.50%	5.50%	5.00%	0.50%	2	2024

Claims See accompanying tables for the age 64 projected claims costs and the age-grading factors used to calculate claims for all ages:

Projected Claims Costs (Age 64)				
	Retiree		Spouse	
	Male	Female	Male	Female
PPO	$19,388	$20,258	$20,329	$20,743
H.S.A.	$16,363	$17,098	$17,158	$17,507
HMO	$13,687	$14,302	$14,352	$14,644

Claims Age-Adjustment Factors (Adjusted From Age 64)				
	Retiree		Spouse	
Age	Male	Female	Male	Female
50	0.5320	0.6092	0.8732	0.8651
55	0.6753	0.6945	0.8719	0.8214
60	0.8451	0.8358	0.9248	0.8668
64	1.0000	1.0000	1.0000	1.0000
65	0.3787	0.3787	0.3787	0.3787
70	0.4527	0.4527	0.4527	0.4527
75	0.4915	0.4915	0.4837	0.4915
80	0.5269	0.5269	0.5175	0.5269
85	0.5510	0.5510	0.5405	0.5510
90	0.5621	0.5621	0.5511	0.5621

STATEMENT OF SIGNIFICANT ACTUARIAL ASSUMPTIONS – CONTINUED

Assumptions (Demographic)

Election at Retirement

Coverage election at retirement is assumed at the following rates:

All Groups	30%

If an employee has waived active medical coverage, it is assumed they will elect coverage in the retiree medical plan at 1/3 the rate of active employees currently with coverage.

Spousal Election

Of those employees assumed to elect coverage in retirement, 0% are assumed to elect spousal coverage.

Plan Participation

It is assumed that the employees will participate in plans according to the distribution shown below:

PPO	15%
H.S.A.	40%
HMO	45%

Retiree Lapse Rates

Retirees receiving medical coverage are expected to lapse all coverages at age 65 at the following rates:

IMRF & Police	100%
PSEBA	0%

Retirement Rates

IMRF

Based on Rates from IMRF Experience Study Report dated December 14, 2020

Police

100% of L&A Assumption Study Cap Age 65 for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
50	0.110	53	0.127
51	0.116	54	0.134
52	0.121	55	0.140

STATEMENT OF SIGNIFICANT ACTUARIAL ASSUMPTIONS – CONTINUED

Termination Rates

IMRF — Based on Rates from IMRF Experience Study Report dated December 14, 2020

Police — 100% of L&A Assumption Study for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
25	0.080	40	0.022
30	0.034	45	0.016
35	0.028	50	0.005

Disability Rates

IMRF — Based on Rates from IMRF Experience Study Report dated December 14, 2020

Police — 100% of L&A Assumption Study for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
25	0.0000	40	0.0038
30	0.0006	45	0.0053
35	0.0018	50	0.0048

Mortality Rates

IMRF — PubG-2010(B) Improved Generationally using MP-2020 Improvement Rates, weighted per IMRF Experience Study dated December 14, 2020

Police — Active Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study improved to 2017 using MP-2019 Improvement Rates. These rates are then improved generationally using MP-2019 Improvement Rates.

Retiree Mortality follows the L&A Assumption Study for Police 2020. These rates are experience weighted with the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study improved to 2017 using MP-2019 Improvement Rates. These rates are then improved generationally using MP-2019 Improvement Rates.

STATEMENT OF SIGNIFICANT ACTUARIAL ASSUMPTIONS – CONTINUED

Mortality Rates - Continued

Police	Disabled Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010 Study for disabled participants improved to 2017 using MP-2019 Improvement Rates. These rates are then improved generationally using MP-2019 Improvement Rates.
	Spouse Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study for contingent survivors. For all rates not provided there (ages 45 and younger) the PubG-2010 Study for general employees was used. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

All mortality rates are adjusted for retirement status. IMRF spouses use the same mortality tables as retirees.

ASSUMPTION CHANGES

The Actuary for the Illinois Municipal Retirement Fund performed an actuarial experience study of IMRF experience dated December 14, 2020. The actuarial assumptions were changed in the current year to the tables shown in the *Statement of Significant Assumptions* section of this report. The assumptions impacted include:

- Mortality Rates
- Mortality Improvement Rates
- Retirement Rates
- Termination Rates
- Disability Rates

The above stated assumption changes were made to better reflect the future anticipated experience of the plan.

The assumed rate on High Quality 20-year Tax-Exempt G.O. Bonds was changed from 2.12% to 2.06% for the current year. The underlying index used is the Bond Buyer 20-Bond GO 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 74 and Statement 75.

Since the Employer does not have a trust dedicated exclusively to the payment of OPEB benefits, the discount rate used in the determination of the Total OPEB Liability was also changed from 2.12% to 2.06%. See the *Assumptions (Economic)* section for more details.

EXPECTED RETURN ON OPEB PLAN INVESTMENTS

There is currently no expectation for future returns on OPEB plan assets since the OPEB obligation is an unfunded obligation. The Employer does not have a trust dedicated exclusively to the payment of OPEB benefits.

MUNICIPAL BOND RATE

The Municipal Bond Rate assumption is based on The Bond Buyer 20-Bond GO Index. The beginning of year rate shown earlier in the *Statement of Significant Assumptions* section of this report is the 2.12% rate, and the end of year rate shown is the 2.06% rate. The 20-Bond GO 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 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 indexes 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 indexes would yield if the bond was sold at par value. The indexes are simple averages of the average estimated yields of the bonds.

DISCOUNT RATE

The discount rate used in the determination of the Total OPEB Liability is based on a combination of the Expected Long-Term Rate of Return on Plan Assets and the Municipal Bond Rate. If the Employer does not have a trust dedicated exclusively to the payment of OPEB benefits, as is the case with the Village, then only the Municipal Bond Rate is used in determining the Total OPEB Liability.

If the postretirement plan is funded, cash flow projections are used to determine the extent which the plan’s future Net Position will be able to cover future benefit payments. To the extent future benefit payments are covered by the plan’s projected Net Position, the expected rate of return on plan investments is used to determine the portion of the Net OPEB 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 OPEB Liability associated with those payments.

Projected benefit payments are determined during the valuation process based on the assumptions. More details on the assumptions are in the *Statement of Significant Assumptions* section of this report. The expected contributions are based on the Funding Policy of the plan. The Funding Policy is discussed in more detail in a later section.

INFLATION RATE

The Long-Term Inflation Expectation used is 2.25%, which is an underlying component of the discount rate and assumed health care trend rates.

Development of Starting Claims Costs

Starting costs for the Village's Plan were developed based on the blended premiums charged for coverage. The insurance carrier charges actives and retirees the same premium rates. According to GASB, when an Employer provides benefits to both active employees and retirees through the same plan, the benefits to retirees should be segregated and measured independently for actuarial measurement purposes. The projection of future retiree benefits should be based on claims costs, or age-adjusted premiums approximating claims costs, for retirees. As such, premiums were estimated for under-65 retirees and their spouses as if they were rated on a stand-alone basis. The results were then disaggregated into age-specific starting costs based on average ages and assumptions on the relationship between costs and increasing age.

The medical cost increase represents the combination of the inflation in the price of health care services, changes in utilization (other than age-related changes), technological advances in medical care, and changes in the health status of plan participants. No adjustment has been made to the trend for the impact of COVID-19. An analysis of this matter is beyond the scope of this valuation. This impact may result in material changes in claims in 2020 and beyond. Information about the course of the disease is highly variable and changing daily. Some of the variables include projected inflation rates including localized outbreaks, the cost of care of COVID-19 patients, the amount of postponed and avoided medical care services, the amount and timing of the catch-up of deferred care, the impact of COVID-19 on other conditions such as stress and depression, impacts on general economic conditions, and other factors.

SENSITIVITY OF THE DISCOUNT RATE

The Net OPEB Liability has been determined using the end of year discount rate listed in the *Statement of Significant Assumptions* section. Below is a table illustrating the sensitivity of the Net OPEB Liability to the discount rate assumption.

	1% Decrease (1.06%)	Current Discount Rate (2.06%)	1% Increase (3.06%)
Employer's Net OPEB Liability/(Asset)	$1,191,605	$1,089,334	$994,360

The sensitivity of the Net OPEB 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 OPEB Liability). The higher the funded percentage, the higher the sensitivity to the discount rate.

SENSITIVITY OF THE HEALTHCARE COST TREND RATES

Below is a table illustrating the sensitivity of the Net OPEB Liability to the Healthcare Cost Trend Rates assumption.

	1% Decrease (Varies)	Healthcare Cost Trend Rates (Varies)	1% Increase (Varies)
Employer's Net OPEB Liability/(Asset)	$923,497	$1,089,334	$1,300,694

Please refer to the *Assumptions (Economic)* section for full list of assumed trend rates.

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PARTICIPANT DATA

Participant Demographic Data
Expected Future Working Lifetime

PARTICIPANT DEMOGRAPHIC DATA

The chart below summarizes the employee count of plan Members:

Measurement Date	12/31/2020	12/31/2021
Total Active Employees	107	107
Inactive Employees Currently Receiving Benefit Payments	5	5
Inactive Employees Entitled To But Not Yet Receiving Benefit Payments	0	0
Total	112	112

Because this is a limited-year report, we did not collect new census data, but instead relied on the census data used in the baseline calculations for the Fiscal Year ended December 31, 2020. The data is assumed to be a reasonable representation of data as of the Measurement Date and may have been collected on or before the Fiscal Year-End date.

The above total active employee counts include 6 participants who have waived medical coverage. If an employee has waived active medical coverage, it is assumed they will elect coverage in the retiree medical plan at 1/3 the rate of active employees currently with coverage.

EXPECTED FUTURE WORKING LIFETIME

The chart below summarizes the expected future working lifetime of plan Members:

Measurement Date	12/31/2020	12/31/2021
Average Future Working Career (In Years)		
Active Plan Members	12.66	12.58
Inactive Plan Members	0.00	0.00
Total	12.09	12.02

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 Contribution
Formal Funding Policy
Informal Funding Policy

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 of Unfunded Liability.

Unfunded Liability is the excess of the Total OPEB Liability over the postretirement plan's Net Position.

For the Village of Lake in the Hills, Illinois, there is no determination of an ADC and Normal Cost, as the Total OPEB Liability is currently an unfunded obligation. The Employer does not have a trust dedicated exclusively to the payment of OPEB benefits.

Formal Funding Policy

There is no Formal Funding Policy that exists for the postretirement plan at this time, as the Total OPEB Liability is currently an unfunded obligation.

Informal Funding Policy

There is no Informal Funding Policy determined for GASB reporting purposes, as the Total OPEB Liability is currently an unfunded obligation.

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SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION

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SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY

	12/31/2021	12/31/2020	12/31/2019	12/31/2018	12/31/2017	12/31/2016	12/31/2015	12/31/2014	12/31/2013	12/31/2012
Total OPEB Liability										
Service Cost	$ 93,483	$ 39,217	$ 33,157	$ 35,948						
Interest	21,509	27,197	32,141	27,761						
Changes of Benefit Terms	-	-	-	-						
Differences Between Expected and Actual Experience	-	(52,284)	-	-						
Change in Assumptions	(29,268)	41,808	185,556	(51,763)						
Benefit Payments	(21,962)	(45,969)	(37,984)	(31,432)						
Net Change in Total OPEB Liability	$ 63,762	$ 9,969	$ 212,870	$ (19,486)						
Total OPEB Liability - Beginning	1,025,572	1,015,603	802,733	822,219						
Total OPEB Liability - Ending (a)	$ 1,089,334	$ 1,025,572	$ 1,015,603	$ 802,733						
OPEB Plan Net Position										
Contributions - Employer	$ 21,962	$ 45,969	$ 37,984	$ 31,432						
Contributions - Members	-	-	-	-						
Contributions - Other	-	-	-	-						
Net Investment Income	-	-	-	-						
Benefit Payments	(21,962)	(45,969)	(37,984)	(31,432)						
Administrative Expense	-	-	-	-						
Net Change in OPEB Plan Net Position	$ -	$ -	$ -	$ -						
OPEB Plan Net Position - Beginning	-	-	-	-						
OPEB Plan Net Position - Ending (b)	$ -	$ -	$ -	$ -						
Employer's Net OPEB Liability/(Asset) - Ending (a) - (b)	$ 1,089,334	$ 1,025,572	$ 1,015,603	$ 802,733						

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

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SCHEDULE OF TOTAL OPEB LIABILITY AND RELATED RATIOS

	12/31/2021	12/31/2020	12/31/2019	12/31/2018	12/31/2017	12/31/2016	12/31/2015	12/31/2014	12/31/2013	12/31/2012
Total OPEB Liability - Ending (a)	$ 1,089,334	$ 1,025,572	$ 1,015,603	$ 802,733						
OPEB Plan Net Position - Ending (b)	$ -	$ -	$ -	$ -						
Employer's Net OPEB Liability/(Asset) - Ending (a) - (b)	$ 1,089,334	$ 1,025,572	$ 1,015,603	$ 802,733						
OPEB Plan Net Position as a Percentage of the Total OPEB Liability	0.00%	0.00%	0.00%	0.00%						
Covered-Employee Payroll	$9,371,028	$ 9,120,222	$ 5,995,529	$ 5,671,095						
Employer's Net OPEB Liability as a Percentage of Covered-Employee Payroll	11.62%	11.25%	16.94%	14.15%						

Covered-Employee Payroll has been estimated based on Total Covered Payroll for the postretirement plan Members during the prior Fiscal Year.

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SCHEDULE OF CONTRIBUTIONS

	12/31/2021	12/31/2020	12/31/2019	12/31/2018	12/31/2017	12/31/2016	12/31/2015	12/31/2014	12/31/2013	12/31/2012
Actuarially Determined Contribution	N/A	N/A	N/A	N/A						
Contributions in Relation to the Actuarially Determined Contribution	-	-	-	-						
Contribution Deficiency (excess)	N/A	N/A	N/A	N/A						
Covered-Employee Payroll	$ 9,371,028	$ 9,120,222	$ 5,995,529	$ 5,671,095						
Contributions as a Percentage of Covered-Employee Payroll	0.00%	0.00%	0.00%	0.00%						

NOTES TO SCHEDULE OF CONTRIBUTIONS

There is no ADC or Employer Contribution in relation to the ADC, as there is no Trust that exists for funding the OPEB Liability. However, the Village did make contributions from other Village resources in the current year in the amount of $21,962.

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GASB METHODS AND PROCEDURES

GASB Methods and Procedures

GASB METHODS AND PROCEDURES

	Statement 74 OPEB Plan Financials	Statement 75 Employer Financials
Fiscal Year End for Reporting	**December 31, 2021**	**December 31, 2021**
Measurement Date	December 31, 2021	December 31, 2021
Actuarial Valuation Date	January 1, 2021	January 1, 2021
Data Date	January 1, 2021	January 1, 2021
Asset Valuation Method	Market Value of Assets	Market Value of Assets
Actuarial Cost Method	Entry Age Normal	Entry Age Normal

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

Amortization Method	Straight Line	Straight Line
Amortization Period		
Actuarial Experience	12.02 Years	12.02 Years
Changes in Assumptions	12.02 Years	12.02 Years
Asset Experience	5.00 Years	5.00 Years

As noted in the table above, the Actuarial Funding Method used in the determination of the Total OPEB 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.

The Total OPEB Liability for the current Fiscal Year has been developed based on the Actuarial Valuation Date shown above, and adjusted to the Measurement Date shown above, based on procedures that conform to generally accepted actuarial principles and practices.

GASB Methods and Procedures – Continued

We calculated the Total OPEB Liability and Service Cost under the Entry Age Normal funding method as required under GASB 75. We calculated the Present Value of Benefits for each participant at each potential retirement age, factoring in probabilities of survival thereafter. We used the appropriate group tables to determine a probability that active members retire at each age to determine the Present Value of Benefits. We adjusted this using the Present Value of Future Salaries at Entry Age, factoring in interest, salary, and probability of remaining active from entry age to current age, to obtain Normal Cost. We then calculated the Present Value of Future Normal Costs and subtracted this from the Present Value of Benefits to obtain Total OPEB Liability. This methodology is in accordance with GASB Statement 74/75.

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PLAN PROVISIONS

Summary of Eligibility and Coverage

SUMMARY OF ELIGIBILITY AND COVERAGE

The plan sponsor has reviewed and agreed to the below eligibility and coverage provisions.

Eligibility Provisions

Full-Time Employees- IMRF

Tier I IMRF Full-Time Village employees age 55 with at least 8 years of service are covered

Tier II IMRF Full-Time Village employees age 62 with at least 10 years of service are covered

Full-Time Employees- Police

Tier I Full-Time Police Officers, age 50 with at least 20 years of service are covered

Tier II Full-Time Police Officers, age 55 with at least 10 years of service are covered

Medical/Prescription Coverage

Types of Coverage:

HMO

H.S.A

PPO

Coverage Provisions:

Full-Time Employees - IMRF & Police

Pre-65 Coverage:

Retiree pays the full cost of coverage.

Coverage continues until Medicare eligibility is reached.

Dependent coverage ends at the same time as that for the retiree.

Post-65 Coverage:

Retiree pays the full cost of coverage.

Coverage becomes secondary to Medicare.

Full-Time Employees - Members who are Duty-Disabled or who Qualify for PSEBA

Pre-65 Coverage:

Village pays the full cost of the HMO premium for Duty-Disabled or PSEBA members. If a different plan is elected, the retiree is responsible for the difference in the cost of coverage.

Coverage continues until Medicare eligibility is reached.

Dependent coverage ends at the same time as that for the retiree.

Post-65 Coverage:

Village pays the full cost of the HMO premium for Duty-Disabled or PSEBA members. If a different plan is elected, the retiree is responsible for the difference in the cost of coverage.

Coverage becomes secondary to Medicare.

SUMMARY OF ELIGIBILITY AND COVERAGE – CONTINUED

Dental and Vision Coverage

Types of Coverage:

Dental

Vision

Coverage Provisions:

All Full-Time Employees

Retiree pays the full cost of coverage.

Coverage ends when Retiree stops paying for it.

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GLOSSARY OF TERMS

GASB 74/75 Terminology

GASB 74/75 TERMINOLOGY

Covered-Employee Payroll – The payroll of employees that are provided with OPEB through the OPEB plan.

Healthcare Cost Trend Rates – The rates of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

Implicit Subsidy – The difference between a premium rate charged to retirees for a particular benefit and the estimated rate that would have been applicable to those retirees if that benefit was acquired for them as a separate group.

Net OPEB Liability ("NOL") – The excess of the Total OPEB Liability over the Market Value of Assets.

OPEB Expense **–** OPEB Expense arising from certain changes in the collective Net OPEB Liability or collective Total OPEB Liability.

OPEB Fiduciary Net Position ("Net Position") – The value of cash, investments, other assets and property belonging to an OPEB Trust dedicated to paying OPEB benefits.

OPEB Trust – A system other than a pension or retirement system which manages OPEB assets. Contributions to an OPEB Trust should be irrevocable in order to obtain the most favorable accounting treatment.

Other Postemployment Benefits ("OPEB") – Benefits (such as death benefits, life insurance, disability, and long-term care) that are paid in the period after employment and that are provided separately from a pension plan, as well as healthcare benefits paid in the period after employment, regardless of the manner in which they are provided.

Service Cost – The present value of future benefits earned by employees during the current Fiscal Year. It is that portion of the actuarial present value of benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

Total OPEB Liability ("TOL") – The actuarial present value of future benefits based on employees' service rendered to the Measurement Date using the selected Actuarial Cost Method. It is that portion of the actuarial present value of plan benefits and expenses allocated to prior years of employment.

Retirees & Dependents – Former employees who have satisfied the age and service requirement and are currently receiving postretirement healthcare benefits.

Actives Fully Eligible – Active employees who have satisfied the age and service requirement for postretirement healthcare benefits.

Actives Not Fully Eligible – Active employees who have not yet satisfied the age and service requirement for postretirement healthcare benefits.

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Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

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GASB 67/68 Report
For Use in Financial Statement Reporting

LAKE IN THE HILLS POLICE PENSION FUND

Actuarial Valuation
as of January 1, 2021

LAUTERBACH & AMEN, LLP

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GASB Statements 67 and 68 Actuarial Disclosures

Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

GASB 67: LAKE IN THE HILLS POLICE PENSION FUND

Fiscal Year Ending: December 31, 2021
Actuarial Valuation Date: January 1, 2021
Utilizing Data as of December 31, 2020
Measurement Date: December 31, 2021

GASB 68: VILLAGE OF LAKE IN THE HILLS, ILLINOIS

Fiscal Year Ending: December 31, 2021
Actuarial Valuation Date: January 1, 2021
Utilizing Data as of December 31, 2020
Measurement Date: December 31, 2021

Submitted by:

Lauterbach & Amen, LLP
668 N. River Road
Naperville, IL 60563
Phone: 630.393.1483
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Contact:

Todd A. Schroeder
Director
April 19, 2022

LAUTERBACH & AMEN, LLP

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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 the preparation of the required footnote disclosures.

The results in this report are based on the census data and financial information submitted by the Village of Lake in the Hills, Illinois, and may include results from the prior Actuary. We did not prepare the Actuarial Valuations for the years prior to January 1, 2016. If applicable, 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 Lake in the Hills, 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.

In preparing the results, our Actuaries used commercially available software (ProVal) developed by Winklevoss Technologies, LLC. This software is widely used for the purpose of performing Actuarial Valuations. Our Actuaries coded the plan provisions, assumptions, methods, and participant data summarized in this report, and reviewed the liability and cost outputs for reasonableness. We are not aware of any material weaknesses or limitations in the software, and have determined it is appropriate for performing this valuation.

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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 Lake in the Hills Police Pension Fund or the Village of Lake in the Hills, Illinois and Lauterbach & Amen, LLP that impairs our objectivity.

Respectfully Submitted,

LAUTERBACH & AMEN, LLP

Todd A. Schroeder

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

Robert L. Rietz, Jr., 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

	12/31/2020	12/31/2021
Assets		
Cash and Cash Equivalents	$ 1,054,391	$ 2,724,479
Total Cash	1,054,391	2,724,479
Receivables:		
Investment Income - Accrued Interest	67,192	67,157
Other	-	1,503
Total Receivables	67,192	68,660
Investments:		
Fixed Income	12,679,388	12,366,272
Mutual Funds	25,590,841	30,240,290
Total Investments	38,270,229	42,606,562
Total Assets	39,391,812	45,399,701
Liabilities		
Payables:		
Expenses Due/Unpaid	15,000	13,578
Total Liabilities	15,000	13,578
Plan Fiduciary Net Position	$ 39,376,812	$ 45,386,123

The Plan Fiduciary Net Position shown above is intended to be in accordance with GAAP and the Governmental Accounting Standards Board. The Fair 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 Value of Investments. The Statement of Plan Fiduciary Net Position for 2021 is based on audited financials.

STATEMENT OF CHANGES IN PLAN FIDUCIARY NET POSITION

	12/31/2021
Additions	
Contributions	
Employer	$ 1,645,039
Other	57,108
Members	387,952
Total Contributions	2,090,099
Investment Income	
Net Appreciation in Fair Value of Investments	4,308,989
Interest and Dividends	1,043,799
Less Investment Expense	(121,264)
Net Investment Income	5,231,524
Total Additions	7,321,623
Deductions	
Benefit Payments and Refunds of Member Contributions	1,245,771
Administrative Expense	66,541
Total Deductions	1,312,312
Net Increase in Net Position	6,009,311
Plan Fiduciary Net Position	
Beginning of Year	39,376,812
End of Year	$ 45,386,123

The changes 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 Value of Investments. The Statement of Changes in Plan Fiduciary Net Position for 2021 is based on audited financials.

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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

	12/31/2020	12/31/2021
Active Members	$ 22,892,457	$ 24,342,097
Inactive Members		
Terminated Members	493,860	509,137
Retired Members	14,949,581	14,676,626
Disabled Members	5,556,559	5,588,661
Other Beneficiaries	-	-
Total Inactive Members	21,000,000	20,774,424
Total Pension Liability	$ 43,892,457	$ 45,116,521

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, could 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 as of the Actuarial Valuation - Data Date shown in this report. The TPL has been determined as of the Actuarial Valuation Date and based on the assumptions used in this report, and adjusted to the Measurement Date as needed.

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STATEMENT OF CHANGES IN TOTAL PENSION LIABILITY

		12/31/2021
Changes in Total Pension Liability		
Service Cost	$	1,126,128
Interest		2,820,349
Changes of Benefit Terms		-
Differences Between Expected and Actual Experience		(1,476,642)
Change in Assumptions		-
Benefit Payments and Refunds		(1,245,771)
Net Change in Total Pension Liability		1,224,064
Total Pension Liability - Beginning		43,892,457
Total Pension Liability - Ending (a)	$	45,116,521
Plan Fiduciary Net Position - Ending (b)	$	45,386,123
Employer's Net Pension Liability - Ending (a) - (b)	$	(269,602)
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability		100.60%
Covered Employee Payroll	$	3,914,759
Employer's Net Pension Liability as a Percentage of Covered-Employee Payroll		(6.89%)

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 Plan Fiduciary Net Position. Changes in the Plan Fiduciary Net Position could change the determination of the Total Pension Liability. Any changes in the Plan Fiduciary Net Position, including adjustments on final audit, can have an impact on the Employer's Net Pension Liability that extends beyond the dollar-for-dollar change in the Plan Fiduciary Net Position.

Covered-Employee Payroll is based on the Covered-Employee Payroll for the Plan Members during the Fiscal Year.

Statement of Changes in Net Pension Liability

The table below illustrates the changes in 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 (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances Beginning at 1/1/2021	$ 43,892,457	$ 39,376,812	$ 4,515,645
Changes for the Year:			
Service Cost	1,126,128	-	1,126,128
Interest	2,820,349	-	2,820,349
Actuarial Experience	(1,476,642)	-	(1,476,642)
Change in Assumptions	-	-	-
Changes of Benefit Terms	-	-	-
Contributions - Employer	-	1,645,039	(1,645,039)
Contributions - Members	-	387,952	(387,952)
Contributions - Other	-	57,108	(57,108)
Net Investment Income	-	5,231,524	(5,231,524)
Benefit Payments and Refunds	(1,245,771)	(1,245,771)	-
Administrative Expense	-	(66,541)	66,541
Prior Period Audit Adjustment	-	-	-
Other Deductions	-	-	-
Net Changes	$ 1,224,064	$ 6,009,311	$ (4,785,247)
Balances Ending at 12/31/2021	$ 45,116,521	$ 45,386,123	$ (269,602)

The changes in Total Pension Liability shown 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 differences between expected and actual experience, or changes in assumptions regarding future events, are recognized in Pension Expense over the average future working career of all Members (active and inactive) in the Pension Plan. The net difference in projected and actual earnings on Pension Plan investments over the measurement period are recognized over a 5-year period. Amounts not yet recognized are summarized below:

	Deferred Outflows of Resources	Deferred Inflows of Resources	Total Deferred Amounts
Differences Between Expected and Actual Experience	$ 144,493	$ (3,297,937)	$ (3,153,444)
Change in Assumptions	441,280	(476,670)	(35,390)
Net Difference Between Projected and Actual Earnings on Pension Plan Investments	670,137	(4,768,866)	(4,098,729)
Contributions Subsequent to the Measurement Date*	-	-	-
Total	$ 1,255,910	$ (8,543,473)	$ (7,287,563)

*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 December 31:	
2022	$ (1,622,337)
2023	(2,283,644)
2024	(1,470,948)
2025	(1,018,686)
2026	(474,000)
Thereafter	$ (417,948)

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	12/31/2021 Expense Recognized	12/31/2021 Deferred Balance
Asset Gain	12/31/2021	5.00	$ (2,547,339)	5.00	$ (509,468)	$ (2,037,871)
Actuarial Gain	12/31/2021	7.22	(1,476,642)	7.22	(204,522)	(1,272,120)
Asset Gain	12/31/2020	5.00	(2,092,851)	4.00	(418,571)	(1,255,709)
Change in Assumptions Gain	12/31/2020	7.69	(308,204)	6.69	(40,079)	(228,046)
Actuarial Gain	12/31/2020	7.69	(2,070,960)	6.69	(269,306)	(1,532,348)
Asset Gain	12/31/2019	5.00	(3,688,221)	3.00	(737,645)	(1,475,286)
Change in Assumptions Loss	12/31/2019	8.66	463,113	6.66	53,478	302,679
Actuarial Loss	12/31/2019	8.66	127,910	6.66	14,771	83,597
Asset Loss	12/31/2018	5.00	3,350,693	2.00	670,139	670,137
Actuarial Gain	12/31/2018	8.41	(581,406)	5.41	(69,133)	(304,874)
Asset Gain	12/31/2017	5.00	(1,289,593)	1.00	(257,917)	-
Actuarial Loss	12/31/2017	8.43	109,340	4.43	12,971	44,485
Change in Assumptions Gain	12/31/2016	8.43	(862,520)	3.43	(102,316)	(248,624)
Actuarial Loss	12/31/2016	8.43	56,947	3.43	6,756	16,411
Change in Assumptions Loss	12/31/2015	8.70	709,325	2.70	81,532	138,601
Actuarial Gain	12/31/2015	8.70	(965,189)	2.70	(110,942)	(188,595)
Total			$ (11,065,597)		$ (1,880,252)	$ (7,287,563)

Each detail amount shown 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 the Pension Expense development:

		12/31/2021
Pension Expense/(Income) Under GASB 68		
Service Cost	$	1,126,128
Interest		2,820,349
Changes of Benefit Terms		-
Contributions - Members		(387,952)
Contributions - Other		(57,108)
Expected Investment Income		(2,684,185)
Administrative Expense		66,541
Other Changes		-
Initial Pension Expense/(Income)	$	883,773
Recognition of Outflow/(Inflow) of Resources Due to Liabilities		(626,790)
Recognition of Outflow/(Inflow) of Resources Due to Assets		(1,253,462)
Total Pension Expense/(Income)	**$**	**(996,479)**

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ACTUARIAL ASSUMPTIONS INFORMATION

STATEMENT OF SIGNIFICANT ACTUARIAL ASSUMPTIONS

Actuarial Assumptions (Economic)

Discount Rate Used for the Total Pension Liability	6.75%
Expected Rate of Return on Investments	6.75%
High-Quality 20 Year Tax-Exempt G.O. Bond Rate	2.06%
Projected Individual Pay Increases	3.75% - 10.77%
Projected Total Payroll Increases	3.25%
Consumer Price Index (Urban)	2.25%
Inflation Rate	2.25%

See the *Actuarial Assumptions (Demographic)* section of this report for further details on Demographic Assumptions.

The Actuarial Assumptions (Economic) rates shown above are assumed to be annual rates, compounded on an annual basis. For more information on the selection of the actuarial assumptions, please see the Actuarial Assumption Summary document prepared for the Plan, available upon request.

ASSUMPTION CHANGES

The assumptions were changed from the prior year.

The High-Quality 20 Year Tax-Exempt General Obligation ("G.O.") Bond Rate assumption was changed from 2.12% to 2.06% 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 6.75%. 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 projected individual pay increases assumption to reflect the wage schedule between the Village of Lake in the Hills, Illinois and the Metropolitan Alliance of Police, Lake in the Hills Police Chapter #90 for the period May 1, 2021 through April 30, 2024. The year over year step increases dictated by the wage schedule did not change significantly from the prior wage schedule; therefore, we have not updated the individual pay increases assumption.

The above stated assumption changes were made to better reflect the future anticipated experience of the Plan.

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

ACTUARIAL ASSUMPTIONS (DEMOGRAPHIC)

Projected Individual Pay Increases*

Projected individual pay increases include a long-term average increase for inflation, average annual increases for promotions, and any additional increases for a step program. Sample rates are as follows:

Service	Rate	Service	Rate
0	10.77%	8	3.75%
1	10.10%	9	3.75%
2	9.53%	10	3.75%
3	9.04%	15	3.75%
4	8.61%	20	3.75%
5	8.23%	25	3.75%
6	7.89%	30	3.75%
7	7.59%	35	3.75%

* Projected individual pay increases for active Members hired at age 40 or older are assumed annual increases at the ultimate rate reduced by 50 basis points, without adjustments in early service years.

Retirement Rates

100% of the L&A Assumption Study for Police 2020 Cap Age 65. Sample rates are as follows:

Age	Rate	Age	Rate
50	11.00%	58	16.25%
51	11.55%	59	16.25%
52	12.13%	60	16.25%
53	12.73%	61	16.25%
54	13.37%	62	18.00%
55	14.04%	63	20.00%
56	14.74%	64	20.00%
57	15.48%	65	100.00%

Termination Rates

100% of the L&A Assumption Study for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
25	8.00%	40	2.17%
30	3.40%	45	1.56%
35	2.79%	50	0.46%

Disability Rates

100% of the L&A Assumption Study for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
25	0.00%	40	0.38%
30	0.06%	45	0.53%
35	0.18%	50	0.48%

65% of active Members who become disabled are assumed to be in the Line of Duty.

Mortality Rates

Active Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

50% of active Member deaths are assumed to be in the Line of Duty.

Retiree Mortality follows the L&A Assumption Study for Police 2020. These rates are experience weighted with the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study improved to 2017 using MP-2019 Improvement Rates. These rates are then improved fully generationally using MP-2019 Improvement Rates.

Disabled Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010 Study for disabled participants. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

Mortality Rates (Continued)	Spouse Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study for contingent survivors. For all rates not provided there (ages 45 and younger) the PubG-2010 Study for general employees was used. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.
Marital Assumptions	*Active Members:* 80% of active Members are assumed to be married. Female spouses are assumed to be 3 years younger than male spouses. *Retiree and Disabled Members:* Actual spousal data was utilized for retiree and disabled Members.

POSTEMPLOYMENT BENEFIT CHANGES

Eligibility for postemployment benefit increases is determined based on the Illinois Pension Code. Tier 1 Police retirees are provided with an annual increase of 3.00% of the current retirement benefits by statute when eligible. Tier 2 Police retirees are provided postemployment benefit increases based on the lesser of 3.00% of the original retirement benefits or one-half of the Consumer Price Index (Urban) for the prior September.

The CPI-U for September 1991 was 137.2. The CPI-U for September 2021 was 274.31. The average increase in the CPI-U for September 1991 through September 2021 was 2.34% (on a compounded basis).

EXPECTED RETURN ON PENSION PLAN INVESTMENTS

The Long-Term Expected Rate of Return 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 investment professionals that work with the Pension Fund. 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.

There are multiple approaches seen to providing these rates. Typically, the information is either based on capital market projections, or historical rates seen for the asset classes. We do not provide an opinion on the reasonableness of the returns provided nor the reasonableness of the approach used in the determination of the rates provided. The information provided is shown below for convenience.

The rates provided in the table below are based on an arithmetic average. The Investment Policy Statement will provide more detail regarding the Fund's policies on asset allocation targets and acceptable ranges.

Asset Class	Long-Term Expected Rate of Return	Long-Term Inflation Expectation	Long-Term Expected Real Rate of Return	Target Allocation
Cash	2.60%	1.75%	0.85%	2.60%
US Large Cap	8.70%	1.75%	6.95%	43.40%
US Mid Cap	9.20%	1.75%	7.45%	7.60%
US Small Cap	9.10%	1.75%	7.35%	3.40%
International Equities	7.80%	1.75%	6.05%	8.10%
US Fixed Income Taxable	3.50%	1.75%	1.75%	31.70%
High Yield Fixed Income	5.30%	1.75%	3.55%	0.80%
Alternatives	6.40%	1.75%	4.65%	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 1.75% 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 December 30, 2021 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 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 Projected Fiduciary Net Position will be able to cover Projected Benefit Payments. To the extent that Projected Benefit Payments are covered by the Plan’s Projected Fiduciary Net Position, the 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 that Projected Benefit Payments are not covered by the Plan’s Projected Fiduciary 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 earlier in this section of the report. 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 Employer's Net Pension Liability has been determined using the Discount Rate listed earlier in this section of the report. Below is a table illustrating the sensitivity of the Employer's Net Pension Liability to the Discount Rate assumption.

	1% Decrease (5.75%)	Current Discount Rate (6.75%)	1% Increase (7.75%)
Employer's Net Pension Liability	$7,193,152	($269,602)	($6,281,768)

The sensitivity of the Employer's Net Pension Liability to the Discount Rate is based primarily on two factors:

1. The duration of the Plan's Projected Benefit Payments. Younger Plans with benefit payments further in the future will be more sensitive to changes in the Discount Rate.

2. The Percent Funded of the Plan (ratio of the Plan Fiduciary Net Position to the Total Pension Liability). The higher the Percent Funded, the higher the sensitivity to the Discount Rate.

ASSESSMENT AND USE OF ACTUARIAL MODELS

Actuarial Valuations rely upon the use of actuarial modeling software to predict the occurrence of future events, which include specific demographic and financial potential outcomes. Actuarial assumptions are established to provide a guideline to use for such modeling.

- The model used in this Actuarial Valuation is intended to determine the Recommended Contribution, under the selected Funding Policy, to assist in the preparation of the Comprehensive Annual Financial Report. The actuarial assumptions used were developed with this goal in mind.
- There are no known material limitations or inconsistencies among the actuarial assumptions or methods.
- The output from the model is reasonable based on the individual actuarial assumptions and based on the actuarial assumptions in the aggregate.
- The actuarial software used to calculate plan liabilities has been purchased from an outside vendor. We have performed thorough testing of the software, including review of sample participants, to ensure the intended purpose of the model, the operation of the model, sensitivities and dependencies, and strengths and limitations of the model are sufficient for this purpose.
- Census data and financial information have been provided by client professionals, financial advisors, and/or auditors, who are known to be experts in their respective fields. We rely on the fact that the information provided by these experts has been given for the intended purpose of this Actuarial Valuation.
- Where applicable, certain actuarial assumptions and Funding Policy may be required as prescribed by law. In such instances, we have followed legal guidance to ensure conformity.
- The Expected Rate of Return on Investments assumption has been chosen using input from several sources; including, but not limited to: client professionals, financial advisors, auditors, and other capital market outlooks. We have relied on the information provided, in the aggregate, to settle on the selected Expected Rate of Return on Investments assumption.

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PARTICIPANT DATA

Participant Demographic Data & Average Future Working Career

PARTICIPANT DEMOGRAPHIC DATA & AVERAGE FUTURE WORKING CAREER

The chart below summarizes the Member count, payroll, and average future working career as of:

Actuarial Valuation - Data Date **Fiscal Year End for Reporting**	**12/31/2019** **(FYE 12/31/2020)**	**12/31/2020** **(FYE 12/31/2021)**
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	19	19
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2	3
Active Plan Members	39	39
Total	60	61
Payroll of Active Plan Members	$ 3,821,103	$ 3,971,160
Average Future Working Career (In Years)		
Active Plan Members	11.83	11.29
Inactive Plan Members	0.00	0.00
Total	7.69	7.22

Member 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 salary for active Plan Members as of the Actuarial Valuation – Data Date. For the Fiscal Year Ending December 31, 2021, a beginning of year Actuarial 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 average future working career is measured as of the Actuarial Valuation Date and is based on the demographic assumptions used in the preparation of this report.

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FUNDING POLICY

Components of the Actuarially Determined Contribution
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 Members over the working career of the Member as a level percent of 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 Employer Contributions are being compared to the Actuarially Determined Contribution as developed in the January 1, 2020 Actuarial Valuation. The equivalent single amortization period as of that valuation is 14.05 years. The period of repayment as of that valuation is based on a layered amortization with new sources of Unfunded Liability paid off over 15 years.

The Actuarial Value of Assets smooths gains and losses on the Fair 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 State Statutes.

FORMAL FUNDING POLICY

There is no Formal Funding Policy that exists between the Pension Board and the Village at this time.

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. Five-Year Contribution History of the Employer (with a focus on the average contributions from those sources)

2. Other Known Events and Conditions

3. Consideration of Subsequent Events

Five-Year Contribution History of the Employer

Employer Contributions (under the Informal Funding 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:

Fiscal Year End	Employer Contributions	Most Applicable ADC	% of ADC	Covered-Employee Payroll	% of Payroll
12/31/2021	$1,645,039	$1,634,382	100.65%	$3,914,759	42.02%
12/31/2020	$1,484,407	$1,498,027	99.09%	$3,945,289	37.62%
12/31/2019	$1,370,263	$1,372,114	99.87%	$3,276,121	41.83%
12/31/2018	$1,369,010	$1,370,179	99.91%	$3,172,999	43.15%
12/31/2017	$1,292,435	$1,293,479	99.92%	$3,746,089	34.50%

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.

<u>Informal Funding Policy – Selected</u>

The Informal Funding Policy that has been determined for future contributions is 99.89% of the Actuarially Determined Contribution. This represents the full future contributions expected to be made.

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 current employees as of the Actuarial Valuation Date as well as payment of Unfunded Liability on behalf of the current 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 career of current employees. In that case, contributions will persist beyond the working career of current employees. To the extent that a portion of the above total contribution is anticipated to pay contributions for the Normal Cost of future employees, 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. If applicable, the tax levy in the next December is assumed to be the Actuarially Determined Contribution. Funding is assumed to go into the Plan 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
Notes to Schedule of Contributions

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SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY

	12/31/2021	12/31/2020	12/31/2019	12/31/2018	12/31/2017	12/31/2016	12/31/2015	12/31/2014	12/31/2013	12/31/2012
Total Pension Liability										
Service Cost	$ 1,126,128	$ 1,089,035	$ 1,017,162	$ 973,114	$ 989,863	$ 927,272	$ 819,172	$ 914,462		
Interest	2,820,349	2,743,686	2,677,085	2,551,157	2,385,137	2,290,894	2,166,890	1,972,342		
Changes of Benefit Terms	-	-	171,924	-	-	-	-	-		
Differences Between Expected and Actual Experience	(1,476,642)	(2,070,960)	127,910	(581,406)	109,340	56,947	(965,189)	723,430		
Change in Assumptions	-	(308,204)	463,113	-	-	(862,520)	709,325	1,077,358		
Benefit Payments and Refunds	(1,245,771)	(1,111,062)	(1,135,494)	(1,019,055)	(1,030,489)	(1,002,314)	(783,911)	(739,738)		
Net Change in Total Pension Liability	$ 1,224,064	$ 342,495	$ 3,321,700	$ 1,923,810	$ 2,453,851	$ 1,410,279	$ 1,946,288	$ 3,947,854		
Total Pension Liability - Beginning	43,892,457	43,549,962	40,228,262	38,304,452	35,850,601	34,440,322	32,494,034	28,546,180		
Total Pension Liability - Ending (a)	$ 45,116,521	$ 43,892,457	$ 43,549,962	$ 40,228,262	$ 38,304,452	$ 35,850,601	$ 34,440,322	$ 32,494,034		
Plan Fiduciary Net Position										
Contributions - Employer	$ 1,645,039	$ 1,484,407	$ 1,370,263	$ 1,369,010	$ 1,292,435	$ 1,248,941	$ 1,066,419	$ 1,020,259		
Contributions - Members	387,952	380,787	389,144	352,025	351,856	356,020	347,585	328,681		
Contributions - Other	57,108	58,661	-	-	27,856	54,297	-	-		
Net Investment Income	5,231,524	4,426,285	5,598,502	(1,388,420)	3,005,954	1,386,254	(83,047)	1,101,370		
Benefit Payments and Refunds	(1,245,771)	(1,111,062)	(1,135,494)	(1,019,055)	(1,030,489)	(1,002,314)	(783,911)	(739,738)		
Administrative Expense	(66,541)	(50,524)	(45,326)	(44,211)	(25,050)	(27,378)	(27,935)	(43,872)		
Prior Period Audit Adjustment	-	-	-	-	-	-	-	-		
Other	-	-	-	-	-	-	-	55,831		
Net Change in Plan Fiduciary Net Position	$ 6,009,311	$ 5,188,554	$ 6,177,089	$ (730,651)	$ 3,622,562	$ 2,015,821	$ 519,112	$ 1,722,531		
Plan Fiduciary Net Position - Beginning	39,376,812	34,188,258	28,011,169	28,741,820	25,119,258	23,103,437	22,584,325	20,861,794		
Plan Fiduciary Net Position - Ending (b)	$ 45,386,123	$ 39,376,812	$ 34,188,258	$ 28,011,169	$ 28,741,820	$ 25,119,258	$ 23,103,437	$ 22,584,325		
Employer's Net Pension Liability - Ending (a) - (b)	$ (269,602)	$ 4,515,645	$ 9,361,704	$ 12,217,093	$ 9,562,632	$ 10,731,343	$ 11,336,885	$ 9,909,709		

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

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SCHEDULE OF TOTAL PENSION LIABILITY AND RELATED RATIOS

	12/31/2021	12/31/2020	12/31/2019	12/31/2018	12/31/2017	12/31/2016	12/31/2015	12/31/2014	12/31/2013	12/31/2012
Total Pension Liability - Ending (a)	$ 45,116,521	$ 43,892,457	$ 43,549,962	$ 40,228,262	$ 38,304,452	$ 35,850,601	$ 34,440,322	$ 32,494,034		
Plan Fiduciary Net Position - Ending (b)	$ 45,386,123	$ 39,376,812	$ 34,188,258	$ 28,011,169	$ 28,741,820	$ 25,119,258	$ 23,103,437	$ 22,584,325		
Employer's Net Pension Liability - Ending (a) - (b)	$ (269,602)	$ 4,515,645	$ 9,361,704	$ 12,217,093	$ 9,562,632	$ 10,731,343	$ 11,336,885	$ 9,909,709		
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	100.60%	89.71%	78.50%	69.63%	75.04%	70.07%	67.08%	69.50%		
Covered Employee Payroll	$ 3,914,759	$ 3,945,289	$ 3,276,121	$ 3,172,999	$ 3,746,089	$ 3,628,173	$ 3,833,606	$ 3,507,517		
Employer's Net Pension Liability as a Percentage of Covered-Employee Payroll	(6.89%)	114.46%	285.76%	385.03%	255.27%	295.78%	295.72%	282.53%		

Covered-Employee Payroll shown above for the current year is based on the Covered-Employee Payroll for the Plan Members during the Fiscal Year.

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SCHEDULE OF CONTRIBUTIONS

	12/31/2021	12/31/2020	12/31/2019	12/31/2018	12/31/2017	12/31/2016	12/31/2015	12/31/2014	12/31/2013	12/31/2012
Actuarially Determined Contribution	$ 1,634,382	$ 1,498,027	$ 1,372,114	$ 1,370,179	$ 1,293,479	$ 1,250,911	$ 1,067,861	$ 1,018,934		
Contributions in Relation to the Actuarially Determined Contribution	1,645,039	1,484,407	1,370,263	1,369,010	1,292,435	1,248,941	1,066,419	1,020,259		
Contribution Deficiency/(Excess)	$ (10,657)	$ 13,620	$ 1,851	$ 1,169	$ 1,044	$ 1,970	$ 1,442	$ (1,325)		
Covered-Employee Payroll	$ 3,914,759	$ 3,945,289	$ 3,276,121	$ 3,172,999	$ 3,746,089	$ 3,628,173	$ 3,833,606	$ 3,507,517		
Contributions as a Percentage of Covered-Employee Payroll	42.02%	37.62%	41.83%	43.15%	34.50%	34.42%	27.82%	29.09%		

NOTES TO SCHEDULE OF CONTRIBUTIONS

The Actuarially Determined Contribution shown above for the current year is the Recommended Contribution from the January 1, 2020 Actuarial Valuation completed by Lauterbach & Amen, LLP for the December 2020 tax levy, if applicable. 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)
Equivalent Single Amortization Period	100% Funded Over 14.05 Years (Layered)
Asset Valuation Method	5-Year Smoothed Fair Value
Inflation (CPI-U)	2.25%
Total Payroll Increases	3.25%
Individual Pay Increases	3.75% - 10.77%
Expected Rate of Return on Investments	6.75%
Mortality Rates	Pub-2010 Adjusted for Plan Status, Demographics, and Illinois Public Pension Data, as Described
Retirement Rates	100% of L&A 2020 Illinois Police Retirement Rates Capped at Age 65
Termination Rates	100% of L&A 2020 Illinois Police Termination Rates
Disability Rates	100% of L&A 2020 Illinois Police Disability Rates

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GASB METHODS AND PROCEDURES

GASB Methods and Procedures

GASB Methods and Procedures

	Statement 67 Pension Plan Financials	Statement 68 Employer Financials
Fiscal Year End for Reporting	**December 31, 2021**	**December 31, 2021**
Measurement Date	December 31, 2021	December 31, 2021
Actuarial Valuation Date	January 1, 2021	January 1, 2021
Actuarial Valuation - Data Date	December 31, 2020	December 31, 2020
Asset Valuation Method	Fair Value	Fair Value
Actuarial Cost Method	Entry Age Normal (Level %)	Entry Age Normal (Level %)

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

Amortization Method	Straight Line	Straight Line
Amortization Period		
Actuarial Experience	7.22 Years	7.22 Years
Change in Assumptions	7.22 Years	7.22 Years
Asset Experience	5.00 Years	5.00 Years

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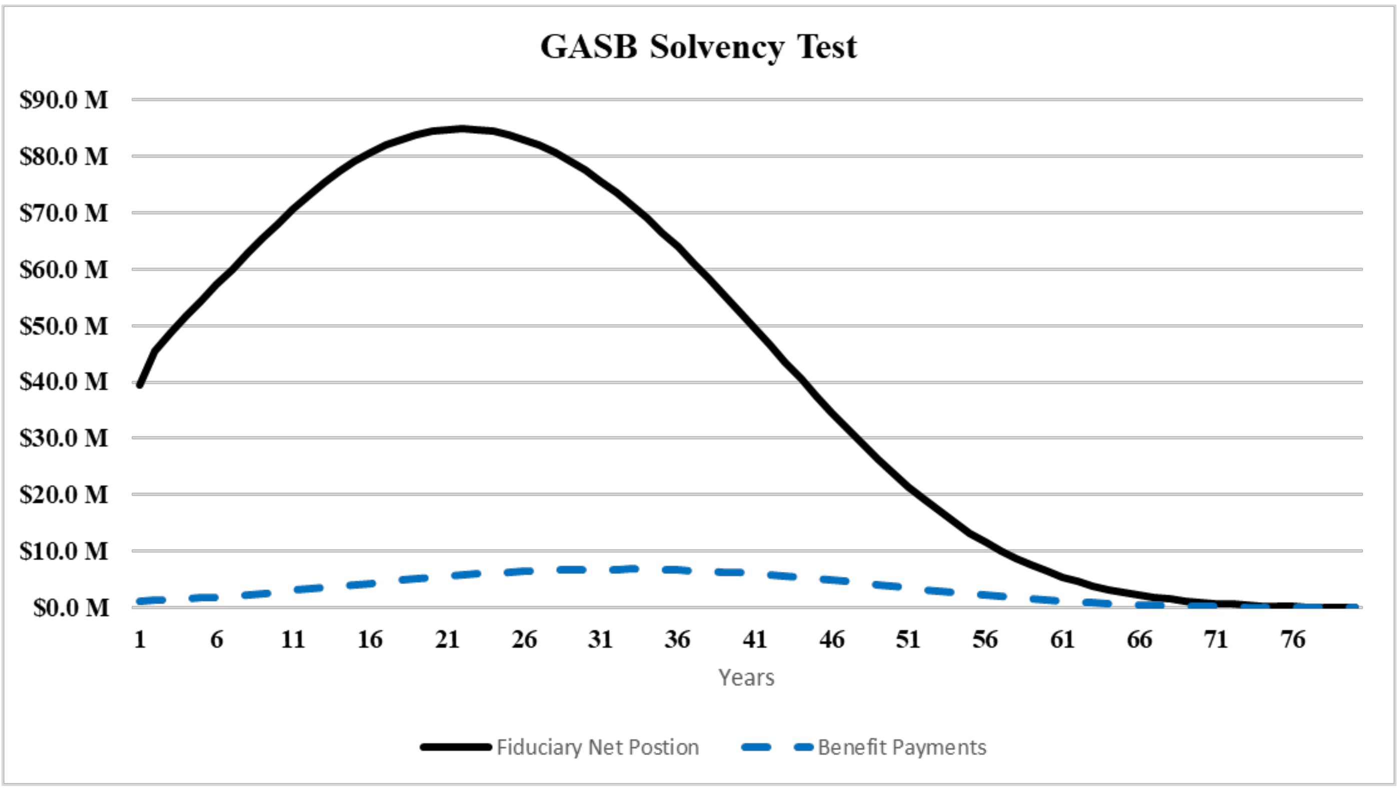
SUPPLEMENTARY TABLES

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 Expected Rate of Return on Plan Investments.

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, as described in the *Actuarial Assumptions Information s*ection 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 employees 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 employees.

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

	Projected Pensionable Payroll			Projected Contributions			
Year	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Contributions from Current Employees (d) - Notes	Employer Contributions for Current Employees (e) - Notes	Contributions Related to Payroll of Future Employees (f) - Notes	Total Contributions (g) = (d) + (e) + (f)
1	$ 3,971,160	$ -	$ 3,971,160	$ 445,060	$ 1,645,039	$ -	$ 2,090,099
2	3,953,141	147,081	4,100,222	391,756	1,433,715	-	1,825,471
3	3,915,616	317,863	4,233,479	388,038	637,267	-	1,025,305
4	3,872,285	498,782	4,371,068	383,743	633,101	-	1,016,844
5	3,815,814	697,314	4,513,127	378,147	628,583	-	1,006,730
6	3,744,936	914,868	4,659,804	371,123	622,140	-	993,263
7	3,666,079	1,145,169	4,811,247	363,308	613,676	-	976,984
8	3,523,243	1,444,370	4,967,613	349,153	607,908	-	957,061
9	3,369,631	1,759,429	5,129,060	333,930	586,416	-	920,346
10	3,183,529	2,112,226	5,295,755	315,488	572,006	-	887,494
11	3,040,329	2,427,538	5,467,867	301,297	543,510	-	844,807
12	2,894,289	2,751,284	5,645,573	286,824	526,131	-	812,955
13	2,707,551	3,121,503	5,829,054	268,318	510,843	-	779,161
14	2,501,229	3,517,269	6,018,498	247,872	451,632	-	699,504
15	2,303,524	3,910,576	6,214,099	228,279	307,936	-	536,215
16	2,127,759	4,288,298	6,416,057	210,861	279,250	-	490,111
17	1,954,854	4,669,725	6,624,579	193,726	253,883	-	447,609
18	1,775,777	5,064,101	6,839,878	175,979	231,378	-	407,357
19	1,578,007	5,484,167	7,062,174	156,380	206,515	-	362,895
20	1,393,893	5,897,801	7,291,695	138,135	177,784	-	315,919
21	1,247,444	6,281,231	7,528,675	123,622	152,598	-	276,220
22	1,103,142	6,670,215	7,773,357	109,321	135,933	-	245,254
23	961,809	7,064,182	8,025,991	95,315	119,140	-	214,455
24	837,328	7,449,507	8,286,836	82,979	99,862	-	182,841
25	752,269	7,803,889	8,556,158	74,550	82,746	-	157,296
26	608,058	8,226,175	8,834,233	60,259	79,138	-	139,397
27	527,994	8,593,352	9,121,345	52,324	56,136	-	108,460
28	430,659	8,987,130	9,417,789	42,678	51,090	-	93,768
29	360,418	9,363,450	9,723,867	35,717	39,862	-	75,579
30	296,725	9,743,168	10,039,893	29,405	33,663	-	63,068

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

	Projected Pensionable Payroll			Projected Contributions			
Year	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Contributions from Current Employees (d) - Notes	Employer Contributions for Current Employees (e) - Notes	Contributions Related to Payroll of Future Employees (f) - Notes	Total Contributions (g) = (d) + (e) + (f)
31	$ 236,834	$ 10,129,355	$ 10,366,190	$ 23,470	$ 27,413	$ -	$ 50,883
32	199,917	10,503,174	10,703,091	19,812	19,614	-	39,426
33	156,026	10,894,915	11,050,941	15,462	17,713	-	33,175
34	108,919	11,301,178	11,410,097	10,794	15,089	-	25,883
35	81,669	11,699,256	11,780,925	8,093	10,044	-	18,137
36	68,920	12,094,885	12,163,805	6,830	6,764	-	13,594
37	57,714	12,501,415	12,559,129	5,719	5,708	-	11,427
38	47,520	12,919,780	12,967,300	4,709	4,780	-	9,489
39	28,778	13,359,959	13,388,738	2,852	4,887	-	7,739
40	23,115	13,800,756	13,823,872	2,291	2,383	-	4,674
41	-	14,273,147	14,273,147	-	3,773	-	3,773
42	-	14,737,025	14,737,025	-	-	-	-
43	-	15,215,978	15,215,978	-	-	-	-
44	-	15,710,497	15,710,497	-	-	-	-
45	-	16,221,088	16,221,088	-	-	-	-
46	-	16,748,274	16,748,274	-	-	-	-
47	-	17,292,593	17,292,593	-	-	-	-
48	-	17,854,602	17,854,602	-	-	-	-
49	-	18,434,876	18,434,876	-	-	-	-
50	-	19,034,010	19,034,010	-	-	-	-
51	-	19,652,615	19,652,615	-	-	-	-
52	-	20,291,325	20,291,325	-	-	-	-
53	-	20,950,793	20,950,793	-	-	-	-
54	-	21,631,694	21,631,694	-	-	-	-
55	-	22,334,724	22,334,724	-	-	-	-
56	-	23,060,603	23,060,603	-	-	-	-
57	-	23,810,072	23,810,072	-	-	-	-
58	-	24,583,900	24,583,900	-	-	-	-
59	-	25,382,876	25,382,876	-	-	-	-
60	-	26,207,820	26,207,820	-	-	-	-

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

	Projected Pensionable Payroll			Projected Contributions			
Year	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Contributions from Current Employees (d) - Notes	Employer Contributions for Current Employees (e) - Notes	Contributions Related to Payroll of Future Employees (f) - Notes	Total Contributions (g) = (d) + (e) + (f)
61	$ -	$ 27,059,574	$ 27,059,574	$ -	$ -	$ -	$ -
62	-	27,939,010	27,939,010	-	-	-	-
63	-	28,847,028	28,847,028	-	-	-	-
64	-	29,784,556	29,784,556	-	-	-	-
65	-	30,752,555	30,752,555	-	-	-	-
66	-	31,752,013	31,752,013	-	-	-	-
67	-	32,783,953	32,783,953	-	-	-	-
68	-	33,849,431	33,849,431	-	-	-	-
69	-	34,949,538	34,949,538	-	-	-	-
70	-	36,085,398	36,085,398	-	-	-	-
71	-	37,258,173	37,258,173	-	-	-	-
72	-	38,469,064	38,469,064	-	-	-	-
73	-	39,719,309	39,719,309	-	-	-	-
74	-	41,010,186	41,010,186	-	-	-	-
75	-	42,343,017	42,343,017	-	-	-	-
76	-	43,719,165	43,719,165	-	-	-	-
77	-	45,140,038	45,140,038	-	-	-	-
78	-	46,607,089	46,607,089	-	-	-	-
79	-	48,121,820	48,121,820	-	-	-	-
80	-	49,685,779	49,685,779	-	-	-	-

NOTES TO PROJECTION OF CONTRIBUTIONS

Total Employee Payroll is projected to increase annually at the Projected Total Payroll Increases 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 Polic*y 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 Expense (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a)+(b)-(c)-(d)+(e)
1	$ 39,376,812	$ 2,090,099	$ 1,245,771	$ 66,541	$ 5,231,524	$ 45,386,123
2	45,386,123	1,825,471	1,351,008	68,038	3,077,280	48,869,828
3	48,869,828	1,025,305	1,482,496	69,569	3,280,935	51,624,003
4	51,624,003	1,016,844	1,624,788	71,134	3,461,701	54,406,626
5	54,406,626	1,006,730	1,786,459	72,735	3,643,677	57,197,839
6	57,197,839	993,263	1,949,303	74,371	3,826,078	59,993,504
7	59,993,504	976,985	2,160,122	76,045	4,007,064	62,741,386
8	62,741,386	957,061	2,362,223	77,756	4,184,995	65,443,464
9	65,443,464	920,347	2,597,796	79,505	4,358,137	68,044,646
10	68,044,646	887,494	2,799,066	81,294	4,525,754	70,577,535
11	70,577,535	844,806	3,071,339	83,123	4,686,033	72,953,911
12	72,953,911	812,955	3,319,558	84,994	4,836,923	75,199,237
13	75,199,237	779,162	3,604,896	86,906	4,977,647	77,264,244
14	77,264,244	699,504	3,916,531	88,861	5,103,763	79,062,118
15	79,062,118	536,215	4,160,693	90,861	5,211,300	80,558,080
16	80,558,080	490,111	4,402,439	92,905	5,302,494	81,855,341
17	81,855,341	447,609	4,660,381	94,995	5,379,848	82,927,422
18	82,927,422	407,358	4,927,978	97,133	5,441,752	83,751,421
19	83,751,421	362,896	5,158,761	99,318	5,488,008	84,344,246
20	84,344,246	315,919	5,391,068	101,553	5,518,523	84,686,067
21	84,686,067	276,220	5,592,401	103,838	5,533,384	84,799,432
22	84,799,432	245,254	5,803,053	106,174	5,532,803	84,668,262
23	84,668,262	214,455	5,980,089	108,563	5,516,854	84,310,918
24	84,310,918	182,841	6,128,404	111,006	5,486,578	83,740,927
25	83,740,927	157,296	6,317,191	113,503	5,440,785	82,908,314
26	82,908,314	139,396	6,432,665	116,057	5,379,996	81,878,984
27	81,878,984	108,461	6,561,502	118,669	5,305,036	80,612,311
28	80,612,311	93,768	6,665,691	121,339	5,215,433	79,134,483
29	79,134,483	75,580	6,748,156	124,069	5,112,191	77,450,029
30	77,450,029	63,069	6,807,416	126,731	4,995,978	75,574,929

Column b – Contributions on behalf of current employees in the Plan as of the Actuarial Valuation Date.
Column d – Based on the average Administrative Expense in recent years, and projected to increase in the future.
Column e – Based on the Expected Rate of Return on Plan Investments, 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 Expense (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a)+(b)-(c)-(d)+(e)
31	$ 75,574,929	$ 50,883	$ 6,834,752	$ 123,850	$ 4,868,172	$ 73,535,381
32	73,535,381	39,426	6,850,571	120,682	4,729,689	71,333,243
33	71,333,243	33,175	6,860,195	117,249	4,580,625	68,969,598
34	68,969,598	25,883	6,830,078	113,554	4,421,974	66,473,823
35	66,473,823	18,137	6,793,694	109,621	4,254,608	63,843,254
36	63,843,254	13,593	6,717,158	105,472	4,079,615	61,113,832
37	61,113,832	11,427	6,622,032	101,134	3,898,662	58,300,756
38	58,300,756	9,489	6,514,119	96,648	3,712,508	55,411,986
39	55,411,986	7,739	6,378,439	92,033	3,522,192	52,471,445
40	52,471,445	4,674	6,236,368	87,315	3,328,556	49,480,992
41	49,480,992	3,773	6,059,961	82,515	3,132,786	46,475,074
42	46,475,074	-	5,866,235	77,662	2,936,461	43,467,638
43	43,467,638	-	5,656,035	72,795	2,740,718	40,479,527
44	40,479,527	-	5,430,435	67,942	2,546,798	37,527,947
45	37,527,947	-	5,190,795	63,135	2,355,816	34,629,833
46	34,629,833	-	4,938,756	58,401	2,168,860	31,801,535
47	31,801,535	-	4,676,100	53,766	1,986,971	29,058,640
48	29,058,640	-	4,404,749	49,257	1,811,136	26,415,770
49	26,415,770	-	4,126,734	44,898	1,642,272	23,886,409
50	23,886,409	-	3,844,355	40,712	1,481,212	21,482,554
51	21,482,554	-	3,560,211	36,719	1,328,676	19,214,300
52	19,214,300	-	3,276,995	32,938	1,185,255	17,089,622
53	17,089,622	-	2,997,280	29,382	1,051,400	15,114,359
54	15,114,359	-	2,723,586	26,064	927,419	13,292,128
55	13,292,128	-	2,458,701	22,991	813,462	11,623,897
56	11,623,897	-	2,204,792	20,166	709,521	10,108,460
57	10,108,460	-	1,963,828	17,589	615,448	8,742,492
58	8,742,492	-	1,737,618	15,257	530,959	7,520,575
59	7,520,575	-	1,527,446	13,162	455,643	6,435,610
60	6,435,610	-	1,334,359	11,295	388,988	5,478,944

Column b – Contributions on behalf of current employees in the Plan as of the Actuarial Valuation Date.
Column d – Based on the average Administrative Expense in recent years, and projected to increase in the future.
Column e – Based on the Expected Rate of Return on Plan Investments, 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 Expense (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a)+(b)-(c)-(d)+(e)
61	$ 5,478,944	$ -	$ 1,158,721	$ 9,643	$ 330,396	$ 4,640,976
62	4,640,976	-	1,000,446	8,191	279,224	3,911,564
63	3,911,564	-	859,158	6,922	234,800	3,280,284
64	3,280,284	-	734,135	5,821	196,446	2,736,774
65	2,736,774	-	624,309	4,870	163,497	2,271,092
66	2,271,092	-	528,447	4,053	135,327	1,873,919
67	1,873,919	-	445,251	3,355	111,349	1,536,662
68	1,536,662	-	373,507	2,760	91,026	1,251,421
69	1,251,421	-	311,896	2,257	73,868	1,011,137
70	1,011,137	-	259,146	1,831	59,444	809,604
71	809,604	-	214,058	1,474	47,374	641,446
72	641,446	-	175,592	1,174	37,332	502,012
73	502,012	-	142,895	925	29,032	387,223
74	387,223	-	115,193	720	22,226	293,537
75	293,537	-	91,869	551	16,695	217,811
76	217,811	-	72,393	414	12,245	157,250
77	157,250	-	56,273	304	8,705	109,379
78	109,379	-	43,082	216	5,922	72,002
79	72,002	-	32,456	147	3,760	43,159
80	43,159	-	24,022	93	2,099	21,143

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 Expected Rate of Return on Plan Investments. Administrative Expense are typically not charged on a per employee basis. Administrative Expenses shown are not projected to distinguish between current and future employees.

The Projected Fiduciary 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

			Projected Benefit Payments		Actuarial Present Values of Projected Benefit Payments		
Year	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	Present Value of "Funded" Benefit Payments (6.75%)	Present Value of "Unfunded" Benefit Payments (2.06%)	Present Value of Benefit Payments Using the Single Discount Rate (6.75%)
1	$ 39,376,812	$ 1,245,771	$ 1,245,771	$ -	$ 1,205,742	$ -	$ 1,205,742
2	45,386,123	1,351,008	1,351,008	-	1,224,915	-	1,224,915
3	48,869,828	1,482,496	1,482,496	-	1,259,139	-	1,259,139
4	51,624,003	1,624,788	1,624,788	-	1,292,734	-	1,292,734
5	54,406,626	1,786,459	1,786,459	-	1,331,489	-	1,331,489
6	57,197,839	1,949,303	1,949,303	-	1,360,994	-	1,360,994
7	59,993,504	2,160,122	2,160,122	-	1,412,821	-	1,412,821
8	62,741,386	2,362,223	2,362,223	-	1,447,311	-	1,447,311
9	65,443,464	2,597,796	2,597,796	-	1,491,001	-	1,491,001
10	68,044,646	2,799,066	2,799,066	-	1,504,937	-	1,504,937
11	70,577,535	3,071,339	3,071,339	-	1,546,910	-	1,546,910
12	72,953,911	3,319,558	3,319,558	-	1,566,208	-	1,566,208
13	75,199,237	3,604,896	3,604,896	-	1,593,288	-	1,593,288
14	77,264,244	3,916,531	3,916,531	-	1,621,568	-	1,621,568
15	79,062,118	4,160,693	4,160,693	-	1,613,732	-	1,613,732
16	80,558,080	4,402,439	4,402,439	-	1,599,526	-	1,599,526
17	81,855,341	4,660,381	4,660,381	-	1,586,176	-	1,586,176
18	82,927,422	4,927,978	4,927,978	-	1,571,197	-	1,571,197
19	83,751,421	5,158,761	5,158,761	-	1,540,776	-	1,540,776
20	84,344,246	5,391,068	5,391,068	-	1,508,346	-	1,508,346
21	84,686,067	5,592,401	5,592,401	-	1,465,739	-	1,465,739
22	84,799,432	5,803,053	5,803,053	-	1,424,777	-	1,424,777
23	84,668,262	5,980,089	5,980,089	-	1,375,404	-	1,375,404
24	84,310,918	6,128,404	6,128,404	-	1,320,390	-	1,320,390
25	83,740,927	6,317,191	6,317,191	-	1,275,002	-	1,275,002
26	82,908,314	6,432,665	6,432,665	-	1,216,214	-	1,216,214
27	81,878,984	6,561,502	6,561,502	-	1,162,129	-	1,162,129
28	80,612,311	6,665,691	6,665,691	-	1,105,932	-	1,105,932
29	79,134,483	6,748,156	6,748,156	-	1,048,819	-	1,048,819
30	77,450,029	6,807,416	6,807,416	-	991,128	-	991,128

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

			Projected Benefit Payments		Actuarial Present Values of Projected Benefit Payments		
Year	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	Present Value of "Funded" Benefit Payments (6.75%)	Present Value of "Unfunded" Benefit Payments (2.06%)	Present Value of Benefit Payments Using the Single Discount Rate (6.75%)
31	$ 75,574,929	$ 6,834,752	$ 6,834,752	$ -	$ 932,185	$ -	$ 932,185
32	73,535,381	6,850,571	6,850,571	-	875,263	-	875,263
33	71,333,243	6,860,195	6,860,195	-	821,070	-	821,070
34	68,969,598	6,830,078	6,830,078	-	765,776	-	765,776
35	66,473,823	6,793,694	6,793,694	-	713,533	-	713,533
36	63,843,254	6,717,158	6,717,158	-	660,885	-	660,885
37	61,113,832	6,622,032	6,622,032	-	610,328	-	610,328
38	58,300,756	6,514,119	6,514,119	-	562,419	-	562,419
39	55,411,986	6,378,439	6,378,439	-	515,883	-	515,883
40	52,471,445	6,236,368	6,236,368	-	472,498	-	472,498
41	49,480,992	6,059,961	6,059,961	-	430,101	-	430,101
42	46,475,074	5,866,235	5,866,235	-	390,025	-	390,025
43	43,467,638	5,656,035	5,656,035	-	352,271	-	352,271
44	40,479,527	5,430,435	5,430,435	-	316,834	-	316,834
45	37,527,947	5,190,795	5,190,795	-	283,702	-	283,702
46	34,629,833	4,938,756	4,938,756	-	252,859	-	252,859
47	31,801,535	4,676,100	4,676,100	-	224,273	-	224,273
48	29,058,640	4,404,749	4,404,749	-	197,900	-	197,900
49	26,415,770	4,126,734	4,126,734	-	173,686	-	173,686
50	23,886,409	3,844,355	3,844,355	-	151,570	-	151,570
51	21,482,554	3,560,211	3,560,211	-	131,491	-	131,491
52	19,214,300	3,276,995	3,276,995	-	113,378	-	113,378
53	17,089,622	2,997,280	2,997,280	-	97,143	-	97,143
54	15,114,359	2,723,586	2,723,586	-	82,691	-	82,691
55	13,292,128	2,458,701	2,458,701	-	69,929	-	69,929
56	11,623,897	2,204,792	2,204,792	-	58,742	-	58,742
57	10,108,460	1,963,828	1,963,828	-	49,014	-	49,014
58	8,742,492	1,737,618	1,737,618	-	40,626	-	40,626
59	7,520,575	1,527,446	1,527,446	-	33,454	-	33,454
60	6,435,610	1,334,359	1,334,359	-	27,377	-	27,377

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: "Funded" Portion of Benefit Payments	Projected Benefit Payments: "Unfunded" Portion of Benefit Payments	Actuarial Present Values: Present Value of "Funded" Benefit Payments (6.75%)	Actuarial Present Values: Present Value of "Unfunded" Benefit Payments (2.06%)	Actuarial Present Values: Present Value of Benefit Payments Using the Single Discount Rate (6.75%)
61	$ 5,478,944	$ 1,158,721	$ 1,158,721	$ -	$ 22,270	$ -	$ 22,270
62	4,640,976	1,000,446	1,000,446	-	18,012	-	18,012
63	3,911,564	859,158	859,158	-	14,490	-	14,490
64	3,280,284	734,135	734,135	-	11,599	-	11,599
65	2,736,774	624,309	624,309	-	9,240	-	9,240
66	2,271,092	528,447	528,447	-	7,327	-	7,327
67	1,873,919	445,251	445,251	-	5,783	-	5,783
68	1,536,662	373,507	373,507	-	4,544	-	4,544
69	1,251,421	311,896	311,896	-	3,555	-	3,555
70	1,011,137	259,146	259,146	-	2,767	-	2,767
71	809,604	214,058	214,058	-	2,141	-	2,141
72	641,446	175,592	175,592	-	1,645	-	1,645
73	502,012	142,895	142,895	-	1,254	-	1,254
74	387,223	115,193	115,193	-	947	-	947
75	293,537	91,869	91,869	-	708	-	708
76	217,811	72,393	72,393	-	522	-	522
77	157,250	56,273	56,273	-	380	-	380
78	109,379	43,082	43,082	-	273	-	273
79	72,002	32,456	32,456	-	192	-	192
80	43,159	24,022	24,022	-	133	-	133

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 employees).

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 Expected Rate of Return on Plan Investments. The PV of the Unfunded Portion of Benefit Payments are determined using the High-Quality Municipal Bond Rate 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.

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SUMMARY OF PRINCIPAL PLAN PROVISIONS

ESTABLISHMENT OF THE FUND

The Police Pension Fund is established and administered as prescribed by "Article 3 – Police Pension Fund – Municipalities 500,000 and Under" of the Illinois Pension Code.

ADMINISTRATION

The Police Pension Fund is administered by a Board of Trustees whose duties are to manage the Pension Fund, determine applications for pensions, authorize payment of pensions, establish rules, pay expenses, invest assets, and keep records.

MEMBER CONTRIBUTIONS

Members contribute 9.910% of pensionable salary.

REGULAR RETIREMENT PENSION BENEFIT

Tier I

Eligibility: Age 50 with at least 20 years of creditable service.

Benefit: 50% of final salary for the first 20 years of service, plus an additional 2.5% of final salary for each year of service beyond 20 years of service, and not to exceed 75% of final salary. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service, unless the pensionable salary was greater at some point within the year prior to the last day of service. If so, the pensionable salary is averaged over the last 12 months.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 1/12 of 3% of the original monthly benefit for each full month that has passed since the pension began. The initial increase date will be the latter of the first day of the month after the pensioner turns age 55 or the first day of the month after the benefit date anniversary. Subsequent increases of 3% of the current monthly benefit will be granted every January 1st thereafter.

REGULAR RETIREMENT PENSION BENEFIT - CONTINUED

Tier II

Eligibility: Age 55 with at least 10 years of creditable service.

Benefit: 2.5% of final average salary for each year of service, and not to exceed 75% of final average salary. "Final average salary" is determined by dividing the total pensionable salary during 48 consecutive months of service within the last 60 months of service in which total pensionable salary was the highest, by the number of months of service in that period (or by dividing the total pensionable salary during 96 consecutive months of service within the last 120 months of service in which total pensionable salary was the highest, by the number of months of service in that period, if greater). Annual salary for this purpose will not exceed the salary cap, indexed by the lesser of 3% or the CPI-U for the 12 months ending with the September preceding each November 1st. The salary cap will not decrease.

Annual Increase in Benefit: The initial increase date will be the latter of the January 1st after the pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

EARLY RETIREMENT PENSION BENEFIT

Tier I

None.

Tier II

Eligibility: Age 50 with at least 10 years of creditable service.

Benefit: The regular retirement pension benefit reduced by ½ of 1% for each month that the police officer's age is between 50 and 55.

Annual Increase in Benefit: The initial increase date will be the latter of the January 1st after the pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

Surviving Spouse Benefit

Tier I

Eligibility: Married to an active police officer with at least 8 years of creditable service, a disabled pensioner at the time of death, or a retired pensioner on the last day of service.

Active Line of Duty Death Benefit: An eligible surviving spouse is entitled to receive 100% of the police officer's final pensionable salary attached to rank held on the last day of service.

Non-Duty Death Benefit:

Disabled or Retired Pensioner: An eligible surviving spouse is entitled to receive the pensioner's benefit at the time of death.

Active Member with 20+ Years of Service: An eligible surviving spouse is entitled to the police officer's eligible benefit at the time of death.

Active Member with 10-20 Years of Service: An eligible surviving spouse is entitled to receive 50% of the police officer's pensionable salary attached to rank held on the last day of service, unless the pensionable salary was greater at some point within the year prior to the last day of service. If so, the pensionable salary is averaged over the last 12 months.

Annual Increase in Benefit: None.

Tier II

Eligibility: Married to an active police officer with at least 8 years of creditable service, a disabled pensioner at the time of death, or a retired pensioner on the last day of service.

Active Line of Duty Death Benefit: An eligible surviving spouse is entitled to receive 100% of the police officer's final pensionable salary attached to rank held on the last day of service.

Non-Duty Death Benefit:

Disabled or Retired Pensioner, Active Member with 20+ Years of Service, and Active Member with 10-20 Years of service: An eligible surviving spouse is entitled to receive the greater of 66⅔% of the police officer's earned pension benefit at the time of death or 54% of the police officer's monthly salary at the time of death.

Annual Increase in Benefit: The initial increase date will be the January 1st after the surviving spouse turns age 60. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

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Termination Benefit – Vested

Tier I

Eligibility: Age 60 with at least 8 but less than 20 years of creditable service.

Benefit: 2.5% of final salary for each year of service. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service, unless the pensionable salary was greater at some point within the year prior to the last day of service. If so, the pensionable salary is averaged over the last 12 months.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 1/12 of 3% of the original monthly benefit for each full month that has passed since the pension began. The initial increase date will be the first day of the month after the benefit date anniversary. Subsequent increases of 3% of the current monthly benefit will be granted every January 1st thereafter.

Tier II

None.

Disability Benefit

Tier I

Eligibility: Duty or Non-Duty Disability or Occupational Disease Disability with at least 5 years of creditable service.

Benefit: For a duty disability or an occupational disease disability with at least 5 years of creditable service, a police officer is entitled to receive the greater of 65% of final salary or the regular retirement pension benefit at the time of disability. For a non-duty disability, a police officer is entitled to receive 50% of final salary. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 3% of the original monthly benefit for each full year that has passed since the pension began. The initial increase date will be the latter of the January 1st after following pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases of 3% of the original monthly benefit will be granted every January 1st thereafter.

Tier II

Eligibility: Duty or Non-Duty Disability or Occupational Disease Disability with at least 5 years of creditable service.

Benefit: For a duty disability or an occupational disease disability with at least 5 years of creditable service, a police officer is entitled to receive the greater of 65% of final salary or the regular retirement pension benefit at the time of disability. For a non-duty disability, a police officer is entitled to receive 50% of final salary. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 3% of the original monthly benefit for each full year that has passed since the pension began. The initial increase date will be the latter of the January 1st after following pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases of 3% of the original monthly benefit will be granted every January 1st thereafter.

Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

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Actuarial Funding Report

LAKE IN THE HILLS POLICE PENSION FUND

Actuarial Valuation
as of January 1, 2022

For the Contribution Year January 1, 2022 to December 31, 2022

LAUTERBACH & AMEN, LLP

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Actuarial Valuation – Funding Recommendation

Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

LAKE IN THE HILLS POLICE PENSION FUND

Contribution Year Ending: December 31, 2022
Actuarial Valuation Date: January 1, 2022
Utilizing Data as of December 31, 2021

Submitted by:

Lauterbach & Amen, LLP
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Todd A. Schroeder
Director
June 15, 2022

LAUTERBACH & AMEN, LLP

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ACTUARIAL CERTIFICATION

This report documents the results of the Actuarial Valuation for the Lake in the Hills Police Pension Fund. The information was prepared for use by the Lake in the Hills Police Pension Fund and the Village of Lake in the Hills, Illinois for determining the Recommended Contribution, under the selected Funding Policy, and the Alternative Contribution for the Contribution Year January 1, 2022 to December 31, 2022. It is not intended or suitable for other purposes. Determinations for purposes other than the Employer's Actuarial Recommended Contribution may be significantly different from the results herein.

The results in this report are based on the census data and financial information submitted by the Village of Lake in the Hills, Illinois, and may include results from the prior Actuary. We did not prepare the Actuarial Valuations for the years prior to January 1, 2016. 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.

In addition, the results of the Actuarial Valuation involve certain risks and uncertainty as they are based on future assumptions, market conditions, and events that may never materialize as assumed. For this reason, certain assumptions and future results may be materially different than those presented in this report. See the *Management Summary* section of this report for a more detailed discussion of the Defined Benefit Plan Risks, as well as the limitations of this Actuarial Valuation on assessing those risks. We are not aware of any known events subsequent to the Actuarial Valuation Date, which are not reflected in this report but should be valued, that may materially impact the results.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The Village of Lake in the Hills, 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. The selected assumptions represent our best estimate of the anticipated long-term experience of the Plan, and meet the guidelines set forth in the Actuarial Standards of Practice.

In preparing the results, our Actuaries used commercially available software (ProVal) developed by Winklevoss Technologies, LLC. This software is widely used for the purpose of performing Actuarial Valuations. Our Actuaries coded the plan provisions, assumptions, methods, and participant data summarized in this report, and reviewed the liability and cost outputs for reasonableness. We are not aware of any material weaknesses or limitations in the software, and have determined it is appropriate for performing this valuation.

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To the best of our knowledge, all calculations are in accordance with the applicable funding requirements, and the procedures followed and presentation of results conform to generally accepted actuarial principles and practices as prescribed by the Actuarial Standards Board. 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 Village of Lake in the Hills, Illinois and Lauterbach & Amen, LLP that impairs our objectivity.

Respectfully Submitted,

LAUTERBACH & AMEN, LLP

Todd A. Schroeder

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

Robert L. Rietz, Jr., FCA, EA, MAAA

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MANAGEMENT SUMMARY

Recommended Contribution
Funded Status
Management Summary – Comments and Analysis
Actuarial Recommended Contribution – Reconciliation

MANAGEMENT SUMMARY

RECOMMENDED CONTRIBUTION

	Prior Valuation	Current Valuation
Recommended Contribution	$1,435,317	$1,256,791
Expected Payroll	$4,035,691	$4,141,719
Recommended Contribution as a Percent of Expected Payroll	35.57%	30.34%

The Recommended Contribution has Decreased by $178,526 from the Prior Valuation.

FUNDED STATUS

	Prior Valuation	Current Valuation
Normal Cost	$1,058,107	$1,061,523
Fair Value of Assets	$39,376,812	$45,386,123
Actuarial Value of Assets	$36,665,313	$41,401,641
Actuarial Accrued Liability	$43,698,195	$45,994,101
Unfunded Actuarial Accrued Liability/(Surplus)	$7,032,882	$4,592,460
Percent Funded		
Actuarial Value of Assets	83.91%	90.02%
Fair Value of Assets	90.11%	98.68%

The Percent Funded has Increased by 6.11% on an Actuarial Value of Assets Basis.

MANAGEMENT SUMMARY – COMMENTS AND ANALYSIS

Contribution Results

The Recommended Contribution is based on the selected Funding Policy and methods that are outlined in the *Actuarial Funding Policies* section of this report.

"Contribution Risk" is defined by the Actuarial Standards of Practice as the potential for actual future contributions to deviate from expected future contributions. For example, when actual contributions are not made in accordance to the Plan's Funding Policy, or when future experience deviates materially from assumed. While it is essential for the Actuary and Plan Sponsor to collaborate on implementing a sound and financially feasible Funding Policy, it is important to note that the Actuary is not required, and is not in the position to, evaluate the ability or willingness of the Plan Sponsor to make the Recommended Contribution under the selected Funding Policy.

As a result, while Contribution Risk may be a significant source of risk for the Plan, this Actuarial Valuation makes no attempt to assess the impact of future contributions falling short of those recommended under the selected Funding Policy. Notwithstanding the above, see the *Actuarial Recommended Contribution – Reconciliation* section of this report for the impact on the current Recommended Contribution of any contribution shortfalls or excesses from the prior year.

Defined Benefit Plan Risks

Asset Growth:

Pension funding involves preparing Fund assets to pay for benefits when Members retire. During their working careers, assets grow with contributions and investment earnings; and then, the Pension Fund distributes assets in retirement. Based on the Plan's current mix of Members and Funded Status, the Plan should experience positive asset growth, on average, if the Recommended Contributions are made and expected investment earnings come in. In the current year, the Fund asset growth was positive by approximately $6,009,000.

Asset growth is important in the long-term. Long-term cash flow out of the Pension Fund is primarily benefit payments, and expenses are a smaller portion. The Plan should monitor the impact of expected benefit payments on future asset growth. We assess and project all future benefit payments as part of the determination of liability. The assessment is made on all current Members of the Fund, both active and inactive. For active Members, the assessment includes the probability that Members terminate or retire and begin receiving benefits. In the next 5 years, benefit payments are anticipated to increase 80-85%, or approximately $1,041,000. In the next 10 years, the expected increase in benefit payments is 165-170%, or approximately $2,107,000. The estimated increase in benefit payments is being compared against the benefits paid to inactive Members during the fiscal year, excluding any refunds of Member Contributions.

MANAGEMENT SUMMARY

Furthermore, plans with a large number of inactive Members have an increased "Longevity Risk". Longevity Risk is the possibility that inactive Members may live longer than projected by the Plan's mortality assumption. As shown in the previous paragraph, benefit payments are expected to increase over the next 5-year and 10-year horizons. The projected increases assume that current inactive Members pass away according to the Plan's mortality assumption. To the extent that current inactive Members live longer than expected, the future 5-year and 10-year benefit projections may be larger than the amounts disclosed in the previous paragraph. Higher levels of benefit payments, payable for a longer period of time, may cause a significant strain to the Plan's cash flow, future Recommended Contributions, and may lead to Plan insolvency.

Unfunded Liability:
Unfunded Liability represents the financial shortfall of the Actuarial Value of Assets compared to the Actuarial Accrued Liability. To the extent that Unfunded Liability exists, the Plan is losing potential investment earnings due to the financial shortfall. Contributions towards Unfunded Liability pay for the lost investment earnings, as well as the outstanding unfunded amount. If payments towards Unfunded Liability are not made, the Unfunded Liability will grow.

In the early 1990s, many Pension Funds in Illinois adopted an increasing payment towards Unfunded Liability due to a change in legislation. The initial payment decreased, and future payments are anticipated to increase annually after that. In many situations, payments early on were less than the interest on Unfunded Liability, which means that Unfunded Liability increased even though contributions were made at the recommended level.

The current Recommended Contribution includes a payment towards Unfunded Liability that is approximately $245,000 greater than the interest on Unfunded Liability. All else being equal, and contributions being made, Unfunded Liability is expected to decrease. The Employer and Fund should anticipate that improvement in the current Percent Funded will be mitigated in the short-term. The Employer and Fund should understand this impact as we progress forward to manage expectations.

Actuarial Value of Assets:
The Pension Fund smooths asset returns that vary from expectations over a 5-year period. The intention over time is that asset returns for purposes of funding recommendations are a combination of several years. The impact is intended to smooth out the volatility of Recommended Contributions over time, but not necessarily increase or decrease the level of contributions over the long-term.

When asset returns are smoothed, there are always gains or losses on the Fair Value of Assets that are going to be deferred for current funding purposes, and recognized in future years. Currently, the Pension Fund is deferring approximately $3,984,000 in gains on the Fair Value of Assets. These are asset gains that will be recognized in upcoming periods, independent of the future performance of the Fair Value of Assets.

MANAGEMENT SUMMARY

Cash Flow Risk:
Assets, liabilities, and Funded Status are good metrics to monitor over time to assess the progress of the Funding Policy. However, these metrics may provide limited forward-looking insights. Specifically, the maturity of a Pension Fund can pose certain risks that often cannot be assessed with a point-in-time metric such as Percent Funded.

For example, two different Pension Funds could have the same Percent Funded, but have completely different risk profiles. One Fund might mostly cover active Members with little to no Members in pay status, whereas a second Fund might mostly cover inactive Members with a significant level of annual benefit payments. The latter Fund has a greater "Cash Flow Risk", i.e. a more significant chance that negative cash flows could lead to a deteriorating, rather than improving, Percent Funded over time.

It is important to note that, in general, positive net cash flows are good, but also need to be sufficient to cover the growth in the liabilities (i.e. the Normal Cost as well as interest on the Actuarial Accrued Liability). Typically, when cash flows are assumed to be insufficient to cover the growth in liabilities, the Percent Funded will decline, while future Recommended Contributions will increase.

Benefit Payment Risk:
Ideally, plans in a sound financial position will have the ratio of annual benefits payments to the Fair Value of Assets to be less than the Expected Rate of Return on Investments assumption (i.e. 6.75%). Theoretically, in this case it can be considered that investment returns will fully cover the annual benefit payments, and therefore, all Employer and Member Contributions made to the Fund will be used to pay for future benefit accruals and pay down the existing Unfunded Liability. To the extent that the ratio of the annual benefit payments to the Fair Value of Assets increases to above the Expected Rate of Return on Investments assumption, the Plan may experience some additional risks, such as the need to keep assets in more liquid investments, inability to pay down Unfunded Liability, and may lead to Plan insolvency.

As of the Valuation Date, the Lake in the Hills Police Pension Fund has a ratio of benefit payments to the Fair Value of Assets of 2.74%. In this case, the Plan is currently in a sound financial position and has a reduced amount of Benefit Payment Risk and Cash Flow Risk. It would be expected that adherence to the current Funding Policy would lead to an increasing Percent Funded.

MANAGEMENT SUMMARY

Fund Assets

The results in this report are based on the assets held in the Pension Fund. Assets consist of funds held for investment and for benefit payments as of the Actuarial Valuation Date. In addition, assets may be adjusted for other events representing dollars that are reasonably expected to be paid out from the Pension Fund or deposited into the Pension Fund after the Actuarial Valuation Date as well.

The current Fund assets are audited.

The Fund Assets Used in this Report are Audited.

The Actuarial Value of Assets under the Funding Policy is equal to the Fair Value of Assets, with unexpected gains and losses smoothed over 5 years. More detail on the Actuarial Value of Assets can be found in the *Actuarial Funding Policies* section of this report.

MANAGEMENT SUMMARY

Demographic Data

Demographic factors can change from year to year within the Pension Fund. Changes in this category include hiring new Members, Members retiring or becoming disabled, inactive Members passing away, and other changes. Demographic changes can cause an actuarial gain (contribution that is less than expected compared to the prior year) or an actuarial loss (contribution that is greater than expected compared to the prior year).

Demographic gains and losses occur when the assumptions over the one-year period for Member changes do not meet our long-term expectation. For example, if no Members become disabled during the year, we would expect a liability gain. If more Members become disabled than anticipated during the year, we would expect a liability loss. Generally, we expect short-term fluctuations in demographic experience to create gains or losses of 1%-3% of the Actuarial Accrued Liability in any given year, but to balance out in the long-term.

"Demographic Risk" occurs when Plan demographic experience differs significantly from expected. Similar to Longevity Risk discussed previously, additional risk is created when demographic experience differs from the assumed rates of disability, retirement, or termination. Under the chosen assumptions, actuarial gains and/or losses will always occur, as the assumptions will never be exactly realized. However, the magnitude of the gain and/or loss and its influence on the Recommended Contribution largely depends on the size of the Plan.

Based on the number of active Members in the Plan, the Recommended Contribution has a moderate risk of having a significant increase due to demographic experience. For example, 1 new disabled Member would typically generate a substantial increase to the Actuarial Accrued Liability, which in turn, may increase the Recommended Contribution.

In the current report, the key demographic changes were as follows:

New Hires: There were 4 Members of the Fund who were hired during the year. When a Member is admitted to the Pension Fund, the Employer Contribution will increase to reflect the new Member. The increase in the Recommended Contribution in the current year due to the new Member experience is approximately $32,400.

Retirement: There was 1 Member of the Fund who retired during the year. When a Member retires, the Normal Cost will decrease. Any change in the Actuarial Accrued Liability will be considered when determining the amount to pay towards Unfunded Liability each year. The increase in the Recommended Contribution in the current year due to the retirement experience is approximately $39,200.

Disability: There was 1 Member of the Fund who became disabled during the year. When a Member becomes disabled, the Fund will often experience a decrease in Normal Cost, but an increase in Unfunded Liability. The increase in the Recommended Contribution in the current year due to the disability experience is approximately $13,600.

MANAGEMENT SUMMARY

Termination: There was 1 Member of the Fund who terminated employment during the year. The Fund may be obligated to pay a benefit or a refund of Employee Contributions to the Member in the future. The decrease in the Recommended Contribution in the current year due to the termination experience is approximately $12,600.

Mortality: As inactive Members age and continue to collect benefits, the Fund liability will increase. In the current year, there were 19 inactive Members who maintained their benefit collection status throughout the year. The increase in the Recommended Contribution in the current year due to the mortality experience is approximately $5,300.

Salary Increases: Salary increases were less than anticipated in the current year. This caused a decrease in the Recommended Contribution in the current year of approximately $3,400.

Assumption Changes

In the current valuation, we have reviewed the projected individual pay increases assumption to reflect the wage schedule between the Village of Lake in the Hills, Illinois and the Metropolitan Alliance of Police, Lake in the Hills Police Chapter #90 for the period May 1, 2021 through April 30, 2024. The year over year step increases dictated by the wage schedule did not change significantly from the prior wage schedule; therefore, we have not updated the individual pay increases assumption.

Funding Policy Changes

The Funding Policy was not changed from the prior valuation.

Other Considerations

The best due diligence continues to be the process of annually reviewing assumptions, provisions, and methodologies. Our commitment to reviewing new information regularly continues to be at the forefront of our reporting. In the current valuation, we have updated the underlying valuation software to value the most accurate estimate of Surviving Spouse benefits, including the expected Cost-of-Living Adjustments, described under the Illinois State Statutes. As a result, this caused a decrease in the Actuarial Accrued Liability of approximately $1,394,000, with a corresponding decrease in the Recommended Contribution of approximately $127,000.

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ACTUARIAL RECOMMENDED CONTRIBUTION – RECONCILIATION

Actuarial Accrued Liability is expected to increase each year for both interest for the year and as active Members earn additional service years towards retirement. Similarly, Actuarial Accrued Liability is expected to decrease when the Fund pays benefits to inactive Members.

Contributions are expected to increase as expected pay increases under the Funding Policy for the Fund.

	Actuarial Liability	Recommended Contribution
Prior Valuation	$ 43,698,195	$ 1,435,317
Expected Changes	2,811,984	46,646
Initial Expected Current Valuation	$ 46,510,179	$ 1,481,963

Other increases or decreases in Actuarial Accrued Liability (key changes noted below) will increase or decrease the amount of Unfunded Liability in the Plan. To the extent that Unfunded Liability increases or decreases unexpectedly, the contribution towards Unfunded Liability will also change unexpectedly.

	Actuarial Liability	Recommended Contribution
Salary Increases Less than Expected	$ (66,838)	$ (3,372)
Actuarial Experience	(449,240)	(71,202)
Asset Return Greater than Expected*	-	(127,362)
Contributions Greater than Expected	-	(23,236)
Total Increase/(Decrease)	$ (516,078)	$ (225,172)
Current Valuation	$ 45,994,101	$ 1,256,791

*Impact on the Recommended Contribution due to asset return is on an Actuarial Value of Assets basis.

The Actuarial Experience can be attributable to several factors including Actuarial Valuation software changes, demographic changes, and benefit payment experience compared to expectation. Key demographic changes were discussed in the *Demographic Data* section of this report.

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VALUATION OF FUND ASSETS

VALUATION OF FUND ASSETS

FAIR VALUE OF ASSETS

Statement of Assets

	Prior Valuation	Current Valuation
Cash and Cash Equivalents	$ 521,612	$ 1,297,195
Money Market	455,409	1,349,882
Illinois Funds	77,370	77,402
Fixed Income	12,679,388	12,366,272
Mutual Funds	25,590,841	30,240,290
Receivables (Net of Payables)	52,192	55,082
Total Fair Value of Assets	$ 39,376,812	$ 45,386,123

The Total Fair Value of Assets has Increased by Approximately $6,009,000 from the Prior Valuation.

Statement of Changes in Assets

Total Fair Value of Assets - Prior Valuation	$ 39,376,812
Plus - Employer Contributions	1,645,039
Plus - Member Contributions	445,060
Plus - Return on Investments	5,231,524
Less - Benefit Payments and Refunds	(1,245,771)
Less - Other Expenses	(66,541)
Total Fair Value of Assets - Current Valuation	$ 45,386,123

The Rate of Return on Investments on a Fair Value of Assets Basis for the Fund was Approximately 12.98% Net of Administrative Expense.

The Rate of Return on Investments shown above has been determined as a percent of the average of the prior and current Fair Value of Assets on the Statement of Changes in Assets. The Return on Investments is net of Other Expenses, and has been excluded from the Total Fair Value of Assets at the end of the Fiscal Year for this calculation.

VALUATION OF FUND ASSETS

FAIR VALUE OF ASSETS (GAIN)/LOSS

Current Year (Gain)/Loss on Fair Value of Assets

Total Fair Value of Assets - Prior Valuation	$ 39,376,812
Employer and Member Contributions	2,090,099
Benefit Payments and Refunds	(1,245,771)
Expected Return on Investments	2,686,431
Expected Total Fair Value of Assets - Current Valuation	$ 42,907,571
Actual Total Fair Value of Assets - Current Valuation	45,386,123
Current Fair Value of Assets (Gain)/Loss	$ (2,478,552)

Expected Return on Investments	$ 2,686,431
Actual Return on Investments (Net of Expenses)	5,164,983
Current Fair Value of Assets (Gain)/Loss	$ (2,478,552)

The Actual Return on Investments on a Fair Value of Assets Basis was Greater than Expected for the Current Year.

The (Gain)/Loss on the current Fair Value of Assets has been determined based on the Expected Rate of Return on Investments as shown in the *Actuarial Assumptions* section of this report.

VALUATION OF FUND ASSETS

DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

Total Fair Value of Assets - Current Valuation		$ 45,386,123
Adjustment for Prior (Gains)/Losses		
	Full Amount	Deferral
FYE 2021	$ (2,478,552)	(1,982,842)
FYE 2020	(2,040,622)	(1,224,373)
FYE 2019	(3,641,365)	(1,456,546)
FYE 2018	3,396,396	679,279
Total Deferred (Gain)/Loss		(3,984,482)
Initial Actuarial Value of Assets - Current Valuation		$ 41,401,641
Less Contributions for the Current Year and Interest		-
Adjustment for the Corridor		-
Total Actuarial Value of Assets - Current Valuation		$ 41,401,641

The Actuarial Value of Assets is Equal to the Fair Value of Assets with Unanticipated (Gains)/Losses Recognized Over 5 Years. The Actuarial Value of Assets is 91.22% of the Fair Value of Assets.

ACTUARIAL VALUE OF ASSETS (GAIN)/LOSS

Total Actuarial Value of Assets - Prior Valuation	$ 36,665,313
Plus - Employer Contributions	1,645,039
Plus - Member Contributions	445,060
Plus - Return on Investments	3,958,541
Less - Benefit Payments and Refund	(1,245,771)
Less - Other Expenses	(66,541)
Total Actuarial Value of Assets - Current Valuation	$ 41,401,641

The Rate of Return on Investments on an Actuarial Value of Assets Basis for the Fund was Approximately 10.49% Net of Administrative Expense.

The Actuarial Value of Assets incorporates portions of gains and losses over multiple years.

VALUATION OF FUND ASSETS

HISTORICAL ASSET PERFORMANCE

The chart below shows the historical Rates of Return on Investments for both Fair Value of Assets and Actuarial Value of Assets.

	Fair Value of Assets	Actuarial Value of Assets
FYE 2021	12.98%	10.49%
FYE 2020	12.65%	9.02%
FYE 2019	19.61%	5.99%
FYE 2018	(4.92%)	3.75%
FYE 2017	11.72%	6.13%
FYE 2016	5.80%	5.07%
FYE 2015	(0.48%)	5.29%

The historical Rates of Return on Investments shown above were calculated based on the annual Return on Investments, as a percentage of the average value of the assets for the year.

For purposes of determining the average value of assets for the year, the ending Fair Value of Assets has been adjusted to net out to the portion related to the Return on Investments themselves. All other cash flows are included.

For purposes of determining the annual Return on Investments we have adjusted the figures shown on the preceding pages. The figures shown on the preceding pages are net of Investment Expenses. We have made an additional adjustment to net out Administrative Expenses. Netting out Administrative Expenses allows us to capture returns for the year that can be used to make benefit payments as part of the ongoing actuarial process.

The adjustments we made are for actuarial reporting purposes only. By netting out Administrative Expenses and capturing Return on Investments that are available to pay benefits, it provides us a comparison to the Expected Rate of Return on Investments, but does not provide a figure that would be consistent with the rates of return that are determined by other parties. Therefore, this calculated Return on Investments should not be used to analyze investment performance of the Fund or the performance of the investment professionals.

VALUATION OF FUND ASSETS

Expected Rate of Return on Investments Assumption

The Expected Rate of Return on Investments for this valuation is 6.75%. Lauterbach & Amen, LLP does not provide investment advice. We look at a variety of factors when reviewing the Expected Rate of Return on Investments assumption selected by the Board. These factors include: historical Rates of Return on Investments, capital market projections performed by the Fund's investment advisors, the Fund's investment policy, capital market forward-looking benchmark expected returns by independent investment companies, rates used by comparable pension systems, and other factors identified in the Actuarial Standards of Practice.

Generally speaking, the ideal assumption for Expected Rate of Return on Investments is one that has a 50% chance of being met over the long-term. If actual returns going forward come in less than expected, the pension system risks deferring contributions to the future that should be made today and creating additional contribution volatility. Reducing the Expected Rate of Return on Investments by 25 basis points produces a Recommended Contribution that is 17.41% higher than currently shown.

"Investment Risk" is the potential that actual Return on Investments will be different from what is expected. The selected Expected Rate of Return on Investments assumption is chosen to be a long-term assumption, producing a return that, on average, would produce a stable rate of return over a long-term horizon. Actual asset returns in the short-term may deviate from this long-term assumption due to current market conditions. Furthermore, establishing the Expected Rate of Return on Investments assumption may be dependent on the Illinois State Statutes pertaining to the limitations on types of investments Plan Sponsors may use. If the actual annual rates of return are less than the Expected Rate of Return on Investments, actuarial losses will be produced, thus increasing the Plan's Unfunded Liability and, subsequently, future Recommended Contributions.

"Asset/Liability Mismatch" risk is a similar concept as Investment Risk, as it relates to setting the Expected Rate of Return on Investments assumption compared to the actual Return on Investments achieved. The Interest Rate used to discount future Plan liabilities is set equal to the Expected Rate of Return on Investments. It is expected that the selected Interest Rate be a rate that is reasonably expected to be achieved over the long-term. To the extent that the selected Interest Rate to value Plan liabilities is unreasonable, or significantly different than the actual Return on Investments earned over an extended period of time, additional Interest Rate risk is created. For example, determining Plan liabilities at an Interest Rate higher than what is expected to be achieved through investment returns results in Unfunded Liability that is not a true representation of the Plan's condition and Percent Funded. As a result, the Actuarial Accrued Liability determined is an amount smaller than the liability that would be produced with an Interest Rate more indicative of future Expected Rate of Return on Investments. Therefore, the Recommended Contributions under the established Funding Policy may not be sufficient to appropriately meet the true pension obligations.

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RECOMMENDED CONTRIBUTION DETAIL

RECOMMENDED CONTRIBUTION DETAIL

ACTUARIAL ACCRUED LIABILITY

	Prior Valuation	Current Valuation
Active Members	$ 22,664,241	$ 21,025,965
Inactive Members		
Terminated Members	494,254	1,286,001
Retired Members	14,969,282	17,130,212
Disabled Members	5,570,418	6,551,923
Other Beneficiaries	-	-
Total Inactive Members	21,033,954	24,968,136
Total Actuarial Accrued Liability	$ 43,698,195	$ 45,994,101

The Total Actuarial Accrued Liability has Increased by Approximately $2,296,000 from the Prior Valuation.

FUNDED STATUS

	Prior Valuation	Current Valuation
Total Actuarial Accrued Liability	$ 43,698,195	$ 45,994,101
Total Actuarial Value of Assets	36,665,313	41,401,641
Unfunded Actuarial Accrued Liability	$ 7,032,882	$ 4,592,460
Total Fair Value of Assets	$ 39,376,812	$ 45,386,123
Percent Funded		
Actuarial Value of Assets	83.91%	90.02%
Fair Value of Assets	90.11%	98.68%

The Percent Funded as of the Actuarial Valuation Date is Subject to Volatility on Assets and Liability in the Short-Term.

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RECOMMENDED CONTRIBUTION DETAIL

DEVELOPMENT OF THE EMPLOYER NORMAL COST

	Prior Valuation	Current Valuation
Total Normal Cost	$ 1,058,107	$ 1,061,523
Estimated Member Contributions	(393,542)	(403,882)
Employer Normal Cost	$ 664,565	$ 657,641

At a 100% Funding Level, the Normal Cost Contribution is Still Required.

NORMAL COST AS A PERCENTAGE OF EXPECTED PAYROLL

	Prior Valuation	Current Valuation
Expected Payroll	$ 4,035,691	$ 4,141,719
Member Normal Cost Rate	9.910%	9.910%
Employer Normal Cost Rate	16.31%	15.72%
Total Normal Cost Rate	26.22%	25.63%

Ideally, the Employer Normal Cost Rate will Remain Stable.

RECOMMENDED CONTRIBUTION BREAKDOWN

	Prior Valuation	Current Valuation
Employer Normal Cost*	$ 709,423	$ 702,032
Amortization of Unfunded Accrued Liability/(Surplus)	725,894	554,759
Recommended Contribution	$ 1,435,317	$ 1,256,791

The Recommended Contribution has Decreased by 12.44% from the Prior Valuation.

*Employer Normal Cost Contribution includes interest through the end of the Fiscal Year.

RECOMMENDED CONTRIBUTION DETAIL

SCHEDULE OF AMORTIZATION – UNFUNDED ACTUARIAL ACCRUED LIABILITY

Below is the schedule of remaining amortization balances for the Unfunded Liability.

Unfunded Liability Base	Initial Balance	Date Established	Current Balance	Years Remaining	Payment
Investment (Gain)/Loss	$ (1,431,898)	12/31/2021	$ (1,431,898)	15	$ (127,362)
Actuarial (Gain)/Loss	(746,692)	12/31/2021	(746,692)	15	(66,415)
Contribution Experience	(10,657)	12/31/2021	(10,657)	15	(948)
Investment (Gain)/Loss	(796,324)	12/31/2020	(779,246)	14	(73,132)
Actuarial (Gain)/Loss	(1,981,480)	12/31/2020	(1,938,986)	14	(181,972)
Contribution Experience	13,620	12/31/2020	13,328	14	1,251
Investment (Gain)/Loss	203,010	12/31/2019	193,421	13	19,250
Actuarial (Gain)/Loss	(54,625)	12/31/2019	(52,045)	13	(5,180)
Contribution Experience	1,851	12/31/2019	1,763	13	175
Assumption Changes	80,604	12/31/2019	76,798	13	7,643
Plan Changes	153,208	12/31/2019	145,973	13	14,527
Investment (Gain)/Loss	833,320	12/31/2018	768,539	12	81,585
Actuarial (Gain)/Loss	(264)	12/31/2018	(243)	12	(26)
Contribution Experience	1,169	12/31/2018	1,078	12	114
Investment (Gain)/Loss	218,428	12/31/2017	193,662	11	22,080
Actuarial (Gain)/Loss	(404,665)	12/31/2017	(358,781)	11	(40,906)
Contribution Experience	1,044	12/31/2017	925	11	105
Initial Unfunded Liability	$ 9,522,215	12/31/2016	$ 8,515,521	12	$ 903,970
Total	$ 5,601,864		$ 4,592,460		$ 554,759

The Actuarial (Gain)/Loss can be attributable to several factors including Actuarial Valuation software changes, demographic changes, Employer Contribution timing, Member Contribution experience, benefit payment experience, and salary increase experience compared to expectation.

The equivalent single amortization period based on the layered amortization of Unfunded Liability is 10.26 years for the current valuation.

RECOMMENDED CONTRIBUTION DETAIL

ACTUARIAL METHODS – RECOMMENDED CONTRIBUTION

Actuarial Valuation Date	January 1, 2022
Data Collection Date	December 31, 2021
Actuarial Cost Method	Entry Age Normal (Level % Pay)
Amortization Method	Level % Pay (Closed)
Amortization Target	Layered - See Previous Page
Asset Valuation Method	5-Year Smoothed Fair Value

The contributions and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and census data furnished, using the Actuarial Cost Method described. The Actuarial Cost and Amortization Methods allocate the projected obligations of the Plan over the working lifetimes of the Plan Members.

The Recommended Contribution amount shown in this report is based on the methods summarized above. The *Actuarial Funding Policies* section of this report includes a more detailed description of the Actuarial Funding Methods being used.

The Actuarial Funding Methods are meant to provide a systematic process for determining contributions on an annual basis. The methods do not impact the expectation of future benefit payments. The methods only impact the way contributions are made towards future benefit payments.

Different Actuarial Funding Methods may achieve funding goals with differing levels of success. Certain methods are more efficient and more stable on an annual basis.

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ALTERNATIVE CONTRIBUTION

ALTERNATIVE CONTRIBUTION

ALTERNATIVE CONTRIBUTION

	Current Valuation
Alternative Contribution	$732,068
Expected Payroll	$4,141,719
Alternative Contribution as a Percent of Expected Payroll	17.68%

FUNDED STATUS – ALTERNATIVE CONTRIBUTION

	Current Valuation
Normal Cost	$1,022,537
Fair Value of Assets	$45,386,123
Actuarial Value of Assets	$41,401,641
Actuarial Accrued Liability	$47,069,156
Unfunded Actuarial Accrued Liability/(Surplus)	$5,667,515
Percent Funded	
Actuarial Value of Assets	87.96%
Fair Value of Assets	96.42%

ALTERNATIVE CONTRIBUTION

The Alternative Contribution is based on Actuarial Funding Methods and funding parameters outlined in the Illinois State Statutes for pension funding. The resulting contribution is lower than the Recommended Contribution for the current year. The Alternative Contribution amount is not recommended because it represents only a deferral of contributions when compared to the Recommended Contribution method.

Actuarial Funding Methods for pensions are best applied to provide a balance between the long-term goals of a variety of stakeholders:

1. Members – the Members are interested in benefit security and having the funds available to pay benefits when retired

2. Employers – cost control and cost stability over the long-term

3. Taxpayers – paying for the services they are receiving from active Members

The Alternative Contribution methods are not intended to provide a better system in any of the above categories long-term. The parameters are not recommended for a long-term funding strategy.

The funding methods and parameters put into place in the Illinois State Statutes in 2011 were intended to provide short-term budget relief for Employer Contributions. An Employer using the parameters outlined in the Illinois State Statutes for current funding should view the contributions as short-term relief. Our recommendation in this situation is for a Pension Fund and an Employer to work towards a long-term funding strategy that better achieves the long-term funding goals, over a period that does not exceed 3-5 years.

The Securities and Exchange Commission in 2013 used the phrase “Statutory Underfunding” to describe situations where contributions appear to be more manageable in the short-term, but set up future Recommended Contributions that are less likely to be manageable.

ALTERNATIVE CONTRIBUTION

ACTUARIAL METHODS – ALTERNATIVE CONTRIBUTION

Actuarial Valuation Date	January 1, 2022
Data Collection Date	December 31, 2021
Actuarial Cost Method	Projected Unit Credit
Amortization Method	Level % Pay (Closed)
Amortization Target	90% Funded Over 19 Years
Asset Valuation Method	5-Year Smoothed Fair Value

The contribution and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and census data furnished, using the Actuarial Cost Method described. The Actuarial Cost and Amortization methods allocate the projected obligations of the Plan over the working lifetimes of the Plan Members.

The Actuarial Funding Methods are meant to provide a systematic process for determining contributions on an annual basis. The methods do not impact the expectation of future benefit payments. The methods only impact the way contributions are made towards future benefit payments.

Different Actuarial Funding Methods may achieve funding goals with differing levels of success. Certain methods are more efficient and more stable on an annual basis.

The guidelines in the Illinois State Statutes for pension funding are silent on the use of a corridor on the Fair Value of Assets in determination of the Actuarial Value of Assets. In the current valuation, the Plan Sponsor has elected to use a 10% corridor in the determination of the Actuarial Value of Assets for both the Alternative Contribution and the Recommended Contribution. In the event that the Actuarial Value of Assets exceeds 110% of the Fair Value of Assets or falls below 90% of the Fair Value of Assets, the excess gains or losses will be recognized immediately.

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ACTUARIAL VALUATION DATA

Active Members
Inactive Members
Summary of Monthly Benefit Payments
Age and Service Distribution

ACTUARIAL VALUATION DATA

ACTIVE MEMBERS

	Prior Valuation	Current Valuation
Tier I	30	27
Tier II	9	13
Total Active Members	39	40
Total Payroll	$ 3,971,160	$ 4,075,492

INACTIVE MEMBERS

	Prior Valuation	Current Valuation
Terminated Members	3	4
Retired Members	12	13
Disabled Members	7	8
Other Beneficiaries	0	0
Total Inactive Members	22	25

SUMMARY OF MONTHLY BENEFIT PAYMENTS

	Prior Valuation	Current Valuation
Retired Members	$ 66,695	$ 78,514
Disabled Members	26,702	31,187
Other Beneficiaries	-	-
Total Inactive Members	$ 93,397	$ 109,701

ACTUARIAL VALUATION DATA

AGE AND SERVICE DISTRIBUTION

1/1/2022 Age and Service Distribution - All Active Members												
	Service	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Age												
Under 25												
25 to 29		2	3									5
30 to 34		2	1	3								6
35 to 39			1	1		2						4
40 to 44				1	4		1					6
45 to 49			1		1	4	4					10
50 to 54						1	3	2				6
55 to 59								2				2
60 to 64								1				1
65 to 69												
70 & up												
Total		4	6	5	5	7	8	5				40

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ACTUARIAL FUNDING POLICIES

Actuarial Cost Method
Financing Unfunded Actuarial Accrued Liability
Actuarial Value of Assets

ACTUARIAL FUNDING POLICIES

ACTUARIAL COST METHOD

The Actuarial Cost Method allocates the projected obligations of the Plan over the working lifetimes of the Plan Members.

In accordance with the Pension Fund's Funding Policy the Actuarial Cost Method for the Recommended Contribution basis is Entry Age Normal (Level Percent of Pay). The Entry Age Normal Cost Method is a method under which the Actuarial Present Value of the projected benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age. The portion of this Actuarial Present Value allocated to a valuation year is called Normal Cost. The portion of the Actuarial Present Value not provided at an Actuarial Valuation Date by the Actuarial Present Value of future Normal Costs is called the Actuarial Accrued Liability.

The Entry Age Normal method attempts to create a level cost pattern. In contrast to other Actuarial Cost Methods which inherently lead to uneven or less predictable cost patterns, the Entry Age Normal method is generally understood to be less risky in terms of contribution stability from year to year.

The Conference of Consulting Actuaries Public Plans Community produced a "white paper" detailing Funding Policy model practices for public sector pension plans. Under the Level Cost Actuarial Methodology ("LCAM"), one of the principal elements to a Funding Policy is the Actuarial Cost Method. When deciding which Actuarial Cost Method to use, several objectives may be considered, such as the following:

- Each Member's benefit should be funded under a reasonable allocation method by the expected retirement date
- Pay-related benefit costs should reflect anticipated pay at retirement
- The expected cost of each year of service (i.e. Normal Cost) for each active Member should be reasonably related to the expected cost of that Member's benefit
- The Member's Normal Cost should emerge as a level percent of Member compensation
- No gains or losses should occur if all assumptions are met.

Following these criteria, the use of the Entry Age Normal Cost Method (Level Percent of Pay) is a model practice.

FINANCING UNFUNDED ACTUARIAL ACCRUED LIABILITY

The Unfunded Actuarial Accrued Liability may be amortized over a period either in level dollar amounts or as a level percentage of payroll.

When amortizing the Unfunded Actuarial Accrued Liability as a level percentage of payroll, additional risk is incurred since the amortization payments in the early years of the payment period may not be large enough to cover the interest accrued on the existing Unfunded Liability. As a result, the Unfunded

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Liability may increase initially, before the amortization payments grow large enough to cover all interest accruals. Generally speaking, the Plan Sponsor will be required to contribute a larger total contribution amount over the course of the funding period under a level percentage of payroll basis as compared to a level dollar payroll schedule.

The Government Finance Officers Association notes that best practices in public pension finance include utilizing amortization periods that do not exceed 20 years. Longer amortization periods elevate the risk of failing to reduce any Unfunded Liability. For example, when the amortization payment in full only covers interest on the Unfunded Liability, but does not reduce the existing Unfunded Liability, the required contribution will increase in future years.

A second principal element under the Level Cost Actuarial Methodology described above is to establish an Amortization Policy that determines the length of time and the structure of the increase or decrease in contributions required to systematically fund the Unfunded Actuarial Accrued Liability. When deciding on the Amortization Policy, several objectives may be considered, such as the following:

- Variations in the source of liability changes (i.e. gains or losses, Plan changes, assumption changes) should be funded over periods consistent with an appropriate balance between the policy objectives of demographic matching and volatility management
- The cost changes in Unfunded Actuarial Accrued Liability should emerge as a level percentage of Member compensation

The LCAM model practices for the Amortization Policy include the following:

- Layered fixed period amortization by source
- Level percent of pay amortization
- An amortization period ranging from 15-20 years for experience gains or losses
- An amortization period of 15-25 years for assumption changes

In accordance with the Pension Fund's Funding Policy for the Recommended Contribution, the Unfunded Actuarial Accrued Liability is amortized by level percent of payroll contributions to a 100% funding target over a layered amortization period of 15 years. See the *Actuarial Methods – Recommended Contribution* section of this report for more detail.

The equivalent single amortization period based on the layered amortization of Unfunded Liability is 10.26 years for the current valuation.

We believe that the amortization period is appropriate for the purposes of this valuation.

ACTUARIAL FUNDING POLICIES

ACTUARIAL VALUE OF ASSETS

The Pension Fund is an ongoing plan. The Employer wishes to smooth the effect of volatility in the Fair Value of Assets on the annual contribution. Therefore, the Actuarial Value of Assets is equal to the Fair Value of Assets with unanticipated gains/losses recognized over a five-year period.

The Asset Valuation Method is intended to create an Actuarial Value of Assets that remains reasonable in relation to the Fair Value of Assets over time. The method produces results that can fall either above or below the Fair Value of Assets. The period of recognition is short.

It is intended that the period of recognition is short enough to keep the Actuarial Value of Assets within a decent range of the Fair Value of Assets. In the event that the Actuarial Value of Assets exceeds or falls below a 10% corridor of the Fair Value of Assets, the additional gain or loss will be recognized immediately.

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ACTUARIAL ASSUMPTIONS

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ACTUARIAL ASSUMPTIONS

NATURE OF ACTUARIAL CALCULATIONS

The results documented in this report are estimates based on data that may be imperfect and on assumptions about future events. Certain Plan Provisions may be approximated or deemed immaterial, and, therefore, are not valued. Assumptions may be made about census data or other factors. Reasonable efforts were made in this valuation to ensure that significant items in the context of the Actuarial Accrued Liability or costs are treated appropriately, and not excluded or included inappropriately.

Actual future experience will differ from the assumptions used in the calculations. As these differences arise, the expense for accounting purposes will be adjusted in future valuations to reflect such actual experience.

A range of results different from those presented in this report could be considered reasonable. The numbers are not rounded, but this is for convenience only and should not imply precision which is not inherent in actuarial calculations.

ACTUARIAL ASSUMPTIONS IN THE VALUATION PROCESS

The contributions and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and census data furnished, using the Actuarial Cost Method described in the *Actuarial Funding Policies* section of this report.

The principal areas of financial risk which require assumptions about future experience are:

- Expected Rate of Return on Investments
- Patterns of Pay Increases for Members
- Rates of Mortality Among Active and Inactive Members
- Rates of Termination Among Active Members
- Rates of Disability Among Active Members
- Age Patterns of Actual Retirements

Actual experience of the Pension Fund will not coincide exactly with assumed experience. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments to the computed Recommended Contribution.

Details behind the selection of the actuarial assumptions can be found in the Actuarial Assumption Summary document provided to the client upon request. The client has reviewed and approved the assumptions as a reasonable expectation of the future anticipated experience under the Plan.

ACTUARIAL ASSUMPTIONS

ASSESSMENT OF RISK EXPOSURES

From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations). In addition, Actuarial Standards of Practice require that the Actuary minimally perform a qualitative assessment of key financial and demographic risks as part of the risk assessment process with each annual Actuarial Valuation. The risk assessments we perform include, but are not limited to, the following:

- Periodic demographic experience studies every 3 to 5 years to confirm the ongoing appropriateness of actuarial assumptions
- Highlight the impact of demographic experience over the past year, as well as other sources of change and volatility in the *Actuarial Recommended Contribution – Reconciliation* section of this report
- Detail year-over-year changes in contribution levels, assets, liabilities, and Funded Status in the *Recommended Contribution* and *Funded Status* sections in the *Management Summary* section of this report
- Review any material changes in the census as summarized in the *Actuarial Valuation Data* section of this report
- Provide and discuss the Actuarial Assumption Summary document highlighting the rationale for each key assumption chosen by the Board
- Identify potential Cash Flow Risk by highlighting expected benefit payments over the next 5-year and 10-year periods in the *Asset Growth* section in the *Management Summary* section of this report
- Describe the impact of any assumption, method, or policy change in the *Management Summary* section of this report
- Utilize supplemental information, such as the GASB Discount Rate sensitivity disclosures to understand, for example, what impact an alternative Expected Rate of Return on Investments assumption might have on the estimation of Actuarial Accrued Liability and Funded Status
- Utilize supplemental information, such as the GASB solvency test, to better understand the Cash Flow Risk and long-term sustainability of the Plan.

LIMITATIONS OF RISK ANALYSIS

Since future experience may never be precisely as assumed, the process of selecting funding methods and actuarial assumptions may inherently create risk and volatility of results. A more detailed evaluation of the above risk exposures is beyond the scope and nature of the annual Actuarial Valuation process. For example, scenario tests, sensitivity tests, stress tests, and/or stochastic modeling for multi-year projections to assess the impact of alternative assumptions and methods, or modeling future experience different from the assumptions in these results, are not included in this Actuarial Valuation.

The Lake in the Hills Police Pension Fund and/or the Village of Lake in the Hills, Illinois should contact the Actuary if they desire a more detailed assessment of any of these forward-looking risk exposures.

ACTUARIAL ASSUMPTIONS

ASSESSMENT AND USE OF ACTUARIAL MODELS

Actuarial Valuations rely upon the use of actuarial modeling software to predict the occurrence of future events, which include specific demographic and financial potential outcomes. Actuarial assumptions are established to provide a guideline to use for such modeling.

- The model used in this Actuarial Valuation is intended to determine the Recommended Contribution, under the selected Funding Policy. The actuarial assumptions used were developed with this goal in mind.
- There are no known material limitations or inconsistencies among the actuarial assumptions or methods.
- The output from the model is reasonable based on the individual actuarial assumptions and based on the actuarial assumptions in the aggregate.
- The actuarial software used to calculate plan liabilities has been purchased from an outside vendor. We have performed thorough testing of the software, including review of sample participants, to ensure the intended purpose of the model, the operation of the model, sensitivities and dependencies, and strengths and limitations of the model are sufficient for this purpose.
- Census data and financial information have been provided by client professionals, financial advisors, and/or auditors, who are known to be experts in their respective fields. We rely on the fact that the information provided by these experts has been given for the intended purpose of this Actuarial Valuation.
- Where applicable, certain actuarial assumptions and Funding Policy may be required as prescribed by law. In such instances, we have followed legal guidance to ensure conformity.
- The Expected Rate of Return on Investments assumption has been chosen using input from several sources; including, but not limited to: client professionals, financial advisors, auditors, and other capital market outlooks. We have relied on the information provided, in the aggregate, to settle on the selected Expected Rate of Return on Investments assumption.

As stated in the *Limitations of Risk Analysis* section, future experience may never be precisely as assumed. As a result, the funding methods and actuarial assumptions used in the model may create volatility in the results when compared year after year. A more detailed evaluation of this volatility is beyond the scope and nature of the annual Actuarial Valuation process. In such cases, additional scenario tests, sensitivity tests, stress tests, and/or stochastic modeling for multi-year projections to assess the impact of alternative assumptions and methods, or modeling future experience different from the assumptions in these results, may be performed to determine a range of reasonable results.

ACTUARIAL ASSUMPTIONS

ACTUARIAL ASSUMPTIONS UTILIZED

Expected Rate of Return on Investments 6.75% Net of Administrative Expense

CPI-U 2.25%

Total Payroll Increases 3.25%

Individual Pay Increases* 3.75% - 10.77%

Individual pay increases include a long-term average increase for inflation, average annual increases for promotions, and any additional increases for a step program. Sample rates are as follows:

Service	Rate	Service	Rate
0	10.77%	8	3.75%
1	10.10%	9	3.75%
2	9.53%	10	3.75%
3	9.04%	15	3.75%
4	8.61%	20	3.75%
5	8.23%	25	3.75%
6	7.89%	30	3.75%
7	7.59%	35	3.75%

*Individual pay increases for active Members hired at age 40 or older are assumed annual increases at the ultimate rate reduced by 50 basis points, without adjustments in early service years.

ACTUARIAL ASSUMPTIONS

Retirement Rates

100% of the L&A Assumption Study for Police 2020 Cap Age 65. Sample rates are as follows:

Age	Rate	Age	Rate
50	11.00%	58	16.25%
51	11.55%	59	16.25%
52	12.13%	60	16.25%
53	12.73%	61	16.25%
54	13.37%	62	18.00%
55	14.04%	63	20.00%
56	14.74%	64	20.00%
57	15.48%	65	100.00%

Termination Rates

100% of the L&A Assumption Study for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
25	8.00%	40	2.17%
30	3.40%	45	1.56%
35	2.79%	50	0.46%

Disability Rates

100% of the L&A Assumption Study for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
25	0.00%	40	0.38%
30	0.06%	45	0.53%
35	0.18%	50	0.48%

65% of active Members who become disabled are assumed to be in the Line of Duty.

ACTUARIAL ASSUMPTIONS

Mortality Rates

Active Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

50% of active Member deaths are assumed to be in the Line of Duty.

Retiree Mortality follows the L&A Assumption Study for Police 2020. These rates are experience weighted with the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study improved to 2017 using MP-2019 Improvement Rates. These rates are then improved fully generationally using MP-2019 Improvement Rates.

Disabled Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010 Study for disabled participants. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

Spouse Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study for contingent survivors. For all rates not provided there (ages 45 and younger) the PubG-2010 Study for general employees was used. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

Marital Assumptions

Active Members: 80% of active Members are assumed to be married. Female spouses are assumed to be 3 years younger than male spouses.

Retiree and Disabled Members: Actual spousal data was utilized for retiree and disabled Members.

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SUMMARY OF PRINCIPAL PLAN PROVISIONS

SUMMARY OF PRINCIPAL PLAN PROVISIONS

ESTABLISHMENT OF THE FUND

The Police Pension Fund is established and administered as prescribed by "Article 3 – Police Pension Fund – Municipalities 500,000 and Under" of the Illinois Pension Code.

ADMINISTRATION

The Police Pension Fund is administered by a Board of Trustees whose duties are to manage the Pension Fund, determine applications for pensions, authorize payment of pensions, establish rules, pay expenses, invest assets, and keep records.

MEMBER CONTRIBUTIONS

Members contribute 9.910% of pensionable salary.

REGULAR RETIREMENT PENSION BENEFIT

<u>Tier I</u>

Eligibility: Age 50 with at least 20 years of creditable service.

Benefit: 50% of final salary for the first 20 years of service, plus an additional 2.5% of final salary for each year of service beyond 20 years of service, and not to exceed 75% of final salary. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service, unless the pensionable salary was greater at some point within the year prior to the last day of service. If so, the pensionable salary is averaged over the last 12 months.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 1/12 of 3% of the original monthly benefit for each full month that has passed since the pension began. The initial increase date will be the latter of the first day of the month after the pensioner turns age 55 or the first day of the month after the benefit date anniversary. Subsequent increases of 3% of the current monthly benefit will be granted every January 1st thereafter.

SUMMARY OF PRINCIPAL PLAN PROVISIONS

REGULAR RETIREMENT PENSION BENEFIT - CONTINUED

Tier II

Eligibility: Age 55 with at least 10 years of creditable service.

Benefit: 2.5% of final average salary for each year of service, and not to exceed 75% of final average salary. "Final average salary" is determined by dividing the total pensionable salary during 48 consecutive months of service within the last 60 months of service in which total pensionable salary was the highest, by the number of months of service in that period (or by dividing the total pensionable salary during 96 consecutive months of service within the last 120 months of service in which total pensionable salary was the highest, by the number of months of service in that period, if greater). Annual salary for this purpose will not exceed the salary cap, indexed by the lesser of 3% or the CPI-U for the 12 months ending with the September preceding each November 1st. The salary cap will not decrease.

Annual Increase in Benefit: The initial increase date will be the latter of the January 1st after the pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

EARLY RETIREMENT PENSION BENEFIT

Tier I

None.

Tier II

Eligibility: Age 50 with at least 10 years of creditable service.

Benefit: The regular retirement pension benefit reduced by ½ of 1% for each month that the police officer's age is between 50 and 55.

Annual Increase in Benefit: The initial increase date will be the latter of the January 1st after the pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

SUMMARY OF PRINCIPAL PLAN PROVISIONS

SURVIVING SPOUSE BENEFIT

Tier I

Eligibility: Married to an active police officer with at least 8 years of creditable service, a disabled pensioner at the time of death, or a retired pensioner on the last day of service.

Active Line of Duty Death Benefit: An eligible surviving spouse is entitled to receive 100% of the police officer's final pensionable salary attached to rank held on the last day of service.

Non-Duty Death Benefit:

Disabled or Retired Pensioner: An eligible surviving spouse is entitled to receive the pensioner's benefit at the time of death.

Active Member with 20+ Years of Service: An eligible surviving spouse is entitled to the police officer's eligible benefit at the time of death.

Active Member with 10-20 Years of Service: An eligible surviving spouse is entitled to receive 50% of the police officer's pensionable salary attached to rank held on the last day of service, unless the pensionable salary was greater at some point within the year prior to the last day of service. If so, the pensionable salary is averaged over the last 12 months.

Annual Increase in Benefit: None.

Tier II

Eligibility: Married to an active police officer with at least 8 years of creditable service, a disabled pensioner at the time of death, or a retired pensioner on the last day of service.

Active Line of Duty Death Benefit: An eligible surviving spouse is entitled to receive 100% of the police officer's final pensionable salary attached to rank held on the last day of service.

Non-Duty Death Benefit:

Disabled or Retired Pensioner, Active Member with 20+ Years of Service, and Active Member with 10-20 Years of service: An eligible surviving spouse is entitled to receive the greater of 66⅔% of the police officer's earned pension benefit at the time of death or 54% of the police officer's monthly salary at the time of death.

Annual Increase in Benefit: The initial increase date will be the January 1st after the surviving spouse turns age 60. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

SUMMARY OF PRINCIPAL PLAN PROVISIONS

TERMINATION BENEFIT – VESTED

Tier I

Eligibility: Age 60 with at least 8 but less than 20 years of creditable service.

Benefit: 2.5% of final salary for each year of service. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service, unless the pensionable salary was greater at some point within the year prior to the last day of service. If so, the pensionable salary is averaged over the last 12 months.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 1/12 of 3% of the original monthly benefit for each full month that has passed since the pension began. The initial increase date will be the first day of the month after the benefit date anniversary. Subsequent increases of 3% of the current monthly benefit will be granted every January 1st thereafter.

Tier II

None.

SUMMARY OF PRINCIPAL PLAN PROVISIONS

DISABILITY BENEFIT

Tier I

Eligibility: Duty or Non-Duty Disability or Occupational Disease Disability with at least 5 years of creditable service.

Benefit: For a duty disability or an occupational disease disability with at least 5 years of creditable service, a police officer is entitled to receive the greater of 65% of final salary or the regular retirement pension benefit at the time of disability. For a non-duty disability, a police officer is entitled to receive 50% of final salary. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 3% of the original monthly benefit for each full year that has passed since the pension began. The initial increase date will be the latter of the January 1st after following pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases of 3% of the original monthly benefit will be granted every January 1st thereafter.

Tier II

Eligibility: Duty or Non-Duty Disability or Occupational Disease Disability with at least 5 years of creditable service.

Benefit: For a duty disability or an occupational disease disability with at least 5 years of creditable service, a police officer is entitled to receive the greater of 65% of final salary or the regular retirement pension benefit at the time of disability. For a non-duty disability, a police officer is entitled to receive 50% of final salary. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 3% of the original monthly benefit for each full year that has passed since the pension began. The initial increase date will be the latter of the January 1st after following pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases of 3% of the original monthly benefit will be granted every January 1st thereafter.

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GLOSSARY OF TERMS

Glossary of Terms

GLOSSARY OF TERMS

Actuarial Accrued Liability – The Actuarial Present Value of future benefits based on Members' service rendered to the Measurement Date using the selected Actuarial Cost Method. It is that portion of the Actuarial Present Value of Plan benefits and expenses allocated to prior years of employment. It is not provided for by future Normal Costs.

Actuarial Cost Method – The method used to allocate the projected obligations of the Plan over the working lifetimes of the Plan Members.

Actuarial Value of Assets – The value of the assets used in the determination of the Unfunded Actuarial Accrued Liability. The Actuarial Value of Assets is related to Fair Value of Assets, with adjustments made to spread unanticipated gains and losses for a given year over a period of several years. Actuarial Value of Assets is generally equally likely to fall above or below the Fair Value of Assets, and generally does not experience as much volatility over time as the Fair Value of Assets.

Asset Valuation Method – A valuation method designed to smooth random fluctuations in asset values. The objective underlying the use of an Asset Valuation Method is to provide for the long-term stability of Employer Contributions.

Funding Policy – A set of procedures for a Pension Fund that outlines the "best practices" for funding the pension benefits based on the goals of the Plan Sponsor. A Funding Policy discusses items such as assumptions, Actuarial Cost Method, assets, and other parameters that will best help the Plan Sponsor meet their goal of working in the best interest of the Plan Members.

Fair Value of Assets – The value of the cash, bonds, securities, and other assets held in the pension trust as of the Measurement Date.

Normal Cost – The present value of future benefits earned by Members during the current Fiscal Year. It is that portion of the Actuarial Present Value of benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

Unfunded Actuarial Accrued Liability – The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The Unfunded Actuarial Accrued Liability is amortized over a period either in level dollar amounts or as a level percentage of projected payroll.

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CERTIFIED PUBLIC ACCOUNTANTS

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AGENDA ITEM NO: 4.A.2

REQUEST FOR BOARD ACTION

MEETING DATE: July 12, 2022

DEPARTMENT: Finance

SUBJECT: Police Facility Funding Plan

EXECUTIVE SUMMARY

As part of the FY23 budget process, a funding plan needs to be developed for the construction of a new Police Facility as well as the related debt service. While many of the variables are unknown at this point, a preliminary funding plan is being proposed as outlined in the attached memorandum. Following is a synopsis of the proposed plan:

A. Start with the $314,000 pension cost savings identified in the FY22 budget as the first part of the amount available for annual debt service payments.
B. Use $4.6 million of the General Fund fund balance to pay off the unfunded liability of the Police Pension Fund thereby freeing up an additional $726,000 in annual cash flow.
C. Capture an additional $47,000 in annual savings from the FY23 reduction in Illinois Municipal Retirement Fund contributions generated by a reduction in the Village's contribution rate from 7.84% to 6.95%.
D. The resulting total cash flow of $1,087,000 identified above will support a $14.1 million debt issue assuming a 4.5% interest rate over 20 years or, stretching the term out to 25 years at a 5.0% interest rate, would free up another $83,000 to cover increased operating costs.
E. Fund the remaining $7.9 million of a projected total project cost of $22 million with a transfer of General Fund fund balance to the Police Facility Construction Fund.
F. The General Fund fund balance will still have a remaining projected balance of $6.5 million which exceeds the operating reserve requirement of 25% of prior year expenditures or $4.4 million.

Several ancillary benefits are outlined in the memorandum including no increase in property taxes, no impact to the operating budget created by debt service payment requirements, and having a 100% funded Police Pension Fund with all pension related debt having been eliminated from the balance sheet.

ATTACHMENTS

1. Police Facility Funding Plan Memorandum (with funding status ranking summary attachment)
2. Debt Service Scenarios & General Fund Fund Balance Projections
3. Actuarial Funding Report for the Lake in the Hills Police Pension Fund as of January 1, 2021

RECOMMENDED MOTION

Motion to approve the Police Facility Funding Plan in conceptual form as outlined in the attached July 6, 2022 memorandum subject to final revisions of costs and other estimates to be determined during the FY23 budget process.

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VILLAGE OF LAKE IN THE HILLS
FINANCE DEPARTMENT

Memorandum

To: Shannon Andrews, Village Administrator

From: Peter J. Stefan, Finance Director/Treasurer

Date: July 6, 2022

Subject: Police Facility Funding Plan

The Police Facility Fund and the related Debt Service Fund will be major components of the FY23 Budget, however, due to the many unknown factors at this stage of the project, several assumptions and estimates need to be made in order to develop a preliminary funding plan. Some estimates will be refined further as the architectural schematic design phase progresses before the FY23 Budget is finalized so the intent here is to develop a "financial schematic design" for the project keeping a laser focus on the two main goals of not increasing property taxes to fund the facility while simultaneously not impacting the operating budget with any new debt service obligations.

Key Variables

The only variable that is somewhat certain is the length of the bond issue which will most likely be either 20 years or 25 years as a term shorter than 20 years would require higher annual payments than current resources would allow while issuing debt beyond a 25-year term, although possible, would incur larger and larger interest costs the further out you go.

The main variable to be determined is the all-in cost of the project. Preliminary estimates being used prior to the schematic design stage include $2.0 million for total architectural services and $19.2 million for construction costs. Adding an additional $330,000 for bond issuance costs and $470,000 in contingencies yields a total projected project cost of $22 million.

Another key variable is the tax-exempt interest rate of the bonds. That rate has basically doubled for 20-year debt over the past year increasing from about 2.0% in July 2021 to the current estimate of 4.0%. Expectations are that tax-exempt interest rates may continue their upward trend but at nowhere near the rate of growth experienced since July 2021. An interest rate of 4.5% is factored into the analysis that follows which provides a 0.5% buffer above current estimates.

The final variable will be the "down payment". How much upfront funds can the Village contribute to make the annual debt service payments affordable? This will be addressed in the analysis that follows.

Affordability

Using the assumptions above of a 20-year bond issue in the amount of $22 million at a 4.5% interest rate, annual debt service payments would average about $1.7 million. Issuing debt at that level without increasing property taxes would be a monumental task achieved only with severe cuts to the operating budget.

Since the Village's projected General Fund fund balance as of December 31, 2021 is in excess of $19 million, the initial thought was to put down a substantial "down payment" to bring the annual debt service payments down to a more manageable level. However, with only approximately $314,000 identified in the FY22 budget as an annual cash flow that could be allocated to debt service payments without putting an undue strain on the operating budget, the affordability gap was still much too significant even if the entire General Fund fund balance were to be used since a $314,000 annual payment would only support a project costing less than $4.1 million in total. Therefore, a solution had to be developed that could leverage a portion of the Village's General Fund fund balance to free up a significant annual cash flow stream.

Police Pension Fund Unfunded Liability

Every year, the Police Pension Fund has an actuarial valuation prepared that provides an update on the financial health of the fund including its funded status as well as a recommended contribution amount for the upcoming year. Based on the January 1, 2021 valuation, the unfunded liability on an actuarial basis was $7.0 million which was being amortized using a 15-year layered basis that is equivalent to a 12.4-year single amortization period. The current annual payment towards the unfunded liability is approximately $726,000.

In contrast, the unfunded liability on a market value basis is reduced to $4.3 million due to the accumulation of $2.7 million in unrecognized gains that will be amortized over the next 15 years. In essence, this provides a golden opportunity to leverage $4.3 million into eliminating $7.0 million in debt while simultaneously freeing up $726,000 in annual cash flow by resetting the 15-year layered amortization period. This additional cash flow, coupled with the $199,000 already included in the FY22 Budget from last year's Police Pension Fund savings generates a total annual cash flow of $925,000 that can be applied towards debt service payments and that amount is already built into the existing budget.

The main risk in such a strategy is that the equity markets continue to perform poorly for the remainder of 2022 and beyond because then there would be an additional $4.3 million at risk of earning lower than expected investment returns or even losing value. However, that risk is, and always has been, present for the entire $39.4 million market value of assets (as of January 1, 2021). Pension Fund assets need exposure to the equity markets in order to achieve the 6.75% assumed rate of return since equities have historically provided a higher return compared to fixed income investments in the long run.

Note that as an additional safety valve, the January 1, 2021 actuarial valuation report is being used since the numbers are significantly better if the January 1, 2022 actuarial valuation report were used due to the stellar performance of equity markets in 2021 which followed two previous stellar performances in 2019 and 2020. However, as we all know, 2022 is shaping up to be one of the worst performances in years for the equity markets so using January 1, 2021 numbers provides a hedge against the 2022 numbers because then the positive 2021 numbers would be the first year of the newly reset 15-year layered amortization period which will help to mitigate the effect of the expected negative 2022 numbers.

Illinois Municipal Retirement Fund Savings

Additional savings are also expected to be realized from reduced contributions to the Illinois Municipal Retirement Fund (IMRF) for non-sworn employees. In 2022, the Village's IMRF contribution rate fell from 10.02% to 7.84%. This generated an expected $115,000 in General Fund cash flow savings that was redirected to the Police Facility Fund.

In 2023, the Village's IMRF contribution rate is projected to be further reduced to 6.95% which is expected to result in an additional $47,000 in annual General Fund cash flow savings. Therefore, total General Fund IMRF contribution savings of $162,000 are expected to be realized that can be applied towards debt service payments and that amount is also already built into the existing budget.

General Fund Fund Balance

The last variable to estimate is the "down payment" which will be comprised of a portion of the General Fund fund balance. The question becomes, how much of a "down payment" is necessary to reduce the annual debt service payments to a manageable level? Or, put another way, now that all the other variables have been estimated, how much debt can an annual debt service payment of $1,087,000 support given a 4.5% interest rate over 20 years? Solving for the unknown variable yields a principal amount of $14.1 million that can be supported by a $1,087,000 annual payment at 4.5% over 20 years. Therefore, a "down payment" of $7.9 million would be required to buy down the $22 million total cost of the project to the $14.1 million debt that can be supported with the available annual cash flow.

When projecting General Fund fund balance amounts, there are two key requirements that must be complied with. First, no part of any pandemic related grants can be used as deposits into a pension fund towards reducing an unfunded liability. Second, per the Village's operating reserve requirement contained in Chapter 3 – Village Administration, Section 3.13 – Budget Officer, Paragraph E – Operating Reserve, 25% of the General Fund's operating expenditures during the prior 12-month period need to be maintained as an operating reserve.

Given that, the General Fund fund balance trends since December 31, 2019 have been as follows:

Fiscal Year Ending	Total General Fund Fund Balance	Less Operating Reserve	General Fund Unreserved Fund Balance
12/31/2019	$13.6 million	$4.1 million	$9.5 million
12/31/2020	$15.8 million	$4.1 million	$11.7 million
12/31/2021	$19.0 million	$4.4 million	$14.6 million

Focusing on the General Fund unreserved fund balance, there was $9.5 million available as of December 31, 2019. Since this was the last fiscal year prior to the onset of the COVID-19 pandemic, all of this fund balance is available for any purpose deemed appropriate by the Village Board including deposits into the Police Pension Fund to reduce or eliminate an unfunded liability. Therefore, the $4.6 million required to eliminate the unfunded liability ($4.3 million in actual unfunded liability plus $0.3 million in interest through the end of the year) and reset the 15-year layered amortization period, was available and unreserved as of December 31, 2019 prior to the receipt of any pandemic related grants. This demonstrates that no pandemic related grant funds are being included as part of the $4.6 million transfer to the Police Pension Fund to eliminate the unfunded liability.

Fast forward to December 31, 2021 and the unreserved General Fund fund balance of $14.6 million would then be reduced by the $4.6 million required to fully fund the Police Pension Fund resulting in a remaining unreserved fund balance of $10 million. That remaining $10 million would then be further reduced by a $7.9 million transfer into the Police Facility Fund as the "down payment" for the project to bring the annual debt service requirement down to a manageable and budget neutral level of $1,087,000. This would result in a remaining General Fund unreserved fund balance as of December 31, 2021 of $2.1 million which, when combined with the required $4.4 million operating reserve component of the fund balance, results in a total remaining fund balance of $6.5 million which is 50% higher than the minimum operating reserve requirement.

It should also be noted that in FY22, the Village applied its entire $3.9 million in American Rescue Plan Act funds towards lost revenue and, therefore, the General Fund fund balance will increase by that much as of December 31, 2022 assuming all other FY22 revenues and expenditures end the year at budgeted levels.

Operating Costs

While operating costs for the new Police Facility have not yet been projected since the facility itself is still in the design phase, at this stage of the planning process the assumption is that operating costs would increase since the size of the building is projected to increase. Given that, some consideration needs to be given as to how to fund those increased operating costs. One option would be to extend the term of the bond issue from 20 years to 25 years which would lower the annual debt service payments and free up a portion of the identified cash flow savings to be used towards covering increased operating costs. Assuming the interest rate would increase from 4.5% to 5.0% by stretching out the term to 25 years, the annual debt service payments would be lowered to approximately $1,004,000 thereby freeing up about $83,000 of the identified $1,087,000 in cash flow savings to be used to cover increased operating costs, if necessary. A final decision on the merits of this option could be made in FY23 once the schematic design is complete and a more accurate estimate of operating costs could be made.

Ancillary Benefits

Besides funding a sorely needed new and modern Police Facility that will improve working conditions and efficiencies for the Village's largest department as far as full-time employees go, several ancillary benefits would be realized under this strategy as well including:

1. Constructing a multi-million dollar capital asset without impacting property taxes while also maintaining fund balances comfortably above required minimum levels and not impacting the operating budget in order to fund debt service requirements.
2. Paying off an existing "mortgage" (i.e. unfunded pension liability) that carries a 6.75% annual interest rate.
3. Eliminating all pension related debt from the balance sheet since the Village's IMRF plan is also 100% funded.
4. Providing a strong argument to bond rating agencies to increase the Village's bond rating. Although an increase to the top rating of Aaa is unlikely due to wealth characteristics favored by the rating agencies, an increase to the second-best rating of Aa1 is not outside the realm of reason.

5. Although we tend to shy away from being market timers, there is a good chance that the cash infusion into the Pension Fund will be akin to buying at or near the bottom of the market if equity markets continue their recent trends.
6. Preventing tax objectors from making a defensible argument that the Village's reserves are too large and warrant a reduction in the tax levy.
7. Generating a decent amount of goodwill and a comfort level among sworn personnel that their pension benefits are fully funded which is very uncommon in the State of Illinois.
8. Membership in an elite group of Police Pension Funds statewide with a 100% or better funded status. As of the most recent biennial report issued by the Illinois Department of Insurance (IDOI) based on 2020 financial data, a grand total of only three Police Pension Funds in the state were at or above a 100% funded ratio. For the 2020 data released by IDOI, the Lake in the Hills Police Pension Fund had an 82% funded ratio which was the 10th best funded Police Pension Plan in the state. Other McHenry County Police Pension Plans ranked from 56th to 321st. The 2020 IDOI data contained 351 separate Downstate Police Pension Plans (of the total 357 funds) and the average funded ratio was only 56% (see attached 2020 Downstate Police Pension Funds ranking summary).

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2020 Downstate Police Pension Funds

Ranked by Best-Funded to Worst-Fund

351 Total Police Pension Funds Reported for 2020 (of 357 Total Funds)

Rank	Fund Name	Actuarial Funding Value	Unfunded Accrued Liability	Accrued Liability for Actives	Reserves Annuities & Benefits in Force	Rate of Funding
	Top 10 Best-Funded Police Pension Funds in Illinois					
1	CAMPTON HILLS POLICE PENSION FUND	3,342,712	(592,579)	849,632	1,900,501	**121.5%**
2	ROUND LAKE PARK POLICE PENSION FUND	8,134,103	(561,097)	4,052,929	3,520,077	**107.4%**
3	FREEPORT POLICE PENSION FUND	54,353,471	(2,118,350)	10,682,863	41,552,258	**104.1%**
4	ROCKTON POLICE PENSION FUND	6,954,772	756,016	5,771,971	1,938,817	**90.2%**
5	RANTOUL POLICE PENSION FUND	31,184,587	3,474,220	11,529,405	23,129,402	**90.0%**
6	GILBERTS POLICE PENSION FUND	4,064,011	638,553	4,574,060	128,504	**86.4%**
7	CLINTON POLICE PENSION FUND	6,606,342	1,088,683	2,589,407	5,105,618	**85.9%**
8	LINCOLNSHIRE POLICE PENSION FUND	25,675,589	4,921,521	11,041,796	19,555,314	**83.9%**
9	MINOOKA POLICE PENSION FUND	10,017,130	2,173,398	9,666,094	2,524,434	**82.2%**
10	**LAKE IN THE HILLS POLICE PENSION FUND**	**36,436,476**	**8,016,630**	**24,075,334**	**20,377,772**	**82.0%**
	Ranks of Other Police Pension Funds in McHenry County					
56	ALGONQUIN POLICE PENSION FUND	34,377,587	15,419,654	22,896,999	26,900,242	**69.0%**
100	HARVARD POLICE PENSION FUND	12,343,290	7,252,498	6,316,549	13,279,239	**63.0%**
135	WOODSTOCK POLICE PENSION FUND	24,100,421	16,515,745	16,060,132	24,556,034	**59.3%**
148	SPRING GROVE POLICE PENSION FUND	3,768,538	2,697,661	1,121,862	5,344,337	**58.3%**
171	HUNTLEY POLICE PENSION FUND	13,022,565	10,278,665	15,150,424	8,150,806	**55.9%**
187	LAKEMOOR POLICE PENSION FUND	1,978,652	1,641,192	2,938,869	680,975	**54.7%**
208	CARY POLICE PENSION FUND	13,721,168	11,991,777	9,897,822	15,815,123	**53.4%**
218	CRYSTAL LAKE POLICE PENSION FUND	42,832,150	39,306,911	31,082,919	51,056,142	**52.1%**
220	JOHNSBURG POLICE PENSION FUND	3,905,058	3,593,889	5,607,071	1,891,876	**52.1%**
222	MCHENRY POLICE PENSION FUND	28,638,493	26,624,742	22,476,571	32,786,664	**51.8%**
288	MARENGO POLICE PENSION FUND	6,336,496	8,833,484	4,362,219	10,807,761	**41.8%**
321	FOX RIVER GROVE POLICE PENSION FUND	3,693,531	7,089,509	2,527,701	8,255,339	**34.3%**
	Grand Total For All 351 Police Pension Funds Reported for 2020	**9,750,027,360**	**7,719,582,063**	**5,884,952,617**	**11,584,656,806**	**55.81%**

Source: Illinois Department of Insurance Pension Data Reports for 2020

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Police Facility Funding Plan
Debt Service Scenarios & General Fund Fund Balance Projections
07-06-2022

	Option A	Option B	Option C	Option D	Option E
	FY22 Budget Set-Aside Amount Only $314,000	Police Pension Fund Savings Only $925,000	FY22 Set-Aside Plus FY23 Police Pension Fund Savings $1,040,000	Total Police Pension Fund Plus IMRF Savings $1,087,000	100% Debt Issue Funded Scenario $1,691,000
INTEREST RATE SENSITIVITY ANALYSIS					
4.0% Tax-Exempt Interest Rate Scenarios					
Term (Years)	20	20	20	20	20
Tax-Exempt Interest Rate	4.0%	4.0%	4.0%	4.0%	4.0%
Annual Payment	314,000	925,000	1,040,000	1,087,000	1,691,000
Principal Generated (Rounded)	4,267,000	12,571,000	14,133,000	14,772,000	22,981,000
4.5% Tax-Exempt Interest Rate Scenarios					
Term	20	20	20	**20**	20
Tax-Exempt Interest Rate	4.5%	4.5%	4.5%	**4.5%**	4.5%
Annual Payment	314,000	925,000	1,040,000	**1,087,000**	1,691,000
Principal Generated (Rounded)	4,084,000	12,032,000	13,528,000	**14,139,000**	21,996,000
5.0% Tax-Exempt Interest Rate Scenarios					
Term	20	20	20	20	20
Tax-Exempt Interest Rate	5.0%	5.0%	5.0%	5.0%	5.0%
Annual Payment	314,000	925,000	1,040,000	1,087,000	1,691,000
Principal Generated (Rounded)	3,913,000	11,527,000	12,960,000	13,546,000	21,073,000
GENERAL FUND FUND BALANCE ANALYSIS					
4.0% Tax-Exempt Interest Rate Scenarios					
12-31-2021 Fund Balance Projection	19,004,800	19,004,800	19,004,800	19,004,800	19,004,800
Less Police Pension Contribution	(4,613,076)	(4,613,076)	(4,613,076)	(4,613,076)	(4,613,076)
Less Police Facilty "Down Payment"	(17,733,000)	(9,429,000)	(7,867,000)	(7,228,000)	-
Gross General Fund Fund Balance	**(3,341,276)**	4,962,724	6,524,724	7,163,724	14,391,724
Less 25% of Expenditures Operating Reserve	(4,364,137)	(4,364,137)	(4,364,137)	(4,364,137)	(4,364,137)
Surplus General Fund Fund Balance	**(7,705,413)**	598,587	2,160,587	2,799,587	10,027,587
4.5% Tax-Exempt Interest Rate Scenarios					
12-31-2021 Fund Balance Projection	19,004,800	19,004,800	19,004,800	**19,004,800**	19,004,800
Less Police Pension Contribution	(4,613,076)	(4,613,076)	(4,613,076)	**(4,613,076)**	(4,613,076)
Less Police Facilty "Down Payment"	(17,916,000)	(9,968,000)	(8,472,000)	**(7,861,000)**	(4,000)
Gross General Fund Fund Balance	**(3,524,276)**	4,423,724	5,919,724	**6,530,724**	14,387,724
Less 25% of Expenditures Operating Reserve	(4,364,137)	(4,364,137)	(4,364,137)	**(4,364,137)**	(4,364,137)
Surplus General Fund Fund Balance	**(7,888,413)**	59,587	1,555,587	**2,166,587**	10,023,587
5.0% Tax-Exempt Interest Rate Scenarios					
12-31-2021 Fund Balance Projection	19,004,800	19,004,800	19,004,800	19,004,800	19,004,800
Less Police Pension Contribution	(4,613,076)	(4,613,076)	(4,613,076)	(4,613,076)	(4,613,076)
Less Police Facilty "Down Payment"	(18,087,000)	(10,473,000)	(9,040,000)	(8,454,000)	(927,000)
Gross General Fund Fund Balance	**(3,695,276)**	3,918,724	5,351,724	5,937,724	13,464,724
Less 25% of Expenditures Operating Reserve	(4,364,137)	(4,364,137)	(4,364,137)	(4,364,137)	(4,364,137)
Surplus General Fund Fund Balance	**(8,059,413)**	**(445,413)**	987,587	1,573,587	9,100,587

Note 1: All fund balance figures will be further increased due to the receipt of $3,896,648 in American Rescue Plan Act funds in 2022.
Note 2: Negative fund balance figures in bold red are not feasible options.
Note 3: Yellow highlighted scenario is the scenario referenced in the memorandum on this topic.

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Actuarial Funding Report

LAKE IN THE HILLS POLICE PENSION FUND

Actuarial Valuation
as of January 1, 2021

For the Contribution Year January 1, 2021 to December 31, 2021

LAUTERBACH & AMEN, LLP

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Actuarial Valuation – Funding Recommendation

Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

LAKE IN THE HILLS POLICE PENSION FUND

Contribution Year Ending: December 31, 2021
Actuarial Valuation Date: January 1, 2021
Utilizing Data as of December 31, 2020

Submitted by:

Lauterbach & Amen, LLP
668 N. River Road
Naperville, IL 60563
Phone: 630.393.1483
www.lauterbachamen.com

Contact:

Todd A. Schroeder
Director

April 15, 2021

LAUTERBACH & AMEN, LLP

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ACTUARIAL CERTIFICATION

This report documents the results of the Actuarial Valuation for the Lake in the Hills Police Pension Fund. The information was prepared for use by the Lake in the Hills Police Pension Fund and the Village of Lake in the Hills, Illinois for determining the Recommended Contribution, under the selected Funding Policy and Statutory Minimum guidelines, for the Contribution Year January 1, 2021 to December 31, 2021. It is not intended or suitable for other purposes. Determinations for purposes other than the Employer's Actuarial Recommended Contribution may be significantly different from the results herein.

The results in this report are based on the census data and financial information submitted by the Village of Lake in the Hills, Illinois, and may include results from the prior Actuary. We did not prepare the Actuarial Valuations for the years prior to January 1, 2016. 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.

In addition, the results of the Actuarial Valuation involve certain risks and uncertainty as they are based on future assumptions, market conditions, and events that may never materialize as assumed. For this reason, certain assumptions and future results may be materially different than those presented in this report. See the *Management Summary* section of this report for a more detailed discussion of the Defined Benefit Plan Risks, as well as the limitations of this Actuarial Valuation on assessing those risks. We are not aware of any known events subsequent to the Actuarial Valuation Date, which are not reflected in this report but should be valued, that may materially impact the results.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The Village of Lake in the Hills, 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. The selected assumptions represent our best estimate of the anticipated long-term experience of the Plan, and meet the guidelines set forth in the Actuarial Standards of Practice.

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To the best of our knowledge, all calculations are in accordance with the applicable funding requirements, and the procedures followed and presentation of results conform to generally accepted actuarial principles and practices as prescribed by the Actuarial Standards Board. 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 Village of Lake in the Hills, Illinois and Lauterbach & Amen, LLP that impairs our objectivity.

Respectfully Submitted,

LAUTERBACH & AMEN, LLP

Todd A. Schroeder

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

Robert L. Rietz, Jr., FCA, EA, MAAA

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MANAGEMENT SUMMARY

Recommended Contribution
Funded Status
Management Summary – Comments and Analysis
Actuarial Recommended Contribution – Reconciliation

MANAGEMENT SUMMARY

Recommended Contribution

	Prior Valuation	Current Valuation
Recommended Contribution	$1,634,382	$1,435,317
Expected Payroll	$3,883,196	$4,035,691
Recommended Contribution as a Percent of Expected Payroll	42.09%	35.57%

The Recommended Contribution has Decreased by $199,065 from the Prior Valuation.

Funded Status

	Prior Valuation	Current Valuation
Normal Cost	$1,034,205	$1,058,107
Market Value of Assets	$34,188,258	$39,376,812
Actuarial Value of Assets	$32,852,080	$36,665,313
Actuarial Accrued Liability	$42,911,314	$43,698,195
Unfunded Actuarial Accrued Liability/Surplus	$10,059,234	$7,032,882
Percent Funded		
Actuarial Value of Assets	76.56%	83.91%
Market Value of Assets	79.67%	90.11%

The Percent Funded has Increased by 7.35% on an Actuarial Value of Assets Basis.

Management Summary – Comments and Analysis

Contribution Results

The Recommended Contribution is based on the selected Funding Policy and methods that are outlined in the *Actuarial Funding Policies* section of this report.

The Illinois State Statutes for Pension Funds contain parameters that are used to determine the Statutory Minimum Contribution to a public Pension Fund. Those parameters and the resulting Statutory Minimum Contribution are found in the *Illinois Statutory Minimum Contribution* section of this report.

"Contribution Risk" is defined by the Actuarial Standards of Practice as the potential for actual future contributions to deviate from expected future contributions. For example, when actual contributions are not made in accordance to the Plan's Funding Policy, or when future experience deviates materially from assumed. While it is essential for the Actuary and Plan Sponsor to collaborate on implementing a sound and financially feasible Funding Policy, it is important to note that the Actuary is not required, and is not in the position to, evaluate the ability or willingness of the Plan Sponsor to make the Recommended Contribution under the selected Funding Policy.

As a result, while Contribution Risk may be a significant source of risk for the Plan, this Actuarial Valuation makes no attempt to assess the impact of future contributions falling short of those recommended under the selected Funding Policy. Notwithstanding the above, see the *Actuarial Recommended Contribution – Reconciliation* section of this report for the impact on the current Recommended Contribution of any contribution shortfalls or excesses from the prior year.

Defined Benefit Plan Risks

Asset Growth:

Pension funding involves preparing Fund assets to pay for benefits when Members retire. During their working careers, assets grow with contributions and investment earnings; and then, the Pension Fund distributes assets in retirement. Based on the Plan's current mix of Members and Funded Status, the Plan should experience positive asset growth, on average, if the Recommended Contributions are made and expected investment earnings come in. In the current year, the Fund asset growth was positive by approximately $5.2 million.

Asset growth is important in the long-term. Long-term cash flow out of the Pension Fund is primarily benefit payments, and expenses are a smaller portion. The Plan should monitor the impact of expected benefit payments on future asset growth. We assess and project all future benefit payments as part of the determination of liability. The assessment is made on all current Members of the Fund, both active and inactive. For active Members, the assessment includes the probability that Members terminate or retire and begin receiving benefits. In the next 5 years, benefit payments are anticipated to increase 70-75%, or approximately $820,000. In the next 10 years, the expected increase in benefit payments is 170-175%, or approximately $1.9 million. The estimated increase in benefit payments is being compared against the benefits paid to inactive Members during the fiscal year, excluding any refunds of Member Contributions.

MANAGEMENT SUMMARY

Furthermore, plans with a large number of inactive Members have an increased "Longevity Risk". Longevity Risk is the possibility that inactive Members may live longer than projected by the Plan's mortality assumption. As shown in the previous paragraph, benefit payments are expected to increase over the next 5-year and 10-year horizons. The projected increases assume that current inactive Members pass away according to the Plan's mortality assumption. To the extent that current inactive Members live longer than expected, the future 5-year and 10-year benefit projections may be larger than the amounts disclosed in the previous paragraph. Higher levels of benefit payments, payable for a longer period of time, may cause a significant strain to the Plan's cash flow, future Recommended Contributions, and may lead to Plan insolvency.

Unfunded Liability:
Unfunded Liability represents the financial shortfall of the Actuarial Value of Assets compared to the Actuarial Accrued Liability. To the extent that Unfunded Liability exists, the Plan is losing potential investment earnings due to the financial shortfall. Contributions towards Unfunded Liability pay for the lost investment earnings, as well as the outstanding unfunded amount. If payments towards Unfunded Liability are not made, the Unfunded Liability will grow.

In the early 1990s, many Pension Funds in Illinois adopted an increasing payment towards Unfunded Liability due to a change in legislation. The initial payment decreased, and future payments are anticipated to increase annually after that. In many situations, payments early on were less than the interest on Unfunded Liability, which means that Unfunded Liability increased even though contributions were made at the recommended level.

The current Recommended Contribution includes a payment towards Unfunded Liability that is approximately $250,000 greater than the interest on Unfunded Liability. All else being equal, and contributions being made, Unfunded Liability is expected to decrease. The Employer and Fund should anticipate that improvement in the current Percent Funded will be mitigated in the short-term. The Employer and Fund should understand this impact as we progress forward to manage expectations.

Actuarial Value of Assets:
The Pension Fund smooths asset returns that vary from expectations over a 5-year period. The intention over time is that asset returns for purposes of funding recommendations are a combination of several years. The impact is intended to smooth out the volatility of Recommended Contributions over time, but not necessarily increase or decrease the level of contributions over the long-term.

When asset returns are smoothed, there are always gains or losses on the Market Value of Assets that are going to be deferred for current funding purposes, and recognized in future years. Currently, the Pension Fund is deferring approximately $2.7 million in gains on the Market Value of Assets. These are asset gains that will be recognized in upcoming periods, independent of the future performance of the Market Value of Assets.

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Cash Flow Risk:
Assets, liabilities, and Funded Status are good metrics to monitor over time to assess the progress of the Funding Policy. However, these metrics may provide limited forward-looking insights. Specifically, the maturity of a Pension Fund can pose certain risks that often cannot be assessed with a point-in-time metric such as Percent Funded.

For example, two different Pension Funds could have the same Percent Funded, but have completely different risk profiles. One Fund might mostly cover active Members with little to no Members in pay status, whereas a second Fund might mostly cover inactive Members with a significant level of annual benefit payments. The latter Fund has a greater "Cash Flow Risk", i.e. a more significant chance that negative cash flows could lead to a deteriorating, rather than improving, Percent Funded over time.

It is important to note that, in general, positive net cash flows are good, but also need to be sufficient to cover the growth in the liabilities (i.e. the Normal Cost as well as interest on the Actuarial Accrued Liability). Typically, when cash flows are assumed to be insufficient to cover the growth in liabilities, the Percent Funded will decline, while future Recommended Contributions will increase.

Benefit Payment Risk:
Ideally, plans in a sound financial position will have the ratio of annual benefits payments to the Market Value of Assets to be less than the Expected Rate of Return on Investments assumption (i.e. 6.75%). Theoretically, in this case it can be considered that investment returns will fully cover the annual benefit payments, and therefore, all Employer and Member Contributions made to the Fund will be used to pay for future benefit accruals and pay down the existing Unfunded Liability. To the extent that the ratio of the annual benefit payments to the Market Value of Assets increases to above the Expected Rate of Return on Investments assumption, the Plan may experience some additional risks, such as the need to keep assets in more liquid investments, inability to pay down Unfunded Liability, and may lead to Plan insolvency.

As of the Valuation Date, the Lake in the Hills Police Pension Fund has a ratio of benefit payments to the Market Value of Assets of 2.82%. In this case, the Plan is currently in a sound financial position and has a reduced amount of Benefit Payment Risk and Cash Flow Risk. It would be expected that adherence to the current Funding Policy would lead to an increasing Percent Funded.

Fund Assets
The results in this report are based on the assets held in the Pension Fund. Assets consist of funds held for investment and for benefit payments as of the Actuarial Valuation Date. In addition, assets may be adjusted for other events representing dollars that are reasonably expected to be paid out from the Pension Fund or deposited into the Pension Fund after the Actuarial Valuation Date as well.

MANAGEMENT SUMMARY

The current Fund assets are audited.

The Actuarial Value of Assets under the Funding Policy is equal to the Market Value of Assets, with unexpected gains and losses smoothed over 5 years. More detail on the Actuarial Value of Assets can be found in the *Actuarial Funding Policies* section of this report.

The Fund Assets Used in this Report are Audited.

MANAGEMENT SUMMARY

Demographic Data

Demographic factors can change from year to year within the Pension Fund. Changes in this category include hiring new Members, Members retiring or becoming disabled, inactive Members passing away, and other changes. Demographic changes can cause an actuarial gain (contribution that is less than expected compared to the prior year) or an actuarial loss (contribution that is greater than expected compared to the prior year).

Demographic gains and losses occur when the assumptions over the one-year period for Member changes do not meet our long-term expectation. For example, if no Members become disabled during the year, we would expect a liability gain. If more Members become disabled than anticipated during the year, we would expect a liability loss. Generally, we expect short-term fluctuations in demographic experience to create gains or losses of 1%-3% of the Actuarial Accrued Liability in any given year, but to balance out in the long-term.

"Demographic Risk" occurs when Plan demographic experience differs significantly from expected. Similar to Longevity Risk discussed previously, additional risk is created when demographic experience differs from the assumed rates of disability, retirement, or termination. Under the chosen assumptions, actuarial gains and/or losses will always occur, as the assumptions will never be exactly realized. However, the magnitude of the gain and/or loss and its influence on the Recommended Contribution largely depends on the size of the Plan.

Based on the number of active Members in the Plan, the Recommended Contribution has a moderate risk of having a significant increase due to demographic experience. For example, 1 new disabled Member would typically generate a substantial increase to the Actuarial Accrued Liability, which in turn, may increase the Recommended Contribution.

In the current report, the key demographic changes were as follows:

Mortality: As inactive Members age and continue to collect benefits, the Fund liability will increase. In the current year, there were 19 inactive Members who maintained their benefit collection status throughout the year. The increase in the Recommended Contribution in the current year due to the mortality experience is approximately $3,000.

Salary Increases: Salary increases were less than anticipated in the current year. This caused a decrease in the Recommended Contribution in the current year of approximately $9,000.

Assumption Changes

The assumptions were not changed from the prior valuation.

Funding Policy Changes

The Funding Policy was not changed from the prior valuation.

MANAGEMENT SUMMARY

ACTUARIAL RECOMMENDED CONTRIBUTION – RECONCILIATION

Actuarial Accrued Liability is expected to increase each year for both interest for the year and as active Members earn additional service years towards retirement. Similarly, Actuarial Accrued Liability is expected to decrease when the Fund pays benefits to inactive Members.

Contributions are expected to increase as expected pay increases under the Funding Policy for the Fund.

	Actuarial Liability	Recommended Contribution
Prior Valuation	$ 42,911,314	$ 1,634,382
Expected Changes	2,794,488	53,117
Initial Expected Current Valuation	$ 45,705,802	$ 1,687,499

Other increases or decreases in Actuarial Accrued Liability (key changes noted below) will increase or decrease the amount of Unfunded Liability in the Plan. To the extent that Unfunded Liability increases or decreases unexpectedly, the contribution towards Unfunded Liability will also change unexpectedly.

	Actuarial Liability	Recommended Contribution
Salary Increases Less than Expected	$ (120,530)	$ (8,919)
Actuarial Experience	(1,887,077)	(180,914)
Asset Return Greater than Expected*	-	(70,830)
Contributions Less than Expected	-	8,481
Total Increase/(Decrease)	$ (2,007,607)	$ (252,182)
Current Valuation	$ 43,698,195	$ 1,435,317

*Impact on the Recommended Contribution due to asset return is on an Actuarial Value of Assets basis.

In the current valuation, we have updated the Actuarial Valuation software used to determine Actuarial Liability. The Actuarial Experience can be attributable to several factors including Actuarial Valuation software changes, demographic changes, and benefit payment experience compared to expectation. Key demographic changes were discussed in the *Demographic Data* section of this report.

Key demographic changes were discussed in the *Demographic Data* section of this report.

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VALUATION OF FUND ASSETS

Market Value of Assets
Market Value of Assets (Gain)/Loss
Development of the Actuarial Value of Assets
Actuarial Value of Assets (Gain)/Loss
Historical Asset Performance

VALUATION OF FUND ASSETS

MARKET VALUE OF ASSETS

Statement of Assets

	Prior Valuation	Current Valuation
Cash and Cash Equivalents	$ 530,693	$ 521,612
Money Market	385,757	455,409
Fixed Income	12,754,595	12,679,388
Mutual Funds	20,439,672	25,590,841
Receivables (Net of Payables)	77,541	52,192
Total Market Value of Assets	$ 34,188,258	$ 39,299,442

The Total Market Value of Assets has Increased by Approximately $5,189,000 from the Prior Valuation.

Statement of Changes in Assets

Total Market Value of Assets - Prior Valuation	$ 34,188,258
Plus - Employer Contributions	1,484,407
Plus - Member Contributions	439,448
Plus - Return on Investments	4,426,285
Less - Benefit Payments and Refunds	(1,111,062)
Less - Other Expenses	(50,524)
Total Market Value of Assets - Current Valuation	$ 39,376,812

The Rate of Return on Investments on a Market Value of Assets Basis for the Fund was Approximately 12.65% Net of Administrative Expense.

The Rate of Return on Investments shown above has been determined as the Return on Investments from the Statement of Changes in Assets, as a percent of the average of the prior and current Market Value of Assets. The Rate of Return on Investments is net of Other Expenses, and has been excluded from the Total Market Value of Assets at the end of the Fiscal Year for this calculation.

VALUATION OF FUND ASSETS

MARKET VALUE OF ASSETS (GAIN)/LOSS

Current Year (Gain)/Loss on Market Value of Assets

Total Market Value of Assets - Prior Valuation	$ 34,188,258
Employer and Member Contributions	1,923,855
Benefit Payments and Refunds	(1,111,062)
Expected Return on Investments	2,335,139
Expected Total Market Value of Assets - Current Valuation	37,336,190
Actual Total Market Value of Assets - Current Valuation	39,376,812
Current Market Value of Assets (Gain)/Loss	$ (2,040,622)

Expected Return on Investments	$ 2,335,139
Actual Return on Investments (Net of Expenses)	4,375,761
Current Market Value of Assets (Gain)/Loss	$ (2,040,622)

The Actual Return on Investments on a Market Value of Assets Basis was Greater than Expected for the Current Year.

The (Gain)/Loss on the current Market Value of Assets has been determined based on the Expected Rate of Return on Investments as shown in the *Actuarial Assumptions* section of this report.

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VALUATION OF FUND ASSETS

DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

Total Market Value of Assets - Current Valuation			$ 39,376,812
Adjustment for Prior (Gains)/Losses			
		Full Amount	Deferral
	FYE 2020	$ (2,040,622)	(1,632,498)
	FYE 2019	(3,641,365)	(2,184,819)
	FYE 2018	3,396,396	1,358,558
	FYE 2017	(1,263,698)	(252,740)
	Total Deferred (Gain)/Loss		(2,711,499)
Initial Actuarial Value of Assets - Current Valuation			$ 36,665,313
Less Contributions for the Current Year and Interest			-
Less Adjustment for the Corridor			-
Total Actuarial Value of Assets - Current Valuation			$ 36,665,313

The Actuarial Value of Assets is Equal to the Market Value of Assets with Unanticipated (Gains)/Losses Recognized Over 5 Years. The Actuarial Value of Assets is 93.11% of the Market Value of Assets.

ACTUARIAL VALUE OF ASSETS (GAIN)/LOSS

Total Actuarial Value of Assets - Prior Valuation	$ 32,852,080
Plus - Employer Contributions	1,484,407
Plus - Member Contributions	439,448
Plus - Return on Investments	3,050,964
Less - Benefit Payments and Refund	(1,111,062)
Less - Other Expenses	(50,524)
Total Actuarial Value of Assets - Current Valuation	$ 36,665,313

The Rate of Return on Investments on an Actuarial Value of Assets Basis for the Fund was Approximately 9.02% Net of Administrative Expense.

The Actuarial Value of Assets incorporates portions of gains and losses over multiple years.

VALUATION OF FUND ASSETS

HISTORICAL ASSET PERFORMANCE

The chart below shows the historical Rates of Return on Investments for both Market Value of Assets and Actuarial Value of Assets.

	Market Value of Assets	Actuarial Value of Assets
FYE 2020	12.65%	9.02%
FYE 2019	19.61%	5.99%
FYE 2018	(4.92%)	3.75%
FYE 2017	11.72%	6.13%
FYE 2016	5.80%	5.07%
FYE 2015	(0.48%)	5.29%

The historical Rates of Return on Investments shown above were calculated based on the annual Return on Investments, as a percentage of the average value of the assets for the year.

For purposes of determining the average value of assets for the year, the ending Market Value of Assets has been adjusted to net out to the portion related to the Return on Investments themselves. All other cash flows are included.

For purposes of determining the annual Return on Investments we have adjusted the figures shown on the preceding pages. The figures shown on the preceding pages are net of Investment Expenses. We have made an additional adjustment to net out Administrative Expenses. Netting out Administrative Expenses allows us to capture returns for the year that can be used to make benefit payments as part of the ongoing actuarial process.

The adjustments we made are for actuarial reporting purposes only. By netting out Administrative Expenses and capturing Return on Investments that are available to pay benefits, it provides us a comparison to the Expected Rate of Return on Investments, but does not provide a figure that would be consistent with the rates of return that are determined by other parties. Therefore, this calculated Return on Investments should not be used to analyze investment performance of the Fund or the performance of the investment professionals.

VALUATION OF FUND ASSETS

Expected Rate of Return on Investments Assumption

The Expected Rate of Return on Investments for this valuation is 6.75%. Lauterbach & Amen, LLP does not provide investment advice. We look at a variety of factors when reviewing the Expected Rate of Return on Investments assumption selected by the Board. These factors include: historical Rates of Return on Investments, capital market projections performed by the Fund's investment advisors, the Fund's investment policy, capital market forward-looking benchmark expected returns by independent investment companies, rates used by comparable pension systems, and other factors identified in the Actuarial Standards of Practice.

Generally speaking, the ideal assumption for Expected Rate of Return on Investments is one that has a 50% chance of being met over the long-term. If actual returns going forward come in less than expected, the pension system risks deferring contributions to the future that should be made today, and creating additional contribution volatility. Reducing the Expected Rate of Return on Investments by 25 basis points produces a Recommended Contribution that is 16.28% higher than currently shown.

"Investment Risk" is the potential that actual Return on Investments will be different from what is expected. The selected Expected Rate of Return on Investments assumption is chosen to be a long-term assumption, producing a return that, on average, would produce a stable rate of return over a long-term horizon. Actual asset returns in the short-term may deviate from this long-term assumption due to current market conditions. Furthermore, establishing the Expected Rate of Return on Investments assumption may be dependent on the Illinois State Statutes pertaining to the limitations on types of investments Plan Sponsors may use. If the actual annual rates of return are less than the Expected Rate of Return on Investments, actuarial losses will be produced, thus increasing the Plan's Unfunded Liability and, subsequently, future Recommended Contributions.

"Asset/Liability Mismatch" risk is a similar concept as Investment Risk, as it relates to setting the Expected Rate of Return on Investments assumption compared to the actual Return on Investments achieved. The Interest Rate used to discount future Plan liabilities is set equal to the Expected Rate of Return on Investments. It is expected that the selected Interest Rate be a rate that is reasonably expected to be achieved over the long-term. To the extent that the selected Interest Rate to value Plan liabilities is unreasonable, or significantly different than the actual Return on Investments earned over an extended period of time, additional Interest Rate risk is created. For example, determining Plan liabilities at an Interest Rate higher than what is expected to be achieved through investment returns results in Unfunded Liability that is not a true representation of the Plan's condition and Percent Funded. As a result, the Actuarial Accrued Liability determined is an amount smaller than the liability that would be produced with an Interest Rate more indicative of future Expected Rate of Return on Investments. Therefore, the Recommended Contributions under the established Funding Policy may not be sufficient to appropriately meet the true pension obligations.

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RECOMMENDED CONTRIBUTION DETAIL

RECOMMENDED CONTRIBUTION DETAIL

ACTUARIAL ACCRUED LIABILITY

	Prior Valuation	Current Valuation
Active Members	$ 23,168,099	$ 22,664,241
Inactive Members		
Terminated Members*	419,316	494,254
Retired Members	13,916,127	14,969,282
Disabled Members	5,407,772	5,570,418
Other Beneficiaries	-	-
Total Inactive Members	19,743,215	21,033,954
Total Actuarial Accrued Liability	$ 42,911,314	$ 43,698,195

The Total Actuarial Accrued Liability has Increased by Approximately $787,000 from the Prior Valuation.

*Terminated Members Actuarial Accrued Liability for the current valuation includes non-vested terminated Members entitled to a refund of Employee Contributions that was not included in the prior valuation.

FUNDED STATUS

	Prior Valuation	Current Valuation
Total Actuarial Accrued Liability	$ 42,911,314	$ 43,698,195
Total Actuarial Value of Assets	32,852,080	36,665,313
Unfunded Actuarial Accrued Liability	$ 10,059,234	$ 7,032,882
Total Market Value of Assets	$ 34,188,258	$ 39,376,812
Percent Funded		
Actuarial Value of Assets	76.56%	83.91%
Market Value of Assets	79.67%	90.11%

The Percent Funded as of the Actuarial Valuation Date is Subject to Volatility on Assets and Liability in the Short-Term.

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RECOMMENDED CONTRIBUTION DETAIL

DEVELOPMENT OF THE EMPLOYER NORMAL COST

	Prior Valuation	Current Valuation
Total Normal Cost	$ 1,034,205	$ 1,058,107
Estimated Member Contributions	(384,825)	(393,542)
Employer Normal Cost	$ 649,380	$ 664,565

At a 100% Funding Level, the Normal Cost Contribution is Still Required.

NORMAL COST AS A PERCENTAGE OF EXPECTED PAYROLL

	Prior Valuation	Current Valuation
Expected Payroll	$ 3,883,196	$ 4,035,691
Member Normal Cost Rate	9.910%	9.910%
Employer Normal Cost Rate	16.72%	16.31%
Total Normal Cost Rate	26.63%	26.22%

Ideally, the Employer Normal Cost Rate will Remain Stable.

RECOMMENDED CONTRIBUTION BREAKDOWN

	Prior Valuation	Current Valuation
Employer Normal Cost*	$ 693,213	$ 709,423
Amortization of Unfunded Accrued Liability/(Surplus)	941,169	725,894
Recommended Contribution	$ 1,634,382	$ 1,435,317

The Recommended Contribution has Decreased by 12.18% from the Prior Valuation.

*Employer Normal Cost Contribution includes interest through the end of the Fiscal Year.

RECOMMENDED CONTRIBUTION DETAIL

SCHEDULE OF AMORTIZATION – UNFUNDED ACTUARIAL ACCRUED LIABILITY

Below is the schedule of remaining amortization balances for the Unfunded Liability.

Unfunded Liability Base	Initial Balance	Date Established	Current Balance	Years Remaining	Payment
Investment (Gain)/Loss	$ (796,324)	12/31/2020	$ (796,324)	15	$ (70,830)
Actuarial (Gain)/Loss	(1,981,480)	12/31/2020	(1,981,480)	15	(176,244)
Contribution Experience	13,620	12/31/2020	13,620	15	1,211
Investment (Gain)/Loss	203,010	12/31/2019	198,656	14	18,644
Actuarial (Gain)/Loss	(54,624)	12/31/2019	(53,454)	14	(5,017)
Contribution Experience	1,851	12/31/2019	1,811	14	170
Assumption Changes	80,604	12/31/2019	78,876	14	7,402
Plan Changes	153,208	12/31/2019	149,923	14	14,070
Investment (Gain)/Loss	833,320	12/31/2018	793,963	13	79,017
Actuarial (Gain)/Loss	(264)	12/31/2018	(250)	13	(25)
Contribution Experience	1,169	12/31/2018	1,114	13	111
Investment (Gain)/Loss	218,428	12/31/2017	201,449	12	21,385
Actuarial (Gain)/Loss	(404,665)	12/31/2017	(373,208)	12	(39,618)
Contribution Experience	1,044	12/31/2017	962	12	102
Initial Unfunded Liability	$ 9,522,215	12/31/2016	$ 8,797,224	13	$ 875,516
Total	$ 7,791,112		$ 7,032,882		$ 725,894

The Actuarial (Gain)/Loss can be attributable to several factors including Actuarial Valuation software changes, demographic changes, Employer Contribution timing, Member Contribution experience, benefit payment experience, and salary increase experience compared to expectation.

The equivalent single amortization period based on the layered amortization of Unfunded Liability is 12.42 years for the current valuation.

RECOMMENDED CONTRIBUTION DETAIL

ACTUARIAL METHODS – RECOMMENDED CONTRIBUTION

Actuarial Valuation Date	January 1, 2021
Data Collection Date	December 31, 2020
Actuarial Cost Method	Entry Age Normal (Level % Pay)
Amortization Method	Level % Pay (Closed)
Amortization Target	Layered - See Previous Page
Asset Valuation Method	5-Year Smoothed Market Value

The contributions and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and census data furnished, using the Actuarial Cost Method described. The Actuarial Cost and Amortization Methods allocate the projected obligations of the Plan over the working lifetimes of the Plan Members.

The Recommended Contribution amount shown in this report is based on the methods summarized above. The *Actuarial Funding Policies* section of this report includes a more detailed description of the Actuarial Funding Methods being used.

The Actuarial Funding Methods are meant to provide a systematic process for determining contributions on an annual basis. The methods do not impact the expectation of future benefit payments. The methods only impact the way contributions are made towards future benefit payments.

Different Actuarial Funding Methods may achieve funding goals with differing levels of success. Certain methods are more efficient and more stable on an annual basis.

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ILLINOIS STATUTORY MINIMUM CONTRIBUTION

Statutory Minimum Contribution
Funded Status – Statutory Minimum
Actuarial Methods – Illinois Statutory Minimum Contribution

ILLINOIS STATUTORY MINIMUM CONTRIBUTION

STATUTORY MINIMUM CONTRIBUTION

	Prior Valuation	Current Valuation
Statutory Minimum Contribution	$1,120,710	$968,159
Expected Payroll	$3,883,196	$4,035,691
Statutory Minimum Contribution as a Percent of Expected Payroll	28.86%	23.99%

The Statutory Minimum Contribution has Decreased by $152,551 from the Prior Valuation.

FUNDED STATUS – STATUTORY MINIMUM

	Prior Valuation	Current Valuation
Normal Cost	$1,205,303	$1,105,862
Market Value of Assets	$34,188,258	$39,376,812
Actuarial Value of Assets	$32,852,080	$36,665,313
Actuarial Accrued Liability	$40,415,630	$43,948,696
Unfunded Actuarial Accrued Liability/(Surplus)	$7,563,550	$7,283,383
Percent Funded		
Actuarial Value of Assets	81.29%	83.43%
Market Value of Assets	84.59%	89.60%

The Statutory Minimum Percent Funded has Increased by 2.14% on an Actuarial Value of Assets Basis.

ILLINOIS STATUTORY MINIMUM CONTRIBUTION

The Statutory Minimum Contribution is based on Actuarial Funding Methods and funding parameters in the Illinois State Statutes for pension funding. The resulting contribution is lower than the Recommended Contribution for the current year. The lower contribution amount is not recommended because it represents only a deferral of contributions when compared to the Recommended Contribution method.

Actuarial Funding Methods for pensions are best applied to provide a balance between the long-term goals of a variety of stakeholders:

1. Members – the Members are interested in benefit security and having the funds available to pay benefits when retired

2. Employers – cost control and cost stability over the long-term

3. Taxpayers – paying for the services they are receiving from active Members

The Statutory Minimum Contribution methods are not intended to provide a better system in any of the above categories long-term. The parameters are not recommended for a long-term funding strategy.

The Statutory Minimum methods put into place in 2011 were intended to provide short-term budget relief for Employer Contributions. An Employer using the Statutory Minimum parameters for current funding should view the contributions as short-term relief. Our recommendation in this situation is for a Pension Fund and an Employer to work towards a long-term funding strategy that better achieves the long-term funding goals, over a period that does not exceed 3-5 years.

The Securities and Exchange Commission in 2013 used the phrase "Statutory Underfunding" to describe situations where contributions appear to be more manageable in the short-term, but set up future Recommended Contributions that are less likely to be manageable.

ILLINOIS STATUTORY MINIMUM CONTRIBUTION

ACTUARIAL METHODS – ILLINOIS STATUTORY MINIMUM CONTRIBUTION

Actuarial Valuation Date	January 1, 2021
Data Collection Date	December 31, 2020
Actuarial Cost Method	Projected Unit Credit
Amortization Method	Level % Pay (Closed)
Amortization Target	90% Funded Over 20 Years
Asset Valuation Method	5-Year Smoothed Market Value

The contribution and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and census data furnished, using the Actuarial Cost Method described. The Actuarial Cost and Amortization methods allocate the projected obligations of the Plan over the working lifetimes of the Plan Members.

The Actuarial Funding Methods are meant to provide a systematic process for determining contributions on an annual basis. The methods do not impact the expectation of future benefit payments. The methods only impact the way contributions are made towards future benefit payments.

Different Actuarial Funding Methods may achieve funding goals with differing levels of success. Certain methods are more efficient and more stable on an annual basis.

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ACTUARIAL VALUATION DATA

Active Members
Inactive Members
Summary of Monthly Benefit Payments

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ACTUARIAL VALUATION DATA

Active Members

	Prior Valuation	Current Valuation
Tier I	30	30
Tier II	9	9
Total Active Members	39	39
Total Payroll	$ 3,821,103	$ 3,971,160

Inactive Members

	Prior Valuation	Current Valuation
Terminated Members*	2	3
Retired Members	12	12
Disabled Members	7	7
Other Beneficiaries	0	0
Total Inactive Members	21	22

*Terminated Members for the current valuation includes non-vested terminated Members entitled to a refund of Employee Contributions who were not included in the prior valuation.

Summary Of Monthly Benefit Payments

	Prior Valuation	Current Valuation
Retired Members	64,171	66,695
Disabled Members	26,479	26,702
Other Beneficiaries	-	-
Total Inactive Members	$ 90,650	$ 93,397

ACTUARIAL FUNDING POLICIES

Actuarial Cost Method
Financing Unfunded Actuarial Accrued Liability
Actuarial Value of Assets

ACTUARIAL FUNDING POLICIES

ACTUARIAL COST METHOD

The Actuarial Cost Method allocates the projected obligations of the Plan over the working lifetimes of the Plan Members.

In accordance with the Pension Fund's Funding Policy the Actuarial Cost Method for the Recommended Contribution basis is Entry Age Normal (Level Percent of Pay). The Entry Age Normal Cost Method is a method under which the Actuarial Present Value of the projected benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age. The portion of this Actuarial Present Value allocated to a valuation year is called Normal Cost. The portion of the Actuarial Present Value not provided at an Actuarial Valuation Date by the Actuarial Present Value of future Normal Costs is called the Actuarial Accrued Liability.

The Entry Age Normal method attempts to create a level cost pattern. In contrast to other Actuarial Cost Methods which inherently lead to uneven or less predictable cost patterns, the Entry Age Normal method is generally understood to be less risky in terms of contribution stability from year to year.

The Conference of Consulting Actuaries Public Plans Community produced a "white paper" detailing Funding Policy model practices for public sector pension plans. Under the Level Cost Actuarial Methodology ("LCAM"), one of the principal elements to a Funding Policy is the Actuarial Cost Method. When deciding which Actuarial Cost Method to use, several objectives may be considered, such as the following:

- Each Member's benefit should be funded under a reasonable allocation method by the expected retirement date
- Pay-related benefit costs should reflect anticipated pay at retirement
- The expected cost of each year of service (i.e. Normal Cost) for each active Member should be reasonably related to the expected cost of that Member's benefit
- The Member's Normal Cost should emerge as a level percent of Member compensation
- No gains or losses should occur if all assumptions are met.

Following these criteria, the use of the Entry Age Normal Cost Method (Level Percent of Pay) is a model practice.

FINANCING UNFUNDED ACTUARIAL ACCRUED LIABILITY

The Unfunded Actuarial Accrued Liability may be amortized over a period either in level dollar amounts or as a level percentage of payroll.

When amortizing the Unfunded Actuarial Accrued Liability as a level percentage of payroll, additional risk is incurred since the amortization payments in the early years of the payment period may not be large enough to cover the interest accrued on the existing Unfunded Liability. As a result, the Unfunded

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Liability may increase initially, before the amortization payments grow large enough to cover all interest accruals. Generally speaking, the Plan Sponsor will be required to contribute a larger total contribution amount over the course of the funding period under a level percentage of payroll basis as compared to a level dollar payroll schedule.

The Government Finance Officers Association notes that best practices in public pension finance include utilizing amortization periods that do not exceed 20 years. Longer amortization periods elevate the risk of failing to reduce any Unfunded Liability. For example, when the amortization payment in full only covers interest on the Unfunded Liability, but does not reduce the existing Unfunded Liability, the required contribution will increase in future years.

A second principal element under the Level Cost Actuarial Methodology described above is to establish an Amortization Policy that determines the length of time and the structure of the increase or decrease in contributions required to systematically fund the Unfunded Actuarial Accrued Liability. When deciding on the Amortization Policy, several objectives may be considered, such as the following:

- Variations in the source of liability changes (i.e. gains or losses, Plan changes, assumption changes) should be funded over periods consistent with an appropriate balance between the policy objectives of demographic matching and volatility management
- The cost changes in Unfunded Actuarial Accrued Liability should emerge as a level percentage of Member compensation

The LCAM model practices for the Amortization Policy include the following:

- Layered fixed period amortization by source
- Level percent of pay amortization
- An amortization period ranging from 15-20 years for experience gains or losses
- An amortization period of 15-25 years for assumption changes

In accordance with the Pension Fund's Funding Policy for the Recommended Contribution, the Unfunded Actuarial Accrued Liability is amortized by level percent of payroll contributions to a 100% funding target over a layered amortization period of 15 years. See the *Actuarial Methods – Recommended Contribution* section of this report for more detail.

The equivalent single amortization period based on the layered amortization of Unfunded Liability is 12.42 years for the current valuation.

We believe that the amortization period is appropriate for the purposes of this valuation.

ACTUARIAL FUNDING POLICIES

ACTUARIAL VALUE OF ASSETS

The Pension Fund is an ongoing plan. The Employer wishes to smooth the effect of volatility in the Market Value of Assets on the annual contribution. Therefore, the Actuarial Value of Assets is equal to the Market Value of Assets with unanticipated gains/losses recognized over a five-year period.

The Asset Valuation Method is intended to create an Actuarial Value of Assets that remains reasonable in relation to the Market Value of Assets over time. The method produces results that can fall either above or below the Market Value of Assets. The period of recognition is short.

It is intended that the period of recognition is short enough to keep the Actuarial Value of Assets within a decent range of the Market Value of Assets. In the event that the Actuarial Value of Assets exceeds or falls below a 10% corridor of the Market Value of Assets, the additional gain or loss will be recognized immediately.

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ACTUARIAL ASSUMPTIONS

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ACTUARIAL ASSUMPTIONS

NATURE OF ACTUARIAL CALCULATIONS

The results documented in this report are estimates based on data that may be imperfect and on assumptions about future events. Certain Plan Provisions may be approximated or deemed immaterial, and, therefore, are not valued. Assumptions may be made about census data or other factors. Reasonable efforts were made in this valuation to ensure that significant items in the context of the Actuarial Accrued Liability or costs are treated appropriately, and not excluded or included inappropriately.

Actual future experience will differ from the assumptions used in the calculations. As these differences arise, the expense for accounting purposes will be adjusted in future valuations to reflect such actual experience.

A range of results different from those presented in this report could be considered reasonable. The numbers are not rounded, but this is for convenience only and should not imply precision which is not inherent in actuarial calculations.

ACTUARIAL ASSUMPTIONS IN THE VALUATION PROCESS

The contributions and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and census data furnished, using the Actuarial Cost Method described in the *Actuarial Funding Policies* section of this report.

The principal areas of financial risk which require assumptions about future experience are:

- Expected Rate of Return on Investments
- Patterns of Pay Increases for Members
- Rates of Mortality Among Active and Inactive Members
- Rates of Termination Among Active Members
- Rates of Disability Among Active Members
- Age Patterns of Actual Retirements

Actual experience of the Pension Fund will not coincide exactly with assumed experience. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments to the computed Recommended Contribution.

Details behind the selection of the actuarial assumptions can be found in the Actuarial Assumption Summary document provided to the client upon request. The client has reviewed and approved the assumptions as a reasonable expectation of the future anticipated experience under the Plan.

ACTUARIAL ASSUMPTIONS

ASSESSMENT OF RISK EXPOSURES

From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations). In addition, Actuarial Standards of Practice require that the Actuary minimally perform a qualitative assessment of key financial and demographic risks as part of the risk assessment process with each annual Actuarial Valuation. The risk assessments we perform include, but are not limited to, the following:

- Periodic demographic experience studies every 3 to 5 years to confirm the ongoing appropriateness of actuarial assumptions
- Highlight the impact of demographic experience over the past year, as well as other sources of change and volatility in the *Actuarial Recommended Contribution – Reconciliation* section of this report
- Detail year-over-year changes in contribution levels, assets, liabilities, and Funded Status in the *Recommended Contribution* and *Funded Status* sections in the *Management Summary* section of this report
- Review any material changes in the census as summarized in the *Actuarial Valuation Data* section of this report
- Provide and discuss the Actuarial Assumption Summary document highlighting the rationale for each key assumption chosen by the Board
- Identify potential Cash Flow Risk by highlighting expected benefit payments over the next 5-year and 10-year periods in the *Asset Growth* section in the *Management Summary* section of this report
- Describe the impact of any assumption, method, or policy change in the *Management Summary* section of this report
- Utilize supplemental information, such as the GASB Discount Rate sensitivity disclosures to understand, for example, what impact an alternative Expected Rate of Return on Investments assumption might have on the estimation of Actuarial Accrued Liability and Funded Status
- Utilize supplemental information, such as the GASB solvency test, to better understand the Cash Flow Risk and long-term sustainability of the Plan.

LIMITATIONS OF RISK ANALYSIS

Since future experience may never be precisely as assumed, the process of selecting funding methods and actuarial assumptions may inherently create risk and volatility of results. A more detailed evaluation of the above risk exposures is beyond the scope and nature of the annual Actuarial Valuation process. For example, scenario tests, sensitivity tests, stress tests, and/or stochastic modeling for multi-year projections to assess the impact of alternative assumptions and methods, or modeling future experience different from the assumptions in these results, are not included in this Actuarial Valuation.

The Lake in the Hills Police Pension Fund and/or the Village of Lake in the Hills, Illinois should contact the Actuary if they desire a more detailed assessment of any of these forward-looking risk exposures.

ACTUARIAL ASSUMPTIONS

ASSESSMENT AND USE OF ACTUARIAL MODELS

Actuarial Valuations rely upon the use of actuarial modeling software to predict the occurrence of future events, which include specific demographic and financial potential outcomes. Actuarial assumptions are established to provide a guideline to use for such modeling.

- The model used in this Actuarial Valuation is intended to determine the Recommended Contribution, under the selected Funding Policy. The actuarial assumptions used were developed with this goal in mind.
- There are no known material limitations or inconsistencies among the actuarial assumptions or methods.
- The output from the model is reasonable based on the individual actuarial assumptions and based on the actuarial assumptions in the aggregate.
- The actuarial software used to calculate plan liabilities has been purchased from an outside vendor. We have performed thorough testing of the software, including review of sample participants, to ensure the intended purpose of the model, the operation of the model, sensitivities and dependencies, and strengths and limitations of the model are sufficient for this purpose.
- Census data and financial information have been provided by client professionals, financial advisors, and/or auditors, who are known to be experts in their respective fields. We rely on the fact that the information provided by these experts has been given for the intended purpose of this Actuarial Valuation.
- Where applicable, certain actuarial assumptions and Funding Policy may be required as prescribed by law. In such instances, we have followed legal guidance to ensure conformity.
- The Expected Rate of Return on Investments assumption has been chosen using input from several sources; including, but not limited to: client professionals, financial advisors, auditors, and other capital market outlooks. We have relied on the information provided, in the aggregate, to settle on the selected Expected Rate of Return on Investments assumption.

As stated in the *Limitations of Risk Analysis* section, future experience may never be precisely as assumed. As a result, the funding methods and actuarial assumptions used in the model may create volatility in the results when compared year after year. A more detailed evaluation of this volatility is beyond the scope and nature of the annual Actuarial Valuation process. In such cases, additional scenario tests, sensitivity tests, stress tests, and/or stochastic modeling for multi-year projections to assess the impact of alternative assumptions and methods, or modeling future experience different from the assumptions in these results, may be performed to determine a range of reasonable results.

ACTUARIAL ASSUMPTIONS

ACTUARIAL ASSUMPTIONS UTILIZED

Expected Rate of Return on Investments 6.75% Net of Administrative Expense

CPI-U 2.25%

Total Payroll Increases 3.25%

Individual Pay Increases* 3.75% - 10.77%

Individual pay increases include a long-term average increase for inflation, average annual increases for promotions, and any additional increases for a step program. Sample rates are as follows:

Service	Rate	Service	Rate
0	10.77%	8	3.75%
1	10.10%	9	3.75%
2	9.53%	10	3.75%
3	9.04%	15	3.75%
4	8.61%	20	3.75%
5	8.23%	25	3.75%
6	7.89%	30	3.75%
7	7.59%	35	3.75%

*Individual pay increases for active Members hired at age 40 or older are assumed annual increases at the ultimate rate reduced by 50 basis points, without adjustments in early service years.

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ACTUARIAL ASSUMPTIONS

Retirement Rates

100% of the L&A Assumption Study for Police 2020 Cap Age 65. Sample rates are as follows:

Age	Rate	Age	Rate
50	11.00%	58	16.25%
51	11.55%	59	16.25%
52	12.13%	60	16.25%
53	12.73%	61	16.25%
54	13.37%	62	18.00%
55	14.04%	63	20.00%
56	14.74%	64	20.00%
57	15.48%	65	100.00%

Termination Rates

100% of the L&A Assumption Study for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
25	8.00%	40	2.17%
30	3.40%	45	1.56%
35	2.79%	50	0.46%

Disability Rates

100% of the L&A Assumption Study for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
25	0.00%	40	0.38%
30	0.06%	45	0.53%
35	0.18%	50	0.48%

65% of active Members who become disabled are assumed to be in the Line of Duty.

ACTUARIAL ASSUMPTIONS

Mortality Rates

Active Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

50% of active Member deaths are assumed to be in the Line of Duty.

Retiree Mortality follows the L&A Assumption Study for Police 2020. These rates are experience weighted with the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study improved to 2017 using MP-2019 Improvement Rates. These rates are then improved fully generationally using MP-2019 Improvement Rates.

Disabled Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010 Study for disabled participants. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

Spouse Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study for contingent survivors. For all rates not provided there (ages 45 and younger) the PubG-2010 Study for general employees was used. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

Marital Assumptions

Active Members: 80% of active Members are assumed to be married. Female spouses are assumed to be 3 years younger than male spouses.

Retiree and Disabled Members: Actual spousal data was utilized for retiree and disabled Members.

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SUMMARY OF PRINCIPAL PLAN PROVISIONS

Establishment of the Fund
Administration
Member Contributions
Regular Retirement Pension Benefit
Early Retirement Pension Benefit
Surviving Spouse Benefit
Termination Benefit – Vested
Disability Benefit

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SUMMARY OF PRINCIPAL PLAN PROVISIONS

ESTABLISHMENT OF THE FUND

The Police Pension Fund is established and administered as prescribed by "Article 3 – Police Pension Fund – Municipalities 500,000 and Under" of the Illinois Pension Code.

ADMINISTRATION

The Police Pension Fund is administered by a Board of Trustees whose duties are to manage the Pension Fund, determine applications for pensions, authorize payment of pensions, establish rules, pay expenses, invest assets, and keep records.

MEMBER CONTRIBUTIONS

Members contribute 9.910% of pensionable salary.

REGULAR RETIREMENT PENSION BENEFIT

Hired Prior to January 1, 2011

Eligibility: Age 50 with at least 20 years of creditable service.

Benefit: 50% of final salary for the first 20 years of service, plus an additional 2.5% of final salary for each year of service beyond 20 years of service, and not to exceed 75% of final salary. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service, unless the pensionable salary was greater at some point within the year prior to the last day of service. If so, the pensionable salary is averaged over the last 12 months.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 1/12 of 3% of the original monthly benefit for each full month that has passed since the pension began. The initial increase date will be the latter of the first day of the month after the pensioner turns age 55 or the first day of the month after the benefit date anniversary. Subsequent increases of 3% of the current monthly benefit will be granted every January 1st thereafter.

SUMMARY OF PRINCIPAL PLAN PROVISIONS

REGULAR RETIREMENT PENSION BENEFIT - CONTINUED

Hired on or After January 1, 2011

Eligibility: Age 55 with at least 10 years of creditable service.

Benefit: 2.5% of final average salary for each year of service, and not to exceed 75% of final average salary. "Final average salary" is determined by dividing the total pensionable salary during 48 consecutive months of service within the last 60 months of service in which total pensionable salary was the highest, by the number of months of service in that period (or by dividing the total pensionable salary during 96 consecutive months of service within the last 120 months of service in which total pensionable salary was the highest, by the number of months of service in that period, if greater). Annual salary for this purpose will not exceed the salary cap, indexed by the lesser of 3% or the CPI-U for the 12 months ending with the September preceding each November 1st. The salary cap will not decrease.

Annual Increase in Benefit: The initial increase date will be the latter of the January 1st after the pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

EARLY RETIREMENT PENSION BENEFIT

Hired Prior to January 1, 2011

None.

Hired on or After January 1, 2011

Eligibility: Age 50 with at least 10 years of creditable service.

Benefit: The regular retirement pension benefit reduced by ½ of 1% for each month that the police officer's age is between 50 and 55.

Annual Increase in Benefit: The initial increase date will be the latter of the January 1st after the pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

SUMMARY OF PRINCIPAL PLAN PROVISIONS

SURVIVING SPOUSE BENEFIT

Hired Prior to January 1, 2011

Eligibility: Married to an active police officer with at least 8 years of creditable service, a disabled pensioner at the time of death, or a retired pensioner on the last day of service.

Active Line of Duty Death Benefit: An eligible surviving spouse is entitled to receive 100% of the police officer's final pensionable salary attached to rank held on the last day of service.

Non-Duty Death Benefit:

Disabled or Retired Pensioner: An eligible surviving spouse is entitled to receive the pensioner's benefit at the time of death.

Active Member with 20+ Years of Service: An eligible surviving spouse is entitled to the police officer's eligible benefit at the time of death.

Active Member with 10-20 Years of Service: An eligible surviving spouse is entitled to receive 50% of the police officer's pensionable salary attached to rank held on the last day of service, unless the pensionable salary was greater at some point within the year prior to the last day of service. If so, the pensionable salary is averaged over the last 12 months.

Annual Increase in Benefit: None.

Hired on or After January 1, 2011

Eligibility: Married to an active police officer with at least 8 years of creditable service, a disabled pensioner at the time of death, or a retired pensioner on the last day of service.

Active Line of Duty Death Benefit: An eligible surviving spouse is entitled to receive 100% of the police officer's final pensionable salary attached to rank held on the last day of service.

Non-Duty Death Benefit:

Disabled or Retired Pensioner, Active Member with 20+ Years of Service, and Active Member with 10-20 Years of service: An eligible surviving spouse is entitled to receive the greater of 66⅔% of the police officer's earned pension benefit at the time of death or 54% of the police officer's monthly salary at the time of death.

Annual Increase in Benefit: The initial increase date will be the January 1st after the surviving spouse turns age 60. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

SUMMARY OF PRINCIPAL PLAN PROVISIONS

TERMINATION BENEFIT – VESTED

Hired Prior to January 1, 2011

Eligibility: Age 60 with at least 8 but less than 20 years of creditable service.

Benefit: 2.5% of final salary for each year of service. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service, unless the pensionable salary was greater at some point within the year prior to the last day of service. If so, the pensionable salary is averaged over the last 12 months.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 1/12 of 3% of the original monthly benefit for each full month that has passed since the pension began. The initial increase date will be the first day of the month after the benefit date anniversary. Subsequent increases of 3% of the current monthly benefit will be granted every January 1st thereafter.

Hired on or After January 1, 2011

None.

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DISABILITY BENEFIT

Hired Prior to January 1, 2011

Eligibility: Duty or Non-Duty Disability or Occupational Disease Disability with at least 5 years of creditable service.

Benefit: For a duty disability or an occupational disease disability with at least 5 years of creditable service, a police officer is entitled to receive the greater of 65% of final salary or the regular retirement pension benefit at the time of disability. For a non-duty disability, a police officer is entitled to receive 50% of final salary. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 3% of the original monthly benefit for each full year that has passed since the pension began. The initial increase date will be the latter of the January 1st after following pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases of 3% of the original monthly benefit will be granted every January 1st thereafter.

Hired on or after January 1, 2011

Eligibility: Duty or Non-Duty Disability or Occupational Disease Disability with at least 5 years of creditable service.

Benefit: For a duty disability or an occupational disease disability with at least 5 years of creditable service, a police officer is entitled to receive the greater of 65% of final salary or the regular retirement pension benefit at the time of disability. For a non-duty disability, a police officer is entitled to receive 50% of final salary. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 3% of the original monthly benefit for each full year that has passed since the pension began. The initial increase date will be the latter of the January 1st after following pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases of 3% of the original monthly benefit will be granted every January 1st thereafter.

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GLOSSARY OF TERMS

Glossary of Terms

GLOSSARY OF TERMS

Actuarial Accrued Liability – The Actuarial Present Value of future benefits based on Members' service rendered to the Measurement Date using the selected Actuarial Cost Method. It is that portion of the Actuarial Present Value of Plan benefits and expenses allocated to prior years of employment. It is not provided for by future Normal Costs.

Actuarial Cost Method – The method used to allocate the projected obligations of the Plan over the working lifetimes of the Plan Members.

Actuarial Value of Assets – The value of the assets used in the determination of the Unfunded Actuarial Accrued Liability. The Actuarial Value of Assets is related to Market Value of Assets, with adjustments made to spread unanticipated gains and losses for a given year over a period of several years. Actuarial Value of Assets is generally equally likely to fall above or below the Market Value of Assets, and generally does not experience as much volatility over time as the Market Value of Assets.

Asset Valuation Method **–** A valuation method designed to smooth random fluctuations in asset values. The objective underlying the use of an Asset Valuation Method is to provide for the long-term stability of Employer Contributions.

Funding Policy – A set of procedures for a Pension Fund that outlines the "best practices" for funding the pension benefits based on the goals of the Plan Sponsor. A Funding Policy discusses items such as assumptions, Actuarial Cost Method, assets, and other parameters that will best help the Plan Sponsor meet their goal of working in the best interest of the Plan Members.

Market Value of Assets – The value of the cash, bonds, securities, and other assets held in the pension trust as of the Measurement Date.

Normal Cost – The present value of future benefits earned by Members during the current Fiscal Year. It is that portion of the Actuarial Present Value of benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

Unfunded Actuarial Accrued Liability **–** The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The Unfunded Actuarial Accrued Liability is amortized over a period either in level dollar amounts or as a level percentage of projected payroll.

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Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

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AGENDA ITEM NO: 4.B.1

REQUEST FOR BOARD ACTION

MEETING DATE: July 12, 2022

DEPARTMENT: Police

SUBJECT: Ordinance Amending Chapter 41 of the Lake in the Hills Municipal Code

EXECUTIVE SUMMARY

Staff is seeking the Board's approval for the full recodification of Chapter 41, Traffic, which includes the relocation or restructuring of the information, as well as the more significant change of the reduction of the speed limit on Reed Rd. west of Haligus Rd. from 45 miles per hour to 35 miles per hour.

In April 2022, the Village received a request from the Village of Huntley, in cooperation with School District 158, to give consideration to reducing the speed limit in front of the Reed Rd. school campus from 45 miles per hour to 35 miles per hour in the interest of safety for the students traveling to the school campus. The Village installed traffic analyzers and enlisted Chastian & Associates to review the data and provide a recommendation. Chastian & Associates advised that while there are other countermeasures, the more permanent solution is to reduce the current posted limit from 45 miles per hour to 35 miles per hour. Reduction of the speed limit will not be an issue as Reed Rd. west of the Village is already posted at 35 miles per hour.

Additionally, in early 2020, the Village began a major undertaking to recodify the Municipal Code. Recommendations were made by the codifier, and then reviewed by staff and the Village Attorney. When situations present to change one section of the Municipal Code, in this case the speed limit, we have then taken the opportunity to make all the recommended changes to a Chapter to ensure that we are working towards a more streamlined and organized set of regulations. The majority of the changes to the Chapter involved clarifying language, reorganization of the sections, re-numbering where necessary, and again the more significant is the reduction of the speed limit on Reed Rd., west of Haligus Rd.

The table below details each of section relocations.

Summary of Relocations/Changes;

Chapter 41.05	All Night Parking	Relocated to	41.08 and retitled to Overnight Parking
Chapter 41.06	Exception to 41.05	Relocated to	41.09 and retitled Exception to parking prohibition
Chapter 41.07	Persons with Disabilities	Relocated to	41.13
Chapter 41.08	Speed Limit	Relocated to	41.15
Chapter 41.09	Parking on Private Property	Relocated to	41.16
Chapter 41.10	No Parking	Relocated to	41.07 and retitled Parking prohibited
Chapter 41.11	Yield Intersections	Relocated to	41.17 and retitled Yield and Stop Intersections
Chapter 41.12	Traffic Enforcement on Certain Property	Relocated to	41.18

Chapter 41.13	Compression/Release Engine Use Brake Use Prohibited	Relocated to	41.19 and retitled Compression brakes prohibited
Chapter 41.14	Automated Traffic Law Enforcement	*Eliminated*	
Chapter 41.15	Careless Driving	*Eliminated*	
Chapter 41.16	Penalty		Addressed in Chapter 41.01

FINANCIAL IMPACT

None

ATTACHMENTS

1. Ordinance
2. Chastian & Associates Traffic Speed Study Reed Road at Northridge Drive (Huntley) Location at East Entrance to Chesak Elementary School, Lake in the Hills, Illinois

RECOMMENDED MOTION

Motion to Approve the Ordinance to Recodify Chapter 41 Traffic of the Lake in the Hills Municipal Code.

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VILLAGE OF LAKE IN THE HILLS

ORDINANCE NO. 2022 - _____

An Ordinance Amending Chapter 41, Traffic, of the Lake in the Hills Municipal Code

WHEREAS, the Village of Lake in the Hills, McHenry County, Illinois, is a home rule municipality as contemplated under Article VII, Section 6, of the Constitution of the State of Illinois, and the passage of this Ordinance constitutes an exercise of the Village's home rule powers and functions as granted in the Constitution of the State of Illinois for public health, safety, and welfare.

NOW, THEREFORE, BE IT ORDAINED by the President and Board of Trustees of the Village of Lake in the Hills, McHenry County, Illinois, as follows:

SECTION 1: That Chapter 41, Traffic, of the Lake in the Hills Municipal Code shall be repealed in its entirety and replaced with the text attached hereto and made a part hereof.

SECTION 2: If any section, paragraph, subdivision, clause, sentence or provision of this Ordinance shall be adjudged by any Court of competent jurisdiction to be invalid, such judgment shall not affect, impair, invalidate or nullify the remainder thereof, which remainder shall remain and continue in full force and effect.

SECTION 3: All ordinances or parts of ordinances in conflict herewith are hereby repealed to the extent of such conflict.

SECTION 4: This Ordinance shall be in full force and effect upon its passage, approval and publication in pamphlet form (which publication is hereby authorized) as provided by law.

Passed this 14th day of July 2022 by roll call vote as follows:

	Ayes	Nays	Absent	Abstain
Trustee Stephen Harlfinger	____	_____	_____	_____
Trustee Bob Huckins	____	_____	_____	_____
Trustee Bill Dustin	____	_____	_____	_____
Trustee Suzette Bojarski	____	_____	_____	_____
Trustee Diane Murphy	____	_____	_____	_____
Trustee Wendy Anderson	____	_____	_____	_____
President Ray Bogdanowski	____	_____	_____	_____

APPROVED THIS 14TH DAY OF JULY 2022

____
Village President, Ray Bogdanowski

(SEAL)

ATTEST: ________________________________
Village Clerk, Shannon DuBeau

Published:

CHAPTER 41
TRAFFIC AND VEHICLES

41.01 State law and penalties adopted; additional local penalties

A. The provisions of the Illinois Vehicle Code, 625 ILCS 5/1-100 et seq., as now existing or hereafter amended, except for those provisions which by their nature can have no application to the Village, are hereby adopted by reference and made a part of this chapter with the same force and effect as if set forth at length herein. It is unlawful for any person to violate any of the provisions of the state vehicle code with the Village.

B. Except as otherwise provided in this section, all penalty provisions in the state statutes adopted in this section are also adopted incorporated in this section by reference.

C. The penalties contained in the Unified Code of Corrections, 730 ILCS 5/1-1-1 et seq., are adopted as though fully set forth in this section.

D. Any person found guilty of violating 625 ILCS 5/6-303 adopted herein shall be fined not less than $250.00.

E. Any person found guilty of violating 625 ILCS 5/11-501(a)(1)—625 ILCS 5/11-501(a)(7) adopted herein shall be fined not less than $750.00. All other penalties listed in state law for violations of these offenses shall be applicable.

F. If a specific penalty is not provided by state law or this section for a particular violation, then the violation shall be punishable by a fine of not less than $25.00 nor more than $1500.00 for each violation and be responsible for the village's cost of prosecution, including attorney’s fees. Each 24-hour period shall be considered a separate violation.

41.02 Placement of Traffic control devices

When official traffic control devices are required to be erected by this Chapter 41 or by law it shall be the duty of the Chief of Police, or other person designated by the Board of Trustees, to cause suitable devices to be erected in such areas, if not erected by the Illinois Department of Transportation or the McHenry County Department of Transportation. Whenever any official traffic control device is placed or held in position approximately conforming to the requirements of the Illinois Vehicle Code and purports to conform to the lawful requirements pertaining to such device, such device shall be presumed to have been so placed or held by the official act or direction of lawful authority, and comply with the requirements of the Illinois Vehicle Code, unless the contrary shall be established by competent evidence. 625 ILCS 5/11-305(d).

41.03 Parking during snowfall

No person shall allow any vehicle to be parked or remain standing on any street or any right-of-way line of any street of the Village between November 1 in any calendar year and April 1 in the following calendar year during any time of the day or night when there shall be snowfall in excess of one inch, or so long as there shall be snow remaining upon the aforesaid streets or right-of-way of said streets of one inch; and any person having parked or left standing a vehicle on any street or within the right-of-way of any street of the Village during the aforesaid calendar dates and prior to a snowfall of one inch shall be required to remove said vehicle immediately upon a snowfall of one inch. Failure to remove any such vehicle shall constitute a violation of this Section 46.03.

41.04 Vehicle weight and size restrictions

A. It is unlawful for any person to be in control of, to drive, to park, or move on, upon or across or for the owner to cause or knowingly permit to be parked, driven, or moved upon or across, any street or highway under the jurisdiction of the Village, any vehicle or combination of vehicles exceeding the size and weight limitations stated in 625 Sections ILCS 5/15-102 (regarding width), 625 ILCS 5/15-103 (regarding height), 625 ILCS 5/15-107 (regarding length), and 625 ILCS 5/15-111 (regarding weight).

B. Size and weight limitations while operating on Village streets shall not apply to fire apparatus or equipment for snow or ice removal operations owned or operated by or for any Governmental body or to implements of husbandry temporarily operated or towed in a combination in the furtherance of a farm or agricultural endeavor and to any vehicle or combination of vehicles operating under the terms of a valid oversize and/or dimension permit issued by the Village under the authority of this chapter.

C. Where lower size and weight limits or other restrictions are imposed by ordinance under authority of 625 ILCS 5/15-316 and 5/15-317, and signs indicating such limitations or restrictions are posted, it shall be unlawful to operate any vehicle or combination of vehicles in excess of such size or weight limitations or in violation of such restrictions.

D. It shall be unlawful to operate any construction vehicle as defined herein on any street in the Village when signs are posted on that street prohibiting such vehicles. "Construction Vehicle" shall be defined as: "Any vehicle over ten thousand (10,000) pounds actual weight, registered gross weight or G.V.W.R. that is required to comply with 625 ILCS 5/12-712 and 5/12-713 on identification required to be displayed.

E. Whenever any vehicle or combination of vehicles is operated in violation of this section, the owner and/or driver of such vehicle shall be deemed guilty of such violation and either or both the owner or driver of such vehicle(s) may be prosecuted for such violation.

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41.05 Authority for issuance

The Village with respect to any street or highway under its jurisdiction may upon application to the Village Engineer on forms provided by the Village and good cause being shown therefore, issue a special permit authorizing the applicant to operate or move a vehicle or combination of vehicles of a size or weight of vehicle or load exceeding the maximum specified in this article.

A. Application. The applicant shall furnish the following information in the special permit application:

1. The name and address of the owner or lessee of the vehicle;

2. Applicant's name;

3. Type of permit request whether it is for a single trip, round trip, or multiple routing;

4. The description and registration of the power unit;

5. Description of the object or vehicle to be moved;

6. The number of axles of the vehicle or combination of vehicles;

7. The axle weights of all single, tandem or series axles;

8. Gross weight of vehicle;

9. The width, length and height of the vehicle and load;

10. The origin of the load within Illinois or state line if the origin is outside the jurisdiction of the Village, copies of all county and/or state of Illinois permits must be attached to the application prior to approval and issuance of a Village special permit;

11. Requested routing over Village streets and to specific location.

B. Permit fee; term. The owner or his agent shall submit an application fee of $40.00 for a single routing which will be valid for seven calendar days, $68.00 for a round trip routing valid for fourteen calendar days and $127.50 for a multiple routing valid for a period not to exceed one hundred twenty calendar days. Permits are valid only for the date(s) specified on the permit and for the specific vehicle, load and routing as established by the Village Engineer or designee.

C. Vehicle substitutions prohibited. No substitution of vehicle, load or routing is permitted without expressed written permission by the Village Engineer and carried in the vehicle to which the permit applies.

D. Review of application; approval and permit issuance. The Village Engineer is authorized to approve the application for approved routes. Upon approval and payment of all required fees the Village Engineer shall issue a permit allowing passage of the oversize and/or overweight vehicle(s) over Village streets.

E. Permit form and content. The permit shall be specific and contain:

1. Permit number;

2. The date(s) the permit is valid;

3. Whether the permit is single, round or multiple routing;

4. The description of object or vehicle to be moved;

5. Authorized gross weight, axle weights, width, length and height;

6. The authorized routing over Village streets including the origin and termination point within the Village;

7. The fee paid;

8. The date and signature of the Village Engineer or his or her designee.

9. The general conditions that the permittee must comply with (which shall be consistent and reasonable for the protection of the general public and Village streets.

F. Distribution of permit copies. A copy of all permits issued will be provided to the Chief of Police and Director of Public Works for information and compliance.

G. Duties of permitee. The permitee shall have the following duties:

1. It is the duty of the permittee to read and familiarize himself or herself with the permit provisions upon receipt. Undertaking of the permit move is deemed Prima Facie evidence of acceptance of the permit and that:

2. The permittee is in compliance with all operation requirements.

3. The permittee must ensure that all dimension and weight limitations specified in the permit will not be exceeded;

4. The permittee must ensure that all operation, registration and license requirements have been complied with.

5. The permittee must ensure that all financial responsibilities, obligations and other legal requirements have been met.

6. The permittee assumes all responsibility for injury or damage to persons or to public or private property, including his or her own, or to the object being transported caused directly or indirectly by the transportation or movement of vehicles and objects authorized under the permit. He or she agrees to hold the Village harmless from all suits, claims, damages, or proceedings of any kind and to indemnify the Village for any claim it may be required to pay arising from the movement.

H. Permit to be carried and displayed upon request. The permit shall be carried in the vehicle to which the permit applies at all times while operating on streets within the village and shall be exhibited upon demand to any enforcement officer, police officer or other authorized official of the Village. Any person who fails to comply with a request by a law enforcement officer for display of evidence of a valid permit, as required by this Section or the Illinois Vehicle Code, shall be deemed to be operating a vehicle without a permit. No person charged with violating subsection (j) shall be convicted if such person produces in court satisfactory evidence that at the time of the arrest the motor vehicle was properly permitted.

I. Vehicle owner and driver liable or violations. Whenever any vehicle is operated in violation of the provisions of a Village permit, whether it be by size, weight or general provisions, and either or both the owner or driver of such vehicle shall be deemed guilty and either or both the owner or the driver of such vehicle may be prosecuted for such violation.

41.06 Parking Definitions

The following words and phrases when used in this division shall, for the purpose of this chapter, have the meanings respectively ascribed to them in this section, except where the context otherwise requires.

A. Park or parking: The standing of a vehicle, whether occupied or not, otherwise than when temporarily and actually engaged in loading and unloading merchandise or passengers.

B. Street: The entire width between the boundary line of every way publicly maintained when any part thereof is open to the use of the public for purposes of vehicular travel.

C. Vehicle: Every device, in, upon or by which any person or property is or may be transported or drawn upon a highway, except devices moved by human power, devices used exclusively upon stationary rails or tracks and snowmobiles as defined in the Illinois Snowmobile Registration and Safety Act (625 ILCS 40/1-1).

41.07 Parking prohibited

A. Generally. No person shall park a vehicle at any time on the paved portion of any of the following described streets where the portion of the street is used by the public for the purposes of vehicular travel:

1. The entire length of Crystal Lake Road.

2. The entire length of Hiawatha Drive.

3. The entire length of Hilltop Drive.

4. The entire length of Indian Trail.

5. The entire length of Miller Road.

6. The entire length of East Oak Street.

7. The entire length of Willow Street.

8. The entire length of the north side of West Pheasant Trail.

9. The south side of West Pheasant Trail, from 10 West Pheasant Trail to Village Creek Drive.

10. The entire length of the east side of Village Creek Drive.

11. Harvest Gate from the eastern intersection with Polaris Drive to the western intersection with Polaris Drive.

12. Halfmoon Gate from Miller Road to Starwood Pass.

13. Heavens Gate from Miller Road to Starwood Pass and Heavens Gate 156 feet south of Starwood Pass.

14. The even numbered address side of Heartland Gate from Miller Road to Starwood Pass and the odd numbered address side of Heartland Gate within fifteen feet of where it intersects with Northlight Pass.

15. The even numbered address side of the entire length of Northlight Pass and the odd numbered address side of Northlight Pass within fifteen feet of where it intersects with Heartland Gate.

16. The entire length of Haligus Road.

17. Harvest Gate from Algonquin Road to the south end of the property located at 461 Harvest Gate.

18. Polaris Drive from Randall Road to Harvest Gate.

19. The entire length of Village Hall Drive.

20. The West side of the paved section of Hickory Road, between Lake Street and Pheasant Trail.

21. The east side of Lakewood Road from Spencer Place to South Annandale Drive.

22. The entire length of Village Creek Drive; No parking within ten feet of a driveway entrance or U.S. Postal Service mailbox.

23. The west side of the entire length of the drive from Haligus to the Public Works Facility located at 9010 Haligus Road.

24. Monday through Friday between the hours of 7:00a.m. and 4:00p.m. on the east side of the entire length of the drive from Haligus Road to the Public Works Facility located at 9010 Haligus Road.

B. Parking for maintenance or repair. No person shall park a vehicle upon any street for the principal purpose of greasing or repairing such vehicle, except repairs necessitated by an emergency, or displaying merchandise for sale or for advertising purposes.

C. Parking to display for sale. No person shall park a vehicle upon any private or public parking lot for the principal purpose of displaying such vehicle for sale with the exception of private residential driveways and private non-residential lots that are part of a business licensed to sell vehicles. This shall not apply to vehicles parked on private, non-residential lots and the vehicle is properly licensed either under the name of the commercial enterprise or the principal owner of the commercial enterprise that owns the private non-residential lot. For purposes of this section, a vehicle shall be defined as to include, but not limited to, motor vehicles, motor homes, trucks, boats, recreational vehicles and motorcycles.

D. Exceptions may be granted by police chief. The police chief, or his/her duly authorized representative, may grant an exception to the parking restrictions set forth in this section for a specified length of time if circumstances arise that dictate the need for the exception, as determined by the police chief, or his/her duly authorized representative.

E. Violations and penalties. Every violation of this section, unless otherwise provided, shall be punishable by a fine of not less than $25.00 nor more than $500.00 for each violation. For purposes of this section, each 24-hour period a vehicle is parked in violation of the section 41.10 shall be considered a separate violation.

F. Vehicles prohibited on certain streets. As provided under the authority of Illinois Compiled Statutes, Chapter 625, Section 5/15-316, it shall be unlawful to operate any vehicle upon any street where the operation of that vehicle is prohibited by ordinance and where signs of such prohibition are posted.

41.08 Overnight Parking

Definition. The following words and phrases when used in this chapter shall, for the purposes of this article, have the meanings respectively ascribed to them in this section, except where the context otherwise requires.

1. Available Parking Space: That space, both indoor and outdoor, located upon private property within the Village that was originally designed to serve as parking space for motor vehicles and is not occupied by a motor vehicle.

2. Parking Permit: A parking permit issued by the Lake in the Hills Police Department.

3. Parking Space: Available space in a driveway, as well as indoor garage space.

A. When signs are erected at entrances of highways into the Village giving notice thereof, no person, firm or corporation shall allow any vehicle to be parked or remain standing on any paved portion of the street that is used by the public for the purposes of vehicular travel for a period of more than 30 minutes between the hours of 2 a.m. and 6 a.m. on any day, unless specifically authorized by the police chief or designee. A household can be granted a limit of five exceptions per month to this section. Authorization must be obtained through the Village's overnight parking website.

B. When signs are erected at any Village owned or leased parking lot, or any other Village owned or leased property, no person, firm or corporation shall allow any vehicle to be parked or remain standing on any Village owned or leased parking lot or any other Village owned or leased property between the hours of 10 p.m. and 6 a.m. unless specifically authorized by the police chief or designee.

C. When signs are erected at any Village owned or leased parking lot, or any other Village owned or leased property, no person, firm or corporation shall allow any vehicle to remain parked or standing on any Village owned or leased parking lot or any other Village owned or leased property for a period exceeding three hours in duration, during the hours of 6 a.m. and 10 p.m., unless specifically authorized by the police chief or designee.

41.09 Exception to overnight parking prohibition

A. The Village may allow for the parking of motor vehicles overnight on designated streets in the Village in order to accommodate special needs that may arise with regard to parking space shortage and hardships. This exception applies only to overnight parking restrictions and does not exempt compliance with all other ordinances of the Village regarding motor vehicles. The exception will only be granted on streets or portions of streets where the paved portion of the street is not less than 35 feet wide and designated in this chapter.

B. A street, or a portion of a street, shall only be exempt from this section when so designated by ordinance.

C. Any street designated for authorized overnight parking with a parking permit shall have appropriate signs stating that all parking between the hours of 2 a.m. and 6 a.m. shall be by permit parking only. Parking permits shall only be issued by the Lake in the Hills Police Department.

D. No person shall allow any motor vehicle to be parked or remain standing on any street or right of way of said street within the Village between the hours of 2 a.m. and 6 a.m. that is posted "Permit Parking Only Between the Hours of 2 a.m. and 6 a. m." unless the motor vehicle has a valid parking permit or unless other authorization, as provided by ordinance, has been granted by the Police Department.

41.10 Overnight parking permits

A. Parking permits shall be issued for use on specific authorized streets within the village and shall only be valid for the location indicated on the parking permit. Parking permits shall be issued on a first come, first serve basis, and shall be limited to the number of parking spaces available for each location.

1. Parking permits shall be issued only to village residents based on the following restrictions:

2. The applicant maintains residency on the street the permit is being requested for; and

3. At the address of the applicant the number of registered drivers and an equal number of motor vehicles registered to the applicant's address, exceeds the available parking spaces at the applicant's address; or

4. The applicant requesting the parking permit has a business vehicle, leased or owned as such, and the number of motor vehicles is one greater than the number of registered drivers at the applicant's address, and the total number of motor vehicles, including the business vehicle, exceed the available parking spaces at the applicant's address; or

5. The applicant is disabled and a parking permit will aid the applicant in the parking or operation of the motor vehicle; or

6. The applicant is experiencing hardship in relationship to parking motor vehicles, not defined herein above. In reviewing such applications, the police department shall consider if the situation is beyond the control of the applicant. Convenience by itself shal1 not be considered a hardship.

B. No more than one parking permit shall be issued to a single address. Each parking permit shall be assigned to a specific motor vehicle. No parking permit shall be transferred to another motor vehicle.

C. No vehicle issued a parking permit shall remain parked on a street for more than seven consecutive days without being moved.

D. Parking permits shall be prominently displayed in the rear, driver's side window while parking on the designated street between the hours of 2 a.m. and 6 a.m.

E. All parking permits shall be valid for a period of one year, beginning at 12 a.m. January 1 and expiring at midnight on December 31 of the same year. A fee of $10 shall be paid at the time a parking permit is issued.

41.11 Procedure for designation of permit parking streets; designated streets

A. To determine whether a residential district should be designated exempt under this division, the village board shall conduct a public hearing. Notice of the hearing shall be published in a newspaper of general circulation within the village at least 15 days prior to the hearing. The notice shall state the purpose, time and location of the public hearing, the location boundaries of the exemption and any proposed parking permit fees to be charged. In addition, the notification shall be prominently posted in the proposed exemption area. During such public hearing any interested person shall be entitled to appear, to be heard and to submit a written statement for the record.

B. Within 30 days after the hearing, the village board shall make a determination as to whether the exemption from overnight parking restrictions shall apply to the proposed area, and shall reduce its decision to ordinance amending this section if appropriate.

C. The following streets are exempt from section 41.05 of the Code and permit parking shall be permitted: The entire length of village Creek Drive, on the west side of the street only.

41.12 Extended guest parking

A. The police department shall have the authority to grant extended guest parking on any street within the Village;

provided, however, that extended guest parking shall not be issued if parking space is available at the residence where the guest is staying.

B. A permit shall not be required for extended guest parking. However, it shall be the responsibility of the resident the guest is visiting, or the guest, to contact the police department, before extended guest parking commences, with the name and address of the owner of the motor vehicle, a description of the motor vehicle, including its license plate number, and the length of stay of the guest.

C. Extended guest parking may be authorized by the police department for a period of up to 30 days. No more than two extended guest authorizations shall be issued to the same person or for the same motor vehicle in any given calendar year.

41.13 Persons with disabilities – Parking privileges - Exceptions

A. A motor vehicle bearing registration plates issued to a person with disabilities, pursuant to 625 ILCS 5/3-616, or to a disabled veteran pursuant to 625 ILCS 5/3-609, or a special decal or device issued pursuant to 625 ILCS 5/3-616 or pursuant to 625 ILCS 5/11-1301.2, or a motor vehicle registered in another jurisdiction, state district, territory of foreign country upon which is displayed a registration plate, special decal or device issued by the other jurisdiction designating the vehicle is operated by or for person with disabilities shall be exempt from the payment of parking meter fees and exempt from any statute or ordinance imposing time limitations on parking, except limitations of one-half hour or less, on any street or highway zone, or any parking lot or parking place which are owned, leased or owned and leased by the Village or a Village parking utility.

B. A motor vehicle registered in another jurisdiction, state district, territory of foreign country upon which is displayed a registration plate, special decal or device issued by the other jurisdiction designating the vehicle is operated by or for person with disabilities shall be recognized by state and Village authorities as a valid license plate or parking device and shall receive the same parking privileges as residents of this state.

C. Vehicles exempted under this section shall be subject to the laws which prohibit parking in "no stopping" and "no standing" zones in front of or near fire hydrants, driveways, public building entrances and exits, bus stops and loading areas, and is prohibited from parking where the motor vehicle constitutes a traffic hazard, whereby such motor vehicle shall be moved at the instruction and request of a law enforcement officer to a location designated by the officer.

D. Any motor vehicle bearing registration plates or special decal or device specified in this Section or in 625 ILCS 5/3-616 or such parking device as specifically authorized in 625 ILCS 5/11-1301.2 as evidence that the vehicle is operated by or for a person with disabilities or disabled veteran may park, in addition to any other lawful place, in any parking place specifically reserved for such vehicles by the posting of an official sign as provided under 625 ILCS 5/11-301.

E. Parking privileges granted by this section are strictly limited to the person to whom the special registration plates, special decal or device were issued and to qualified operators acting under his express direction while the person with disabilities is present. A person to whom privileges were granted shall, at the request of a police officer or any other person invested by law with authority to direct, control, or regulate traffic, present an identification card with a picture as verification that the person is the person to whom the special registration plates, special decal or device was issued.

F. Parking privileges granted by this ordinance are also extended to motor vehicles of not-for-profit organizations used for the transportation of persons with disabilities when such vehicles display the decal or device issued pursuant to 625 ILCS 5/11-1301.2.

G. No person shall use any area for the parking of any motor vehicle pursuant to 625 ILCS 5/11-1303 or where an official sign controlling such area expressly prohibits parking at any time or certain hours.

41.14 Unauthorized use prohibited; exceptions; enforcement, violations and penalties

A. It shall be prohibited to park any motor vehicle which is not bearing registration plates or decals or devices issued to a person with disabilities pursuant to 625 ILCS 5/3-616, 625 ILCS 5/11-1301.1 or 625 ILCS 5/11-1301.2,or to a disabled veteran pursuant to 625 ILCS 5/3-609 as evidence that the vehicle is operated by or for a person with disabilities or disabled veteran, in any parking place, including any private or public off street

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parking facility, specifically reserved, by the posting of an official sign as designated under 625 ILCS 5/11-301for motor vehicles bearing such registration plates.

B. It shall be prohibited to park any motor vehicle in a designated access aisle adjacent to any parking place specifically reserved for persons with disabilities, by the posting of an official sign as designated under 625 ILCS 5/11-301, for motor vehicles displaying such registration plates.

C. When using the parking privileges for persons with disabilities, the parking decal or device must be displayed properly in the vehicle where it is clearly visible to law enforcement personnel, either hanging from the rearview mirror or placed on the dashboard of the vehicle in clear view.

D. Any motor vehicle properly displaying a disability license plate or a parking decal or device containing the International symbol of access issued to persons with disabilities by any local, state, district, territory or foreign country shall be recognized as a valid license plate or device and receive the same parking privileges as residents of the Village.

E. An individual with a vehicle bearing a person with disabilities license plate or parking decal or device issued to a disabled person under 625 ILCS 5/3-616, 625 ILCS 5/11-1301.1 or 625 ILCS 5/11-1301.2 is in violation of this section if the person is not the authorized holder of a person with disabilities license plate or parking decal or device and is not transporting the authorized holder of a person with disabilities license plate or decal or device to or from the parking location and the person uses the person with disabilities license plate or parking decal or device to exercise any privileges granted through the person with disabilities license plate or parking decal or device under this Ordinance.

F. Any person or local authority owning or operating any public or private off-street parking facility may, after notifying the police department, remove or cause to be removed to a place designated by the police department any vehicle parked within a stall or space reserved for use by a person with disabilities registration plate which does not display person with disabilities registration plates or special decal or device as required under this Ordinance.

G. Whoever violates any provision of section shall be fined $350 in addition to any costs or charges connected with the removal or storage of any motor vehicle authorized under this Ordinance.

H. The Village shall have the authority to require any changes to be posted on all signs. It shall not be a defense to a charge under this Section that either the sign posted pursuant to this Section or the intended accessible parking place does not comply with the technical requirements of 625 ILCS 5/11-301 or of this ordinance if a reasonable person would be made aware by the sign or notice on or near the parking place that the place is reserved for a person with disabilities.

I. As used in this Ordinance, "authorized holder" means an individual issued a person with disabilities license plate under 625 ILCS 5/3-616, an individual issued a person with disabilities parking decal or device under 625 ILCS 5/11-1301.2, or an individual issued a disabled veteran’s plate under 625 ILCS 5/3-609.

J. The Chief of Police, or his/her duly authorized representative, may grant an exception to the parking restrictions set forth in this Section 41.10 for a specified length of time if circumstances arise that dictate the need for said exception, as determined by the Chief of Police, or his/her duly authorized representative.

K. Every violation of this section, unless otherwise noted, shall be punishable by a fine of not less than $25.00 nor more than $500.00 for each violation. For purposes of this section, each 24hour period a vehicle is parked in violation of this section shall be considered a separate violation.

41.15 Speed Limit

A. Maximum of 25 Miles per hour. Unless otherwise specified in this section, the maximum speed limit on all Village streets is 25 miles per hour.

B. Maximum of 30 miles per hour. The maximum speed limit on Albrecht Road between Lakewood Road and Miller Road, is 30 miles per hour.

C. Maximum of 35 miles per hour. The maximum speed limit on Frank Road, between Miller Road and Algonquin Road; Miller Road west of Lakewood Road; Haligus Road from Miller Road to the southern corporate boundary with the Village of Huntley; and on Reed Road west of Haligus Road to the western limits of the Village, is 35 miles per hour.

D. Maximum of 40 miles per hour. The maximum speed limit on Haligus Road, from the northern limits of the Village to Miller Road; Miller Road, between Frank Road to Lakewood Road; and Swanson Road, north of Miller Road is 40 miles per hour.

E. Maximum of 45 miles per hour. The maximum speed limit on Reed Road west of Lakewood Road is 45 miles per hour.

F. Maximum of 55 miles per hour. The maximum speed limit on Pingree Road, between Rakow Road and Virginia; and Virginia Road between Illinois Route 31 and Rakow Road is 55 miles per hour.

41.16 Parking on Private Property

A. Parking space description: A required off-street parking space shall be an area of not less than 162 square feet nor less than 8 feet wide by 19 feet long, exclusive of access driver or aisles, ramps, columns or office and work areas accessible from streets or alleys or from private driveways or aisles leading to streets or alleys.

B. Surfacing: All open off-street parking areas shall be improved with a compacted macadam base, not less than four inches thick, surfaced with a minimum of two inches compacted asphaltic concrete or some comparable all-weather, dustless material.

C. Parking of motor vehicles: Parking of motor vehicles on private property in the Village is prohibited except on parking spaces as defined herein. Parking on lawn or other undefined areas is specifically forbidden.

41.17 Yield and Stop Intersections

The Village may designate any road, street or highway, under its jurisdiction, a through highway as authorized state law. In addition, the Village may designate any intersection under it's jurisdiction as a stop or yield intersection. Every stop or yield sign shall conform to state specifications and shall be located as near as practicable to the nearest line of the crosswalk on the near side of the intersection or, if there is no crosswalk, then as close as practicable to the line of the nearest intersecting road, street or highway.

41.18 Traffic Enforcement on Certain Property

A. Contracts. Pursuant to 625 ILCS 5/11-209, the Village may contract with school boards, hospitals, churches and shopping center and apartment complex owners for the regulation of traffic. The provisions contained in this chapter and 625 ILCS 5/11-209 shall be applicable to the property that is subject to such contracts and the Village shall have the authority to enforce said regulations as established by said contracts.

B. Private Streets and Roads. Pursuant to 625 ILCS 5/11-209.1, person(s) or board of directors owning, operating or representing a residential subdivision, development, apartment house or apartment project containing a minimum of 10 apartments or single family residences may request in writing that the Police Department enforce the provisions of the Illinois Vehicle Code on all private streets or roads open to or used by the tenants, owners, employees or the public for the purposes of vehicular traffic by permission, and not as a matter of public right. The provisions contained in this chapter and 625 ILCS 5/11-209.1 shall be applicable to the property that is subject to such written requests and the Village shall have the authority to enforce said regulations as provided herein.

41.19 Compression brakes prohibited

No person shall operate or cause to be used or operated within the Village any compression/release engine brake on any vehicle for any reason. For purposes of this section, compression/release engine brake is defined as any mechanical exhaust device designed to aid in the braking or deceleration of any vehicle by converting engine power to compressed air which results in excessive, loud, unusual or explosive noise from such vehicle, or otherwise known as jake-braking.

TRAFFIC SPEED STUDY

REED ROAD AT NORTHRIDGE DRIVE (HUNTLEY)

LOCATION AT EAST ENTRANCE TO CHESAK ELEMENTARY SCHOOL

LAKE IN THE HILLS, ILLINOIS

ORIGINAL SUBMITTAL:

MAY 2, 2022

PREPARED BY:

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS
SERVICE | SOLUTIONS | COMMITMENT ™

120 West Center Court

Schaumburg, IL 60195

INTRODUCTION

This speed study report has been completed to summarize analysis and recommendations to possible vehicle speeding along the segment of Reed Road, west of Haligus Road, in the Village of Lake in The Hills, Illinois. The Reed Road study segment is a two-lane major collector road providing east-west connection between IL Route 47 at its west end and Haligus Road at its east end. Reed Road runs through residential areas and along the south edge of the Reed Road School Campus and Chesak Elementary School through the northern portion of the Village of Huntley and the westerly end of Lake in the Hills.

The westerly half of the study segment of Reed Road has a posted 35 MPH speed limit and the easterly half through Lake in the Hills is posted 45 MPH. Reed Road includes a posted School Zone 20 MPH Speed Limit approximately 2000 feet long beginning near the westerly Lake in the Hills village limit.

The Village of Lake in the Hills, using BlueStar Portable Traffic Analyzers installed on the pavement, has provided the traffic data collected at four locations. A single traffic counter was located in each lane approximately 350 feet east and west of the Reed Road intersection with the Chesak School (east entrance) / Northbridge Dr. These traffic analyzers use magnetic sensor technology with a 90% accuracy when recording vehicle classification and vehicle speed according to the manufacturer. Traffic measurements were completed between Thursday April 14, 2022 and Thursday April 21, 2022 for both directions of travel at all four locations. Traffic data was recorded in 15-minute increments covering the full 24-hour of each day. For this study, traffic volumes, average speeds, and roadway temperature where provided for each of these 15-minute increments along with the summarized classification of vehicles.

The purpose of the study was to determine if excessive speeding was occurring at these locations and to identify and recommend measures to reduce incidence or magnitude of any speeding identified. All data collected was used in the analysis of the traffic data and in identification of appropriate mitigation measures.

SPEED STUDY HISTORY

Traffic data was collected at each location, separated by direction of traffic and grouped into 15-minute intervals. Traffic data analysis was completed by determining speed percentiles based on the recorded vehicle speeds compared to the 25 MPH posted speed limits. Speed percentiles would provide information on vehicle breakdown between those that traveled at the speed limit, below speed limit or above speed limit.

The two commonly recognized speed percentiles for speed studies are the 50th and the 85th speed percentiles. The 50th speed percentile indicates the speed where half of the vehicles were below, and half above. The 85th speed percentile was the speed where 85% of vehicles traveled at or below the measured speed. The importance of the 85th percentile speed is it generally represents the speed that most drivers appear comfortable traveling at. The 85th percentile speed limit is also considered an indicator of what posted speed limits should be set at. The mode speed was also determined for each location to determine the speed that appeared most often in the data set.

The traffic volumes for weekdays, approximately 12,500 appeared similar to traffic volumes for Saturday with Sunday traffic volumes approximately 30% lower at 8,800, therefore, the full week of traffic data was used for the analyses. Frequency Distribution Tables were created for each traffic count location to determine speed percentiles.

PROJECT LOCATIONS

The project location along Reed Road is west of Haligus Road as shown on Figure 1 below. Traffic analyzers were installed in each lane approximately 350 feet east and west of the Reed Road intersection with Northbridge Drive and remained in place during the seven-day traffic data collection period.

Figure 1- Speed Study Location Information

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General Information

Reed Road is a two-lane 36-foot wide urban roadway with a striped center turn lane providing protected left-turn lane space. It is classified as a major collector roadway on the Federal Aid route system primarily providing access to adjacent residential areas, the Reed Road School Campus, Northwestern Huntley Hospital and further connection to Lakewood Road further east. Pavement markings consist of left turn lanes and cross hatched median markings. Parking is not allowed along Reed Road.

The speed study along Reed Road between the Village limit and Haligus Road was conducted over a 7-day period between Thursday April 14, 2022, 2:00PM and Thursday April 21, 2022 2:00PM. The recorded vehicle speeds ranged from 32 MPH to a recorded maximum of 72 MPH at 2:30AM on Wednesday the 20th eastbound at data collector 3. 98% of vehicles were classified as passenger vehicles, vans, and pickups along Reed Road headed west and 96% headed east. The average mode speed for this study was 40 MPH for the westbound lane and 45 MPH for the eastbound lane, both counters were located within the school zone speed limit. The 85th percentile speed from the raw data was about 50 MPH for the westbound lane and about 55 MPH for the eastbound lane.

Average Daily Traffic

The average daily traffic (ADT) for Reed Road at Northbridge Drive Lane showed similar traffic volumes between weekdays and Saturday (Table 1). The ADT for Sunday was lower than the weekdays and traffic volumes for Thursday reflect two half day volumes. The first Thursday covers the PM hours and the second Thursday covers the AM hours, when combined the volumes represent a sing 24-hour count.

		Eastbound ADT		Westbound ADT		Total ADT	
	Date	East of Northbridge	West of Northbridge	East of Northbridge	West of Northbridge	EAST ADT	WEST ADT
Thursday	4/14 & 21/2022	6806	6868	6657	6301	13463	13169
Friday	4/15/2022	6413	6486	6476	6060	12889	12546
Saturday	4/16/2022	6189	6265	6335	5970	12524	12235
Sunday	4/17/2022	4272	4378	4518	4432	8790	8810
Monday	4/18/2022	6107	6133	5794	5669	11901	11802
Tuesday	4/19/2022	6433	6486	6206	5930	12639	12416
Wednesday	4/20/2022	6255	6289	6155	5809	12410	12098

Table 1- Reed Road at Chesak School (West Entrance)/Northbridge Drive

Speed Percentile

Frequency Distribution Tables were created for each traffic counter in each direction using the average speed measured for each 15-minute block recorded by the data collector. The 50th and 85th speed percentiles were determined from these frequency distribution tables. From eastbound average speed frequency distribution tables (Table 3 & 4), the 50th speed percentile was between 42 and 48 MPH and the 85th speed percentile was between 43 and 49 MPH. From westbound average speed frequency distribution tables (Table 1 & 2), the 50th speed percentile was between 40 to 43 MPH and the 85th speed percentile was between 41 and 46 MPH. The data shows that a majority of drivers appeared to be comfortable driving approximately 2 to 5 MPH above the posted speed limit of 45 MPH for this location.

Average Speed (MPH)	Frequency of Vehicles	Cumulative Frequency	Cumulative Percent	Average Speed Percentile
32	2	2	0.00%	
33	89	91	0.21%	
34	3	94	0.22%	
35	4	98	0.23%	
36	425	523	1.23%	
37	362	885	2.08%	
38	1625	2510	5.91%	
39	2372	4882	11.49%	
40	11685	16567	39.00%	50th Percentile
41	14787	31354	73.82%	85th Percentile
42	8480	39834	93.78%	
43	2020	41854	98.54%	
44	438	42292	99.57%	
45	112	42404	99.83%	
46	42	42446	99.93%	
47	2	42448	99.94%	
48	13	42461	99.97%	
49	7	42468	99.98%	
50	2	42470	99.99%	
53	5	42475	100.00%	

Table 1 – Westbound Average Speed Frequency Distribution Table
Reed Road East of Northbridge Drive

Average Speed (MPH)	Frequency of Vehicles	Cumulative Frequency	Cumulative Percent	Average Speed Percentile
32	2	2	0.00%	
36	4	6	0.01%	
38	7	13	0.03%	
39	252	265	0.62%	
40	795	1060	2.47%	
41	1403	2463	5.74%	
42	4201	6664	15.53%	
43	7720	14384	33.53%	50th Percentile
44	9685	24069	56.10%	
45	11110	35179	81.99%	85th Percentile
46	6052	41231	96.10%	
47	1271	42502	99.06%	
48	266	42768	99.68%	
49	65	42833	99.83%	

50	26	42859	99.89%	
51	13	42872	99.92%	
52	18	42890	99.97%	
53	11	42901	99.99%	
54	3	42904	100.00%	
58	1	42905	100.00%	

Table 2 – Westbound Average Speed Frequency Distribution Table
Reed Road West of Northbridge Drive

Average Speed (MPH)	Frequency of Vehicles	Cumulative Frequency	Cumulative Percent	Average Speed Percentile
32	2	2	0.00%	
35	4	6	0.01%	
36	88	94	0.23%	
38	1	95	0.24%	
39	11	106	0.26%	
41	179	285	0.71%	
42	20	305	0.76%	
43	266	571	1.42%	
44	1075	1646	4.10%	
45	1847	3493	8.71%	
46	4600	8093	20.17%	
47	7592	15685	39.10%	50th Percentile
48	11559	27244	67.91%	
49	8059	35303	88.00%	85th Percentile
50	3616	38919	97.02%	
51	547	39466	98.38%	
52	185	39651	98.84%	
53	266	39917	99.51%	
54	117	40034	99.80%	
55	81	40115	100.00%	
56	4	40119	100.01%	
57	9	40128	100.03%	
58	13	40141	100.06%	
59	4	40145	100.07%	
60	5	40150	100.09%	
62	8	40158	100.11%	
63	5	40163	100.12%	
68	4	40167	100.13%	
72	1	40168	100.13%	

Table 3 – Eastbound Average Speed Frequency Distribution Table
Reed Road West of Northbridge Drive

Average Speed (MPH)	Frequency of Vehicles	Cumulative Frequency	Cumulative Percent	Average Speed Percentile
32	4	4	0.01%	
36	109	113	0.27%	
37	91	204	0.48%	
38	4	208	0.49%	
39	127	335	0.79%	
40	1495	1830	4.34%	
41	4499	6329	15.02%	
42	11259	17588	41.74%	50th Percentile
43	15371	32959	78.21%	85th Percentile
44	6599	39558	93.88%	
45	1836	41394	98.23%	
46	465	41859	99.34%	
47	79	41938	99.52%	
48	137	42075	99.85%	
49	27	42102	99.91%	
50	22	42124	99.96%	
51	9	42133	99.99%	
52	3	42136	99.99%	
55	2	42138	100.00%	
58	1	42139	100.00%	
62	2	42141	100.00%	

Table 4 – Eastbound Average Speed Frequency Distribution Table
Reed Road East of Northbridge Drive

COUNTERMEASURES

There are several countermeasures that are feasible to mitigate speeding concerns along Reed Road. Surface markings and dynamic signing would be lower cost options and manageable by village work force. Surface markings include optical speed bars, and "SPEED LIMIT XX" pavement marking. Optical speed bars are transverse stripes on the travel lane spaced progressively closer to create the illusion of traveling faster.

According to FHWA research optical speed bars showed a speed reduction up to 4 MPH in the 85th speed percentile after installation. "SPEED LIMIT XX" are pavement marking that can be added to pavement surface. According to FHWA research, "SPEED LIMIT XX" pavement markings showed a reduction up to 2 MPH in the 85th speed percentile after installation.

Dynamic signing would be a midrange cost approach and manageable by the village work force. Dynamic signing includes speed feedback signs which display the real time speed of drivers traveling over the threshold speed with the message "YOUR SPEED XX". According to FHWA research, speed feedback signs can result in reductions of up to 6 MPH in the 85th speed percentile after installation.

The proposed countermeasures would help to reduce the average speed in this project location over a short duration until new signage and striping become secondary to the visual and focused observation of drivers. An increase in frequency of police visibility is likely to help with School Zone speed limit compliance, however a more permanent solution to reducing the vehicle speed would be to reduce the current posted 45 MPH speed limit along Reed Road by extending the current 35 MPH speed zone through Huntley to the intersection with Haligus Road. With the section along Reed already having a school zone posting of 20 mph and Reed Road west of the Village already posted 35 MPH, reducing the speed limit from the posted 45 to 35 MPH should not be an issue, the minimum municipal street speed limit is 30 mph by State statute.

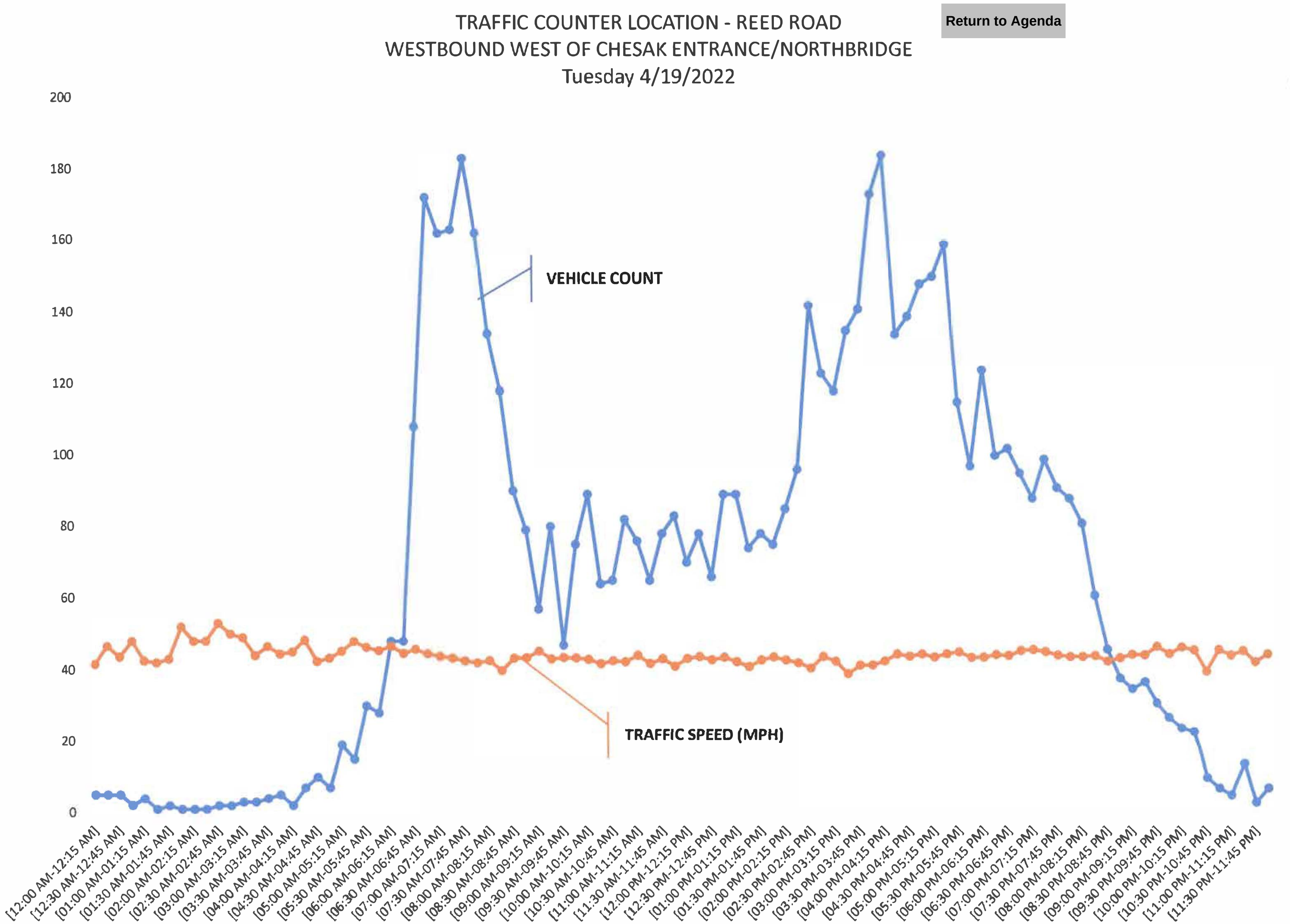
CONCLUSIONS

From this speed study, three of the four traffic counters show 98 % of traffic at or below the posted speed limit of 45 MPH with the fourth location showing 97% of traffic at 50 MPH or lower. While the 85th percentile traffic volumes are relatively close to the posted speed limits, there were no vehicles traveling slower than 32 MPH through the posted speed restricted school zones Monday through Friday. A more detailed review of the counters directly in front of Chesak Elementary School show that between the hours of approximately 8 AM and 4 PM when students are likely to be present the eastbound traffic showed no measurable speed reduction from the posted 45 MPH and for the westbound traffic speeds did appear to measurably reduce speeds from the posted 45 MPH to 40 to 42 MPH. Even though 85th speed percentile was close to the posted speed limit, speed reduction for the posted School Speed Zone is not reflected in the traffic data collected.

The 85th speed percentile referenced in the report represents the speed that most drivers feel comfortable driving and is often used as a benchmark in determining speed limits. Excessive average speeding occurred when traffic volumes were low and generally over late night and early morning hours without a specific pattern to the times of occurrence. A lack of school zone speed reduction may reflect a low presence of pedestrian students combined with a front door and student drop off process located along the northerly side of the school separated and away from Reed Road.

The proposed countermeasures presented for this location would be feasible to address speeding concerns at the project locations in the short term. It is likely however, that all traffic will reset the 85th percentile speed once a level of comfort is established with any new counter measure. While all efforts to improve speed compliance should be considered, overtime motorists travel at the speed which they are comfortable with.

The proposed countermeasures presented are for low-cost countermeasures with both improvements practical for Village work forces to perform and they provide a change in travel conditions that will draw more driver attention. Longer term solutions and better school zone compliance is likely to require more persistent law enforcement measures be used as a possible mitigation measure.



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TRAFFIC COUNTER LOCATION - REED ROAD
WESTBOUND WEST OF CHESAK ENTRANCE/NORTHBRIDGE
Tuesday 4/19/2022
VEHICLE COUNT
TRAFFIC SPEED (MPH)

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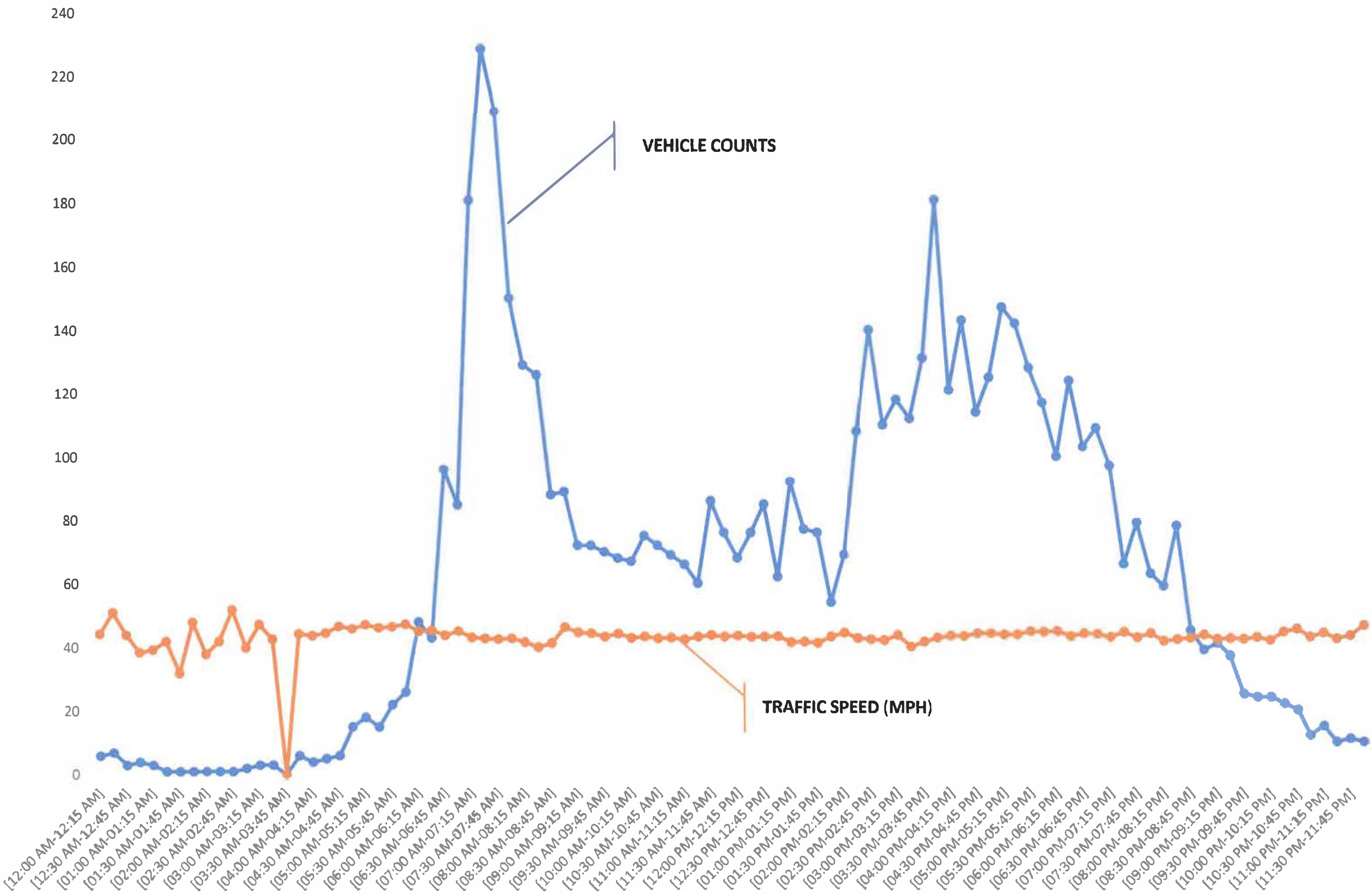
TRAFFIC COUNTER LOCATION - REED ROAD
WESTBOUND WEST OF CHESAK ENTRANCE/NORTHBRIDGE
Wednesday 4/20/2022



AGENDA ITEM NO: 4.C.1

REQUEST FOR BOARD ACTION

MEETING DATE: July 12, 2022

DEPARTMENT: Public Works

SUBJECT: Reject all bids for Security Systems and Fire Monitoring, Sprinkler Recertification, Testing, and Maintenance

EXECUTIVE SUMMARY

Staff seeks Board approval to reject all bids for Fire, Sprinkler and Security Services. On April 27, 2022, staff released a Request for Proposal (RFP) requesting pricing for Security Systems and Fire Monitoring, Sprinkler Recertification, Testing, and Maintenance for a term of five years. The RFP was sent to twenty-two vendors, was posted on the Village's website and published in the Northwest Herald. On May 10th, vendors representing five firms chose to attend the mandatory pre-proposal meeting and on May 25th, staff received and opened four sealed bids, ranging from a low of $89,175 to a high of $279,830. The RFP results are attached for your review.

These bids are considered non-responsive as they represent an increase of approximately 58% over the budgeted amount for these services in 2022. In prior years, fire and security services were managed under two separate agreements. While staff expected the merger of these services to provide financial savings, it would appear as though it is causing the opposite effect and has instead escalated the prices.

Another possibility is that the current economic conditions are inflating of these numbers. If that is the case, a five year agreement would lock the Village into the escalated rates long after the conditions may change. Assuming a 6% cost escalator to the budgeted amount for FY22, the total impact across the five year agreement could cost the Village $22,000 more than staff would normally anticipate.

With a rejection of the bids, staff would work with our vendors to negotiate one year agreements for the same services, which would be expected to fall within the spending authority of the Department. Should those costs remain high in the current year, staff will need to return to the Board to request a budget amendment. Staff will continue to research the best way to seek competitive bids in future years.

FINANCIAL IMPACT

The FY22 Budget includes $11,896 in for these services spread across four accounts, two in the General Fund and two in the Water Fund. As shown in the table below, all four of these accounts would exceed the budget if even the lowest bid was accepted. Carried across the length of the five year agreement, the total budgetary impact could be as high as $22,000.

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FY22 Analysis of the Lowest Bid

Account	Budgeted	Bid	Over/Under
100.30.32.60.24	$1,039.00	$1,276.80	+$237.80
100.30.32.61.08	$3,855.00	$4,779.10	+$924.10
520.00.00.61.08	$5,125.00	$7,963.90	+$2,838.90
520.00.00.60.24	$1,872.00	$4,723.20	+$2,846.20
Total	**$11,891.00**	**$18,743.00**	**+$6,852.00**

ATTACHMENTS

1. RFP Results

RECOMMENDED MOTION

Motion to reject all bids for Security Systems and Fire Monitoring, Sprinkler Recertification, Testing, and Maintenance.

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Lake in the Hills Public Works Department

MEMORANDUM

To: Tom Migatz, Public Works Director
From Peter D'Agostino, Administrative Services Manager
Date: May 25th, 2022
Subject: RFP Bid Results – Fire, Sprinkler, and Security Services

The bid opening for the Fire, Sprinkler, and Security Services RFP was held at the Village of Lake in the Hills Public Works Facility today at 8:00 a.m. Vendors in attendance were Rob Imburgia Jr. – Fox Valley Fire and Safety, Kurt Leszkiewicz – SMG Security, and George Hamilton – JCI. I attended the bid opening along with Tyler Eckman – Crew Leader, and Stephanie Raupp – Administrative Specialist I, acting as recorder. I read the RFP bid amounts as follows:

Company	Pricing Table	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026
Fox Valley Fire and Safety – Elgin, IL 60123	**Table 1 –** Fire Alarm System Monitoring	$2,640.00	$2,640.00	$2,772.00	$2,940.00	$3,036.00
	Table 2 – Fire Alarm System Maint. and Recertification	$3,303.00	$3,395.00	$3,494.00	$3,595.00	$3,698.00
	Table 3 – Fire Sprinkler Maint. And Recertification	$4,490.00	$1,820.00	$1,820.00	$4,490.00	$1,820.00
Addendum #1	**Table 4 –** Security System Monitoring	$3,360.00	$3,360.00	$3,528.00	$3,696.00	$3,864.00
	Table 5 – Security System Maintenance	$4,950.00	$4,950.00	$4,950.00	$5,300.00	$5,300.00
Yes	**Total Annual Cost**	**$18,743.00**	**$16,165.00**	**$16,564.00**	**$19,985.00**	**$17,718.00**

Company	Pricing Table	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026
SMG Security Holdings, LLC – Elk Grove Village, IL 60007	**Table 1** – Fire Alarm System Monitoring	$4,620.00	$4,851.00	~~$5,093.55~~ as read $5,092.56 corrected	~~$5,348.23~~ as read $5,347.32 corrected	~~$5,615.64~~ as read $5,615.28 corrected
	Table 2 – Fire Alarm System Maint. and Recertification	$3,780.00	$3,969.00	$4,167.45	~~$4,375.82~~ as read $4,375.85 corrected	~~$4,594.61~~ as read $4,594.57 corrected
	Table 3 – Fire Sprinkler Maint. And Recertification	$3,190.00	$3,349.50	~~$3,516.98~~ as read $3,516.99 corrected	~~$3,692.82~~ as read $3,692.81 corrected	~~$3,877.46~~ as read $3,927.46 corrected
Addendum #1	**Table 4** – Security System Monitoring	$5,040.00	$5,292.00	$5,556.60	~~$5,834.43~~ as read $5,834.50 corrected	~~$6,126.15~~ as read $6,126.12 corrected
	Table 5 – Security System Maintenance	$4,320.00	$4,536.00	$4,762.80	~~$5,000.94~~ as read $5,000.98 corrected	~~$5,250.99~~ as read $5,250.96 corrected
Yes	**Total Annual Cost**	**$20,950.00**	**$21,997.50**	**~~$23,097.38~~ as read $23,096.40 corrected**	**~~$24,252.24~~ as read $24,251.46 corrected**	**~~$25,464.86~~ as read $25,514.39 corrected**

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Company	Pricing Table	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026
Johnson Controls Fire Protection LP – Addison, IL 60101	**Table 1 –** Fire Alarm System Monitoring	$47,052.00	~~$8,508.00~~ as read $8,568.00 corrected	~~$8,508.00~~ as read $8,568.00 corrected	~~$8,508.00~~ as read $8,568.00 corrected	~~$8,508.00~~ as read $8,568.00 corrected
	Table 2 – Fire Alarm System Maint. and Recertification	~~$7,272.00~~ as read $6,739.00 corrected	~~$7,926.00~~ as read $7,345.00 corrected	~~$8,640.00~~ as read $8,005.00 corrected	~~$9,417.00~~ as read $8,725.00 corrected	~~$10,265.00~~ as read $9,510.00 corrected
	Table 3 – Fire Sprinkler Maint. And Recertification	$8,380.00	$4,000.00	$4,000.00	$8,380.00	$4,000.00
Addendum #1	**Table 4 –** Security System Monitoring	~~$36,684.00~~ as read $42,798.00 corrected	~~$8,136.00~~ as read $9,492.00 corrected	~~$8,136.00~~ as read $9,492.00 corrected	~~$8,136.00~~ as read $9,492.00 corrected	~~$8,136.00~~ as read $9,492.00 corrected
	Table 5 – Security System Maintenance	$8,112.00	$8,842.00	~~$9,638.00~~ as read $9,537.00 corrected	~~$10,505.00~~ as read $10,511.00 corrected	~~$11,451.00~~ as read $11,654.00 corrected
Yes	**Total Annual Cost**	**~~$107,500.00~~ as read $113,081.00 corrected**	**~~$37,412.00~~ as read $38,247.00 corrected**	**~~$38,922.00~~ as read $39,602.00 corrected**	**~~$44,946.00~~ as read $45,676.00 corrected**	**~~$42,630.00~~ as read $43,224.00 corrected**

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Company	Pricing Table	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026
Nelbud Services LLC – McHenry, IL 60050	**Table 1 –** Fire Alarm System Monitoring	$6,600.00	$6,600.00	$6,600.00	$6,600.00	$6,600.00
	Table 2 – Fire Alarm System Maint. and Recertification	$3,875.00	$3,875.00	$3,875.00	$3,875.00	$3,875.00
	Table 3 – Fire Sprinkler Maint. And Recertification	$3,125.00	$2,625.00	$2,625.00	$3,125.00	$2,625.00
Addendum #1	**Table 4 –** Security System Monitoring	$5,376.00	$5,376.00	$5,376.00	$5,376.00	$5,376.00
	Table 5 – Security System Maintenance	$2,250.00	$2,250.00	$2,250.00	$2,250.00	$2,250.00
Yes	**Total Annual Cost**	**$21,226.00**	**$20,726.00**	**$20,726.00**	**$21,226.00**	**$20,726.00**

The RFP opening concluded at 8:32 a.m. The RFP submittals will be reviewed by Village staff and staff plan to make a recommendation to the Village Board of Trustees at the June 21st Committee of the Whole Meeting.

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AGENDA ITEM NO: 4.C.2

REQUEST FOR BOARD ACTION

MEETING DATE: July 12, 2022

DEPARTMENT: Public Works

SUBJECT: Airport Ground Lease for Executive Hangar

EXECUTIVE SUMMARY

The Lake in the Hills Airport Rules and Regulations require airport tenants to enter into applicable leases, licenses, or storage agreements for Village owned hangers. James Finefield and Kent Seaver with High Flying Eagles, LLC are requesting a new ground lease on the Executive Hangar. This lease is for the period twenty years from July 15, 2022 to July 14, 2042. The lease includes an option to renew for four additional five-year terms.

The managers of High Flying Eagles have signed the appropriate lease forms and acceptable insurance is already on file for another hangar owned in the business name. This LLC is in good standing with the State of Illinois Secretary of State's office.

FINANCIAL IMPACT

The Airport Fund will receive $7,982.16 annually from the ground lease, based on a rate of $.1267 and a hangar with 5,250 square feet of space. This lease amount is subject to annual increases approved by ordinance.

ATTACHMENTS

1. Proposed Ordinance
2. Executive Hangar Ground Lease

RECOMMENDED MOTION

Motion to approve the Ordinance and authorize the Village President and Village Clerk to sign the ground lease for the Executive Hangar with James Finefield and Kent Seaver of High Flying Eagles, LLC.

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VILLAGE OF LAKE IN THE HILLS

ORDINANCE NO. 2022-______

An Ordinance Authorizing the Approval of a Ground Lease between the Village of Lake in the Hills and High Flying Eagles, LLC for the Executive Hangar

WHEREAS, the Village of Lake in the Hills, McHenry County, Illinois (the "Village"), is a home rule municipality as contemplated under Article VII, Section 6, of the Constitution of the State of Illinois, and the passage of this Ordinance constitutes an exercise of the Village's home rule powers and functions to regulate for the protection of the public health, safety, morals and welfare, as granted in the Constitution of the State of Illinois; and

WHEREAS, the Village and High Flying Eagles, LLC wish to enter into a Ground Lease for the Executive Hangar at the Lake in the Hills Airport for an initial period of 20 years, ending July 14, 2042, with the option to renew for four (4) additional terms of five years; and

WHEREAS, the dimensions of the land area occupied by the outside perimeter of the Executive Hangar is 70 by 75 feet, generating 5,250 square feet of billable hangar space.

NOW, THEREFORE, BE IT ORDAINED by the President and Board of Trustees of the Village of Lake in the Hills, McHenry County, Illinois, as follows:

SECTION 1: That the President is hereby authorized to enter into a Ground Lease between the Village and High Flying Eagles, LLC for the Executive Hangar at the Lake in the Hills Airport ("Exhibit A"), attached hereto and made a part hereof.

SECTION 2: If any section, paragraph, subdivision, clause, sentence or provision of this Ordinance shall be adjudged by any Court of competent jurisdiction to be invalid, such judgment shall not affect, impair, invalidate or nullify the remainder thereof, which remainder shall remain and continue in full force and effect.

SECTION 3: All ordinances or parts of ordinances in conflict herewith are hereby repealed to the extent of such conflict.

SECTION 4: This Ordinance shall be in full force and effect upon its passage, approval and publication in pamphlet form (which publication is hereby authorized) as provided by law.

Passed this 14th day of July, 2022 by roll call vote as follows:

	Ayes	Nays	Absent	Abstain
Trustee Stephen Harlfinger	____	_____	_____	_____
Trustee Bob Huckins	____	_____	_____	_____
Trustee Bill Dustin	____	_____	_____	_____
Trustee Suzette Bojarski	____	_____	_____	_____
Trustee Diane Murphy	____	_____	_____	_____
Trustee Wendy Anderson	____	_____	_____	_____
President Ray Bogdanowski	____	_____	_____	_____

APPROVED THIS 14TH DAY OF JULY, 2022

____
Village President, Ray Bogdanowski

(SEAL)

ATTEST: _______________________________
Village Clerk, Shannon DuBeau

Published:________________________________

VILLAGE OF LAKE IN THE HILLS
LAKE IN THE HILLS AIRPORT GROUND LEASE

THIS T-HANGAR SPACE LEASE (this “Lease”) made and entered into at Lake in the Hills, Illinois, this fourteenth day of July, 2022 by and between the Village of Lake in the Hills, an Illinois municipal corporation (the “Lessor”) and High Flying Eagles, LLC (the “Lessee”).

WITNESSETH:

WHEREAS, the Lessor does hereby let and lease to the Lessee the T-Hangar Space by (the “Space”) depicted on Exhibit A attached to and by this reference incorporated into this Lease at the Lake in the Hills Airport (the “Airport”), which parcel of property is commonly known as the Executive Hangar with lot dimensions 70 x 75’ (the “Premises”).

ARTICLE 1: TERM; RENEWAL

1.01 This Lease shall commence on July 15, 2022 and shall continue for a period of 20 years and shall terminate July 14, 2042 (the “Initial Term”) unless sooner terminated as hereinafter provided.

1.02 The Lessee shall have the option to renew this Lease for four (4) additional terms of five years (the “Extension Terms”), which Extension Terms shall commence on the day immediately following the last day of the then existing Term, provided (i) that the Lessee notifies the Lessor in writing (the “Extension Notice”) at least 60 days prior to the expiration of the existing Term that the Lessee intends to renew this Lease for one of the Extension Terms; (ii) that the Lessee is not in default of any obligation or duty imposed upon it by this Lease; and (iii) that the Lessor may increase, modify, or otherwise alter, for the Extension Terms, the amount of rent paid by the Lessee. The Lessor shall notify the Lessee in writing of any rent increase (the “Rental Increase Notice”) within 30 days of receipt of the Extension Notice. In the event the Lessee determines that the rental increase is unreasonable, the Lessee shall have 10 days after Lessor’s delivery of the Rental Increase Notice to elect to terminate this Lease. In the event the Lessee elects to terminate this Lease pursuant to the terms of this Article 1.02, then the Lessee shall provide the Lessor with written notice (the “Termination Notice”) of its intention to do so no later than 10 days after the Lessor’s delivery of the Rental Increase Notice. In the event the Lessor does not receive the Termination Notice within the 10-day period of time, it shall be conclusively presumed that the Lessee has elected not to terminate this Lease.

ARTICLE 2: USE

2.01 The Premises shall be used, occupied, and maintained by the Lessee for the sole purpose of supporting an Aircraft Hangar/Storage facility (the “Hangar”) for aircraft owned or leased by the Lessee and for lease for storage of other aircraft, and uses reasonably incidental thereto, and for no other purpose (the “Approved Uses”).

2.02 The Lessee shall not conduct any business activities or aviation-related activities other than the Approved Uses, unless the Lessee shall also have a separate and valid commercial activity agreement with the Lessor. The Lessee shall comply with (a) all applicable governmental laws, ordinances, codes, rules, and regulations and applicable orders and directions of public officers thereunder and (b) all requirements of carriers of insurance on the Premises respecting all matters of occupancy, condition, maintenance, and use of the Premises, whether any of the foregoing shall be directed to the Lessee or the Lessor, including but not limited to any environmental laws or regulations by any local, state, or federal government and the Airport rules and regulations.

2.03 The Lessee agrees to occupy the entire Premises and to properly maintain and operate the Approved Uses at all times during the term(s) of this Lease.

2.04 The Lessee shall be entitled to the non-exclusive use, in common with other users, of the public facilities of the Airport solely for the purpose of ingress and egress to and from the Premises. The Lessee shall not use the public areas for the transient or permanent tie-down of aircraft or for any purposes other that as expressly permitted by this Lease.

2.05 The Lessee shall, at the Lessee's own expense, comply with all present and hereinafter enacted environmental laws, including but not limited to the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. Section 9601 et seq., the Resource Conservation and Recovery Act, 42 U.S.C. Section 6941 et seq., Toxic Substances Control Act, 15 U.S.C. Section 2601 et seq., Safe Drinking Water Act, 42 U.S.C. Section 300 et seq., the Clean Air Act, 42 U.S.C. Section 7401 et seq., and the regulations promulgated thereunder and any other laws, regulations, and ordinances (whether enacted by the local, state or federal governments) now in effect or hereinafter enacted, that deal with the regulation or protection of the environment and hazardous materials. The Lessee shall not cause or permit any hazardous material to be used, generated, manufactured, produced, or stored on, under, or about the Premises. The Lessee shall not keep on the Premises any inflammables, such as gasoline, kerosene, naphtha, or benzene or other volatile chemicals or compounds or explosives or any other articles of intrinsically dangerous nature, except such materials and equipment commonly related to airplane maintenance. The Lessee further shall indemnify, defend, and hold harmless the Lessor from and against any and all liability, loss, damage, expense, penalties, and legal and investigation fees or costs arising from or related to any claim or action for injury or liability brought by any person, entity or governmental body, alleging or arising in connection with contamination of, or adverse effects on, the environment of the Premises.

ARTICLE 3: RENT

3.01 The amount of rent payable to the Lessor (the "Rent") is set forth on the rent schedule ("the Rent Schedule") attached to and by this reference incorporated into this Lease as Exhibit B. The Rent, during the Initial Term and any Extension Term, is subject to an increased adjustment by the Lessor on an annual basis based on the following: the current year's Rent multiplied by the Consumer Price Index (the "CPI") for the Chicago Metropolitan Area, up to a maximum 10 percent increase over the current year's rent. The CPI to be used for the preceding calculation shall be the CPI available for the most recent 12 month period. In the event of a negative CPI, the rent shall remain the same as the prior year. The first month's Rent shall be paid upon the execution of this Lease and each month's Rent thereafter shall be paid in advance on or before the first day of a calendar month during the term(s) of this Lease. Rent for any partial calendar month within the Term shall be prorated on a per diem basis assuming a 30-day month.

3.02 The Lessee agrees to pay all rent and any other amount owing hereunder on the due date thereof to the Lessor at its office at 600 Harvest Gate, Lake in the Hills, Illinois, or to such other person at such other address as the Lessor may from time to time designate in writing. The Lessee hereby agrees that the Lessee's obligation to pay such rent and other amounts shall be absolute and unconditional under all circumstances, including, without limitation, the following circumstances: (a) any setoff counter-claim, recoupment, defense, or other right that the Lessee may have against the Lessor, or anyone else for any reason whatsoever; (b) any damage to, loss, or destruction of the Premises or any interruption or cessation in the use or possession thereof by the Lessee for any reason whatsoever, unless directly caused by the negligent acts of Lessor; (c) any insolvency, bankruptcy, reorganization, or similar proceedings by or against the Lessee; and (d) any other event or circumstance whatsoever, whether or not similar to any of the foregoing. To the extent permitted by applicable law, the Lessee hereby waives any and all rights which it may now have or which at any time hereafter may be conferred upon it, by statutes or otherwise, to terminate, cancel, quit, or surrender any portion of the Premises hereunder except in accordance with the expressed terms hereof. If for any reason whatsoever this Lease shall be terminated in whole or in part by operation of law or otherwise, except in the event of termination without the fault of Lessee or termination upon change of ownership in accordance with Article 12 of this Lease, or dis-affirmed by the Lessee, all remaining rent payments which would have become due and payable in accordance with the terms hereof had this Lease not been terminated or dis-affirmed in whole or part shall become immediately due and payable. Each rent or any other payment made by the Lessee hereunder shall be final and the Lessee shall not seek to recover all or any part of such payment from the Lessor for any reason whatsoever.

3.03 The Lessee shall also pay the Lessor a late charge upon payment of Rent after the tenth day of any month in the amount of 10 percent of the amount owed. Payment of a late charge to the Lessor shall in no way interfere with the Lessee's obligation to pay Rent on the first day of each month. Payment by the Lessee of a late charge shall not be deemed a waiver of or otherwise limit the Lessor's remedies under this Lease.

ARTICLE 4: LESSOR'S RIGHT TO RELOCATE LESSEE

4.01 The Lessee acknowledges that at any time during the term(s) of this Lease, the Lessor may need to relocate the Hangar to another comparable location at the Airport (the "Relocation"). In the event the Lessor determines in its sole and absolute discretion that Relocation is necessary, the Lessor shall provide the Lessee with 30 days written notice of its intention to relocate. The Hangar will be relocated to another location that, in the sole discretion of the Lessor, is comparable to the Premises, and the definition of the "Premises" shall be revised to reflect the new location. The Lessor will pay for the following costs of Relocation: preparation of the new site, relocation of the Hangar and hangar facilities onto the new site, and all costs directly associated with the Relocation. The Lessee shall have no right to reimbursement from the Lessor for any costs incurred by the Lessee as a result of the Relocation, except for reasonable costs incurred by the Lessee as a result of Lessor's Relocation actions.

4.02 The Lessor shall not be responsible for theft, loss, injury, damage, or destruction of the Hangar or of any aircraft or other property on the Premises during the Relocation. The Lessee hereby releases and discharges the Lessor for the loss of or damage to the Lessee's property, except for that loss or damage arising out of the Lessor's negligence during the Relocation.

ARTICLE 5: CONDITION OF PREMISES; REPAIR

5.01 The Lessee has inspected the Premises and accepts the Premises in an "as is" condition. The Lessee acknowledges that its decision to enter into this Lease was based on its own knowledge and analysis and not on any representations by the Lessor, and the Lessee waives any and all claims against the Lessor in connections therewith. At the termination of this Lease, the Lessee shall, at Lessee's sole expense, remove the Hangar, including any foundation, and restore the Premises to a natural state, including grading and grass seeding.

5.02 The Lessee agrees, at its sole cost and expense, to repair, replace, or reconstruct the Hangar and other improvements located on the Premises that are damaged or destroyed by fire or other casualty, or required to be repaired, removed, or reconstructed by any governmental or military authority. Such repair, replacement, or reconstruction shall be accomplished within such time as may be reasonable under the circumstances after allowing for delays caused by strikes, lockouts, acts of God, fire, extraordinary weather conditions, or any other cause or casualty beyond the reasonable control of Lessee (the "Reasonable Time Period"). The design and specifications of such repair, replacement, or reconstruction shall be as determined by

Lessee; but such work shall restore the Premises to not less than its condition prior to said need for repair.

ARTICLE 6: COVENANTS

The Lessee agrees to all of the following covenants:

(a) The Lessee shall not commit, suffer, or allow to be committed or suffered any acts of waste on the Premises, or commit or permit to be committed any acts which will in any way constitute a public or private nuisance or an unlawful or immoral act. Only the Approved Uses shall be permitted.

(b) All maintenance to the Hangar or other improvements or any repair of damages to same from any cause shall be the sole responsibility of the Lessee and shall be made in the Reasonable Time Period and at the Lessee's expense (unless such damage was caused by the negligence of the Lessor) and same shall comply fully with all applicable laws, ordinances, and other government regulations, codes, and directions.

(c) The Lessee shall not erect or install any sign of any kind anywhere in or on the Premises without the specific prior written consent of the Lessor. In addition, the Lessee shall not use any broadcast or audio advertising media, including but not limited to loudspeakers, phonographs, or radio or television broadcasts, in a manner visible or audible outside of the Hangar.

(d) The Lessee shall not install any exterior lighting or plumbing fixtures, shades, or awnings or exterior decoration or paintings or build any enclosures or audio or television antenna, loudspeakers, sound amplifiers, or similar devices on the roof or exterior walls of the Hangar without the specific prior written consent of the Lessor.

(e) The Lessee shall store all trash and garbage within proper receptacles in the Hangar and around the Premises. The Lessee shall not burn any trash or garbage of any kind in or about the Premises.

ARTICLE 7: REMEDIES

7.01 In the event of any default by the Lessee with respect to any of the events below and the Lessee's failure to cure said default within 10 days after written notice thereof by the Lessor, the Lessor may immediately terminate this Lease and/or the Lessee's right to possession hereunder, and pursue any other remedy available to the Lessor at law or in equity and including, without limitation, those remedies set forth at the end of this Article, upon the happening of one or more of the following events:

(a) The making by the Lessee of an assignment for the benefit of the creditors without the written consent of the Village Administrator;

(b) The operation or supervision of any business other than the Approved Uses conducted in the Premises by the Lessee, or by anyone else, except only with the prior specific written consent of the Lessor;

(c) The levying of a writ of execution or attachment on or against the property of the Lessee;

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(d) The doing, or permitting to be done, by the Lessee of any act which creates a mechanic's lien or claim therefor against the Premises or any part of the Premises;

(e) The failure of the Lessee to pay any Rent when due, which shall not be in lieu of any statutorily prescribed remedies for the Lessee's failure to pay Rent but shall be in addition thereto;

(f) If the estate created hereby shall be taken in execution or by other process of law or if proceedings are instituted in a court of competent jurisdiction for the reorganization, liquidation, or voluntary or involuntary dissolution of the Lessee or composition for the benefit of a creditor or for its adjudication as a bankrupt or insolvent, or for the appointment of a receiver of the property of the Lessee for any purpose and said proceedings are not dismissed, and any receiver, trustee, or liquidator appointed therein discharged within 10 days after the institution of said proceedings;

(g) Any failure of the Lessee to keep and perform fully any of its covenants under this Lease;

(h) The abandonment of the Premises by the Lessee or the discontinuance by the Lessee of the proper maintenance and operation of the Approved Uses for a consecutive period of three months or longer;

(i) If the Lessee is a corporation, the sale of any of the Lessee's stock pledged for any purpose, whether by virtue of execution or otherwise.

7.02 Upon the event of a default hereunder by the Lessee, the Lessor shall have the right to cure the default, at its option, by any means reasonably necessary. In such event, the Lessee shall reimburse the Lessor for all reasonable costs incurred by the Lessor in curing the default.

7.03 Upon the termination of this Lease or the Lessee's right to possession hereunder, the Lessor may re-enter the Premises using such force as may be necessary and in compliance with applicable law and remove all persons, fixtures, property and equipment therefrom and the Lessor shall not be liable for damages or otherwise by reason of re-entry or termination of possession of the term of this Lease. Upon termination of either the Lessee's right to possession or the Lease, the Lessor shall be entitled to recover immediately an amount equal to the minimum rent for the balance of the term less the amount of any minimum rental obtained from any other lessee for the balance of the term in the event the said premises are re-let. Upon and after entry into possession without termination of this Lease, the Lessor may, but need not, re-let the Premises or any part thereof for the account of the Lessee for such rent, for such time and upon such terms as the Lessor in its sole discretion shall determine.

ARTICLE 8: TAXES

The Premises is owned by the Lessor and is currently tax-exempt. Therefore, in the event the Lessee's operations on the Premises cause a tax to be assessed against, levied upon, or otherwise become payable in respect of the Premises or the use thereof, the Lessee shall pay all taxes relating to the Premises or to this Lease, including all real estate taxes, personal property taxes and leasehold taxes, unforeseen as well as foreseen, that are assessed against, levied upon and become payable in respect of the Premises or the use thereof during the term(s) of this Lease; provided, however, that in the event such taxes are imposed as a result of Lessor's actions under the Lease, then the Lessee shall not be responsible for said taxes. Such payment of taxes by Lessee shall be in addition to the payment of Rent.

ARTICLE 9: INSURANCE; INDEMNIFICATION

9.01 The Lessee shall, at Lessee's sole cost, during the entire term hereof, keep in full force and effect a policy of airport liability and property damage insurance with respect to the Hangar and the Premises or any other occupant of the Premises, in which the limits of public liability shall not be less that $1 million per occurrence. The policy shall name the Lessor and its trustees, officers, employees, attorneys, legal representatives, and agents as additional insureds and shall contain a clause that the insurer will not cancel or change the insurance without first giving the Lessor 30 days prior written notice thereof. The insurance shall be with companies licensed to do business in the State of Illinois. The insurance shall be in a form reasonably acceptable to the Lessor and a copy of the policy and a certificate of insurance shall be delivered to the Lessor prior to the commencement hereof. In the event the Lessee shall fail to procure said insurance, the Lessor may, but shall be under no obligation to, procure such insurance in which event the Lessee agrees to pay to the Lessor, as additional rent, the amount of premium therefore on the first day of the month following the month in which the Lessor notifies the Lessee of the amount of premium due hereunder.

9.02 The Lessee, shall at the Lessee's sole cost, during the entire term hereof, keep in full force and effect a policy for fire and property damage insurance with respect to the Hangar and all other Lessee property contained on the Premises, as well as all other improvements on the Premises, in such amount and form, and with such companies, as the Lessor may reasonably determine. The Lessee shall, from time to time, as requested by the Lessor, deliver certificates of such insurance verifying coverage to the Lessor.

9.03 Except only to the extent otherwise prohibited by law, the Lessee covenants and agrees to indemnify and hold harmless the Lessor and its trustees, officers, employees, attorneys, legal representatives, and agents from any and all losses, claims, damages, costs, or expenses, including attorney's fees, the Lessor may be required to pay as a result of acts and/or omissions of the Lessee or any agent of the Lessee.

ARTICLE 10: SUBORDINATION

The parties to this Lease desire that this Lease be prior in lien to all other documents, including mortgages, trust deeds, or other encumbrances that may hereafter be recorded against the Premises. Lessee agrees to subordinate any mortgage, trust deed, or other encumbrance that may hereafter be placed on the Premises, or to any advances to be made thereunder and to interest thereon and all renewals, replacements, and extensions thereof, to this Lease; and the Lessee agrees to execute any instrument or instruments which the Lessor may reasonably, at the Lessor's sole and complete discretion, require to effect such subordination, provided that the Lessee and its successors and assigns shall have the right to freely, peaceably, and quietly occupy and enjoy the full possession and use of said premises as long as the Lessee shall not be in default under this Lease, and subject to the Lessor's right to relocate the Lessee as set forth in Article 4 of this Lease. In the event of any mortgagee, trustee, or encumbrancer notifying the Lessee to that effect, this Lease shall be deemed prior in lien to said mortgage, trust deed, or encumbrance whether or not this Lease is dated prior to or subsequent to the date of said mortgage, trust deed, or encumbrance.

ARTICLE 11: IMPROVEMENTS; MECHANIC'S LIENS

11.01 This Section 11.01 is applicable if the Premises are unimproved as of the effective date of this Lease. During the term of this Lease, unless this Lease shall be sooner terminated in accordance with the terms hereof; the Lessee, at it sole cost and expense, shall construct or place on the Premises the Hangar and related improvements in accordance with the Lessee's plans and specifications as set forth in Exhibit C attached to and by this reference incorporated into this Lease (the "Plans"). The Hangar and related improvements shall be constructed in accordance with all applicable federal, state and local laws, codes, ordinances, and regulations and shall have the specific prior written approval of the Lessor.

11.02 All repairs, construction, modifications, alterations, or changes made by the Lessee to the Premises shall be done or contracted for only with the Lessor's specific prior written consent, which the Lessor may withhold for any reason that the Lessor deems sufficient. Notwithstanding anything to the contrary herein, no alterations to the Premises are allowed during the term(s) of this Lease except for the construction of the Hangar and related improvements. Any of the foregoing that the Lessee undertakes shall be done at the Lessee's sole cost and expense and none of the foregoing nor any other act shall be allowed or suffered which may create any mechanic's lien or claim for lien against the Premises. In the event any lien or claim for lien upon the Lessor's title or the Premises results from any act or neglect of the Lessee, and the Lessee fails to remove said lien or dismiss such claim for lien within 10 days after the Lessors notice to do so, the Lessor may, but need not, remove the lien or satisfy such claim for lien by paying the full amount thereof without any investigation or contest of the validity or amount thereof and the Lessee shall pay the Lessor promptly upon demand, and as additional rent, the amount paid out by the Lessor, including the Lessor's costs, expenses, and counsel fees.

ARTICLE 12: ASSIGNMENT OR SUBLETTING

The Lessee agrees not to assign, encumber, or in any manner transfer this Lease or any interest hereunder and not to permit the use or occupancy of the Premises, whether by license, concession or otherwise by anyone other than the Lessee without the specific prior written consent of the Lessor (which consent shall not be unreasonably denied); provided, however, that the Lessee may sublet the Premises for the remainder of the then existing Term with the prior written consent of the Lessor (which consent shall not be unreasonably denied) and subject to the terms of this Lease. Any assignment or subletting permitted hereunder shall not be deemed to relieve the Lessee of its obligation to pay rental and perform its other obligations hereunder. Consent by the Lessor of one assignment or one subletting or one use or occupancy of the Premises shall not constitute a waiver of the Lessor's rights under this Article as to any subsequent assignments, subletting, or use or occupancy. If the Lessee is a corporation or partnership, and if, during the term of this Lease, the ownership of the shares of stock or partnership interests which constitute control of the Lessee changes by reason of sale, gift, death, or otherwise, the Lessee shall provide the Lessor with written notice and confirmation of the new owner's intent to be bound by the terms of the Lease, along with evidence of the new owner's financial information to insure that the new owner is capable of performing the obligations set forth in this Lease. In the event the Lessor concludes, in the exercise of its discretion, that the new owner is not capable of performing the obligations under this Lease, the Lessor may at any time thereafter terminate this Lease by giving the Lessee written notice of such termination at least 30 days prior to the date of termination stated in the notice. Receipt of rent after such change of control shall not affect the Lessor's rights under the preceding sentence.

ARTICLE 13: UNTENANTABILITY

In the event that the Hangar shall be destroyed or so damaged by fire, explosion, windstorm, or other casualty as to be untenantable, the Lessee shall within the Reasonable Time Period secure the Hangar and restore it in accordance with the terms of this Lease and rents due hereunder shall not be abated.

ARTICLE 14: SURRENDER OF PREMISES; HOLD OVER

14.01 At the expiration of the tenancy hereby created, whether by lapse of time or otherwise, or upon termination of the Lessee's right of possession, the Lessee shall immediately surrender possession of the Premises to the Lessor in good condition, and shall remove the Hangar and all other improvements therefrom. If such possession is not immediately surrendered, then the Lessor may immediately enter the Premises and possess itself thereof and remove all persons and effects therefrom using such force as may be necessary and in compliance with applicable law. If the Lessee shall fail or refuse to remove all of the Lessee's property from the Premises, then the Lessee shall be conclusively presumed to have abandoned the same, and title thereto shall thereupon pass to the Lessor without any cost either by set-off; credit, allowance, or otherwise, and the Lessor may at its option accept title to such property, or at the Lessee's expense may remove the same or any part thereof in any manner that the Lessor shall choose and store the same without incurring liability to the Lessee or any other person.

14.02 It is agreed and understood that any holding over by the Lessee of the Premises at the expiration or cancellation of this Lease shall operate and be construed as a tenancy from month to month at a rental of three times the current monthly rental, and in addition the Lessee shall be liable to the Lessor for all loss or damage on account of any holding over against the Lessor's will after the expiration or cancellation of this Lease, whether such loss or damage may be contemplated at this time or not. No receipt or acceptance of money by the Lessor from the Lessee after the expiration or cancellation of this Lease or after the service of any notice, after the commencement of any suit, or after any judgment for possession of the Premises, shall reinstate, continue or extend the terms of this Lease, or affect any such notice, demand, or suit or imply consent for any action for which the Lessor's consent is required or operate as a waiver of any right of the Lessor to retake and resume possession of the Premises and remove the structures.

ARTICLE 15: COSTS AND FEES

The Lessee shall pay upon demand all of the Lessor's costs, charges, and expenses, including fees of attorneys, agents, and others retained by the Lessor, incurred in enforcing any of the obligations of Lessee under this Lease or in any litigation, negotiation, or transaction in which the Lessor shall, without the Lessor's fault, become involved through or on account of this Lease. In the event it becomes necessary for either party hereto to file suit to enforce this Lease or any provision contained herein, the prevailing party in such suit shall be entitled to recover, in addition to all other remedies or damages provided for in this Lease, reasonable attorneys' fees and costs incurred in such suit at trial or on appeal or in connection with any bankruptcy or similar proceeding.

ARTICLE 16: SUCCESSORS AND ASSIGNS

The terms, covenants, and conditions hereof shall be binding upon, apply and inure to the benefit of the heirs, executors, administrators, successors in interest and assigns of; the parties hereto. No rights, however, shall inure to the benefit of any assignee or sub-lessee of the Lessee except only if such assignment or sublease has been specifically consented to by the Lessor in writing as provided herein.

ARTICLE 17: REMEDIES CUMULATIVE

All rights and remedies of the Lessor enumerated in this Lease shall be cumulative and none shall exclude any other right or remedy allowed by law, and said rights and remedies may be exercised and enforced concurrently as often as occasion therefor arises.

ARTICLE 18: ESTOPPEL CERTIFICATE

Each party agrees at any time and from time to time, upon not less than 20 days prior written request by the other, to execute, acknowledge, and deliver to the other a statement in writing certifying that this Lease is unmodified and in full force and effect and the date to which the rental and other charges have been paid in advance, if any, it being intended that any such statement delivered pursuant to this paragraph may be relied upon by any prospective purchaser of this leasehold or the fee, or mortgagee or assignee of any mortgage upon this leasehold or the fee of the Premises.

ARTICLE 19: MISCELLANEOUS

19.01 The necessary grammatical changes required to make the provisions of this Lease apply to the past, present, and future and in the plural sense where appropriate and to corporations, associations, partnerships, or individuals, male or female, shall in all instances be assumed as though in each case fully expressed.

19.02 The laws of, but not the conflicts of law rules of, the State of Illinois shall govern the validity, performance, and enforcement of this Lease.

19.03 The headings of several articles contained herein are for convenience only and do not limit or construe the contents of the articles.

19.04 All of the covenants of this Lease are independent covenants. If any provisions of this Lease are found by a court of competent jurisdiction to be illegal, invalid, or unenforceable, then the remainder of the Lease will not be affected, and in lieu of each provision which is found to be illegal, invalid, or unenforceable, there will be added as part of this Lease a provision as similar to such illegal, invalid, or unenforceable provision as may be possible and be legal, valid, and enforceable.

19.05 Notwithstanding any other provision to the contrary herein, either Lessor or Lessee may, in its sole discretion, terminate this Lease upon 30 day's written notice to the other party.

ARTICLE 20: NOTICES

Any notices required or desired to be given under this Lease shall be in writing and (i) personally served, (ii) given by certified mail, return receipt requested, (iii) given by overnight express delivery, or (iv) given by facsimile transmission, with any such facsimile transmission confirmed by next business day overnight express delivery. Any notice shall be addressed to the party to receive it at the following address or at such other address as the party may from time to time direct in writing:

Village of Lake in the Hills Airport
8397 Pyott Road
Lake in the Hills, IL 60156

To the Lessee at:
High Flying Eagles
8398 Pyott Road
Lake in the Hills, IL 60156
and to the Lessor at:
Village of Lake in the Hills
600 Harvest Gate
Lake in the Hills, Illinois 60156
Attention: Village Administrator
with a copy to:
Village of Lake in the Hills
600 Harvest Gate
Lake in the Hills, Illinois 60156
Attention: Airport Manager

Express Delivery notices shall be deemed to be given upon receipt. Postal notices shall be deemed to be given three days after deposit with the United States Postal Service. Facsimile notices shall be deemed given upon the date of transmission, provided that compliance is made with the remaining obligations of this Article 20.

ARTICLE 21: PRIOR AGREEMENTS

This Lease replaces and supersedes any other written or oral prior agreement, arrangement, or understanding between the Lessee and the Lessor or its agent, which prior agreement(s) shall be considered null and void and of no further effect whatsoever as of the date hereof.

IN WITNESS WHEREOF, the parties have executed this Lease as of the day and year above.

[LESSOR] VILLAGE OF LAKE IN THE HILLS

By: ______________________________
Village President

Attest: ______________________________
Village Clerk

[LESSEE] High Flying Eagles, LLC

By: Ken Seaver
Kent Seaver, Manager

By: James Finefield
James Finefield, Manager

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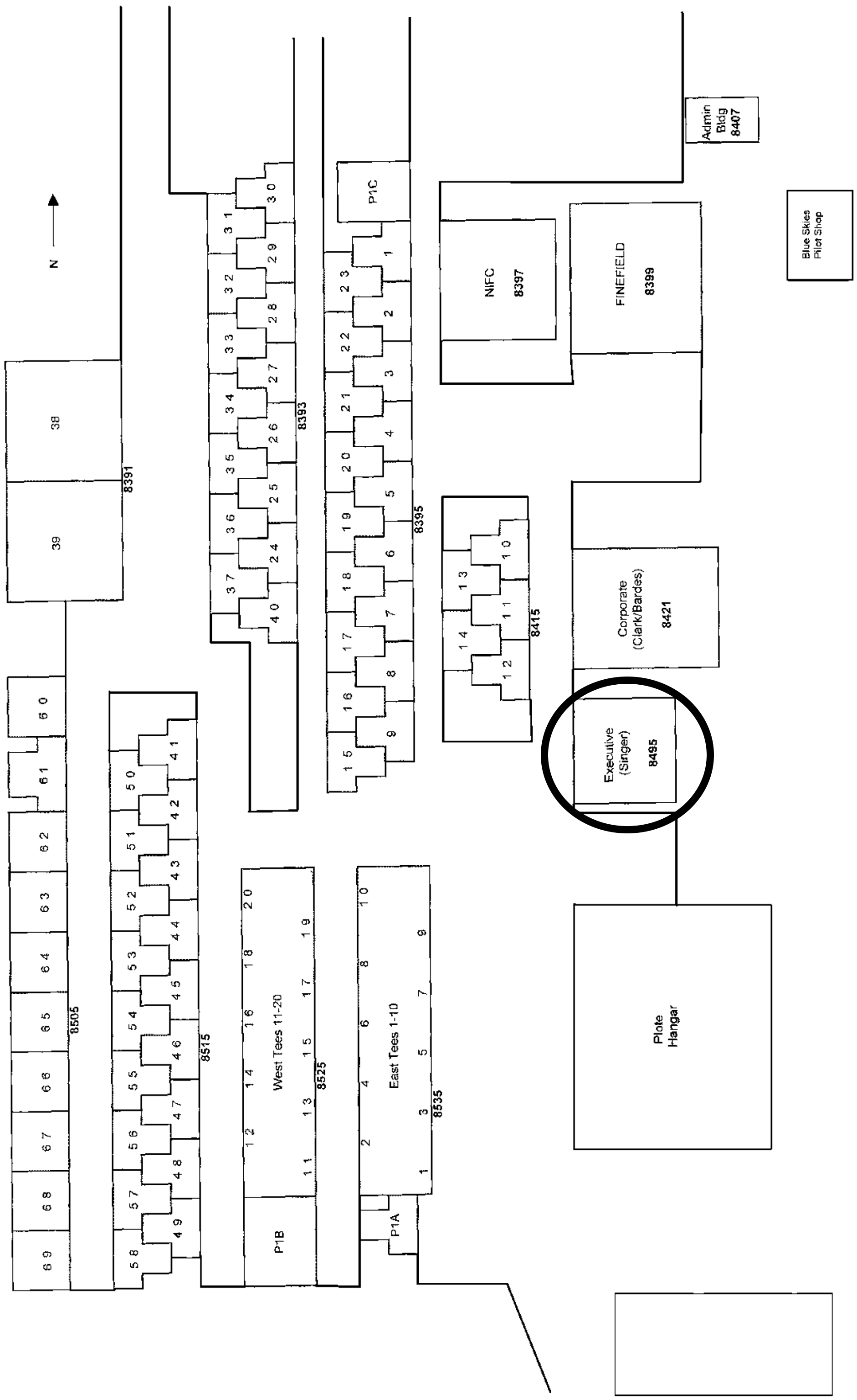
Village of Lake in the Hills Airport
8397 Pyott Road
Lake in the Hills, IL 60156

EXHIBIT A



Village of Lake in the Hills Airport
8397 Pyott Road
Lake in the Hills, IL 60156

EXHIBIT B
Rent Schedule

Village Owned Facility Leases and Tie Downs		
Description	**Rate**	**Frequency**
Hard surface tie downs	$90.00	Monthly
Grass tie downs	$60.00	Monthly
East and West T-Hangar Building Leases	$304.98	Monthly
Maintenance Hangar Building Lease	$2,939.42	Monthly
8603 Pyott Road Building Lease	$2,117.43	Monthly

Overnight Transient Storage		
Description	**Rate**	**Frequency**
Grass Tie Down	$5.00*	Daily
Hard Surface Tie Down or Ramp Area	$10.00*	Daily
T-Hangar	$30.00	Daily

*$5 or $10 respectively of the overnight transient fees will be waived if the aircraft operator purchases at least 15 gallons of aviation fuel in conjunction with that overnight stay.

Land Leases		
Description	**Rate**	**Frequency**
Square Hangars	$12.67*	Cents per Month
T-Hangar Size A (39’3” x 14’8”; 16’6” x 14’7” approx.)	$195.28	Monthly
T-Hangar Size B (42’3” x 18’; 16’5” x 20’7” approx.)	$203.15	Monthly
T-Hangar Size C (46’ x 21’; 19’6” x 23’8” approx.)	$218.87	Monthly

*Per square foot of land area occupied based on the outside perimeter of the structure (rounded to the nearest foot) unless otherwise specified in the lease.

Private Hangar Electrical Service Fee (monthly fee by breaker size and configuration)		
Breaker Size (Amps)	**Monthly Fee (USD)**	**Comments**
20	$6	Single breaker serves 3 individual hangars
20	$9	Single breaker serves 2 individual hangars
20	$18	Fee per individual breaker
30	$27	Fee per individual breaker
40	$36	Fee per individual breaker
50	$45	Fee per individual breaker
60	$54	Fee per individual breaker

Village of Lake in the Hills Airport
8397 Pyott Road
Lake in the Hills, IL 60156

EXHIBIT B CONTINUED
Disconnect/Reconnect – Electrical

If a tenant makes a request to the Village to disconnect Village provided electrical service to a private hangar, the disconnection may be completed subject to review to ensure it is feasible to complete the request. If the request is approved the tenant will not be allowed to reconnect to the Village provided electrical service for a period of 12 months. The 12-month period shall start on the date the electrical is disconnected to the private hangar. After the 12-month period, the tenant can submit a request to reconnect to the Village provided electrical service. The Village will charge a fee of $65.00 to reconnect the Village provided electrical service.

Waiver to Late Fees

If a late fee is assessed according to the lease, a request to waive the late fee may be considered by the Village Finance Department. The late fee may be waived in the event all of the following conditions are met:

1. A written request to waive the late fee must be presented to the Finance Department; and
2. The Finance Department must receive the written request to waive the late fee by the last business day of the month the payment was due and was not received until after the 10th of the same month; and
3. The tenant has displayed a good payment history during the preceeding12 months. A good payment history shall be defined as having a) no late fees posted to the account, and b) no late fee waiver requested for the account during the preceding 12 months and c) no returned payments associated with the account.

Village of Lake in the Hills Airport
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EXHIBIT C
Plans

Not Applicable.

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AGENDA ITEM NO: 4.C.3

REQUEST FOR BOARD ACTION

MEETING DATE: July 12, 2022

DEPARTMENT: Public Works

SUBJECT: Ordinance Amending Minimum Aviation Fuel Pricing

EXECUTIVE SUMMARY

Staff seeks approval of an Ordinance establishing new minimum aviation fuel pricing.

Arrow Energy of Saline, Michigan, is currently under contract to furnish and deliver two different types of aviation fuel to the airport. The price per gallon that the Village pays to Arrow fluctuates based on a regional pricing index. Village staff then resells the aviation fuel it purchases from Arrow to aircraft owners at a markup that ensures that the Village is reimbursed for all costs associated with the resale of fuel. A profit margin is built in to this cost as well. The Village's aviation fuel minimum markup is known as "Minimum Aviation Fuel Pricing" and is reviewed by Village staff each year, typically in July, and then brought before the Village Board for approval.

The proposed minimum markup of self-service fuel is provided below. This represents an approximate $.03 increase in the price of 100LL and $.01 increase in the price of Jet-A. The 100LL increase is largely due to unanticipated repairs needed to components supporting the tank and the Jet-A increase is primarily due to a continued decline in the amount of Jet-A fuel sold over the past year, which spreads the Village's costs associated with providing this service over a smaller number of transactions.

100LL Self Service Expenses per Gallon		Jet-A Self Service Expenses per Gallon	
Tank operating	$.0304	Tank operating	$.1471
Tank maintenance	$.0369	Tank maintenance	$.1186
Flowage fee	$.2850	Flowage fee	$.2850
Total	**$.3523**	Total	**$.5507**
Minimum markup: Inventory cost +$.3523		**Minimum markup:** Inventory cost +$.5507	

The proposed minimum markup for full service fuel is provided below. This is a $.01 drop for the 100LL truck compared to the minimum price in 2021 and $.19 increase for the Jet-A truck. Although the 100LL truck has required more maintenance over the last year than the Jet-A truck, the Jet-A increase is higher than 100LL increase this year, because so far this year, the airport has sold fewer gallons of Jet-A compared to previous years, which spreads the Village's costs associated with providing this service over a smaller number of transactions.

100LL Full Service Expenses per Gallon		Jet-A Full Service Expenses per Gallon	
Truck operating	$.2093	Truck operating	$.2169
Truck maintenance	$.0253	Truck maintenance	$.6504
Flowage fee	$.5900	Flowage fee	$.5900
Total	**$.8246**	Total:	**$1.4573**
Minimum markup: Inventory cost +$.8246		**Minimum markup:** Inventory cost + $1.4573	

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The cash/invoice discount of 3.35% for customers who pay using either cash or check will remain the same. Credit card fees will continue to be recovered only on transactions that utilize them at a rate of 3.35%. This fee is included in the per-gallon price presented to customers at the time of sale and represents the highest charge levied by a credit card company: American Express. Sales tax for aviation fuel fluctuated between 7.75% and 8% over the past year but will remain at 7.75% going forward.

The Airport strives to maintain competitive fuel rates among other northern Illinois airports. The fee structure presented would accomplish just that. The Airport Manager monitors the aviation fuel pricing charged by neighboring airports and may increase pricing in order to increase revenues, but cannot charge less than the approved minimum sale price without approval from the Village Board.

FINANCIAL IMPACT

The sale of fuel remains the largest source of income for the airport with gross sales of $475,770 in 2021. An adjustment to the minimum aviation fuel price ensures that the Airport is not losing money and continues to profit from the resale of fuel.

ATTACHMENTS

1. Proposed Ordinance
2. Minimum Fuel Price Final Draft

RECOMMENDED MOTION

Motion to approve an Ordinance establishing new minimum aviation fuel pricing.

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VILLAGE OF LAKE IN THE HILLS

ORDINANCE NO. 2022 - ______

An Ordinance Establishing
Minimum Aviation Fuel Pricing Markups

WHEREAS, the Village of Lake in the Hills, McHenry County, Illinois, is a home rule municipality as contemplated under Article VII, Section 6, of the Constitution of the State of Illinois, and the passage of this Ordinance constitutes an exercise of the Village's home rule powers and functions to regulate for the protection of the public health, safety, morals and welfare, as granted in the Constitution of the State of Illinois.

NOW, THEREFORE, BE IT ORDAINED by the President and Board of Trustees of the Village of Lake in the Hills, McHenry County, Illinois, as follows:

SECTION 1: That minimum airport fuel pricing markups per gallon will be in effect as follows:

	Self-Service
100LL	(Inventory cost + $0.3523)*1.0335
Jet-A	(Inventory cost + $0.5507)*1.0335

	Full Service
100LL	(Inventory cost + $0.8246)*1.0335
Jet-A	(Inventory cost + $1.4573)*1.0335

SECTION 2: The Airport Manager may offer a cash discount not to exceed 3.35% of the price per gallon at the pump.

SECTION 3: If any section, paragraph, subdivision, clause, sentence or provision of this Ordinance shall be adjudged by any Court of competent jurisdiction to be invalid, such judgment shall not affect, impair, invalidate or nullify the remainder thereof, which remainder shall remain and continue in full force and effect.

SECTION 4: All ordinances or parts of ordinances in conflict herewith are hereby repealed to the extent of such conflict.

SECTION 5: This Ordinance shall be in full force and effect upon its passage, approval and publication in pamphlet form (which publication is hereby authorized) as provided by law.

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Passed this 14th day of July, 2022 by roll call vote as follows:

	Ayes	Nays	Absent	Abstain
Trustee Stephen Harlfinger	____	_____	_____	_____
Trustee Bob Huckins	____	_____	_____	_____
Trustee Bill Dustin	____	_____	_____	_____
Trustee Suzette Bojarski	____	_____	_____	_____
Trustee Diane Murphy	____	_____	_____	_____
Trustee Wendy Anderson	____	_____	_____	_____
President Ray Bogdanowski	____	_____	_____	_____

APPROVED THIS 14TH DAY OF JULY, 2022

____
Village President, Ray Bogdanowski

(SEAL)

ATTEST: __________________________________
Village Clerk, Shannon DuBeau

Published:________________________________

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Airport Fuel Pricing Model

Jul-22

FIXED COSTS

100LL pricing		Jet-A pricing	
Federal Taxes *(incl in cost/gal)*	0.194	Federal Taxes *(incl in cost/gal)*	0.244
State Taxes *(incl in cost/gal)*	0.011	State Taxes *(incl in cost/gal)*	0.011
Current inventory cost/gal	$6.0993	Current inventory cost/gal	$3.5223
Sales tax	7.75%	Sales tax	7.75%
Credit card fee	3.35%	Credit card fee	3.35%
Self Service		Self Service	
tank operating cost/gal	$0.0304	tank operating cost/gal	$0.1471
tank maint cost/gal	$0.0369	tank maint cost/gal	$0.1186
Self Service flowage fee	$0.285	Self Service flowage fee	$0.285
Total markups	$0.3523	Total markups	$0.5507
Self Service min price	**$7.1845**	**Self Service min price**	**$4.5357**
Full Service		Full Service	
truck operating cost/gal	$0.2093	truck operating cost/gal	$0.2169
truck maint cost/gal	$0.0253	truck maint cost/gal	$0.6504
Full Service flowage fee	$0.590	Full Service flowage fee	$0.590
Total markups	$0.8246	Total markups	$1.4573
Full Service min price	**$7.7178**	**Full Service min price**	**$5.5453**

FIXED COSTS