



COUNTY OF DUKES COUNTY

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. Judy Soules
Treasurer
County of Dukes County
9 Airport Road, Suite 2
Vineyard Haven, MA 02568

Dear Judy:

We are pleased to present the enclosed report of the July 1, 2022 actuarial valuation of the retiree health care benefits for the County of Dukes County, 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 County of Dukes County 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 3.98%, 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 Retirement System's 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 County of Dukes County 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 County of Dukes County 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 County of Dukes County, 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.

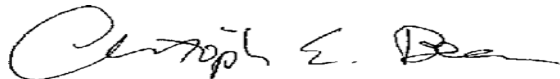
Respectfully submitted,



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EXECUTIVE SUMMARY

Purpose of Report

This report presents the results of the actuarial valuation of the County of Dukes County'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 County of Dukes County. 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 County of Dukes County.

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

County of Dukes County Other Postemployment Benefits Program

The County of Dukes County 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 County 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 County 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	
Membership Data			
Active Plan Members	39	35	11.4%
Inactive Plan Members (excludes covered spouses)	22	22	0.0%
Total Plan Members	61	57	7.0%
Covered Spouses	9	10	(10.0%)
Covered Payroll	\$3,033,676	\$2,678,231	13.3%
Net OPEB Liability			
Discount Rate	3.98%	3.78%	
Total OPEB Liability (TOL)	\$8,259,342	\$9,743,291	(15.2%)
Fiduciary Net Position (FNP)	\$1,969,810	\$1,523,965	29.3%
Net OPEB Liability	\$6,289,532	\$8,219,326	(23.5%)
FNP as % of TOL	23.8%	15.6%	
OPEB Expense			
OPEB Expense	\$744,006	\$1,194,893	(37.7%)
Deferred Outflows	\$1,659,994	\$2,692,976	
Deferred Inflows	\$4,453,502	\$3,349,382	
Recognition Period	6.64	6.35	

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 \$1,856,000. This gain is primarily attributable to the following:

- ◆ a gain due to a lower than expected increase in medical premiums since the prior valuation
- ◆ a gain due to the termination of two Group 4 employees
- ◆ a gain due to fewer retirements with coverage than expected

Changes of Assumptions

The discount rate changed from 3.78% as of June 30, 2022 to 3.98% 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	(19,000)
◆ Increase due to change in Trend Assumption	226,000
◆ Decrease due to change in Mortality Improvement Rates	(193,000)
◆ Decrease due to change in Discount Rate	(243,000)
Total	\$ (229,000)

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 \$8,259,342. The Total OPEB Liability as of the prior measurement date, June 30, 2022, was \$9,743,291. During the current measurement period ending June 30, 2023, the Total OPEB Liability decreased by \$1,483,949, or -15.2%. The development of the Total OPEB Liability for the current measurement period is shown in Section 1, Exhibit 1.2.

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 \$1,969,810. The Fiduciary Net Position as of the prior measurement date, June 30, 2022, was \$1,523,965. During the plan years ended June 30, 2023 and June 30, 2022, the actual rates of return were 10.89% and -9.71%, respectively. The expected long-term rate of return is 6.50%. The Fiduciary Net Position is shown in Section 1, Exhibit 1.1.

EXECUTIVE SUMMARY

Employer Future Period Contributions

The County will seek to make a minimum contribution of \$59,000 annually. As the COVID economic recovery continues, there is a possibility that the County may make additional contributions to OPEB.

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 14 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 3.98%.

OPEB Expense

The OPEB Expense for the current measurement period ending June 30, 2023, is \$744,006. Benefit changes are recognized immediately, and experience gains and losses and assumption changes developed in this valuation are recognized over 6.64 years. Investment gains and losses are recognized over 5 years. The OPEB Expense for the prior measurement period was \$1,194,893. 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	\$339,361	\$307,729
Cash & Equivalents	1,053	1,288
Large Cap Equity	716,929	501,674
Mid Cap Equity	193,929	137,519
Small Cap Equity	193,323	135,624
International Equity	293,139	204,669
Real Estate	232,076	235,462
Total Market Value of Assets	\$1,969,810	\$1,523,965
Asset Activity		
Market value, beginning of year	\$1,523,965	\$1,681,323
Employer Premiums	266,698	313,230
OPEB Trust Contributions	270,000	6,000
Benefit Payments	(266,698)	(313,230)
Administrative Expenses	-	-
Investment Return	175,845	(163,358)
Market value, end of year	\$1,969,810	\$1,523,965
Money-Weighted Rate of Return	10.89%	-9.71%
(Gain) / Loss on OPEB Plan Investments		
Projected earnings	\$106,616	\$111,010
Actual earnings	175,845	(163,358)
(Gain) / Loss on OPEB plan investments	(\$69,229)	\$274,368

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	\$4,316,685
b. Retirees, Covered Spouses and Survivors	5,426,606
c. Total OPEB Liability at 3.78% (a. + b.)	\$9,743,291
2. Service Cost	\$486,214
3. Expected Benefit Payments	
a. Current retirees	(\$257,111)
b. Future retirees	(9,587)
c. Total (a. + b.)	(\$266,698)
4. Interest [3.78% x (1.c. + 2. + .5 x 3.c)]	\$381,635
5. Changes of benefit terms	\$0
6. Differences between expected and actual experience	(\$1,855,994)
7. Changes of assumptions or other inputs	(\$229,106)
8. Total OPEB Liability, end of year (1.c. + 2. + 3.c. + 4. + 5. + 6. + 7.)	
a. Actives	\$3,534,894
b. Retirees, Covered Spouses and Survivors	4,724,448
c. Total OPEB Liability at 3.98% (a. + b.)	\$8,259,342

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.3 - Development of Actuarially Determined Employer Contributions

The County will seek to make a minimum contribution of \$59,000 annually. As the COVID economic recovery continues, there is a possibility that the County may make additional contributions to OPEB.

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
Discount Rate	3.78%	3.98%
1. Normal Cost	\$486,214	\$450,497
2. Unfunded Actuarial Accrued Liability		
a. Actuarial Accrued Liability	\$9,743,291	\$8,259,342
b. Actuarial Value of Plan Assets	\$1,523,965	\$1,969,810
c. Unfunded Actuarial Accrued Liability (a. - b.)	\$8,219,326	\$6,289,532
3. Amortization of Unfunded Actuarial Accrued Liability		
a. Unfunded Actuarial Accrued Liability	\$8,219,326	\$6,289,532
b. Amortization Period in years	30	30
c. Payroll Growth Rate	3.5%	3.5%
d. Amortization Factor	28.86	28.08
e. Amortization Amount (3.a. / 3.d.)	\$284,800	\$223,986
4. Interest on 1. and 3.e.	\$29,144	\$26,844
5. Actuarially Determined Employer Contribution (1. + 3.e. + 4.)	\$800,158	\$701,327
6. Actual Employer Contribution to OPEB Trust	\$270,000	TBD
7. Expected Benefit Payments	\$266,698	
8. Total Contribution (6. + 7.)	\$536,698	

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.1 - Plan Description

Plan Administration

The County of Dukes County 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 ¹	22
Inactive plan members entitled to but not yet receiving benefit payments	0
Active plan members	39
	<u>61</u>

¹Per 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 County 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 County and retirees.

Employer Future Period Contributions

The County will seek to make a minimum contribution of \$59,000 annually. As the COVID economic recovery continues, there is a possibility that the County may make additional contributions to OPEB.

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	\$ 8,259,342
Fiduciary net position	(1,969,810)
Net OPEB liability	\$ 6,289,532

Fiduciary net position as a percentage of the total OPEB liability 23.85%

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	3.98%, 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	RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2020.
Healthy Retiree Mortality	RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2020.
Disabled Retiree Mortality	RP-2014 Blue Collar Mortality Table set forward one year with full generational mortality improvement using Scale MP-2020.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net OPEB Liability

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 ¹	Long-Term Expected Real Rates of Return ²
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%	

¹ provided in the Dukes County Pooled OPEB Trust's investment policy statement.

² 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 3.98%. The projection of cash flows used to determine the discount rate assumed that contributions from the County 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 14 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 3.98 percent, as well as what the net OPEB liability would be if it were calculated using a discount rate 1-percentage point lower (2.98 percent) or 1-percentage point higher (4.98 percent) than the current rate:

	1% Decrease (2.98%)	Assumed Discount Rate (3.98%)	1% Increase (4.98%)
Total OPEB Liability	\$ 9,593,516	\$ 8,259,342	\$ 7,193,227
Fiduciary Net Position	(1,969,810)	(1,969,810)	(1,969,810)
Net OPEB Liability	\$ 7,623,706	\$ 6,289,532	\$ 5,223,417
% Change in Net OPEB Liability	21.2%		-17.0%

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	\$ 7,035,998	\$ 8,259,342	\$ 9,829,596
Fiduciary Net Position	(1,969,810)	(1,969,810)	(1,969,810)
Net OPEB Liability	\$ 5,066,188	\$ 6,289,532	\$ 7,859,786
% Change in Net OPEB Liability	-19.5%		25.0%

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
Total OPEB Liability					
Service cost	\$ 486,214	\$ 708,275	\$ 741,178	\$ 507,923	\$ 330,289
Interest	381,635	282,899	288,993	364,938	328,781
Changes of benefit terms	-	-	-	(337,801)	-
Differences between expected and actual experience	(1,855,994)	-	(1,389,686)	-	349,306
Changes of assumptions	(229,106)	(2,845,503)	365,951	2,733,808	2,331,407
Benefit payments	(266,698)	(313,230)	(283,395)	(303,108)	(318,349)
Net change in total OPEB liability	\$ (1,483,949)	\$ (2,167,559)	\$ (276,959)	\$ 2,965,760	\$ 3,021,434
Total OPEB liability—beginning	\$ 9,743,291	\$ 11,910,850	\$ 12,187,809	\$ 9,222,049	\$ 6,200,615
Total OPEB liability—ending (a)	\$ 8,259,342	\$ 9,743,291	\$ 11,910,850	\$ 12,187,809	\$ 9,222,049
Plan Fiduciary Net Position					
Contributions—employer	\$ 536,698	\$ 319,230	\$ 368,266	\$ 401,948	\$ 533,300
Net investment income	175,845	(163,358)	373,798	48,997	44,971
Benefit payments	(266,698)	(313,230)	(283,395)	(303,108)	(318,349)
Administrative expenses	-	-	-	-	-
Other	-	-	-	-	-
Net change in plan fiduciary net position	\$ 445,845	\$ (157,358)	\$ 458,669	\$ 147,837	\$ 259,922
Plan fiduciary net position—beginning	\$ 1,523,965	\$ 1,681,323	\$ 1,222,654	\$ 1,074,817	\$ 814,895
Plan fiduciary net position—ending (b)	\$ 1,969,810	\$ 1,523,965	\$ 1,681,323	\$ 1,222,654	\$ 1,074,817
Net OPEB liability—ending (a) – (b)	\$ 6,289,532	\$ 8,219,326	\$ 10,229,527	\$ 10,965,155	\$ 8,147,232
Plan fiduciary net position as a percentage of the total OPEB liability	23.85%	15.64%	14.12%	10.03%	11.65%
Covered payroll	\$ 3,033,676	\$ 2,678,231	\$ 2,704,362	\$ 2,808,207	\$ 2,658,800
Net OPEB liability as a percentage of covered payroll	207.32%	306.89%	378.26%	390.47%	306.43%
Discount Rate	3.98%	3.78%	2.27%	2.26%	3.81%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

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

Fiscal Year Ended June 30	2018	2017			
	Total OPEB Liability				
Service cost	\$ 301,243	\$ 342,568			
Interest	313,794	285,191			
Changes of benefit terms	(8,833)	-			
Differences between expected and actual experience	-	-			
Changes of assumptions	190,641	(576,049)			
Benefit payments	(255,164)	(236,184)			
Net change in total OPEB liability	\$ 541,681	\$ (184,474)			
Total OPEB liability—beginning	\$ 5,658,934	\$ 5,843,408			
Total OPEB liability—ending (a)	\$ 6,200,615	\$ 5,658,934			
	Plan Fiduciary Net Position				
Contributions—employer	\$ 375,164	\$ 386,184			
Net investment income	33,657	25,782			
Benefit payments	(255,164)	(236,184)			
Administrative expenses	-	-			
Other	-	-			
Net change in plan fiduciary net position	\$ 153,657	\$ 175,782			
Plan fiduciary net position—beginning	\$ 661,238	\$ 485,456			
Plan fiduciary net position—ending (b)	\$ 814,895	\$ 661,238			
Net OPEB liability—ending (a) – (b)	\$ 5,385,720	\$ 4,997,696			
Plan fiduciary net position as a percentage of the total OPEB liability	13.14%	11.68%			
Covered payroll	\$ 2,395,994	\$ 2,162,273			
Net OPEB liability as a percentage of covered payroll	224.78%	231.13%			
Discount Rate	5.16%	5.38%			

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

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 3.78% as of June 30, 2022 to 3.98% 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	10.89%	-9.71%	30.26%	4.56%	4.74%	4.42%	4.14%			

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 _{mw}) ^(c)
Beginning value - July 1, 2022	\$ 1,523,965	12	1.00	\$ 1,689,874
Monthly net external cash flows:				
July	100,000	11	0.92	109,936
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	170,000	0	0.00	170,000
Ending value - June 30, 2023				\$ 1,969,810
Money-weighted rate of return:				10.89%

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	\$ 800,158	\$ 1,016,009	\$ 1,070,094	\$ 821,556	\$ 582,825
Contributions in relation to the actuarially determined contribution	536,698	319,230	368,266	401,948	533,300
Contribution deficiency (excess)	\$ 263,460	\$ 696,779	\$ 701,828	\$ 419,608	\$ 49,525
Covered payroll	\$ 3,033,676	\$ 2,678,231	\$ 2,704,362	\$ 2,808,207	\$ 2,658,800
Contributions as a percentage of covered payroll	17.69%	11.92%	13.62%	14.31%	20.06%
Discount rate	3.78%	2.27%	2.26%	3.81%	5.16%
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	\$ 528,620	\$ 379,403			
Contributions in relation to the actuarially determined contribution	375,164	386,184			
Contribution deficiency (excess)	\$ 153,456	\$ (6,781)			
Covered payroll	\$ 2,395,994	\$ 2,162,273			
Contributions as a percentage of covered payroll	15.66%	17.86%			
Discount rate	5.38%	7.50%			
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	349,306	-	284,450	64,856	-
2020	-	-	-	-	-
2021	-	1,389,686	(656,544)	-	733,142
2022	-	-	-	-	-
2023	-	1,855,994	(279,517)	-	1,576,477
Total				<u>\$ 64,856</u>	<u>\$ 2,309,619</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	\$ 190,641	\$ -	\$ 174,900	\$ 15,741	\$ -
2019	2,331,407	-	1,898,540	432,867	-
2020	2,733,808	-	1,780,984	952,824	-
2021	365,951	-	172,890	193,061	-
2022	-	2,845,503	(896,222)	-	1,949,281
2023	-	229,106	(34,504)	-	194,602
Total				<u>\$ 1,594,493</u>	<u>\$ 2,143,883</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	\$ 20,436	\$ -	\$ 20,436	\$ -	\$ -	
2019	26,179	-	26,179	-	-	
2020	31,614	-	25,292	6,322	-	
2021	-	287,285	(172,371)	-	114,914	
2022	274,368	-	109,748	164,620	-	
2023	-	69,229	(13,846)	-	55,383	
Subtotal				\$ 170,942	\$ 170,297	
Net				\$ 645	\$ -	

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	\$	(35,872)
2025	\$	(433,409)
2026	\$	(819,991)
2027	\$	(832,404)
2028	\$	(470,858)
Thereafter		(200,974)
Deferred Outflows	\$	1,659,994
Deferred Inflows	\$	4,453,502

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	\$ 486,214
2. Interest on the total OPEB liability	
a. Total OPEB liability, beginning of year	9,743,291
b. Service cost, beginning of year	486,214
c. Benefit payments	(266,698)
d. Interest on total OPEB liability = 3.78% times (a. + b. + .5 times c.)	381,635
3. Differences between expected and actual experience	(441,475)
4. Changes of benefit terms	-
5. Changes of assumptions	429,119
6. Projected earnings on OPEB plan investments	
a. Plan fiduciary net position, beginning of year	1,523,965
b. Contributions - Employer	536,698
c. Benefit payments	(266,698)
d. Administrative expenses and other	-
e. Total projected earnings	(106,616)
7. Differences between projected and actual earnings on OPEB plan investments	(4,871)
8. OPEB plan administrative expenses	-
9. Other changes in fiduciary net position	-
10. Total OPEB Expense	\$ 744,006

SECTION 5 - SUMMARY OF PLAN PROVISIONS

Eligibility for Postemployment Benefits Employees of the County and their dependents are eligible for postemployment medical and life insurance based on the eligibility requirements under the Dukes County Retirement System.

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:

Non-Medicare Plans - July 1, 2023	Individual	Family
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
Medicare Plans - January 1, 2023		
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

Participant Contributions	Retired employees contribute 10% of the health plan premium.
Continuation of Coverage to Spouse After Death of Retiree	Surviving spouse may continue coverage for lifetime by paying the required medical premium.
Medicare Penalty Reimbursement	The County reimburses the Medicare late-enrollment penalty, if applicable, based on information provided in the retiree data.
Dental Coverage	Dental coverage is not offered to retirees.
Life Insurance Coverage	Retirees are eligible for a \$5,000 life insurance benefit. The total monthly cost is \$4.65. Retirees contribute \$1.00 towards the monthly premiums.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Valuation Date	July 1, 2022
Disclosure Date	June 30, 2023
GASB 75 Reporting Date	June 30, 2023
Long-Term Expected Rate of Return	<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>
Municipal Bond Rate	3.65%, based on the Bond Buyer 20-Bond GO Index published on June 30, 2023.
Discount Rate (GASB)	<p>3.98%, compounded annually, for the measurement as of June 30, 2023.</p> <p>3.78%, 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>
Discount Rate (ADEC)	3.78%, compounded annually, for development of the Actuarially Determined Contribution (ADEC) as of June 30, 2023.
Amortization Method	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 (no dental coverage).

Medicare Trend Rates

5.5% per year.

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 offered to retired employees.

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	\$ 1,594
Medicare	439

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 County as of May 31, 2023. We made reasonable adjustments for missing or invalid data.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

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 7 - PLAN MEMBER INFORMATION

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

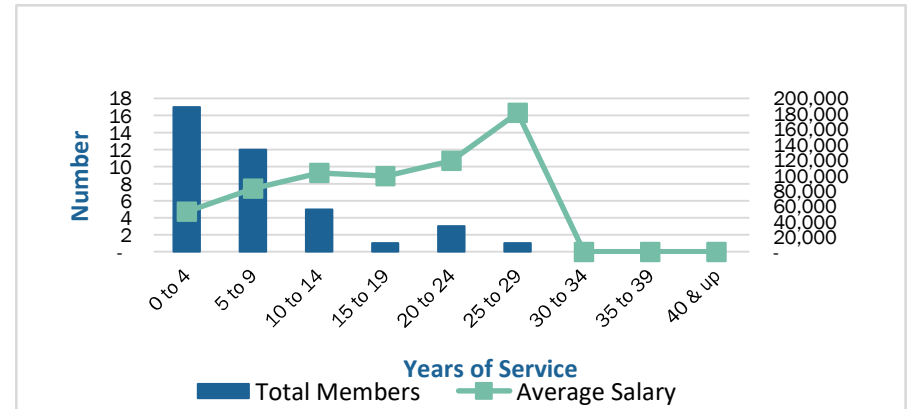
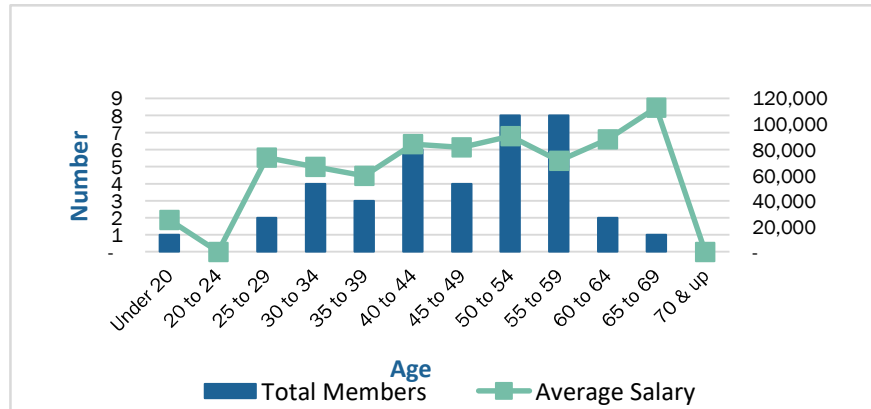
Age	Years of Service									Total	Total Salary	Average Salary
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up			
Under 20	1	-	-	-	-	-	-	-	-	1	24,890	24,890
20 to 24	-	-	-	-	-	-	-	-	-	-	-	-
25 to 29	-	2	-	-	-	-	-	-	-	2	147,525	73,763
30 to 34	2	2	-	-	-	-	-	-	-	4	266,447	66,612
35 to 39	2	1	-	-	-	-	-	-	-	3	178,761	59,587
40 to 44	1	3	2	-	-	-	-	-	-	6	505,457	84,243
45 to 49	1	2	1	-	-	-	-	-	-	4	327,318	81,830
50 to 54	4	1	-	1	1	1	-	-	-	8	723,515	90,439
55 to 59	4	1	2	-	1	-	-	-	-	8	570,922	71,365
60 to 64	2	-	-	-	-	-	-	-	-	2	176,029	88,014
65 to 69	-	-	-	-	1	-	-	-	-	1	112,811	112,811
70 & up	-	-	-	-	-	-	-	-	-	-	-	-
Total	17	12	5	1	3	1	-	-	-	39	3,033,676	77,787
Total Salary	891,629	990,340	515,612	98,872	355,887	181,336	-	-	-			
Average Salary	52,449	82,528	103,122	98,872	118,629	181,336	-	-	-			

Average Age:

46.9

Average Service:

6.7



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	0	0	0	0	0	1
50 to 54	0	0	0	0	0	0	0	0
55 to 59	0	0	0	0	0	0	0	0
60 to 64	2	0	0	0	0	0	0	2
65 to 69	0	0	0	0	0	5	0	5
70 to 74	1	0	0	0	0	8	1	10
75 to 79	0	0	0	0	0	0	0	0
80 to 84	0	0	0	0	0	2	0	2
85 to 89	1	0	0	0	0	0	0	1
90+	0	0	0	0	0	0	0	0
Total	5	0	0	0	0	15	1	21
Covered Spouses	3	0	0	0	0	5	1	9

Average Age: 70.5

In addition, there is 1 retiree that is not covered under any medical plan but is covered under a life insurance policy which the County contributes to.

SECTION 8 - GLOSSARY OF TERMS

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

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

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.

SECTION 9 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	County of Duke's County	Martha's Vineyard Airport	Senior Services	Dukes County Contributory Ret. System	Vineyard Health Care Access Program	Registry of Deeds	Total
Summary of Member Data Used in Valuation							
Active Members	6	23	0	3	3	4	39
Average Age	51.3	45.8	-	45.4	50.6	44.6	46.9
Average Service	4.3	6.2	-	8.4	11.0	9.3	6.7
Covered Payroll	416,295	1,815,286	-	235,240	252,509	314,346	3,033,676
Retired Members and Survivors	9	8	1	2	0	2	22
Average Age	71.6	67.9	66.5	78.2	-	70.8	70.5
Covered Spouses	4	4	1	0	0	0	9
Expected Benefit Payments	92,619	108,214	6,294	51,116	887	7,568	266,698
OPEB Trust contributions	8,000	252,000	0	2,000	4,000	4,000	270,000
Total Employer Contributions	100,619	360,214	6,294	53,116	4,887	11,568	536,698
Beginning Net OPEB Liability - June 30, 2022							
Total OPEB Liability	2,537,035	5,352,272	263,418	761,544	259,044	569,978	9,743,291
Fiduciary Net Position	717,901	233,994	94,149	3,744	79,683	394,494	1,523,965
Net OPEB Liability	1,819,134	5,118,278	169,269	757,800	179,361	175,484	8,219,326
Total OPEB Liability, beginning of year	2,537,035	5,352,272	263,418	761,544	259,044	569,978	9,743,291
Service cost	61,003	356,314	0	19,896	21,671	27,330	486,214
Interest	96,455	213,741	9,838	28,572	10,594	22,435	381,635
Changes of benefit terms	0	0	0	0	0	0	0
Differences between expected and actual experience	(624,119)	(1,195,534)	(35,882)	(7,687)	(38,150)	45,378	(1,855,994)
Changes of assumptions	(36,137)	(117,693)	(3,853)	(15,155)	(13,394)	(42,874)	(229,106)
Benefit payments	(92,619)	(108,214)	(6,294)	(51,116)	(887)	(7,568)	(266,698)
Net change in total OPEB liability	(595,417)	(851,386)	(36,191)	(25,490)	(20,166)	44,701	(1,483,949)
Total OPEB Liability, end of year	1,941,618	4,500,886	227,227	736,054	238,878	614,679	8,259,342
Ending Net OPEB Liability - June 30, 2023							
Total OPEB Liability	1,941,618	4,500,886	227,227	736,054	238,878	614,679	8,259,342
Fiduciary Net Position	804,056	521,404	104,399	6,152	92,358	441,441	1,969,810
Net OPEB Liability	1,137,562	3,979,482	122,828	729,902	146,520	173,238	6,289,532
Actuarially Determined Employer Contribution							
Normal Cost	61,003	356,314	0	19,896	21,671	27,330	486,214
Amortization Payment	63,033	177,348	5,865	26,258	6,215	6,081	284,800
Interest	4,689	20,171	222	1,745	1,054	1,263	29,144
Actuarially Determined Employer Contribution	128,725	553,833	6,087	47,899	28,940	34,674	800,158

SECTION 9 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	County of Duke's County	Martha's Vineyard Airport	Senior Services	Dukes County Contributory Ret. System	Vineyard Health Care Access Program	Registry of Deeds	Total
Total Deferred Outflows of Resources							
Differences between Expected and Actual Experience	16,888	35,628	1,753	5,069	1,724	3,794	64,856
Changes in Assumptions	415,187	875,901	43,108	124,627	42,393	93,277	1,594,493
Differences between Expected and Actual Earnings on OPEB Plan Investments	303	99	40	2	34	167	645
Total Deferred Outflows of Resources	432,378	911,628	44,901	129,698	44,151	97,238	1,659,994
Total Deferred Inflows of Resources							
Differences between Expected and Actual Experience	601,397	1,268,740	62,442	180,522	61,406	135,112	2,309,619
Changes in Assumptions	558,241	1,177,697	57,962	167,568	56,999	125,416	2,143,883
Differences between Expected and Actual Earnings on OPEB Plan Investments	0	0	0	0	0	0	0
Total Deferred Inflows of Resources	1,159,638	2,446,437	120,404	348,090	118,405	260,528	4,453,502
Total OPEB Expense (Income)	(13,135)	375,372	19,574	186,673	31,199	144,323	744,006
Sensitivity of the Net OPEB Liability to Changes in the Discount Rate							
Current Discount Rate: 3.98%	1,137,562	3,979,482	122,828	729,902	146,520	173,238	6,289,532
1% Decrease in the Discount Rate: 2.98%	1,451,202	4,706,533	159,533	848,801	185,107	272,530	7,623,706
1% Increase in the Discount Rate: 4.98%	886,938	3,398,508	93,498	634,892	115,686	93,895	5,223,417
Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates							
Current Trend Rates	1,137,562	3,979,482	122,828	729,902	146,520	173,238	6,289,532
1% Decrease in Trend Rates	849,977	3,312,827	89,172	620,880	111,138	82,194	5,066,188
1% Increase in Trend Rates	1,506,700	4,835,184	166,028	869,840	191,935	290,100	7,859,786
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in OPEB Expense							
2024	(9,339)	(19,708)	(970)	(2,804)	(954)	(2,097)	(35,872)
2025	(112,833)	(238,125)	(11,714)	(33,883)	(11,520)	(25,334)	(433,409)
2026	(213,476)	(450,519)	(22,163)	(64,106)	(21,796)	(47,931)	(819,991)
2027	(216,707)	(457,340)	(22,498)	(65,076)	(22,126)	(48,657)	(832,404)
2028	(122,583)	(258,699)	(12,726)	(36,811)	(12,516)	(27,523)	(470,858)
Thereafter	(52,321)	(110,419)	(5,432)	(15,712)	(5,342)	(11,748)	(200,974)

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.

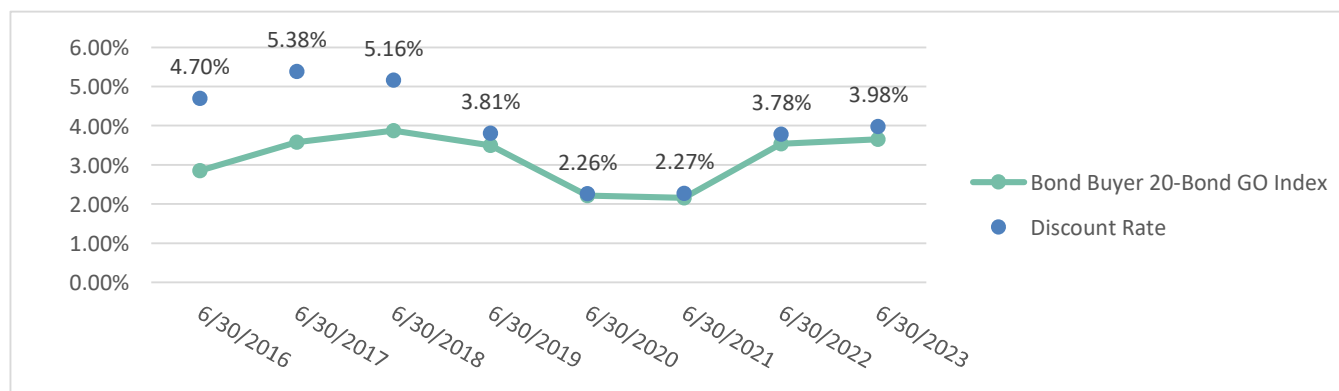
Projected cash flows into and out of the OPEB plan are assumed to be contributions to the OPEB plan, benefit payments, OPEB plan administrative expenses and OPEB plan investment earnings. These projected cash flows are used to project the OPEB plan's fiduciary net position at the beginning of each period. 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 3.98%, 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 14 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 3.98%.

Below are the historical Bond Buyer 20-Bond GO Indices and the County'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) * 14.35%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2023	3,033,676	-	3,033,676	266,698	270,000	-	536,698
2024	2,860,689	279,166	3,139,855	277,008	59,000	40,054	295,954
2025	2,709,107	540,643	3,249,750	293,260	59,000	77,570	274,690
2026	2,557,156	806,335	3,363,491	328,684	59,000	115,691	271,993
2027	2,420,878	1,060,335	3,481,213	385,505	59,000	152,134	292,371
2028	2,225,302	1,377,753	3,603,055	434,560	59,000	197,676	295,884
2029	2,098,740	1,630,422	3,729,162	456,543	59,000	233,928	281,615
2030	1,978,664	1,881,019	3,859,683	485,877	59,000	269,883	274,994
2031	1,851,610	2,143,162	3,994,772	478,759	59,000	307,495	230,264
2032	1,740,162	2,394,427	4,134,589	527,211	59,000	343,545	242,666
2033	1,613,554	2,665,746	4,279,300	533,191	59,000	382,473	209,718
2034	1,470,433	2,958,643	4,429,076	540,854	59,000	424,497	175,357
2035	1,353,254	3,230,840	4,584,094	589,718	59,000	463,552	185,166
2036	1,261,825	3,482,712	4,744,537	637,569	59,000	499,689	196,880
2037	1,173,447	3,737,149	4,910,596	572,279	59,000	536,195	95,084
2038	1,081,964	4,000,503	5,082,467	590,067	59,000	573,981	75,086
2039	1,047,227	4,213,126	5,260,353	625,453	59,000	604,487	79,966
2040	988,812	4,455,653	5,444,465	520,103	59,000	639,284	-
2041	942,301	4,692,720	5,635,021	522,624	59,000	673,298	-
2042	905,617	4,926,630	5,832,247	558,145	59,000	706,859	-
2043	857,836	5,178,540	6,036,376	541,958	59,000	743,002	-
2044	793,404	5,454,245	6,247,649	560,654	59,000	782,559	-
2045	740,873	5,725,444	6,466,317	601,217	59,000	821,470	-
2046	669,989	6,022,649	6,692,638	594,503	59,000	864,112	-
2047	592,112	6,334,768	6,926,880	601,393	59,000	908,894	-
2048	535,472	6,633,849	7,169,321	617,196	59,000	951,805	-
2049	490,421	6,929,826	7,420,247	612,682	59,000	994,271	-
2050	449,846	7,230,110	7,679,956	605,125	59,000	1,037,355	-
2051	424,108	7,524,646	7,948,754	652,798	59,000	1,079,614	-
2052	367,973	7,858,987	8,226,960	690,812	59,000	1,127,585	-
2053	319,347	8,195,557	8,514,904	728,408	59,000	1,175,875	-
2054	268,868	8,544,058	8,812,926	739,980	59,000	1,225,877	-
2055	233,915	8,887,463	9,121,378	781,340	59,000	1,275,147	-
2056	194,100	9,246,526	9,440,626	734,953	59,000	1,326,665	-

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) * 14.35%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2057	157,511	9,613,537	9,771,048	703,802	59,000	1,379,322	-
2058	126,781	9,986,254	10,113,035	715,633	59,000	1,432,799	-
2059	105,568	10,361,423	10,466,991	680,831	59,000	1,486,627	-
2060	87,175	10,746,161	10,833,336	626,685	59,000	1,541,828	-
2061	56,644	11,155,859	11,212,503	606,826	59,000	1,600,610	-
2062	39,570	11,565,371	11,604,941	606,233	59,000	1,659,366	-
2063	34,760	11,976,354	12,011,114	544,991	59,000	1,718,332	-
2064	30,881	12,400,622	12,431,503	543,731	59,000	1,779,205	-
2065	24,192	12,842,414	12,866,606	549,690	59,000	1,842,592	-
2066	18,587	13,298,350	13,316,937	553,250	59,000	1,908,009	-
2067	5,666	13,777,364	13,783,030	547,624	59,000	1,976,736	-
2068	4,480	14,260,956	14,265,436	520,870	59,000	2,046,120	-
2069	2,712	14,762,014	14,764,726	509,199	59,000	2,118,011	-
2070	2,058	15,279,433	15,281,491	497,327	59,000	2,192,249	-
2071	1,560	15,814,783	15,816,343	470,870	59,000	2,269,059	-
2072	1,102	16,368,813	16,369,915	456,547	59,000	2,348,550	-
2073	777	16,942,085	16,942,862	444,004	59,000	2,430,801	-
2074	-	17,535,862	17,535,862	429,518	59,000	2,515,994	-
2075	-	18,149,617	18,149,617	416,431	59,000	2,604,054	-
2076	-	18,784,854	18,784,854	404,453	59,000	2,695,196	-
2077	-	19,442,324	19,442,324	389,441	59,000	2,789,528	-
2078	-	20,122,805	20,122,805	376,271	59,000	2,887,161	-
2079	-	20,827,103	20,827,103	360,733	59,000	2,988,212	-
2080	-	21,556,052	21,556,052	345,303	59,000	3,092,800	-
2081	-	22,310,514	22,310,514	332,603	59,000	3,201,048	-
2082	-	23,091,382	23,091,382	314,608	59,000	3,313,084	-
2083	-	23,899,580	23,899,580	300,960	59,000	3,429,042	-
2084	-	24,736,065	24,736,065	282,737	59,000	3,549,059	-
2085	-	25,601,827	25,601,827	265,414	59,000	3,673,276	-
2086	-	26,497,891	26,497,891	247,536	59,000	3,801,840	-
2087	-	27,425,317	27,425,317	225,002	59,000	3,934,905	-
2088	-	28,385,203	28,385,203	207,652	59,000	4,072,626	-
2089	-	29,378,685	29,378,685	185,985	59,000	4,215,168	-
2090	-	30,406,939	30,406,939	167,357	59,000	4,362,699	-

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) * 14.35%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2091	-	31,471,182	31,471,182	148,219	59,000	4,515,394	-
2092	-	32,572,673	32,572,673	129,611	59,000	4,673,432	-
2093	-	33,712,717	33,712,717	112,575	59,000	4,837,002	-
2094	-	34,892,662	34,892,662	96,525	59,000	5,006,298	-
2095	-	36,113,905	36,113,905	81,932	59,000	5,181,518	-
2096	-	37,377,892	37,377,892	69,510	59,000	5,362,871	-
2097	-	38,686,118	38,686,118	57,861	59,000	5,550,572	-
2098	-	40,040,132	40,040,132	48,255	59,000	5,744,842	-
2099	-	41,441,537	41,441,537	39,381	59,000	5,945,911	-
2100	-	42,891,991	42,891,991	31,830	59,000	6,154,018	-
2101	-	44,393,211	44,393,211	25,223	59,000	6,369,409	-
2102	-	45,946,973	45,946,973	19,981	59,000	6,592,338	-
2103	-	47,555,117	47,555,117	15,691	59,000	6,823,070	-
2104	-	49,219,546	49,219,546	12,213	59,000	7,061,877	-
2105	-	50,942,230	50,942,230	9,411	59,000	7,309,043	-
2106	-	52,725,208	52,725,208	7,172	59,000	7,564,859	-
2107	-	54,570,590	54,570,590	5,400	59,000	7,829,629	-
2108	-	56,480,561	56,480,561	4,009	59,000	8,103,666	-
2109	-	58,457,381	58,457,381	2,929	59,000	8,387,295	-
2110	-	60,503,389	60,503,389	2,101	59,000	8,680,850	-
2111	-	62,621,008	62,621,008	1,477	59,000	8,984,680	-
2112	-	64,812,743	64,812,743	1,015	59,000	9,299,144	-
2113	-	67,081,189	67,081,189	680	59,000	9,624,614	-
2114	-	69,429,031	69,429,031	444	59,000	9,961,475	-
2115	-	71,859,047	71,859,047	281	59,000	10,310,127	-
2116	-	74,374,114	74,374,114	173	59,000	10,670,981	-
2117	-	76,977,208	76,977,208	103	59,000	11,044,466	-
2118	-	79,671,410	79,671,410	59	59,000	11,431,022	-
2119	-	82,459,909	82,459,909	32	59,000	11,831,108	-
2120	-	85,346,006	85,346,006	17	59,000	12,245,196	-
2121	-	88,333,116	88,333,116	9	59,000	12,673,778	-
2122	-	91,424,775	91,424,775	5	-	13,117,361	-
2123	-	94,624,642	94,624,642	3	-	13,576,468	-
2124	-	97,936,504	97,936,504	1	-	14,051,644	-

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) * 14.35%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2125	-	101,364,282	101,364,282	1	-	14,543,452	-
2126	-	104,912,032	104,912,032	-	-	15,052,473	-

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	1,523,965	536,698	266,698	-	175,845	1,969,810
2024	1,969,810	295,954	277,008	-	128,653	2,117,409
2025	2,117,409	274,690	293,260	-	137,028	2,235,867
2026	2,235,867	271,993	328,684	-	143,489	2,322,665
2027	2,322,665	292,371	385,505	-	147,946	2,377,477
2028	2,377,477	295,884	434,560	-	150,029	2,388,830
2029	2,388,830	281,615	456,543	-	149,589	2,363,491
2030	2,363,491	274,994	485,877	-	146,773	2,299,381
2031	2,299,381	230,264	478,759	-	141,384	2,192,270
2032	2,192,270	242,666	527,211	-	133,250	2,040,975
2033	2,040,975	209,718	533,191	-	122,151	1,839,653
2034	1,839,653	175,357	540,854	-	107,699	1,581,855
2035	1,581,855	185,166	589,718	-	89,673	1,266,976
2036	1,266,976	196,880	637,569	-	68,031	894,318
2037	894,318	95,084	572,279	-	42,622	459,745
2038	459,745	75,086	590,067	-	13,147	-
2039	-	79,966	625,453	-	-	-
2040	-	-	520,103	-	-	-
2041	-	-	522,624	-	-	-
2042	-	-	558,145	-	-	-
2043	-	-	541,958	-	-	-
2044	-	-	560,654	-	-	-
2045	-	-	601,217	-	-	-
2046	-	-	594,503	-	-	-
2047	-	-	601,393	-	-	-
2048	-	-	617,196	-	-	-
2049	-	-	612,682	-	-	-
2050	-	-	605,125	-	-	-
2051	-	-	652,798	-	-	-
2052	-	-	690,812	-	-	-
2053	-	-	728,408	-	-	-
2054	-	-	739,980	-	-	-
2055	-	-	781,340	-	-	-
2056	-	-	734,953	-	-	-

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	-	-	703,802	-	-	-
2058	-	-	715,633	-	-	-
2059	-	-	680,831	-	-	-
2060	-	-	626,685	-	-	-
2061	-	-	606,826	-	-	-
2062	-	-	606,233	-	-	-
2063	-	-	544,991	-	-	-
2064	-	-	543,731	-	-	-
2065	-	-	549,690	-	-	-
2066	-	-	553,250	-	-	-
2067	-	-	547,624	-	-	-
2068	-	-	520,870	-	-	-
2069	-	-	509,199	-	-	-
2070	-	-	497,327	-	-	-
2071	-	-	470,870	-	-	-
2072	-	-	456,547	-	-	-
2073	-	-	444,004	-	-	-
2074	-	-	429,518	-	-	-
2075	-	-	416,431	-	-	-
2076	-	-	404,453	-	-	-
2077	-	-	389,441	-	-	-
2078	-	-	376,271	-	-	-
2079	-	-	360,733	-	-	-
2080	-	-	345,303	-	-	-
2081	-	-	332,603	-	-	-
2082	-	-	314,608	-	-	-
2083	-	-	300,960	-	-	-
2084	-	-	282,737	-	-	-
2085	-	-	265,414	-	-	-
2086	-	-	247,536	-	-	-
2087	-	-	225,002	-	-	-
2088	-	-	207,652	-	-	-
2089	-	-	185,985	-	-	-
2090	-	-	167,357	-	-	-

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	-	-	148,219	-	-	-
2092	-	-	129,611	-	-	-
2093	-	-	112,575	-	-	-
2094	-	-	96,525	-	-	-
2095	-	-	81,932	-	-	-
2096	-	-	69,510	-	-	-
2097	-	-	57,861	-	-	-
2098	-	-	48,255	-	-	-
2099	-	-	39,381	-	-	-
2100	-	-	31,830	-	-	-
2101	-	-	25,223	-	-	-
2102	-	-	19,981	-	-	-
2103	-	-	15,691	-	-	-
2104	-	-	12,213	-	-	-
2105	-	-	9,411	-	-	-
2106	-	-	7,172	-	-	-
2107	-	-	5,400	-	-	-
2108	-	-	4,009	-	-	-
2109	-	-	2,929	-	-	-
2110	-	-	2,101	-	-	-
2111	-	-	1,477	-	-	-
2112	-	-	1,015	-	-	-
2113	-	-	680	-	-	-
2114	-	-	444	-	-	-
2115	-	-	281	-	-	-
2116	-	-	173	-	-	-
2117	-	-	103	-	-	-
2118	-	-	59	-	-	-
2119	-	-	32	-	-	-
2120	-	-	17	-	-	-
2121	-	-	9	-	-	-
2122	-	-	5	-	-	-
2123	-	-	3	-	-	-
2124	-	-	1	-	-	-

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)
2125	-	-	1	-	-	-
2126	-	-	-	-	-	-

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) = 3.98%
2024	1,969,810	277,008	277,008	-	268,422	-	271,650
2025	2,117,409	293,260	293,260	-	266,826	-	276,571
2026	2,235,867	328,684	328,684	-	280,805	-	298,104
2027	2,322,665	385,505	385,505	-	309,248	-	336,245
2028	2,377,477	434,560	434,560	-	327,323	-	364,512
2029	2,388,830	456,543	456,543	-	322,893	-	368,281
2030	2,363,491	485,877	485,877	-	322,667	-	376,929
2031	2,299,381	478,759	478,759	-	298,535	-	357,180
2032	2,192,270	527,211	527,211	-	308,683	-	378,260
2033	2,040,975	533,191	533,191	-	293,131	-	367,895
2034	1,839,653	540,854	540,854	-	279,196	-	358,887
2035	1,581,855	589,718	589,718	-	285,841	-	376,321
2036	1,266,976	637,569	637,569	-	290,173	-	391,270
2037	894,318	572,279	572,279	-	244,562	-	337,748
2038	459,745	590,067	-	590,067	-	350,870	334,906
2039	-	625,453	-	625,453	-	358,815	341,391
2040	-	520,103	-	520,103	-	287,870	273,013
2041	-	522,624	-	522,624	-	279,079	263,827
2042	-	558,145	-	558,145	-	287,551	270,964
2043	-	541,958	-	541,958	-	269,379	253,027
2044	-	560,654	-	560,654	-	268,859	251,728
2045	-	601,217	-	601,217	-	278,158	259,600
2046	-	594,503	-	594,503	-	265,366	246,867
2047	-	601,393	-	601,393	-	258,988	240,161
2048	-	617,196	-	617,196	-	256,434	237,030
2049	-	612,682	-	612,682	-	245,594	226,283
2050	-	605,125	-	605,125	-	234,023	214,930
2051	-	652,798	-	652,798	-	243,569	222,981
2052	-	690,812	-	690,812	-	248,676	226,926
2053	-	728,408	-	728,408	-	252,976	230,110
2054	-	739,980	-	739,980	-	247,945	224,811
2055	-	781,340	-	781,340	-	252,585	228,283
2056	-	734,953	-	734,953	-	229,222	206,504
2057	-	703,802	-	703,802	-	211,777	190,176

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) = 3.98%
2058	-	715,633	-	715,633	-	207,754	185,965
2059	-	680,831	-	680,831	-	190,690	170,144
2060	-	626,685	-	626,685	-	169,344	150,613
2061	-	606,826	-	606,826	-	158,203	140,253
2062	-	606,233	-	606,233	-	152,483	134,748
2063	-	544,991	-	544,991	-	132,252	116,496
2064	-	543,731	-	543,731	-	127,300	111,774
2065	-	549,690	-	549,690	-	124,163	108,670
2066	-	553,250	-	553,250	-	120,566	105,184
2067	-	547,624	-	547,624	-	115,138	100,126
2068	-	520,870	-	520,870	-	105,656	91,586
2069	-	509,199	-	509,199	-	99,652	86,104
2070	-	497,327	-	497,327	-	93,901	80,875
2071	-	470,870	-	470,870	-	85,775	73,639
2072	-	456,547	-	456,547	-	80,237	68,664
2073	-	444,004	-	444,004	-	75,285	64,219
2074	-	429,518	-	429,518	-	70,264	59,744
2075	-	416,431	-	416,431	-	65,724	55,705
2076	-	404,453	-	404,453	-	61,586	52,030
2077	-	389,441	-	389,441	-	57,212	48,180
2078	-	376,271	-	376,271	-	53,330	44,767
2079	-	360,733	-	360,733	-	49,328	41,274
2080	-	345,303	-	345,303	-	45,555	37,995
2081	-	332,603	-	332,603	-	42,334	35,196
2082	-	314,608	-	314,608	-	38,634	32,016
2083	-	300,960	-	300,960	-	35,656	29,454
2084	-	282,737	-	282,737	-	32,318	26,611
2085	-	265,414	-	265,414	-	29,269	24,023
2086	-	247,536	-	247,536	-	26,336	21,547
2087	-	225,002	-	225,002	-	23,096	18,835
2088	-	207,652	-	207,652	-	20,564	16,717
2089	-	185,985	-	185,985	-	17,770	14,399
2090	-	167,357	-	167,357	-	15,427	12,460
2091	-	148,219	-	148,219	-	13,182	10,613

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) = 3.98%
2092	-	129,611	-	129,611	-	11,121	8,925
2093	-	112,575	-	112,575	-	9,319	7,455
2094	-	96,525	-	96,525	-	7,709	6,147
2095	-	81,932	-	81,932	-	6,313	5,018
2096	-	69,510	-	69,510	-	5,167	4,094
2097	-	57,861	-	57,861	-	4,150	3,277
2098	-	48,255	-	48,255	-	3,339	2,629
2099	-	39,381	-	39,381	-	2,629	2,063
2100	-	31,830	-	31,830	-	2,050	1,604
2101	-	25,223	-	25,223	-	1,567	1,222
2102	-	19,981	-	19,981	-	1,198	931
2103	-	15,691	-	15,691	-	908	703
2104	-	12,213	-	12,213	-	682	526
2105	-	9,411	-	9,411	-	507	390
2106	-	7,172	-	7,172	-	373	286
2107	-	5,400	-	5,400	-	271	207
2108	-	4,009	-	4,009	-	194	148
2109	-	2,929	-	2,929	-	137	104
2110	-	2,101	-	2,101	-	95	72
2111	-	1,477	-	1,477	-	64	48
2112	-	1,015	-	1,015	-	43	32
2113	-	680	-	680	-	27	21
2114	-	444	-	444	-	17	13
2115	-	281	-	281	-	11	8
2116	-	173	-	173	-	6	5
2117	-	103	-	103	-	4	3
2118	-	59	-	59	-	2	1
2119	-	32	-	32	-	1	1
2120	-	17	-	17	-	1	-
2121	-	9	-	9	-	-	-
2122	-	5	-	5	-	-	-
2123	-	3	-	3	-	-	-
2124	-	1	-	1	-	-	-
2125	-	1	-	1	-	-	-

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) = 3.98%
2126	-	-	-	-	-	-	-

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	-	6.54	-	-	-	-	-	-	-	-	-	-
2019	349,306	6.14	56,890	56,890	7,966	-	-	-	-	-	-	-
2020	-	6.14	-	-	-	-	-	-	-	-	-	-
2021	(1,389,686)	6.35	(218,848)	(218,848)	(218,848)	(218,848)	(76,598)	-	-	-	-	-
2022	-	6.35	-	-	-	-	-	-	-	-	-	-
2023	(1,855,994)	6.64	(279,517)	(279,517)	(279,517)	(279,517)	(279,517)	(279,517)	(178,892)	-	-	-
Net Increase (Decrease) in OPEB Expense			(441,475)	(441,475)	(490,399)	(498,365)	(356,115)	(279,517)	(178,892)	-	-	-

Year	Changes of Assumptions	Recognition Period (Years)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
2018	190,641	6.54	29,150	15,741	-	-	-	-	-	-	-	-
2019	2,331,407	6.14	379,708	379,708	53,159	-	-	-	-	-	-	-
2020	2,733,808	6.14	445,246	445,246	445,246	62,332	-	-	-	-	-	-
2021	365,951	6.35	57,630	57,630	57,630	57,630	20,171	-	-	-	-	-
2022	(2,845,503)	6.35	(448,111)	(448,111)	(448,111)	(448,111)	(448,111)	(156,837)	-	-	-	-
2023	(229,106)	6.64	(34,504)	(34,504)	(34,504)	(34,504)	(34,504)	(34,504)	(22,082)	-	-	-
Net Increase (Decrease) in OPEB Expense			429,119	415,710	73,420	(362,653)	(462,444)	(191,341)	(22,082)	-	-	-

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	20,436	5	-	-	-	-	-	-	-	-	-	-
2019	26,179	5	5,235	-	-	-	-	-	-	-	-	-
2020	31,614	5	6,323	6,322	-	-	-	-	-	-	-	-
2021	(287,285)	5	(57,457)	(57,457)	(57,457)	-	-	-	-	-	-	-
2022	274,368	5	54,874	54,874	54,873	54,873	-	-	-	-	-	-
2023	(69,229)	5	(13,846)	(13,846)	(13,846)	(13,846)	(13,845)	-	-	-	-	-
Net Increase (Decrease) in OPEB Expense			(4,871)	(10,107)	(16,430)	41,027	(13,845)	-	-	-	-	-