



## **TOWN OF EDGARTOWN**

**Participant in the Dukes County Pooled OPEB Trust**

**OTHER POSTEMPLOYMENT BENEFITS PROGRAM**

**FINANCIAL REPORTING AND DISCLOSURES**

**Governmental Accounting Standards Board**

**Statements 74 and 75**

**Disclosures as of  
June 30, 2023**

KMS Actuarial, LLC  
52 Hunt Road  
Kingston, NH 03848

November, 2023





November 8, 2023

Ms. Maria Ventura  
Interim Human Resource Director  
Town of Edgartown  
PO Box 5158  
Edgartown, MA 02539

Dear Maria:

We are pleased to present the enclosed report of the July 1, 2022 actuarial valuation of the retiree health care benefits for the Town of Edgartown, a Participant in the Dukes County Pooled OPEB Trust. The valuation was prepared in accordance with and for the purpose of financial reporting and disclosures as of June 30, 2023 under the following Governmental Accounting Standards Board (GASB) Statements:

- ◆ GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans (GASB 74)
- ◆ GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (GASB 75)

Results are based on liabilities developed in an actuarial valuation performed as of July 1, 2022 and rolled forward to the plan's measurement date of June 30, 2023.

The Principal Valuation Results, including assets, liabilities and the development of future contributions, are provided in Section 1. The Notes to the Financial Statements and the Required Supplementary Information are provided in Sections 2 and 3, respectively. Employer Reporting Amounts under GASB 75 are provided in Section 4. The Summary of Plan Provisions and Actuarial Assumptions and Methods are shown in Sections 5 and 6, respectively. Section 7 summarizes the demographic profile of active members and retired members, covered spouses and survivors. Finally, a Glossary of Terms is provided in Section 8.

Our calculations are based on member census data and other information provided by the Town of Edgartown as well as health plan rates provided by the Trustees of the Dukes County Pooled OPEB Trust. Although we did not audit the data used in the valuation and disclosure calculations, we believe that the information is complete and reliable.

Liabilities presented in this report are based on a discount rate of 3.9%, the rate that reflects a blended-rate of the long-term expected rate of return on OPEB plan assets and the municipal bond rate. The municipal bond rate of 3.65% is based on the Bond Buyer 20-Bond GO Index published on June 30, 2023. The long-term expected rate of return is 6.5%. The long-term expected rate of return is based on the target allocations provided in the Dukes County Pooled OPEB Trust's investment policy statement and long-term expected rates of return by asset class obtained from recent surveys of capital market expectations and other reliable sources.

This report was completed in accordance with generally accepted actuarial standards and procedures, and conforms to the Code of Professional Conduct of the American Academy of Actuaries. The actuarial assumptions other than those explicitly applicable to the postemployment benefit plans are consistent with those used by the Dukes County and Massachusetts Teachers Retirement Systems' actuaries for the Retirement System pension valuations.

Future actuarial valuation results may differ significantly from the current results presented in this report. Examples of potential sources of volatility include plan experience differing from that anticipated by the economic or demographic assumptions, the effect of new entrants, changes in economic or demographic assumptions, the effect of law changes and the delayed effect of smoothing techniques. The potential range of future measurements was not assessed, as it was outside the scope of the project.

Our valuation follows generally accepted actuarial methods and we perform such tests as we consider necessary to assure the accuracy of the results. The amounts presented in this report have been appropriately determined according to the actuarial assumptions and methods stated herein.

This valuation report is intended for the sole use of the Town of Edgartown and may only be provided to other parties in its entirety, unless expressly authorized by KMS Actuaries. Further, it is intended to provide information to comply with the stated purpose of the report. It may not be appropriate for other purposes.

KMS Actuaries is completely independent of the Town of Edgartown and any of its officers or key personnel. None of the actuaries signing this report or anyone closely associated with them has a relationship with the Town of Edgartown, other than as consulting actuary for this assignment, that would impair our independence.

The expected claims, cost trend rates, and analysis of regulatory changes have been developed based on the expertise of the undersigned health and welfare actuary, Christopher E. Bean, ASA, MAAA. All other assumptions and methods have been selected based on the expertise of the undersigned pension actuaries, Linda L. Bournival, FSA, EA and Amanda J. Makarevich, FSA.

The undersigned credentialed actuaries agree that the analysis, assumptions and results are overall reasonable. They are Members of the American Academy of Actuaries and together meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinion contained herein. They are available to answer any questions with regard to this report.

Respectfully submitted,



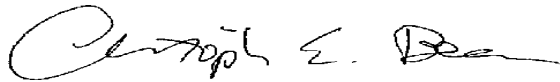
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## EXECUTIVE SUMMARY

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### Purpose of Report

This report presents the results of the actuarial valuation of the Town of Edgartown's retiree health care benefits as of July 1, 2022. The valuation was prepared in accordance with and for the purpose of financial reporting and disclosures as of June 30, 2023 under the following Governmental Accounting Standards Board (GASB) Statements:

- ◆ GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans (GASB 74)
- ◆ GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (GASB 75)

The results as of the measurement date are based on a roll forward of the liabilities developed in the most recent actuarial valuation.

### GASB Accounting Standards

In June 2015, the GASB approved two related Statements that significantly changed the way other postemployment benefits (OPEB) plans and governments account and report OPEB liabilities. GASB Statement No. 74 (GASB 74), *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, replaced the requirements of Statement No. 43 and GASB Statement No. 75 (GASB 75), *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, replaced the requirements of Statement No. 45.

The effective date for GASB 74 is for plan years beginning after June 15, 2016, which is the plan year ending June 30, 2017 for the Town of Edgartown. The effective date for GASB 75 is for fiscal years beginning after June 15, 2017, which is the fiscal year ending June 30, 2018 for the Town of Edgartown.

GASB 74 requires OPEB plans to present a statement of fiduciary net position (OPEB plan assets) and a statement of changes in fiduciary net position. Further, the statement requires that notes to financial statements include descriptive information such as the types of benefits provided, the classes of plan members covered and the authority under which benefit terms are established or may be amended. Finally, GASB 74 requires OPEB plans to present in required supplementary information the sources of the changes in the net OPEB liability and information about the actuarially determined contributions compared with the actual contributions made to the plan and related ratios.

GASB 74 and GASB 75 require projected benefit payments be discounted to their actuarial present value using the single rate that reflects (1) a long-term expected rate of return on OPEB plan investments to the extent that the OPEB plan's assets are sufficient to pay benefits and OPEB plan assets are expected to be invested using a strategy to achieve that return and (2) a tax-exempt, high-quality municipal bond rate to the extent that the conditions for use of the long-term expected rate of return are not met.

GASB 75 establishes standards for measuring and recognizing liabilities, deferred outflows of resources, deferred inflows of resources and OPEB expense by state and local governments.

## EXECUTIVE SUMMARY

### Town of Edgartown Other Postemployment Benefits Program

The Town of Edgartown administers the retiree health care benefits program - a single-employer defined benefit plan that is used to provide postemployment benefits other than pensions (OPEB) for all permanent full-time employees. The Town provides health care benefits for retirees and their dependents. Benefits are provided through the Cape Cod Municipal Health Group, and the full cost of benefits is shared between the Town and retirees.

### Summary of Principal Results

A summary of principal results from the current and prior measurement dates follows:

Disclosure Date	June 30, 2023	June 30, 2022	% Change
Valuation Date	July 1, 2022	July 1, 2020	
<b>Membership Data</b>			
Active Plan Members	177	164	7.9%
Inactive Plan Members (excludes covered spouses)	122	126	(3.2%)
Total Plan Members	299	290	3.1%
Covered Spouses	57	54	5.6%
Covered Payroll	\$13,724,515	\$13,907,101	(1.3%)
<b>Net OPEB Liability</b>			
Discount Rate	3.90%	3.67%	
Total OPEB Liability (TOL)	\$39,461,394	\$46,157,302	(14.5%)
Fiduciary Net Position (FNP)	\$4,328,766	\$3,565,382	21.4%
Net OPEB Liability	\$35,132,628	\$42,591,920	(17.5%)
FNP as % of TOL	11.0%	7.7%	42.9%
<b>OPEB Expense</b>			
OPEB Expense	\$2,220,431	\$3,881,552	(42.8%)
Deferred Outflows	\$8,594,113	\$13,662,443	
Deferred Inflows	\$21,803,342	\$18,830,293	
Recognition Period	5.83	5.88	



## EXECUTIVE SUMMARY

### Experience Gain and Loss

In developing the Total OPEB Liability, various assumptions are made regarding future premium rates, mortality, retirement, disability and turnover rates. A comparison of the results of the current and prior measurements is made to determine how closely actual experience relates to expected. For the current measurement period, the difference between expected and actual experience resulted in an actuarial gain of approximately \$7,913,000. This gain is primarily attributable to:

- ◆ a gain due to lower than expected medical premiums since the prior valuation
- ◆ a gain due to active employee turnover replaced by lower service employees
- ◆ a gain due to more retirees dying or dropping coverage than expected since the prior valuation
- ◆ a gain due to fewer new retirees with covered spouses than expected
- ◆ a loss due to more new retirements with coverage than expected
- ◆ a loss due to a retiree adding spousal coverage for a spouse that is ineligible for Medicare

### Changes of Assumptions

The discount rate changed from 3.67% as of June 30, 2022 to 3.9% as of June 30, 2023. In addition, many other assumptions were updated in this valuation, including the inflation rate, healthcare trend rates, and mortality improvement rates. A summary of the impact on the Total OPEB Liability (TOL) of each assumption change is provided below:

◆ Decrease due to change in Inflation Assumption	(78,000)
◆ Increase due to change in Trend Assumption	1,100,000
◆ Decrease due to change in Mortality Improvement Rates	(655,000)
◆ Decrease due to change in Discount Rate	(1,335,000)
Total	\$ (968,000)

All of the assumptions used in this valuation are shown in Section 6, Actuarial Assumptions and Methods.

### Changes of Benefit Terms

All benefit terms are the same as those used in the prior measurement. A Summary of the Principal Plan Provisions is provided in Section 5.

### Total OPEB Liability

The Total OPEB Liability as of the current measurement date, June 30, 2023, is \$39,461,394. The Total OPEB Liability as of the prior measurement date, June 30, 2022, was \$46,157,302. During the current measurement period ending June 30, 2023, the Total OPEB Liability decreased by \$6,695,908, or -14.5%. The development of the Total OPEB Liability for the current measurement period is shown in Section 1, Exhibit 1.2.

## EXECUTIVE SUMMARY

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### Fiduciary Net Position

The Fiduciary Net Position is equal to the market value of assets and as of the current measurement date, June 30, 2023, is \$4,328,766. The Fiduciary Net Position as of the prior measurement date, June 30, 2022, was \$3,565,382. During the plan years ended June 30, 2023 and June 30, 2022, the actual rates of return were 10.64% and -9.80%, respectively. The expected long-term rate of return is 6.50%. The Fiduciary Net Position is shown in Section 1, Exhibit 1.1.

### Employer Future Period Contributions

The Town is expected to appropriate no less than 2% of the current year's salary and wages within the Financial Advisory Committee's recommended spending budget.

### Discount Rate

As of the June 30, 2023 measurement date, the OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to the first 12 periods of projected future benefit payments and the 3.65% municipal bond rate was applied to all periods thereafter to determine the total OPEB liability. Projected benefit payments are discounted to their actuarial present value using a single discount rate of 3.9%.

### OPEB Expense

The OPEB Expense for the current measurement period ending June 30, 2023, is \$2,220,431. Benefit changes are recognized immediately, and experience gains and losses and assumption changes developed in this valuation are recognized over 5.83 years. Investment gains and losses are recognized over 5 years. The OPEB Expense for the prior measurement period was \$3,881,552. The development of the OPEB expense for the current measurement period is shown in Section 4, Exhibit 4.2.

### COVID-19 Pandemic

The assumptions in this report, other than medical trend rates in the short term, do not reflect the potential impact of the COVID-19 pandemic on the OPEB program. Especially in the short range, it is very likely that the pandemic materially affected the economic, demographic and healthcare-specific experience in a way not anticipated by the assumptions on which the projections are based.

## SECTION 1 - PRINCIPAL VALUATION RESULTS

### Exhibit 1.1 - OPEB Trust Assets

The Dukes County Pooled OPEB Trust has established an irrevocable trust pursuant to Chapter 149 of the Acts of 2010 for the purpose of accumulating assets to prefund the OPEB liabilities. Plan assets segregated and restricted in an OPEB trust must be dedicated to providing plan benefits to retirees and beneficiaries in accordance with the terms of the plan and must be legally protected from creditors of the employer. Further, contributions from employers to the OPEB trust and earnings on those contributions must be irrevocable. Asset information for the current and prior fiscal years was provided by the Trustees and is presented below:

**Fiscal Year Ended June 30** **2023** **2022**

Trust Fund Composition at Fiscal Year-End		
Fixed Income	\$745,764	\$719,944
Cash & Equivalents	2,315	3,013
Large Cap Equity	1,575,492	1,173,690
Mid Cap Equity	426,169	321,732
Small Cap Equity	424,838	317,297
International Equity	644,189	478,832
Real Estate	509,999	550,874
Total Market Value of Assets	\$4,328,766	\$3,565,382
Asset Activity		
Market value, beginning of year	\$3,565,382	\$3,596,610
Employer Premiums	1,288,344	1,273,498
OPEB Trust Contributions	350,000	350,000
Benefit Payments	(1,288,344)	(1,273,498)
Administrative Expenses	-	-
Investment Return	413,384	(381,228)
Market value, end of year	\$4,328,766	\$3,565,382
<b>Money-Weighted Rate of Return</b>	<b>10.64%</b>	<b>-9.80%</b>
(Gain) / Loss on OPEB Plan Investments		
Projected earnings	\$256,433	\$256,523
Actual earnings	413,384	(381,228)
(Gain) / Loss on OPEB plan investments	(\$156,951)	\$637,751

## SECTION 1 - PRINCIPAL VALUATION RESULTS

### Exhibit 1.2 - Total OPEB Liability

The Total OPEB Liability, developed using the Entry Age Normal funding method, is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service. The total OPEB liability as of the June 30, 2023 measurement date was developed from an actuarial valuation as of July 1, 2022 and rolled forward to the OPEB plan's fiscal year-end.

The Service Cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year. Only active employees who have not reached the age at which the probability of retirement is 100% incur a service cost.

Actuarial experience gains and losses arise from the difference between expected and actual experience, excluding amounts related to benefit changes and changes in assumptions or other inputs.

The development of the Total OPEB Liability from the beginning of the measurement period, June 30, 2022 to the end of the measurement period, June 30, 2023 is shown below:

Measurement Date	June 30, 2023
1. Total OPEB Liability, beginning of year:	
a. Actives	\$24,510,374
b. Retirees, Covered Spouses and Survivors	21,646,928
c. Total OPEB Liability at 3.67% (a. + b.)	\$46,157,302
2. Service Cost	\$1,739,825
3. Expected Benefit Payments	
a. Current retirees	(\$1,190,414)
b. Future retirees	(97,930)
c. Total (a. + b.)	(\$1,288,344)
4. Interest [3.67% x (1.c. + 2. + .5 x 3.c)]	\$1,734,183
5. Changes of benefit terms	\$0
6. Differences between expected and actual experience	(\$7,913,236)
7. Changes of assumptions or other inputs	(\$968,336)
8. Total OPEB Liability, end of year (1.c. + 2. + 3.c. + 4. + 5. + 6. + 7.)	
a. Actives	\$16,890,124
b. Retirees, Covered Spouses and Survivors	22,571,270
c. Total OPEB Liability at 3.9% (a. + b.)	\$39,461,394

## SECTION 1 - PRINCIPAL VALUATION RESULTS

### Exhibit 1.3 - Development of Actuarially Determined Employer Contributions

The Town is expected to appropriate no less than 2% of the current year's salary and wages within the Financial Advisory Committee's recommended spending budget.

The Actuarially Determined Employer Contribution (ADEC) equals the Normal Cost plus a provision for amortizing the Unfunded Actuarial Accrued Liability. We have assumed increasing dollar amortization over an amortization period of 30 years.

Fiscal Year Ending	June 30, 2023	June 30, 2024
<b>Discount Rate</b>	<b>3.67%</b>	<b>3.90%</b>
1. Normal Cost	\$1,739,825	\$1,533,848
2. Unfunded Actuarial Accrued Liability		
a. Actuarial Accrued Liability	\$46,157,302	\$39,461,394
b. Actuarial Value of Plan Assets	\$3,565,382	\$4,328,766
c. Unfunded Actuarial Accrued Liability (a. - b.)	\$42,591,920	\$35,132,628
3. Amortization of Unfunded Actuarial Accrued Liability		
a. Unfunded Actuarial Accrued Liability	\$42,591,920	\$35,132,628
b. Amortization Period in years	30	30
c. Payroll Growth Rate	3.5%	3.5%
d. Amortization Factor	29.30	28.38
e. Amortization Amount (3.a. / 3.d.)	\$1,453,649	\$1,237,936
4. Interest on 1. and 3.e.	\$117,200	\$108,100
5. Actuarially Determined Employer Contribution (1. + 3.e. + 4.)	\$3,310,674	\$2,879,884
6. Actual Employer Contribution to OPEB Trust	\$350,000	TBD
7. Expected Benefit Payments	\$1,288,344	
8. Total Contribution (6. + 7.)	\$1,638,344	

## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.1 - Plan Description

#### Plan Administration

The Town of Edgartown administers the retiree health care benefits program - a single-employer defined benefit plan that is used to provide postemployment benefits other than pensions (OPEB) for all permanent full-time employees.

#### Plan Membership

At June 30, 2023, OPEB plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefit payments <sup>1</sup>	122
Inactive plan members entitled to but not yet receiving benefit payments	0
Active plan members	177
	<u>299</u>

<sup>1</sup>Per paragraph 34a of GASB 74 and further clarified by Question 4.67 of the 2017-2 GASB 74 Implementation Guide, the total shown for inactive plan members or beneficiaries currently receiving benefit payments does not include covered spouses or other dependents.

#### Benefits Provided

The Town provides health care benefits for retirees and their dependents. Benefits are provided through the Cape Cod Municipal Health Group, and the full cost of benefits is shared between the Town and retirees.

#### Employer Future Period Contributions

The Town is expected to appropriate no less than 2% of the current year's salary and wages within the Financial Advisory Committee's recommended spending budget.

## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.2 - Net OPEB Liability

The components of the net OPEB liability at June 30, 2023, were as follows:

Total OPEB liability	\$ 39,461,394
Fiduciary net position	(4,328,766)
Net OPEB liability	\$ 35,132,628

Fiduciary net position as a percentage of the total OPEB liability 10.97%

#### Actuarial Assumptions

The total OPEB liability was determined by an actuarial valuation as of July 1, 2022, rolled forward to the measurement date and using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.5% per year, based on current economic data, analyses from economists and other experts, and professional judgment.
Discount rate	3.9%, net of investment expenses, including inflation.
Healthcare cost trend rate	8% for 2022, decreasing 0.5% per year to 6%, then grading down to an ultimate trend rate of 4.1%, utilizing the Society of Actuaries Getzen Medical Trend Model. The ultimate medical trend rate is reached in 2075.
Pre-Retirement Mortality - General and Public Safety employees	RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2020.
Healthy Retiree Mortality - General and Public Safety employees	RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2020.
Disabled Retiree Mortality - General and Public Safety employees	PUB-2010 Teachers Headcount-Weighted Employee Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2020.
Pre-Retirement Mortality - Teachers	PUB-2010 Teachers Headcount-Weighted Employee Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2020.

## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.2 - Net OPEB Liability

#### Healthy Retiree Mortality - Teachers

PUB-2010 Teachers Headcount-Weighted Retiree Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2020.

#### Disabled Retiree Mortality - Teachers

PUB-2010 Teachers Headcount-Weighted Disabled Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2020.

#### Long-Term Expected Rate of Return

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage provided in the investment policy statement and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation as of June 30, 2023 are summarized in the following table:

Asset Class	Target Allocation <sup>1</sup>	Long-Term Expected Real Rates of Return <sup>2</sup>
Large Cap Equity	35%	4.44%
Mid Cap Equity	10%	4.56%
Small Cap Equity	10%	4.56%
International Equity	15%	5.12%
Real Estate	10%	2.98%
Fixed Income	20%	1.93%
Total	100%	

<sup>1</sup> provided in the Dukes County Pooled OPEB Trust's investment policy statement.

<sup>2</sup> Obtained from recent surveys on capital market expectations and other reliable sources.

#### Discount Rate

The discount rate used to measure the total OPEB liability was 3.9%. The projection of cash flows used to determine the discount rate assumed that contributions from the Town will be made in accordance with the plan's funding policy. Based on those assumptions, the OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to the first 12 periods of projected future benefit payments and the 3.65% municipal bond rate was applied to all periods thereafter to determine the total OPEB liability.



## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.2 - Net OPEB Liability

#### Sensitivity of the Net OPEB Liability to Changes in the Discount Rate

The following presents the net OPEB liability calculated using the current discount rate of 3.9 percent, as well as what the net OPEB liability would be if it were calculated using a discount rate 1-percentage point lower (2.9 percent) or 1-percentage point higher (4.9 percent) than the current rate:

	1% Decrease (2.9%)	Assumed Discount Rate (3.9%)	1% Increase (4.9%)
Total OPEB Liability	\$ 45,810,873	\$ 39,461,394	\$ 34,377,376
Fiduciary Net Position	(4,328,766)	(4,328,766)	(4,328,766)
Net OPEB Liability	\$ 41,482,107	\$ 35,132,628	\$ 30,048,610
% Change in Net OPEB Liability	18.1%		-14.5%

#### Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates

The following presents the net OPEB liability calculated using the current healthcare cost trend rates as well as what the net OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage point lower (7% year 1 decreasing to 3.1%) or 1-percentage point higher (9% year 1 decreasing to 5.1%) than the current healthcare cost trend rates:

	1% Decrease 7% Year 1 Decreasing to 3.1%	Assumed Healthcare Cost Trend Rates 8% Year 1 Decreasing to 4.1%	1% Increase 9% Year 1 Decreasing to 5.1%
Total OPEB Liability	\$ 33,710,596	\$ 39,461,394	\$ 46,782,282
Fiduciary Net Position	(4,328,766)	(4,328,766)	(4,328,766)
Net OPEB Liability	\$ 29,381,830	\$ 35,132,628	\$ 42,453,516
% Change in Net OPEB Liability	-16.4%		20.8%

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

### Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios

Fiscal Year Ended June 30	2023	2022	2021	2020	2019
<b>Total OPEB Liability</b>					
Service cost	\$ 1,739,825	\$ 2,555,063	\$ 2,951,023	\$ 2,081,540	\$ 1,160,849
Interest	1,734,183	1,298,841	1,506,688	1,848,399	1,477,053
Changes of benefit terms	-	-	-	(1,992,325)	-
Differences between expected and actual experience	(7,913,236)	-	(11,502,129)	-	4,279,346
Changes of assumptions	(968,336)	(13,275,897)	(104,562)	13,766,951	12,933,202
Benefit payments	(1,288,344)	(1,273,498)	(1,223,416)	(1,224,984)	(1,100,021)
<b>Net change in total OPEB liability</b>	<b>\$ (6,695,908)</b>	<b>\$ (10,695,491)</b>	<b>\$ (8,372,396)</b>	<b>\$ 14,479,581</b>	<b>\$ 18,750,429</b>
<b>Total OPEB liability—beginning</b>	<b>\$ 46,157,302</b>	<b>\$ 56,852,793</b>	<b>\$ 65,225,189</b>	<b>\$ 50,745,608</b>	<b>\$ 31,995,179</b>
<b>Total OPEB liability—ending (a)</b>	<b>\$ 39,461,394</b>	<b>\$ 46,157,302</b>	<b>\$ 56,852,793</b>	<b>\$ 65,225,189</b>	<b>\$ 50,745,608</b>
<b>Plan Fiduciary Net Position</b>					
Contributions—employer	\$ 1,638,344	\$ 1,623,498	\$ 1,423,416	\$ 1,374,984	\$ 1,250,021
Net investment income	413,384	(381,228)	825,582	110,227	104,341
Benefit payments	(1,288,344)	(1,273,498)	(1,223,416)	(1,224,984)	(1,100,021)
Administrative expenses	-	-	-	-	-
Other	-	-	-	-	-
<b>Net change in plan fiduciary net position</b>	<b>\$ 763,384</b>	<b>\$ (31,228)</b>	<b>\$ 1,025,582</b>	<b>\$ 260,227</b>	<b>\$ 254,341</b>
<b>Plan fiduciary net position—beginning</b>	<b>\$ 3,565,382</b>	<b>\$ 3,596,610</b>	<b>\$ 2,571,028</b>	<b>\$ 2,310,801</b>	<b>\$ 2,056,460</b>
<b>Plan fiduciary net position—ending (b)</b>	<b>\$ 4,328,766</b>	<b>\$ 3,565,382</b>	<b>\$ 3,596,610</b>	<b>\$ 2,571,028</b>	<b>\$ 2,310,801</b>
<b>Net OPEB liability—ending (a) – (b)</b>	<b>\$ 35,132,628</b>	<b>\$ 42,591,920</b>	<b>\$ 53,256,183</b>	<b>\$ 62,654,161</b>	<b>\$ 48,434,807</b>
Plan fiduciary net position as a percentage of the total OPEB liability	10.97%	7.72%	6.33%	3.94%	4.55%
Covered payroll	\$ 13,724,515	\$ 13,907,101	\$ 12,643,934	\$ 13,940,355	\$ 12,884,512
Net OPEB liability as a percentage of covered payroll	255.98%	306.26%	421.20%	449.44%	375.91%
<b>Discount Rate</b>	<b>3.90%</b>	<b>3.67%</b>	<b>2.21%</b>	<b>2.23%</b>	<b>3.54%</b>

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

**Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios, continued**

Fiscal Year Ended June 30	2018	2017
<b>Total OPEB Liability</b>		
Service cost	\$ 1,257,204	\$ 1,468,808
Interest	1,366,842	1,212,737
Changes of benefit terms	(47,168)	-
Differences between expected and actual experience	-	-
Changes of assumptions	(2,344,320)	(4,143,277)
Benefit payments	(962,415)	(875,566)
<b>Net change in total OPEB liability</b>	<b>\$ (729,857)</b>	<b>\$ (2,337,298)</b>
<b>Total OPEB liability—beginning</b>	<b>\$ 32,725,036</b>	<b>\$ 35,062,334</b>
<b>Total OPEB liability—ending (a)</b>	<b>\$ 31,995,179</b>	<b>\$ 32,725,036</b>
<b>Plan Fiduciary Net Position</b>		
Contributions—employer	\$ 1,212,415	\$ 1,125,566
Net investment income	82,071	69,308
Benefit payments	(962,415)	(875,566)
Administrative expenses	-	-
Other	-	-
<b>Net change in plan fiduciary net position</b>	<b>\$ 332,071</b>	<b>\$ 319,308</b>
<b>Plan fiduciary net position—beginning</b>	<b>\$ 1,724,389</b>	<b>\$ 1,405,081</b>
<b>Plan fiduciary net position—ending (b)</b>	<b>\$ 2,056,460</b>	<b>\$ 1,724,389</b>
<b>Net OPEB liability—ending (a) – (b)</b>	<b>\$ 29,938,719</b>	<b>\$ 31,000,647</b>
Plan fiduciary net position as a percentage of the total OPEB liability	6.43%	5.27%
Covered payroll	\$ 12,570,896	\$ 10,175,353
Net OPEB liability as a percentage of covered payroll	238.16%	304.66%
<b>Discount Rate</b>	<b>4.53%</b>	<b>4.08%</b>

Note: Only 7 years are presented here and on the previous page, beginning with the year of implementation; 10 years of information will be required.

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

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### Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios, continued

#### Notes to Schedule

##### Changes of Benefit Terms

All benefit terms are the same as those used in the prior measurement.

##### Changes of Assumptions

The discount rate changed from 3.67% as of June 30, 2022 to 3.9% as of June 30, 2023. In addition, many other assumptions were updated in this valuation, including the inflation rate, healthcare trend rates, and mortality improvement rates.

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

### Exhibit 3.2 - Investment Returns

Fiscal Year Ended June 30	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expenses	10.64%	-9.80%	30.20%	4.74%	4.78%	4.29%	4.24%			

The money-weighted rate of return considers the changing amounts actually invested during a period and weights the amount of OPEB plan investments by the proportion of time they are available to earn a return during that period. The rate of return is then calculated by solving, through an iterative process, for the rate that equates the sum of the weighted external cash flows into and out of the OPEB plan investments to the ending fair value of OPEB plan investments.

Note: Only 7 years are presented here, beginning with the year of implementation; 10 years of information will be required.

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

### Exhibit 3.2 - Investment Returns

#### Calculation of Money-Weighted Rate of Return

	Plan Investments/ Net External Cash Flows (a)	Periods Invested (b)	Period Weight (c)=(b)÷12	(d)=(a) x (1+r <sub>mw</sub> ) <sup>(c)</sup>
Beginning value - July 1, 2022	\$ 3,565,382	12	1.00	\$ 3,944,772
Monthly net external cash flows:				
July	350,000	11	0.92	383,994
August	-	10	0.83	-
September	-	9	0.75	-
October	-	8	0.67	-
November	-	7	0.58	-
December	-	6	0.50	-
January	-	5	0.42	-
February	-	4	0.33	-
March	-	3	0.25	-
April	-	2	0.17	-
May	-	1	0.08	-
June	-	0	0.00	-
Ending value - June 30, 2023				\$ 4,328,766
Money-weighted rate of return:				10.64%

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

### Exhibit 3.3 - Schedule of Employer Contributions

Fiscal Year Ended June 30	2023	2022	2021	2020	2019
Actuarially determined contribution	\$ 3,310,674	\$ 4,115,208	\$ 4,791,598	\$ 3,836,400	\$ 2,413,395
Contributions in relation to the actuarially determined contribution	<u>1,638,344</u>	<u>1,623,498</u>	<u>1,423,416</u>	<u>1,374,984</u>	<u>1,250,021</u>
Contribution deficiency (excess)	<u>\$ 1,672,330</u>	<u>\$ 2,491,710</u>	<u>\$ 3,368,182</u>	<u>\$ 2,461,416</u>	<u>\$ 1,163,374</u>
Covered payroll	\$ 13,724,515	\$ 13,907,101	\$ 12,643,934	\$ 13,940,355	\$ 12,884,512
Contributions as a percentage of covered payroll	11.94%	11.67%	11.26%	9.86%	9.70%
Discount rate	3.67%	2.21%	2.23%	3.54%	4.53%
Inflation	2.50%	2.40%	2.20%	2.40%	2.60%

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

### Exhibit 3.3 - Schedule of Employer Contributions, continued

Fiscal Year Ended June 30	2018	2017
Actuarially determined contribution	\$ 2,395,976	\$ 1,858,452
Contributions in relation to the actuarially determined contribution	<u>1,212,415</u>	<u>1,125,566</u>
Contribution deficiency (excess)	<u>\$ 1,183,561</u>	<u>\$ 732,886</u>
Covered payroll	\$ 12,570,896	\$ 10,175,353
Contributions as a percentage of covered payroll	9.64%	11.06%
Discount rate	4.08%	5.40%
Inflation	3.00%	3.00%

Note: Only 7 years are presented here and on the previous page, beginning with the year of implementation; 10 years of information will be required.

#### Notes to Schedule

#### Valuation Date

Actuarially determined contributions are determined as of July 1, one year prior to the end of the fiscal year in which contributions are reported.

#### Methods and Assumptions as of Current Measurement Date

Actuarial cost method	Entry Age Normal.
Amortization method	Increasing at 3.5% over 30 years on an open amortization period for partial pre-funding.
Amortization period	30 years.
Asset valuation method	Market value.
Healthcare cost trend rates	8% for 2022, decreasing 0.5% per year to 6%, then grading down to an ultimate trend rate of 4.1%, utilizing the Society of Actuaries Getzen Medical Trend Model. The ultimate medical trend rate is reached in 2075.



## SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

### Exhibit 4.1 - Deferred Outflows and Deferred Inflows of Resources

Deferred Outflows of Resources and Deferred Inflows of Resources arising from differences between expected and actual experience are recognized in OPEB Expense over the average expected remaining service life of all active and inactive participants.

					Balances at June 30, 2023
	Experience Losses	Experience Gains	Amounts Recognized in OPEB Expense through June 30, 2023	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) + (c)
2018	\$ -	\$ -	\$ -	\$ -	\$ -
2019	4,279,346	-	3,396,305	883,041	-
2020	-	-	-	-	-
2021	-	11,502,129	(5,868,432)	-	5,633,697
2022	-	-	-	-	-
2023	-	7,913,236	(1,357,330)	-	6,555,906
Total				<u>\$ 883,041</u>	<u>\$ 12,189,603</u>

Deferred Outflows of Resources and Deferred Inflows of Resources arising from changes of assumptions are recognized in OPEB Expense over the average expected remaining service life of all active and inactive participants.

					Balances at June 30, 2023
	Increases in the Total OPEB Liability	Decreases in the Total OPEB Liability	Amounts Recognized in OPEB Expense through June 30, 2023	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) + (c)
2018	\$ -	\$ 2,344,320	\$ (2,344,320)	\$ -	\$ -
2019	12,933,202	-	10,264,445	2,668,757	-
2020	13,766,951	-	8,740,920	5,026,031	-
2021	-	104,562	(53,349)	-	51,213
2022	-	13,275,897	(4,515,612)	-	8,760,285
2023	-	968,336	(166,095)	-	802,241
Total				<u>\$ 7,694,788</u>	<u>\$ 9,613,739</u>

## SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

### Exhibit 4.1 - Deferred Outflows and Deferred Inflows of Resources

Deferred Outflows of Resources and Deferred Inflows of Resources arising from differences between projected and actual earnings on OPEB Plan investments are recognized in OPEB Expense over five years.

					Balances at June 30, 2023	
	Investment Earnings Less Than Projected	Investment Earnings Greater Than Projected	Amounts Recognized in OPEB Expense through June 30, 2023	Deferred Outflows of Resources	Deferred Inflows of Resources	
Year	(a)	(b)	(c)	(a) - (c)	(b) + (c)	
2018	\$ 56,633	\$ -	\$ 56,633	\$ -	\$ -	
2019	59,212	-	59,212	-	-	
2020	63,990	-	51,192	12,798	-	
2021	-	634,010	(380,406)	-	253,604	
2022	637,751	-	255,100	382,651	-	
2023	-	156,951	(31,390)	-	125,561	
Subtotal				\$ 395,449	\$ 379,165	
Net				\$ 16,284	\$ -	

Amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources will be recognized in OPEB expense as follows:

#### Year ended June 30

2024	\$	(855,622)
2025	\$	(2,780,922)
2026	\$	(4,766,555)
2027	\$	(3,541,683)
2028	\$	(1,264,447)
Thereafter		-
<b>Deferred Outflows</b>	<b>\$</b>	<b>8,594,113</b>
<b>Deferred Inflows</b>	<b>\$</b>	<b>21,803,342</b>

## SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

### Exhibit 4.2 - OPEB Expense

The OPEB Expense and deferred outflows and inflows of resources primarily result from changes in the components of the net OPEB liability (NOL). Most changes in the NOL are included in the OPEB Expense in the period of the change, including service cost, interest on total OPEB liability, changes in benefit terms and projected earnings on the OPEB plan's investments. Other changes in the net OPEB liability are included in OPEB Expense over the current and future periods. These include the effects on the total OPEB liability of changes of economic and demographic assumptions and differences between expected and actual experience. In addition, the effect on the net OPEB liability of differences between the projected earnings on OPEB plan investments and actual experience with regard to those earnings are included in OPEB expense over the current and future periods. The OPEB Expense for the reporting period ending June 30, 2023 is presented below:

#### Fiscal Year Ended June 30, 2023

Measurement Date	6/30/2023
1. Service cost	\$ 1,739,825
2. Interest on the total OPEB liability	
a. Total OPEB liability, beginning of year	46,157,302
b. Service cost, beginning of year	1,739,825
c. Benefit payments	(1,288,344)
d. Interest on total OPEB liability = 3.67% times (a. + b. + .5 times c.)	1,734,183
3. Differences between expected and actual experience	(2,634,213)
4. Changes of benefit terms	-
5. Changes of assumptions	1,643,070
6. Projected earnings on OPEB plan investments	
a. Plan fiduciary net position, beginning of year	3,565,382
b. Contributions - Employer	1,638,344
c. Benefit payments	(1,288,344)
d. Administrative expenses and other	-
e. Total projected earnings	(256,433)
7. Differences between projected and actual earnings on OPEB plan investments	(6,001)
8. OPEB plan administrative expenses	-
9. Other changes in fiduciary net position	-
10. Total OPEB Expense	\$ 2,220,431

## SECTION 5 - SUMMARY OF PLAN PROVISIONS

**Eligibility for Postemployment Benefits** Employees of the Town and their dependents are eligible for postemployment medical, dental and life insurance based on the eligibility requirements under the Dukes County and Massachusetts Teachers Retirement Systems.

**Retirement Eligibility** General employees hired before April 2, 2012: retire after attaining age 55 with 10 or more years of service or any age with 20 or more years of service.

General employees hired after April 1, 2012: retire after attaining age 60 with 10 or more years of service.

Public Safety employees hired before April 2, 2012: retire after attaining age 55 or any age with 20 or more years of service.

Public Safety employees hired after April 1, 2012: retire after attaining age 55.

**Ordinary Disability Eligibility** Any member who is unable to perform his or her duties due to a non-occupational disability and has ten or more years of creditable service.

**Accidental Disability Eligibility** Any member who is unable to perform his or her duties due to a job-related disability.

**Medical Premiums** The total monthly premiums by plan are shown below:

<b>Non-Medicare Plans - July 1, 2023</b>	<b>Individual</b>	<b>Family</b>
Blue Care Elect Preferred PPO	\$1,238.00	\$3,098.00
Network Blue NE HMO	\$947.00	\$2,541.00
Harvard Pilgrim PPO	\$1,022.00	\$2,703.00
Harvard Pilgrim HMO	\$931.00	\$2,491.00
Blue Care Elect Preferred PPO (PPO "Saver")	\$1,012.00	\$2,537.00
Master Health Plus	\$1,827.00	\$4,566.00
Network Blue NE HMO (HMO "Saver")	\$777.00	\$2,086.00
Harvard Pilgrim HSAQ PPO	\$794.00	\$2,134.00
Harvard Pilgrim HSAQ HMO	\$720.00	\$1,939.00

<b>Medicare Plans - January 1, 2023</b>	
BCBS Medex	\$380.00
HPHC Medicare Enhance	\$380.00
Tufts Medicare Supplement with PDP Plus	\$460.00
Medicare HMO Blue	\$410.03
Managed Blue for Seniors	\$377.64
Tufts Medicare Preferred HMO	\$371.00

## SECTION 5 - SUMMARY OF PLAN PROVISIONS

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**Continuation of Coverage to Spouse After Death of Retiree** Surviving spouse may continue coverage for lifetime by paying the required medical premium.

**Dental Coverage** Dental coverage is provided. The total monthly costs are \$42.00 and \$109.00 for individual and family plans, respectively. Retirees contribute 100% of the monthly premiums.

**Life Insurance Coverage** Retirees are eligible for a \$1,000 life insurance benefit. The total monthly cost is \$.68. Retirees contribute \$.17 towards the monthly premiums.

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

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<b>Valuation Date</b>	July 1, 2022
<b>Disclosure Date</b>	June 30, 2023
<b>GASB 75 Reporting Date</b>	June 30, 2023
<b>Long-Term Expected Rate of Return</b>	<p>6.5%, net of investment expenses and including inflation at 2.5%. Previously, 6.6%.</p> <p>A long-term assumption based on capital market expectations by asset class, historical returns and professional judgment. A building block approach was used that considered the target asset allocation, expected returns by asset class and risk analysis to determine a long-term expected average annual rate of return.</p>
<b>Municipal Bond Rate</b>	3.65%, based on the Bond Buyer 20-Bond GO Index published on June 30, 2023.
<b>Discount Rate (GASB)</b>	<p>3.9%, compounded annually, for the measurement as of June 30, 2023.</p> <p>3.67%, compounded annually, for the measurement as of June 30, 2022.</p> <p>The single rate that reflects the long-term expected rate of return on OPEB plan investments to the extent that the OPEB plan's assets, which are expected to be invested using a strategy to achieve that return, are sufficient to pay benefits, and a tax-exempt, high-quality municipal bond rate to the extent that the conditions for use of the long-term expected rate of return are not met.</p>
<b>Discount Rate (ADEC)</b>	3.67%, compounded annually, for development of the Actuarially Determined Contribution (ADEC) as of June 30, 2023.
<b>Amortization Method</b>	Increasing at 3.5% over 30 years on an open amortization period for partial pre-funding.

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

### Medical Trend Rates

Year	Trend
1	8.00%
2	7.50%
3	7.00%
4	6.50%
5	6.00%
Ultimate	4.10%

Trend rates after year 5 grade down to the ultimate rate of 4.1 percent utilizing the Society of Actuaries Getzen Medical Trend Model. The ultimate trend rate is reached in 2075.

Health care trend assumptions begin at current levels and grade down over a period of years to a lower level equal to some real rate plus inflation. The principal components of health trend are medical inflation, deductible erosion, cost shifting, utilization, technology and catastrophic claims. The overall effect of these components are expected to decline year by year.

### Dental Trend Rates

Not applicable as retirees pay 100% of the dental premium.

### Inflation

2.5% per year, based on current economic data, analyses from economists and other experts, and professional judgment.

### Payroll Growth

3.5% per year.

### Participation Rates

Medical - 85% of eligible retired employees will elect to participate.

Dental - Not applicable as retirees pay 100% of dental premium.

Life - 70% of eligible retirees will elect to participate.

Medicare - all retired employees are assumed to enroll in Medicare at age 65.

### Dependent Status

Male spouses are assumed to be three years older and female spouses are assumed to be three years younger than the retired employee.

60% of employees are assumed to retire with a covered spouse.

For current retirees, the actual census information is used.

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

### Medical Per Capita Costs

The following annual per capita costs are for the fiscal year beginning July 1, 2022 and are applicable to retirees, survivors and spouses. Annual costs for current and future retirees are based on the blended curves shown below, developed using the plan coverages elected by current retirees and survivors and premium rates currently in effect. Future years' costs are based on the first year cost adjusted with trend.

Age	Medicare-Eligible		Medicare-Ineligible	
	Male	Female	Male	Female
Under 20	\$5,216	\$6,124	\$5,216	\$6,124
20-24	4,110	6,520	4,110	6,520
25-29	4,277	9,619	4,277	9,619
30-34	5,373	12,154	5,373	12,154
35-39	6,739	12,519	6,739	12,519
40-44	8,398	12,822	8,398	12,822
45-49	10,600	14,074	10,600	14,074
50-54	13,969	16,557	13,969	16,557
55-59	18,153	19,144	18,153	19,144
60-64	23,296	22,785	23,296	22,785
65-69	3,611	3,517	29,065	27,313
70-74	4,327	4,148	34,824	32,206
75-79	5,110	4,813	41,136	37,401
80-84	5,874	5,520	47,281	42,878
85-89	6,543	6,171	54,114	48,950
90-94	7,123	6,585	54,114	48,950
95+	7,571	6,369	54,114	48,950

### Retiree Contributions

Annual per capita participant contributions for the fiscal year beginning July 1, 2022 are as follows:

Plan	Contribution
Non-Medicare	\$ 3,985
Medicare	1,097

### Actuarial Cost Method

Entry Age Normal. The costs of each employee's postemployment benefits are allocated as a level basis over the earnings of the employee between the employee's date of hire and the assumed exit ages.

### Actuarial Value of Assets

Market value of assets as of the disclosure date.

### Census Data

Employee and retiree data were compiled and submitted by the Town as of May 31, 2023. We made reasonable adjustments for missing or invalid data.



## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

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### Use of ProVal®

KMS Actuaries has used ProVal® to develop the liabilities, normal costs and projected benefit payments in this report. We have a lease agreement with WinTech, the developer of ProVal®, and have relied on their system to perform these calculations. The actuaries signing this report and the KMS staff members who were involved in preparing it have a clear understanding of ProVal® and have used it only for its intended purpose. We have reviewed the output produced by ProVal® for reasonableness and we are not aware of any material inconsistencies, limitations or known weaknesses that would affect this report.

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

### General and Public Safety Employees

#### Pre-Retirement Mortality

Pre-retirement mortality rates for General and Public Safety employees are based on the RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2020.

#### Healthy Retiree Mortality

Healthy retiree mortality rates for General and Public Safety employees are based on the RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2020.

#### Disabled Retiree Mortality

Disabled retiree mortality rates for General and Public Safety employees are based on the RP-2014 Blue Collar Mortality Table set forward one year with full generational mortality improvement using Scale MP-2020.

#### Turnover Rates

Turnover rates for General and Public Safety employees are as follows:

General Employees		Public Safety	
Service	Rate	Service	Rate
0	15.00%	0	1.50%
1	12.00%	1	1.50%
2	10.00%	2	1.50%
3	9.00%	3	1.50%
4	8.00%	4	1.50%
5	7.60%	5	1.50%
10	5.40%	10	1.50%
15	3.30%	15	0.00%
20	2.00%	20	0.00%
25	1.00%	25	0.00%
30	0.00%	30	0.00%

#### Disability Rates

Disability rates for General and Public Safety employees are as follows:

General Employees		Public Safety	
Age	Rate	Age	Rate
25	0.02%	25	0.20%
30	0.03%	30	0.30%
35	0.06%	35	0.30%
40	0.10%	40	0.30%
45	0.15%	45	1.00%
50	0.19%	50	1.25%
55	0.24%	55	1.20%
60	0.28%	60	0.85%

55% of the General employee disabilities are job-related.

90% of the Public Safety employee disabilities are job-related.

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

### General and Public Safety Employees

#### Retirement Rates

Retirement rates for General and Public Safety employees are as follows:

General Employees			Public Safety	
Age	Male	Female	Age	All
45	0.00%	0.00%	45	1.00%
50	1.00%	1.50%	50	2.00%
55	2.00%	5.50%	55	15.00%
60	12.00%	5.00%	60	20.00%
62	30.00%	15.00%	62	25.00%
65	40.00%	15.00%	65	100.00%
69	30.00%	20.00%		
70	100.00%	100.00%		

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

### Teachers

#### Pre-Retirement Mortality

Pre-retirement mortality rates for Teachers are based on the PUB-2010 Teachers Headcount-Weighted Employee Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2020.

#### Healthy Retiree Mortality

Healthy retiree mortality rates for Teachers are based on the PUB-2010 Teachers Headcount-Weighted Retiree Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2020.

#### Disabled Retiree Mortality

Disabled retiree mortality rates for Teachers are based on the PUB-2010 Teachers Headcount-Weighted Disabled Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2020.

#### Turnover Rates

Turnover rates for Teachers are as follows:

Service						
0			5		10+	
Age	Male	Female	Male	Female	Male	Female
20	13.0%	10.0%	5.5%	7.0%	1.5%	5.0%
30	15.0%	15.0%	5.4%	8.8%	1.5%	4.5%
40	13.3%	10.5%	5.2%	5.0%	1.7%	2.2%
50	16.2%	9.8%	7.0%	5.0%	2.3%	2.0%

#### Disability Rates

Disability rates for Teachers are as follows:

Age	Rate
20	0.004%
30	0.006%
40	0.010%
50	0.050%
60	0.070%

35% of the disabilities are job-related.

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

### Teachers

#### Retirement Rates

Retirement rates for Teachers are as follows:

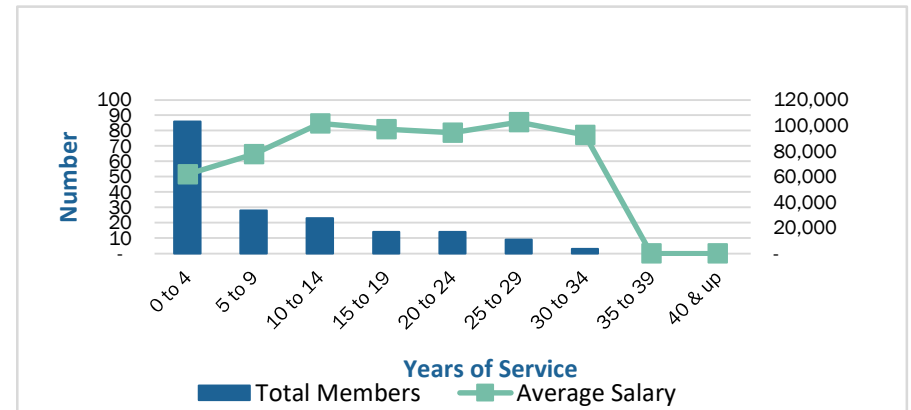
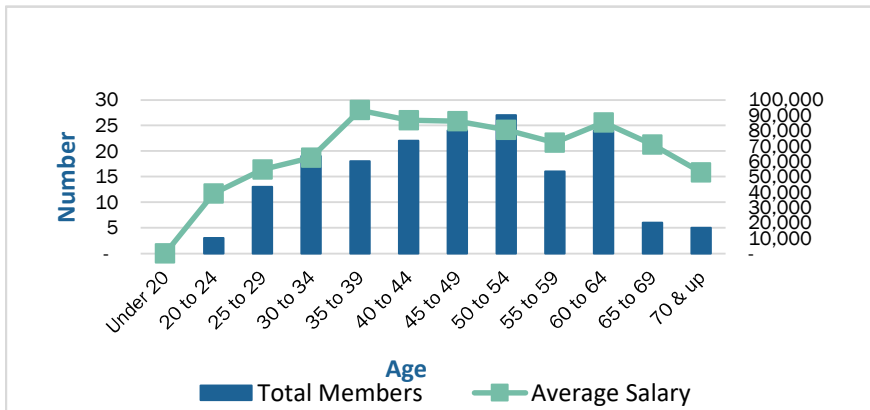
Age	Years of Service					
	Less than 20		20-29		30+	
	Male	Female	Male	Female	Male	Female
50	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%
51	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%
52	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%
53	0.0%	0.0%	1.5%	1.0%	2.0%	1.5%
54	0.0%	0.0%	2.5%	1.0%	2.0%	2.0%
55	5.0%	3.0%	3.0%	3.0%	6.0%	5.0%
56	5.0%	3.0%	6.0%	5.0%	20.0%	15.0%
57	5.0%	4.0%	10.0%	8.0%	40.0%	35.0%
58	5.0%	8.0%	15.0%	10.0%	50.0%	35.0%
59	10.0%	8.0%	20.0%	15.0%	50.0%	35.0%
60	10.0%	10.0%	25.0%	20.0%	40.0%	35.0%
61	20.0%	12.0%	30.0%	25.0%	40.0%	35.0%
62	20.0%	12.0%	35.0%	30.0%	35.0%	35.0%
63	25.0%	15.0%	40.0%	30.0%	35.0%	35.0%
64	25.0%	20.0%	40.0%	30.0%	35.0%	35.0%
65	25.0%	25.0%	40.0%	40.0%	35.0%	35.0%
66	30.0%	25.0%	30.0%	30.0%	40.0%	35.0%
67	30.0%	30.0%	30.0%	30.0%	40.0%	30.0%
68	30.0%	30.0%	30.0%	30.0%	40.0%	30.0%
69	30.0%	30.0%	30.0%	30.0%	40.0%	30.0%
70	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

## SECTION 7 - PLAN MEMBER INFORMATION

Exhibit 7.1 - Active Members by Age and Years of Service as of July 1, 2022

Age	Years of Service										Total	Total Salary	Average Salary
	0 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				
Under 20	-	-	-	-	-	-	-	-	-	-	-	-	-
20 to 24	3	-	-	-	-	-	-	-	-	3	117,266	39,089	
25 to 29	13	-	-	-	-	-	-	-	-	13	710,131	54,625	
30 to 34	17	2	-	-	-	-	-	-	-	19	1,183,559	62,293	
35 to 39	8	5	4	-	1	-	-	-	-	18	1,679,406	93,300	
40 to 44	10	5	4	3	-	-	-	-	-	22	1,908,015	86,728	
45 to 49	12	3	4	1	2	2	-	-	-	24	2,064,946	86,039	
50 to 54	11	3	3	4	4	1	1	-	-	27	2,172,207	80,452	
55 to 59	1	5	6	-	2	1	1	-	-	16	1,153,242	72,078	
60 to 64	7	3	-	5	4	4	1	-	-	24	2,046,413	85,267	
65 to 69	3	2	1	-	-	-	-	-	-	6	425,889	70,981	
70 & up	1	-	1	1	1	1	-	-	-	5	263,442	52,688	
Total	86	28	23	14	14	9	3	-	-	177	13,724,515	77,540	
Total Salary	5,328,321	2,174,606	2,338,793	1,359,433	1,321,030	924,238	278,094	-	-				
Average Salary	61,957	77,665	101,687	97,102	94,359	102,693	92,698	-	-				

Average Age: 47.5      Average Service: 8.7



## SECTION 7 - PLAN MEMBER INFORMATION

Exhibit 7.2 - Retired Members, Covered Spouses and Survivors as of July 1, 2022

Non-Medicare Plans						Medicare Plans		Total
Age	Blue Care Elect Preferred PPO	Network Blue NE HMO	Harvard Pilgrim PPO	Harvard Pilgrim HMO	Blue Care Elect Preferred PPO (PPO "Saver")	BCBS Medex	HPHC Medicare Enhance	
Under 40	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0
45 to 49	1	0	1	0	0	0	0	2
50 to 54	1	0	0	0	0	0	0	1
55 to 59	8	0	0	0	0	0	0	8
60 to 64	9	1	0	0	0	2	0	12
65 to 69	0	0	0	0	0	29	0	29
70 to 74	0	0	0	0	0	28	0	28
75 to 79	2	0	0	0	0	25	0	27
80 to 84	1	0	0	0	0	12	0	13
85 to 89	0	0	0	0	0	1	0	1
90+	0	0	0	0	0	1	0	1
Total	22	1	1	0	0	98	0	122
Covered Spouses	13	0	0	0	0	44	0	57

Average Age: 71.0

## SECTION 8 - GLOSSARY OF TERMS

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**Actuarial Assumptions** – Assumptions as to the occurrence of future events affecting OPEB costs, such as mortality, withdrawal, disability and retirement; changes in compensation and OPEB benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.

**Actuarial Cost Method (or Funding Method)** – A procedure for allocating the Actuarial Present Value of projected benefit payments to the current year (Service Cost) and the past (Total OPEB Liability).

**Actuarial Gain or Loss (or Experience Gain or Loss)** – A measure of the difference between actual experience and that expected based upon the set of Actuarial Assumptions during the period between the valuation date and the most recent immediately preceding valuation date.

**Actuarial Present Value of Projected Benefit Payments** – The dollar value on the valuation date of all benefits expected to be paid to current members based upon the Actuarial Assumptions and the terms of the Plan.

**Actuarially Determined Contribution** – A target or recommended contribution to a defined benefit OPEB plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

**Actuarial Valuation Date** – The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

**Deferred Inflow of Resources** – Acquisition of resources by a governmental entity that is applicable to future reporting periods. Under GASB 75, deferred inflows of resources are made up of experience gains, assumption changes reducing the Total OPEB Liability and investment gains that are recognized in future reporting periods.

**Deferred Outflow of Resources** – Consumption of resources by a governmental entity that is applicable to future reporting periods. Under GASB 75, deferred outflows of resources are made up of experience losses, assumption changes increasing the Total OPEB Liability and investment losses that are recognized in future reporting periods.

**Discount Rate** – Single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the sum of:

- (1) a long-term expected rate of return on OPEB plan investments *to the extent that the OPEB plan's assets are sufficient to pay benefits and OPEB plan assets are expected to be invested using a strategy to achieve that return* and
- (2) a tax-exempt, high-quality municipal bond rate *to the extent that the conditions for use of the long-term expected rate of return are not met.*

**Employer Future Period Contributions** – Contributions made by the employer, generally to an outside trust fund, to pay for future OPEB costs. These are costs in addition to the employer contributions made during the year to pay for ongoing premiums.



## SECTION 8 - GLOSSARY OF TERMS

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**Entry Age Normal Actuarial Cost Method** – A method under which the actuarial present value of the projected benefits of each individual 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.

**Explicit Subsidy** – The difference between (a) the blended rates based on combined active and retired member experience and (b) actual cash contributions made by the employer.

**Fiduciary Net Position** – The fair market value of assets as of the measurement date.

**Funded Ratio** – The Actuarial Value of Assets expressed as a percentage of the Actuarial Accrued Liability.

**GASB** – Governmental Accounting Standards Board.

**Health Cost Trend Rate** – The rate of change in per capita health claims cost over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

**Implicit Subsidy** – In an experience-rated healthcare plan that includes both active employees and retirees with blended premium rates for all plan members, the difference between (a) the age-adjusted premiums approximating claim costs for retirees in the group and (b) the blended rates based on combined active and retired member experience.

**Long-Term Expected Rate of Return** – Long-term expected rate of return on OPEB plan investments expected to be used to finance the payment of benefits, net of investment expenses.

**Measurement Date** – The date as of which the Total OPEB Liability and Fiduciary Net Position are measured.

**Municipal Bond Rate** – Yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.

**Net OPEB Liability** – The liability of the employer for benefits provided through an OPEB plan. It is calculated as the Total OPEB Liability less the Fiduciary Net Position.

**OPEB** – Other Postemployment Benefits including medical, dental, vision, hearing and life insurance benefits.

**Pay-As-You-Go** – A method of financing an OPEB plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.

**Present Value of Future Benefits** – The actuarial present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value of money and the probabilities of payment.

**Reporting Date** – The last day of the Plan or employer's fiscal year.

## SECTION 8 - GLOSSARY OF TERMS

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**Service Cost** – The portion of the actuarial present value of projected benefit amounts that is attributed to a valuation year.

**Substantive Plan** – The terms of an OPEB plan as understood by the employer and plan members.

**Total OPEB Liability** – The portion of the actuarial present value of projected benefit amounts that is attributed to past periods of employee service.

**Unfunded Actuarial Accrued Liability** – The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Under GASB 74 and GASB 75, a series of projections and calculations are used to determine the discount rate for the purpose of the measurement of the Total OPEB Liability. The discount rate is the single rate that reflects (1) the long-term expected rate of return on OPEB plan investments that are expected to be used to finance the payment of benefits, to the extent that the OPEB plan's fiduciary net position is projected to be sufficient to make projected benefit payments and OPEB plan assets are expected to be invested using a strategy to achieve that return, and (2) a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher, to the extent that the conditions for use of the long-term expected rate of return are not met.

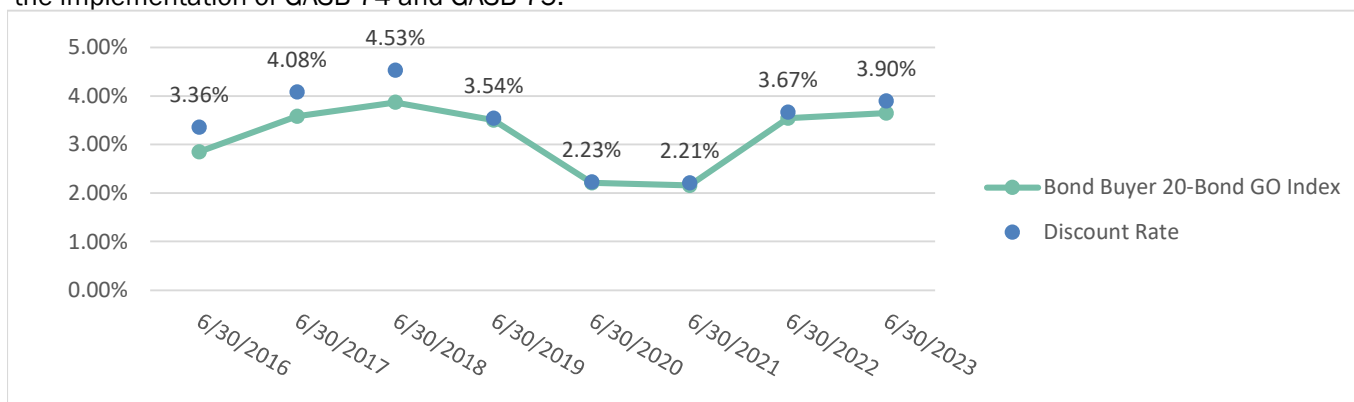
Projected cash flows into and out of the OPEB plan are assumed to be contributions to the OPEB plan, benefit payments, OPEB plan administrative expenses and OPEB plan investment earnings. These projected cash flows are used to project the OPEB plan's fiduciary net position at the beginning of each period. The OPEB plan's projected fiduciary net position at the beginning of each period is compared to the amount of benefit payments projected to occur in that period.

It is assumed that the OPEB plan's fiduciary net position is expected to always be invested using a strategy to achieve the long-term expected rate of return on OPEB plan investments.

The benefit payments that are projected to occur in a period are discounted using the long-term expected rate of return on OPEB plan investments if the amount of the OPEB plan's beginning fiduciary net position is projected to be sufficient to make the benefit payments in that period. In periods in which benefit payments are projected to be greater than the amount of the OPEB plan's fiduciary net position, they are discounted using a municipal bond rate as required by GASB 74.

For purposes of this valuation, liabilities are based on a discount rate of 3.9%, a long-term investment return rate of 6.5% and a municipal bond rate of 3.65%, based on the Bond Buyer 20-Bond GO Index published on June 30, 2023. The OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to the first 12 periods of projected future benefit payments and the 3.65% municipal bond rate was applied to all periods thereafter to determine the total OPEB liability. Projected benefit payments are discounted to their actuarial present value using a single discount rate of 3.9%.

Below are the historical Bond Buyer 20-Bond GO Indices and the Town's discount rate used in disclosures since the implementation of GASB 74 and GASB 75:



## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 1: Projection of Contributions

Year	Projected Payroll			Projected Contributions			
	Payroll for Current Plan Members (a)	Payroll for Future Plan Members (b)	Total Payroll (c) = (a) + (b)	Employer Contributions (Benefit Payments) (d)	Employer Contributions (OPEB Trust) (e)	Employer Contributions Related to Payroll of Future Employees (f) = (b) * 10.47%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2023	14,153,625	-	14,153,625	1,288,344	350,000	-	1,638,344
2024	13,064,144	1,584,858	14,649,002	1,425,716	292,980	165,945	1,552,751
2025	12,381,587	2,780,130	15,161,717	1,521,036	303,234	291,098	1,533,172
2026	11,680,575	4,011,802	15,692,377	1,641,187	313,848	420,062	1,534,973
2027	11,090,749	5,150,861	16,241,610	1,776,707	324,832	539,330	1,562,209
2028	10,618,911	6,191,155	16,810,066	1,782,347	336,201	648,255	1,470,293
2029	10,109,681	7,288,737	17,398,418	1,952,837	347,968	763,179	1,537,626
2030	9,528,082	8,479,281	18,007,363	2,020,449	360,147	887,837	1,492,759
2031	8,896,267	9,741,354	18,637,621	2,138,083	372,752	1,019,985	1,490,850
2032	8,338,647	10,951,291	19,289,938	2,169,749	385,799	1,146,673	1,408,875
2033	7,821,230	12,143,856	19,965,086	2,257,287	399,302	1,271,543	1,385,046
2034	7,339,645	13,324,219	20,663,864	2,339,332	413,277	1,395,135	1,357,474
2035	6,981,492	14,405,607	21,387,099	2,379,134	427,742	1,508,363	1,298,513
2036	6,584,590	15,551,057	22,135,647	2,438,298	442,713	1,628,299	1,252,712
2037	6,211,903	16,698,492	22,910,395	2,541,692	458,208	1,748,444	1,251,456
2038	5,847,307	17,864,952	23,712,259	2,512,435	474,245	1,870,580	1,116,100
2039	5,500,107	19,042,081	24,542,188	2,525,268	490,844	1,993,833	1,022,279
2040	5,153,106	20,248,059	25,401,165	2,635,960	508,023	2,120,107	1,023,876
2041	4,804,749	21,485,457	26,290,206	2,696,603	525,804	2,249,671	972,736
2042	4,449,415	22,760,948	27,210,363	2,760,776	544,207	2,383,223	921,760
2043	4,087,571	24,075,155	28,162,726	2,776,369	563,255	2,520,829	818,795
2044	3,759,917	25,388,504	29,148,421	2,882,541	582,968	2,658,346	807,163
2045	3,426,877	26,741,739	30,168,616	2,816,261	603,372	2,800,039	619,594
2046	3,081,287	28,143,231	31,224,518	2,807,931	624,490	2,946,784	485,637
2047	2,755,662	29,561,714	32,317,376	2,841,641	646,348	3,095,309	392,680
2048	2,507,054	30,941,430	33,448,484	2,918,744	668,970	3,239,774	347,940
2049	2,252,591	32,366,590	34,619,181	2,894,935	692,384	3,388,998	198,321
2050	1,998,422	33,832,430	35,830,852	2,929,059	716,617	3,542,481	103,195
2051	1,743,012	35,341,920	37,084,932	2,864,865	741,699	3,700,535	-
2052	1,464,743	36,918,162	38,382,905	2,917,287	767,658	3,865,578	-
2053	1,281,201	38,445,106	39,726,307	2,925,660	794,526	4,025,459	-
2054	1,113,833	40,002,895	41,116,728	2,791,179	822,335	4,188,570	-
2055	915,343	41,640,470	42,555,813	2,866,992	851,116	4,360,035	-
2056	738,965	43,306,301	44,045,266	2,842,741	880,905	4,534,459	-

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 1: Projection of Contributions

Year	Projected Payroll			Projected Contributions			
	Payroll for Current Plan Members (a)	Payroll for Future Plan Members (b)	Total Payroll (c) = (a) + (b)	Employer Contributions (Benefit Payments) (d)	Employer Contributions (OPEB Trust) (e)	Employer Contributions Related to Payroll of Future Employees (f) = (b) * 10.47%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2057	551,093	45,035,757	45,586,850	2,727,464	911,737	4,715,544	-
2058	411,401	46,770,989	47,182,390	2,692,871	943,648	4,897,235	-
2059	301,400	48,532,374	48,833,774	2,544,682	976,675	5,081,663	-
2060	197,773	50,345,183	50,542,956	2,474,910	1,010,859	5,271,477	-
2061	139,623	52,172,336	52,311,959	2,399,186	1,046,239	5,462,792	-
2062	101,352	54,041,526	54,142,878	2,331,379	1,082,858	5,658,508	-
2063	76,879	55,961,000	56,037,879	2,295,645	1,120,758	5,859,490	-
2064	52,891	57,946,314	57,999,205	2,222,727	1,159,984	6,067,366	-
2065	35,166	59,994,011	60,029,177	2,193,205	1,200,584	6,281,773	-
2066	22,157	62,108,041	62,130,198	2,184,713	1,242,604	6,503,126	-
2067	15,980	64,288,775	64,304,755	2,145,591	1,286,095	6,731,464	-
2068	9,483	66,545,938	66,555,421	2,102,778	1,331,108	6,967,804	-
2069	7,366	68,877,495	68,884,861	2,086,574	1,377,697	7,211,933	-
2070	-	71,295,831	71,295,831	2,042,554	1,425,917	7,465,149	-
2071	-	73,791,185	73,791,185	2,008,492	1,475,824	7,726,430	-
2072	-	76,373,876	76,373,876	1,960,152	1,527,478	7,996,855	-
2073	-	79,046,962	79,046,962	1,896,641	1,580,939	8,276,744	-
2074	-	81,813,606	81,813,606	1,859,187	1,636,272	8,566,431	-
2075	-	84,677,082	84,677,082	1,784,079	1,693,542	8,866,256	-
2076	-	87,640,780	87,640,780	1,722,245	1,752,816	9,176,575	-
2077	-	90,708,207	90,708,207	1,648,427	1,814,164	9,497,755	-
2078	-	93,882,994	93,882,994	1,563,068	1,877,660	9,830,176	-
2079	-	97,168,899	97,168,899	1,498,929	1,943,378	10,174,232	-
2080	-	100,569,810	100,569,810	1,409,003	2,011,396	10,530,330	-
2081	-	104,089,753	104,089,753	1,327,532	2,081,795	10,898,892	-
2082	-	107,732,894	107,732,894	1,239,781	2,154,658	11,280,353	-
2083	-	111,503,545	111,503,545	1,145,066	2,230,071	11,675,165	-
2084	-	115,406,169	115,406,169	1,061,138	2,308,123	12,083,796	-
2085	-	119,445,385	119,445,385	967,381	2,388,908	12,506,729	-
2086	-	123,625,973	123,625,973	877,947	2,472,519	12,944,464	-
2087	-	127,952,882	127,952,882	786,865	2,559,058	13,397,521	-
2088	-	132,431,233	132,431,233	698,516	2,648,625	13,866,434	-
2089	-	137,066,326	137,066,326	614,894	2,741,327	14,351,759	-
2090	-	141,863,647	141,863,647	533,563	2,837,273	14,854,071	-

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 1: Projection of Contributions

Year	Projected Payroll			Projected Contributions			
	Payroll for Current Plan Members (a)	Payroll for Future Plan Members (b)	Total Payroll (c) = (a) + (b)	Employer Contributions (Benefit Payments) (d)	Employer Contributions (OPEB Trust) (e)	Employer Contributions Related to Payroll of Future Employees (f) = (b) * 10.47%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2091	-	146,828,875	146,828,875	458,384	2,936,578	15,373,963	-
2092	-	151,967,886	151,967,886	388,512	3,039,358	15,912,052	-
2093	-	157,286,762	157,286,762	324,702	3,145,735	16,468,974	-
2094	-	162,791,799	162,791,799	267,362	3,255,836	17,045,388	-
2095	-	168,489,512	168,489,512	217,365	3,369,790	17,641,976	-
2096	-	174,386,645	174,386,645	174,224	3,487,733	18,259,446	-
2097	-	180,490,178	180,490,178	137,230	3,609,804	18,898,526	-
2098	-	186,807,334	186,807,334	106,442	3,736,147	19,559,975	-
2099	-	193,345,591	193,345,591	81,120	3,866,912	20,244,574	-
2100	-	200,112,687	200,112,687	60,691	4,002,254	20,953,134	-
2101	-	207,116,631	207,116,631	44,536	4,142,333	21,686,494	-
2102	-	214,365,713	214,365,713	32,026	4,287,314	22,445,521	-
2103	-	221,868,513	221,868,513	22,550	4,437,370	23,231,114	-
2104	-	229,633,911	229,633,911	15,534	4,592,678	24,044,203	-
2105	-	237,671,098	237,671,098	10,459	4,753,422	24,885,750	-
2106	-	245,989,586	245,989,586	6,878	4,919,792	25,756,751	-
2107	-	254,599,222	254,599,222	4,416	5,091,984	26,658,238	-
2108	-	263,510,195	263,510,195	2,767	5,270,204	27,591,276	-
2109	-	272,733,052	272,733,052	1,691	5,454,661	28,556,971	-
2110	-	282,278,709	282,278,709	1,006	5,645,574	29,556,465	-
2111	-	292,158,464	292,158,464	585	5,843,169	30,590,941	-
2112	-	302,384,010	302,384,010	332	6,047,680	31,661,624	-
2113	-	312,967,450	312,967,450	184	6,259,349	32,769,781	-
2114	-	323,921,311	323,921,311	100	6,478,426	33,916,723	-
2115	-	335,258,557	335,258,557	52	6,705,171	35,103,808	-
2116	-	346,992,606	346,992,606	27	6,939,852	36,332,442	-
2117	-	359,137,347	359,137,347	13	7,182,747	37,604,077	-
2118	-	371,707,154	371,707,154	6	7,434,143	38,920,220	-
2119	-	384,716,904	384,716,904	3	7,694,338	40,282,427	-
2120	-	398,181,996	398,181,996	1	7,963,640	41,692,312	-
2121	-	412,118,366	412,118,366	-	8,242,367	43,151,543	-
2122	-	426,542,509	426,542,509	-	8,530,850	44,661,847	-

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 2: Projection of the OPEB Plan's Fiduciary Net Position

Year	Projected Beginning Fiduciary Net Position (a)	Employer Contributions for Current Plan Members (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2023	3,565,382	1,638,344	1,288,344	-	413,384	4,328,766
2024	4,328,766	1,552,751	1,425,716	-	285,498	4,741,299
2025	4,741,299	1,533,172	1,521,036	-	308,579	5,062,014
2026	5,062,014	1,534,973	1,641,187	-	325,579	5,281,379
2027	5,281,379	1,562,209	1,776,707	-	336,318	5,403,199
2028	5,403,199	1,470,293	1,782,347	-	341,066	5,432,211
2029	5,432,211	1,537,626	1,952,837	-	339,599	5,356,599
2030	5,356,599	1,492,759	2,020,449	-	331,029	5,159,938
2031	5,159,938	1,490,850	2,138,083	-	314,361	4,827,066
2032	4,827,066	1,408,875	2,169,749	-	289,031	4,355,223
2033	4,355,223	1,385,046	2,257,287	-	254,742	3,737,724
2034	3,737,724	1,357,474	2,339,332	-	211,042	2,966,908
2035	2,966,908	1,298,513	2,379,134	-	157,729	2,044,016
2036	2,044,016	1,252,712	2,438,298	-	94,329	952,759
2037	952,759	1,251,456	2,541,692	-	19,997	-
2038	-	1,116,100	2,512,435	-	-	-
2039	-	1,022,279	2,525,268	-	-	-
2040	-	1,023,876	2,635,960	-	-	-
2041	-	972,736	2,696,603	-	-	-
2042	-	921,760	2,760,776	-	-	-
2043	-	818,795	2,776,369	-	-	-
2044	-	807,163	2,882,541	-	-	-
2045	-	619,594	2,816,261	-	-	-
2046	-	485,637	2,807,931	-	-	-
2047	-	392,680	2,841,641	-	-	-
2048	-	347,940	2,918,744	-	-	-
2049	-	198,321	2,894,935	-	-	-
2050	-	103,195	2,929,059	-	-	-
2051	-	-	2,864,865	-	-	-
2052	-	-	2,917,287	-	-	-
2053	-	-	2,925,660	-	-	-
2054	-	-	2,791,179	-	-	-
2055	-	-	2,866,992	-	-	-
2056	-	-	2,842,741	-	-	-

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 2: Projection of the OPEB Plan's Fiduciary Net Position

Year	Projected Beginning Fiduciary Net Position (a)	Employer Contributions for Current Plan Members (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2057	-	-	2,727,464	-	-	-
2058	-	-	2,692,871	-	-	-
2059	-	-	2,544,682	-	-	-
2060	-	-	2,474,910	-	-	-
2061	-	-	2,399,186	-	-	-
2062	-	-	2,331,379	-	-	-
2063	-	-	2,295,645	-	-	-
2064	-	-	2,222,727	-	-	-
2065	-	-	2,193,205	-	-	-
2066	-	-	2,184,713	-	-	-
2067	-	-	2,145,591	-	-	-
2068	-	-	2,102,778	-	-	-
2069	-	-	2,086,574	-	-	-
2070	-	-	2,042,554	-	-	-
2071	-	-	2,008,492	-	-	-
2072	-	-	1,960,152	-	-	-
2073	-	-	1,896,641	-	-	-
2074	-	-	1,859,187	-	-	-
2075	-	-	1,784,079	-	-	-
2076	-	-	1,722,245	-	-	-
2077	-	-	1,648,427	-	-	-
2078	-	-	1,563,068	-	-	-
2079	-	-	1,498,929	-	-	-
2080	-	-	1,409,003	-	-	-
2081	-	-	1,327,532	-	-	-
2082	-	-	1,239,781	-	-	-
2083	-	-	1,145,066	-	-	-
2084	-	-	1,061,138	-	-	-
2085	-	-	967,381	-	-	-
2086	-	-	877,947	-	-	-
2087	-	-	786,865	-	-	-
2088	-	-	698,516	-	-	-
2089	-	-	614,894	-	-	-
2090	-	-	533,563	-	-	-



## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 2: Projection of the OPEB Plan's Fiduciary Net Position

Year	Projected Beginning Fiduciary Net Position (a)	Employer Contributions for Current Plan Members (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2091	-	-	458,384	-	-	-
2092	-	-	388,512	-	-	-
2093	-	-	324,702	-	-	-
2094	-	-	267,362	-	-	-
2095	-	-	217,365	-	-	-
2096	-	-	174,224	-	-	-
2097	-	-	137,230	-	-	-
2098	-	-	106,442	-	-	-
2099	-	-	81,120	-	-	-
2100	-	-	60,691	-	-	-
2101	-	-	44,536	-	-	-
2102	-	-	32,026	-	-	-
2103	-	-	22,550	-	-	-
2104	-	-	15,534	-	-	-
2105	-	-	10,459	-	-	-
2106	-	-	6,878	-	-	-
2107	-	-	4,416	-	-	-
2108	-	-	2,767	-	-	-
2109	-	-	1,691	-	-	-
2110	-	-	1,006	-	-	-
2111	-	-	585	-	-	-
2112	-	-	332	-	-	-
2113	-	-	184	-	-	-
2114	-	-	100	-	-	-
2115	-	-	52	-	-	-
2116	-	-	27	-	-	-
2117	-	-	13	-	-	-
2118	-	-	6	-	-	-
2119	-	-	3	-	-	-
2120	-	-	1	-	-	-
2121	-	-	-	-	-	-
2122	-	-	-	-	-	-

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

**Table 3: Actuarial Present Value of Projected Benefit Payments - End of Measurement Period**

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments (b)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g) = 3.9%
2024	4,328,766	1,425,716	1,425,716	-	1,381,523	-	1,398,709
2025	4,741,299	1,521,036	1,521,036	-	1,383,933	-	1,436,225
2026	5,062,014	1,641,187	1,641,187	-	1,402,116	-	1,491,522
2027	5,281,379	1,776,707	1,776,707	-	1,425,254	-	1,554,090
2028	5,403,199	1,782,347	1,782,347	-	1,342,515	-	1,500,518
2029	5,432,211	1,952,837	1,952,837	-	1,381,157	-	1,582,354
2030	5,356,599	2,020,449	2,020,449	-	1,341,762	-	1,575,702
2031	5,159,938	2,138,083	2,138,083	-	1,333,222	-	1,604,868
2032	4,827,066	2,169,749	2,169,749	-	1,270,392	-	1,567,520
2033	4,355,223	2,257,287	2,257,287	-	1,240,982	-	1,569,564
2034	3,737,724	2,339,332	2,339,332	-	1,207,594	-	1,565,571
2035	2,966,908	2,379,134	2,379,134	-	1,153,183	-	1,532,457
2036	2,044,016	2,438,298	-	2,438,298	-	1,557,652	1,511,628
2037	952,759	2,541,692	-	2,541,692	-	1,566,525	1,516,595
2038	-	2,512,435	-	2,512,435	-	1,493,963	1,442,880
2039	-	2,525,268	-	2,525,268	-	1,448,716	1,395,827
2040	-	2,635,960	-	2,635,960	-	1,458,966	1,402,334
2041	-	2,696,603	-	2,696,603	-	1,439,972	1,380,761
2042	-	2,760,776	-	2,760,776	-	1,422,326	1,360,571
2043	-	2,776,369	-	2,776,369	-	1,379,989	1,316,909
2044	-	2,882,541	-	2,882,541	-	1,382,308	1,315,960
2045	-	2,816,261	-	2,816,261	-	1,302,965	1,237,453
2046	-	2,807,931	-	2,807,931	-	1,253,363	1,187,493
2047	-	2,841,641	-	2,841,641	-	1,223,744	1,156,651
2048	-	2,918,744	-	2,918,744	-	1,212,685	1,143,452
2049	-	2,894,935	-	2,894,935	-	1,160,437	1,091,564
2050	-	2,929,059	-	2,929,059	-	1,132,769	1,062,986
2051	-	2,864,865	-	2,864,865	-	1,068,927	1,000,673
2052	-	2,917,287	-	2,917,287	-	1,050,156	980,744
2053	-	2,925,660	-	2,925,660	-	1,016,083	946,649
2054	-	2,791,179	-	2,791,179	-	935,242	869,244
2055	-	2,866,992	-	2,866,992	-	926,816	859,348
2056	-	2,842,741	-	2,842,741	-	886,615	820,103
2057	-	2,727,464	-	2,727,464	-	820,705	757,319

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

**Table 3: Actuarial Present Value of Projected Benefit Payments - End of Measurement Period**

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments (b)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g) = 3.9%
2058	-	2,692,871	-	2,692,871	-	781,762	719,654
2059	-	2,544,682	-	2,544,682	-	712,727	654,532
2060	-	2,474,910	-	2,474,910	-	668,775	612,696
2061	-	2,399,186	-	2,399,186	-	625,482	571,661
2062	-	2,331,379	-	2,331,379	-	586,401	534,658
2063	-	2,295,645	-	2,295,645	-	557,079	506,706
2064	-	2,222,727	-	2,222,727	-	520,390	472,201
2065	-	2,193,205	-	2,193,205	-	495,397	448,444
2066	-	2,184,713	-	2,184,713	-	476,101	429,944
2067	-	2,145,591	-	2,145,591	-	451,110	406,400
2068	-	2,102,778	-	2,102,778	-	426,540	383,344
2069	-	2,086,574	-	2,086,574	-	408,348	366,115
2070	-	2,042,554	-	2,042,554	-	385,657	344,942
2071	-	2,008,492	-	2,008,492	-	365,871	326,461
2072	-	1,960,152	-	1,960,152	-	344,491	306,647
2073	-	1,896,641	-	1,896,641	-	321,591	285,577
2074	-	1,859,187	-	1,859,187	-	304,140	269,432
2075	-	1,784,079	-	1,784,079	-	281,575	248,845
2076	-	1,722,245	-	1,722,245	-	262,244	231,206
2077	-	1,648,427	-	1,648,427	-	242,165	212,992
2078	-	1,563,068	-	1,563,068	-	221,539	194,383
2079	-	1,498,929	-	1,498,929	-	204,967	179,412
2080	-	1,409,003	-	1,409,003	-	185,886	162,319
2081	-	1,327,532	-	1,327,532	-	168,970	147,195
2082	-	1,239,781	-	1,239,781	-	152,244	132,306
2083	-	1,145,066	-	1,145,066	-	135,662	117,613
2084	-	1,061,138	-	1,061,138	-	121,291	104,902
2085	-	967,381	-	967,381	-	106,681	92,045
2086	-	877,947	-	877,947	-	93,409	80,401
2087	-	786,865	-	786,865	-	80,770	69,355
2088	-	698,516	-	698,516	-	69,176	59,258
2089	-	614,894	-	614,894	-	58,750	50,206
2090	-	533,563	-	533,563	-	49,184	41,931
2091	-	458,384	-	458,384	-	40,766	34,671

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

**Table 3: Actuarial Present Value of Projected Benefit Payments - End of Measurement Period**

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments (b)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g) = 3.9%
2092	-	388,512	-	388,512	-	33,335	28,283
2093	-	324,702	-	324,702	-	26,879	22,751
2094	-	267,362	-	267,362	-	21,353	18,030
2095	-	217,365	-	217,365	-	16,749	14,108
2096	-	174,224	-	174,224	-	12,952	10,884
2097	-	137,230	-	137,230	-	9,842	8,251
2098	-	106,442	-	106,442	-	7,365	6,160
2099	-	81,120	-	81,120	-	5,416	4,518
2100	-	60,691	-	60,691	-	3,909	3,254
2101	-	44,536	-	44,536	-	2,768	2,298
2102	-	32,026	-	32,026	-	1,920	1,590
2103	-	22,550	-	22,550	-	1,304	1,078
2104	-	15,534	-	15,534	-	867	715
2105	-	10,459	-	10,459	-	563	463
2106	-	6,878	-	6,878	-	357	293
2107	-	4,416	-	4,416	-	221	181
2108	-	2,767	-	2,767	-	134	109
2109	-	1,691	-	1,691	-	79	64
2110	-	1,006	-	1,006	-	45	37
2111	-	585	-	585	-	25	21
2112	-	332	-	332	-	14	11
2113	-	184	-	184	-	7	6
2114	-	100	-	100	-	4	3
2115	-	52	-	52	-	2	2
2116	-	27	-	27	-	1	1
2117	-	13	-	13	-	-	-
2118	-	6	-	6	-	-	-
2119	-	3	-	3	-	-	-
2120	-	1	-	1	-	-	-
2121	-	-	-	-	-	-	-
2122	-	-	-	-	-	-	-

## APPENDIX B - SCHEDULE OF DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES

Year	Differences between Expected and Actual Experience	Recognition Period (Years)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
2018	-	5.35	-	-	-	-	-	-	-	-	-	-
2019	4,279,346	6.30	679,261	679,261	203,780	-	-	-	-	-	-	-
2020	-	6.30	-	-	-	-	-	-	-	-	-	-
2021	(11,502,129)	5.88	(1,956,144)	(1,956,144)	(1,956,144)	(1,721,409)	-	-	-	-	-	-
2022	-	5.88	-	-	-	-	-	-	-	-	-	-
2023	(7,913,236)	5.83	(1,357,330)	(1,357,330)	(1,357,330)	(1,357,330)	(1,357,330)	(1,126,586)	-	-	-	-
Net Increase (Decrease) in OPEB Expense			(2,634,213)	(2,634,213)	(3,109,694)	(3,078,739)	(1,357,330)	(1,126,586)	-	-	-	-

Year	Changes of Assumptions	Recognition Period (Years)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
2018	(2,344,320)	5.35	(153,365)	-	-	-	-	-	-	-	-	-
2019	12,933,202	6.30	2,052,889	2,052,889	615,868	-	-	-	-	-	-	-
2020	13,766,951	6.30	2,185,230	2,185,230	2,185,230	655,571	-	-	-	-	-	-
2021	(104,562)	5.88	(17,783)	(17,783)	(17,783)	(15,647)	-	-	-	-	-	-
2022	(13,275,897)	5.88	(2,257,806)	(2,257,806)	(2,257,806)	(2,257,806)	(1,986,867)	-	-	-	-	-
2023	(968,336)	5.83	(166,095)	(166,095)	(166,095)	(166,095)	(166,095)	(137,861)	-	-	-	-
Net Increase (Decrease) in OPEB Expense			1,643,070	1,796,435	359,414	(1,783,977)	(2,152,962)	(137,861)	-	-	-	-

## APPENDIX B - SCHEDULE OF DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES

Year	Differences between Projected and Actual Earnings on OPEB Plan Investments	Recognition Period (Years)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
2018	56,633	5	-	-	-	-	-	-	-	-	-	-
2019	59,212	5	11,843	-	-	-	-	-	-	-	-	-
2020	63,990	5	12,798	12,798	-	-	-	-	-	-	-	-
2021	(634,010)	5	(126,802)	(126,802)	(126,802)	-	-	-	-	-	-	-
2022	637,751	5	127,550	127,550	127,550	127,551	-	-	-	-	-	-
2023	(156,951)	5	(31,390)	(31,390)	(31,390)	(31,390)	(31,391)	-	-	-	-	-
Net Increase (Decrease) in OPEB Expense			(6,001)	(17,844)	(30,642)	96,161	(31,391)	-	-	-	-	-