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GRS Gabriel Roeder Smith & Company
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CITY OF TROY RETIREE HEALTH CARE PLAN
ACTUARIAL VALUATION OF OTHER POSTEMPLOYMENT BENEFITS
DECEMBER 31, 2012

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November 14, 2013

Mr. Thomas Darling, CPA
Director of Financial Services
City of Troy
500 West Big Beaver Road
Troy, Michigan 48084

Dear Mr. Darling:

Submitted in this report are the results of an Actuarial Valuation of the benefit values associated with the employer financed Other Postemployment Benefits provided by the City of Troy. The date of the valuation was December 31, 2012, effective for the fiscal years beginning July 1, 2013 and July 1, 2014. This report was prepared at the request of the City of Troy.

The actuarial calculations were prepared for purposes of complying with the requirements of Statements No. 43 and No. 45 of the Governmental Accounting Standards Board (GASB). The calculations reported herein have been made on a basis consistent with our understanding of these accounting standards. Determinations of the liability associated with the benefits described in this report for purposes other than satisfying the System's financial reporting requirements may produce significantly different results. This report may be provided to parties other than the City of Troy only in its entirety and only with the permission of the City of Troy.

The valuation was based upon information, furnished by the City, concerning retiree health care benefits, individual members, and financial data. Data was checked for internal consistency, but was not otherwise audited. We are not responsible for the accuracy or completeness of the information provided.

This report should not be relied upon for any purpose other than the purpose described herein.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

To the best of our knowledge, this report is complete and accurate and was made in accordance with standards of practice promulgated by the Actuarial Standards Board of the American Academy of Actuaries.

Randall J. Dziubek and Abra D. Hill are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

The signing actuaries are independent of the plan sponsor.

Respectfully submitted,

Abra D. Hill

Randall J. Dziubek, ASA, EA, MAAA

Abra D. Hill, ASA, MAAA

RJD/ADH:bd

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Annual Required Contribution

This report presents the annual expense required to be recognized by the plan sponsor for purposes of complying with the accounting requirements of the Governmental Accounting Standards Board (GASB) Statement No. 43.

The Annual Required Contribution (ARC) for the fiscal year beginning July 1, 2013 is estimated to be $4,465,378 provided that the City intends to fully fund the OPEB. Under GASB Statement No. 45, the annual OPEB cost required to be disclosed on the employer's financial statements is equal to the ARC. Actual claims and premiums including the effect of the implicit rate subsidy paid on behalf of retirees, if paid from outside of plan assets, may be treated as employer contributions in relation to the ARC and also act to reduce the Net OPEB Obligation (NOO) described below under Additional OPEB Reporting Requirements. The expected retiree health care claims and premium amounts paid during the fiscal year beginning July 1, 2013 are estimated to be $4,980,908. These amounts reflect the employer portion of the retiree only premium rates and the implicit subsidy for retirees and covered spouses.

For additional details, please see Section B of the report.

Additional OPEB Reporting Requirements

In addition to the ARC described above, employers will have to disclose a NOO. The current NOO is the cumulative difference between annual OPEB cost (ARC plus amortization of the prior NOO) and annual employer contributions in relation to the ARC, accumulated with interest from the implementation of GASB Statement No. 43. It is our understanding that the City has been making contributions equal to the ARC and plans to do so in the future.

The requirements for determining the employer's contributions in relation to the ARC are described in paragraph 13 g. of GASB Statement No. 45. Additional information required to be disclosed in the employer's financial statements is detailed in paragraphs 24 through 27 of GASB Statement No. 45.

Liabilities and Assets

Once again assuming full pre-funding, the present value of all benefits expected to be paid to current plan members as of December 31, 2012 is $110,328,541. The actuarial accrued liability, which is the portion of the $110,328,541 attributable to service accrued by plan members as of December 31, 2012, is $100,063,604. The assets currently set aside for GASB OPEB purposes as of December 31, 2012 are $59,131,429. The OPEB liabilities are currently 59% funded.

Future Results

Employees recently hired by the City as well as all future hires, will receive contributions of 4% of salary that will go into a Retiree Health Savings Account. As current employees continue to terminate or retire and are replaced with new hires, there will be continued downward pressure on future Annual Required Contributions.

SECTION A

VALUATION RESULTS

DEVELOPMENT OF THE ANNUAL REQUIRED CONTRIBUTION FOR THE OTHER POSTEMPLOYMENT BENEFITS

Contributions for	Annual Required Contribution
Normal Cost	
Normal Retirement	$ 1,046,186
Early Retirement	0
Termination Benefits	27,612
Death-in-Service	27,506
Disability	61,892
Total Normal Cost	$ 1,163,196
Amortization of Unfunded Actuarial Accrued Liabilities (Amortized over 26 years)	$ 3,302,182
Annual Required Contribution (ARC) for the Fiscal Year beginning July 1, 2013	**$ 4,465,378**
Projected Payroll for the Fiscal Year Beginning July 1, 2013	$17,486,067
Annual Required Contribution (ARC) as a Percentage of Projected Payroll	**25.54%**

Projected Payroll for the Fiscal Year Beginning July 1, 2014	$16,924,696
Annual Required Contribution (ARC) for the Fiscal Year beginning July 1, 2014	**$ 4,425,495**
Annual Required Contribution (ARC) as a Percentage of Projected Payroll	**26.15%**

The results on this page are calculated under the assumption that a funding arrangement with contributions at least equal to the Annual Required Contribution (ARC) will be followed. The unfunded actuarial accrued liabilities were amortized as a level dollar amount. A 26-year amortization period for unfunded actuarial accrued liabilities was used. Thirty years is the maximum period that complies with GASB requirements.

DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY AS OF DECEMBER 31, 2012

A. Present Value of Future Benefits	
1. Retirees and Beneficiaries	$ 69,427,612
2. Vested Terminated Members	0
3. Active Members	40,900,929
Total Present Value of Future Benefits	$110,328,541
B. Present Value of Future Employer Normal Costs	10,264,937
C. Actuarial Accrued Liability (A.-B.)	100,063,604
D. Actuarial Value of Assets	59,131,429
E. Unfunded Actuarial Accrued Liability (C.-D.)	$ 40,932,175
F. Funded Ratio (D./C.)	59.1%

The Unfunded Actuarial Accrued Liability (UAAL) is not booked as an expense all in one year and does not appear in the Employer's Statement of Net Assets. Nevertheless, it is reported in the Notes to the Financial Statements and in the Required Supplementary Information. These are information sections within the employer's financial statements.

COMMENTS

COMMENT A: One of the key assumptions used in any valuation of the cost of postemployment benefits is the long-term rate of investment return on plan assets. Higher assumed investment returns will result in a lower Annual Required Contribution (ARC). Lower returns will result in a higher ARC. We have calculated the liability and the resulting ARC using an assumed investment return of 6.5%. If the City chooses to pre-fund with contributions less than the ARC, the Governmental Accounting Standards Board (GASB) requires lowering the assumed investment return on assets to match expected return on the City's general assets. Lowering the assumed investment return would considerably increase the Net OPEB Obligation (NOO) that is disclosed on the employers' financial statement.

COMMENT B: Based on the number of plan members as of this valuation, the plan sponsor is required by GASB to perform actuarial valuations at least biennially. An annual actuarial valuation will re-compute the required contribution rate each year. This will permit fluctuations and trends in experience to be reflected in the contribution rate on a regular basis.

COMMENT C: The computed Annual Required Contributions reflect amortization of the unfunded actuarial accrued liability as a level dollar over 26 years. A shorter amortization period would result in a higher ARC. The maximum time period permitted by the GASB Statement No. 45 is 30 years.

COMMENT D: The amount of estimated claims and/or premiums paid by the employer on behalf of retirees including the effect of the implicit rate subsidy under GASB is $4,980,908 for fiscal year ending June 30, 2014 and $5,486,897 for fiscal year ending June 30, 2015.

COMMENT E: The primary reason for the increase in the ARC since the previous valuation is unfavorable claims experience and increases to fully-insured premiums. In addition, based on this recent experience as well as national experience, the trend assumption used to project future retiree health costs has been reset to 9% in year 2013 grading down to 3.5% by 2022 (see page D-6). Based on the trend assumption used for the December 31, 2010 valuation, the first year trend for this valuation would have been 7.50%. Therefore, the resetting of the trend is contributing to the overall increase in results from the previous valuation.

COMMENTS

COMMENT F: The Patient Protection and Affordable Care Act includes an excise tax on high cost (Cadillac) health plans beginning in 2018. The excise tax is 40% of costs above a threshold. Possible excise taxes beginning in 2018 have not been reflected in the results presented in this report.

SECTION B

RETIREE PREMIUM RATE DEVELOPMENT

RETIREE PREMIUM RATE DEVELOPMENT

City of Troy retirees participate in both fully-insured and self-insured plans.

First we developed the per capita costs for the self-insured retirees. The self-insured premium rates were developed separately for each class (pre-65 and post-65). The rates were calculated by using actual paid claims and exposure data for the period of January 2010 to December 2012, adjusted for catastrophic claims, plus the load for administration, network access fees, and stop loss premiums. The self-insured medical and prescription drug data was provided by the City. The medical and prescription drug data was split between the pre-65 and post-65 participants separately since Medicare is available for the post-65 participants and has a significant impact on the claim experience. Since the claim data is not split by these two groups of participants, assumptions were used to accomplish this task. Furthermore, since the prescription drug claims and the medical claims exhibit different trends and claim payment patterns, we analyzed these claims separately as well.

Next, the initial premium rates for the fully-insured retirees were developed for the two classes of retirees (pre-65 and post-65). The fully-insured rates provided by the City of Troy were utilized to determine the appropriate premium rates. The pre-65 fully-insured premiums were determined to be unblended rates based on the experience of pre-65 retired members only, therefore, the fully-insured premium rates were used as the basis of the initial per capita cost without adjustment since the rate reflects the demographics of the pre-65 retiree group. For the post-65 retirees, the fully-insured rates were similarly used as the basis of the initial per capita cost, again without adjustment, since the rate reflects the demographics of the post-65 retiree group.

Since different groups have benefits which differ significantly, group specific rates were developed as follows: current General retirees; future General retirees, current Public Safety retirees, and future Public Safety retirees.

RETIREE PREMIUM RATE DEVELOPMENT

Age graded and sex distinct premiums are utilized in this valuation. The premiums developed by the preceding process are appropriate for the unique age and sex distribution currently existing. Over the future years covered by this valuation, the age and sex distribution will most likely change. Therefore, our process "distributes" the average premium over all age/sex combinations and assigns a unique premium for each specific age/sex combination. The age/sex specific premiums more accurately reflect the health care utilization and cost at that age.

We have not "age graded" the dental premium rates for this valuation, since dental claims do not vary significantly by age. For the retirees that are eligible, the dental premium used for this valuation is $35.62 for the first person and $37.22 for the second person.

The tables below show the combined medical, prescription drug, and vision one-person monthly premiums at select ages. The premium (or per capita costs) rates shown below reflect the use of age grading.

Current General Retirees				Future General Retirees		
For Those Not Eligible for Medicare				For Those Not Eligible for Medicare		
Age	Male	Female		Age	Male	Female
45	$ 462.24	$ 605.15		45	$ 461.22	$ 603.81
50	625.37	708.58		50	623.98	707.01
55	817.35	840.16		55	815.54	838.30
60	1,026.82	987.00		60	1,024.55	984.82

For Those Eligible for Medicare				For Those Eligible for Medicare		
Age	Male	Female		Age	Male	Female
65	$ 537.53	$ 494.99		65	$ 538.51	$ 495.89
70	620.03	557.54		70	621.16	558.55
75	688.35	610.89		75	689.60	612.00

RETIREE PREMIUM RATE DEVELOPMENT

Current Public Safety Retirees		
For Those Not Eligible for Medicare		
Age	**Male**	**Female**
45	$ 519.32	$ 679.88
50	702.59	796.08
55	918.28	943.90
60	1,153.62	1,108.88

Future Public Safety Retirees		
For Those Not Eligible for Medicare		
Age	**Male**	**Female**
45	$ 490.68	$ 642.39
50	663.84	752.18
55	867.63	891.85
60	1,090.00	1,047.73

For Those Eligible for Medicare		
Age	**Male**	**Female**
65	$ 527.63	$ 485.88
70	608.62	547.27
75	675.67	599.64

For Those Eligible for Medicare		
Age	**Male**	**Female**
65	$ 418.99	$ 385.83
70	483.30	434.58
75	536.54	476.17

Based on the guidance provided by GASB on issues related to Medicare Part D payments to State and Local Governments effective as of June 30, 2006, an employer should apply the measurement requirements of GASB Statement No. 45 to determine the actuarial accrued liabilities, the annual required contribution of the employer, and the annual OPEB cost without reduction for Retiree Drug Subsidy (RDS) payments. Therefore the impact of the RDS that is part of the Medicare Prescription Drug Improvement and Modernization Act of 2003 is not reflected in this report.

James Pranschke is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to certify the per capita retiree health care rates shown above.

James E. Pranschke

James Pranschke, FSA, MAAA

SECTION C

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

SUMMARY OF BENEFITS AS OF DECEMBER 31, 2012

PLAN PARTICIPANTS

Employees, retirees, and spouses of the City of Troy who satisfy the following requirements are eligible to receive retiree health care coverage.

HEALTH INSURANCE PREMIUM SUBSIDY

Post-retirement health insurance premiums are subsidized by the City as follows:

T.C.O.A. – 4% per completed year, retired after July 1, 1994.
T.C.S.A – 4% per completed year, hired before January 2, 2006.
T.P.O.A. – 4% per complete year, retired after February 20, 1996.
T.F.S.O.A. – 4% per complete year, retired after January 1, 1999.
Classified/Exempt - $400/month or $4 per complete year, whichever is greater.
AFSCME, Clerical/MAP – $400/month or 4% per complete year for service accrued through June 30, 2013, plus 3% per complete year for service accrued on or after June 30, 2013 up to a maximum of 90%. If a member was over 90% funded at June 30, 2013 they get to keep that percentage, but do not accrue additional benefits.
Retirees from prior provisions – $400/month or 3% per complete year, whichever is greater.

REGULAR RETIREMENT ELIGIBILITY

T.P.O.A., T.F.S.O.A., and T.C.O.A. members – 25 years of service; or age 60 with 10 years of service.

AFSCME, Classified/Exempt, Clerical – Age 50 with 27 years of service; or age 55 with 25 years of service; or age 60 with 10 years of service.

There is no mandatory retirement age.

Health insurance from the City is not available for the following employees when they retire:

Classified/Exempt members hired after January 2, 2006
T.F.S.O.A. members hired after July 1, 2006
AFSCME members hired after July 1, 2006
T.P.O.A. and T.C.O.A. members hired after July 1, 2011
Clerical members hired after February 18, 2008

EARLY RETIREMENT ELIGIBILITY

Age 55 with 10 years of service. Benefit commences immediately.

DEFERRED RETIREMENT

Members retiring under deferred retirement conditions are not eligible for retiree health care through the City.

SUMMARY OF BENEFITS AS OF DECEMBER 31, 2012

DUTY DISABILITY RETIREMENT ELIGIBILITY

No age or service requirement. Benefit commences immediately. Worker's compensation must be payable.

NON-DUTY DISABILITY RETIREMENT ELIGIBILITY

5 years of service (10 years for Classified/Exempt employees hired after February 1996, and MAP employees hired after February 2005). Benefit commences immediately.

DUTY DEATH BEFORE RETIREMENT ELIGIBILITY

No age or service requirement. Benefit commences immediately.

NON-DUTY DEATH BEFORE RETIREMENT ELIGIBILITY

10-years service. Benefit commences immediately.

BENEFITS FOR SPOUSES OF RETIRED EMPLOYEES

Spouses of living retirees are eligible for retiree health care coverage through the City. Only the spouse named at time of retirement is eligible. For retirees receiving a percentage (i.e., 3% or 4%) of their premium paid, the spouse receives an equal percentage of their premium paid. For retirees receiving a $400 benefit, the spouse may use any amount that is above and beyond the cost of the retiree's premium, but is not eligible for an additional $400.

Surviving spouses of deceased retirees are eligible for retiree health care coverage through the City if the surviving spouse is receiving a survivor's DB pension or is the spouse of a DC member. The surviving spouse's benefit amount is equal to a retiree's one person coverage.

NON-MEDICARE AND MEDICARE–ELIGIBLE PROVISIONS

Member and spouse are required to enroll in Medicare Parts A & B. Premium for Medicare Part B is the responsibility of the retiree or spouse.

VISION COVERAGE

Retirees/spouses enrolled in a medical plan that provides vision coverage are eligible for retiree vision coverage.

For retirees/spouses receiving a percentage (i.e., 3% or 4%) of their premium paid, or $400 dollars whichever is greater, the vision coverage is included as part of the medical premium.

DENTAL COVERAGE

Certain T.C.O.A. members and their spouses are eligible for retiree dental coverage.

Retiree dental coverage is paid by the City for these certain T.C.O.A. retirees and their spouses at the rate of 4% per completed year of service.

LIFE INSURANCE COVERAGE

City paid life insurance coverage is not offered to retirees of the City of Troy.

RETIREE OPT-OUT

Retirees who opt not to participate in the City's plan are not eligible for any payment in lieu of coverage. Retirees that opt-out of coverage are eligible to elect coverage at a later time.

RETIREE HEALTH SAVINGS ACCOUNT

Participating employees in the Retiree Health Savings Account contribute 2% of salary while working to their RHS account, the City contributes 4% of the employee's salary to the account which is used for health insurance premiums, reimbursement, etc. when they retire. These members are not included in this actuarial valuation.

This is a brief summary of the City of Troy Retiree Health Care Plan provisions. In the event that any description contained herein differs from the actual eligibility or benefit, the appropriate employee contract or governing document will prevail.

Asset Information as of December 31, 2012

Cash	$	3,342,482
Accrued Interest		6,110
Short Term		-
U.S. Bonds		1,515,325
Corporate Bonds		1,231,649
Bond Mutual Fund		5,496,309
Certificates of Deposit		6,000,000
Common Stock		16,501,536
PFD Stock		64,434
Stock Mutual Fund		24,973,584
	$	59,131,429

GENERAL EMPLOYEES
ACTIVE MEMBER DEMOGRAPHIC DATA AS OF DECEMBER 31, 2012

Attained Age	Years of Service to Valuation Date							Total No.
	0-4	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30 Plus**	
20-24		1						1
25-29		1						1
30-34		1	3					4
35-39		6	13		1			20
40-44		5	9	3	3			20
45-49		7	6	6	3	1		23
50-54		4	18	12	8	2	1	45
55-59		3	11	6	8	1	4	33
60-64		1	5	4	1			11
65 & Over			2	2			1	5
Totals		**29**	**67**	**33**	**24**	**4**	**6**	**163**

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 49.5 years
Service: 15.1 years

PUBLIC SAFETY EMPLOYEES
ACTIVE MEMBER DEMOGRAPHIC DATA AS OF DECEMBER 31, 2012

Attained Age	Years of Service to Valuation Date							Total No.
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	
25-29	1	1						2
30-34	1	9	6					16
35-39		9	9	5				23
40-44		1	7	14				22
45-49	1	1	2	7	7	1		19
50-54			1		5	1	1	8
55-59			1		3	1	6	11
60-64					1			1
Totals	**3**	**21**	**26**	**26**	**16**	**3**	**7**	**102**

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age:	42.6	years
Service:	15.8	years

RETIRED MEMBER DEMOGRAPHIC DATA AS OF DECEMBER 31, 2012

General Retirees

Attained Age	Number of Retirees		
	Male	Female	Total
Under 55	9	8	17
55-59	26	14	40
60-64	42	18	60
65 & Over	51	61	112
Totals	**128**	**101**	**229**

Public Safety Retirees

Attained Age	Number of Retirees		
	Male	Female	Total
Under 55	11	5	16
55-59	21	1	22
60-64	31	2	33
65 & Over	24	0	24
Totals	**87**	**8**	**95**

Only retirees indicated as receiving health care are valued in this report and shown in the exhibits above.

SECTION D

ACTUARIAL COST METHOD
AND ACTUARIAL ASSUMPTIONS

VALUATION METHODS

Actuarial Cost Method. Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an **Individual Entry-Age Normal Actuarial Cost Method** having the following characteristics:

(i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement;

(ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains (losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.

Financing of Unfunded Actuarial Accrued Liabilities. Unfunded Actuarial Accrued Liabilities (UAAL) were amortized on a level dollar basis. The UAAL were determined using the funding value of assets and actuarial accrued liability calculated as of the valuation date. The UAAL amortization payment is the amount required to fully amortize the UAAL over a 26-year period beginning on the valuation date. This UAAL payment does not reflect any payments expected to be made between the valuation date and the fiscal year for which the contributions in this report have been calculated.

Rates of Investment Return under a fully funded arrangement. **6.5% per year,** compounded annually, net of expenses. This rate consists of a real rate of return of 3.0% a year plus a long-term rate of wage growth of 3.5% a year. This assumption is used to equate the value of payments due at different points in time.

Rates of Salary Increase. Employee salaries are estimated to increase between the date of hire and date of retirement. Salary increases occur in recognition of (i) individual merit and seniority, (ii) inflation-related depreciation of the purchasing power of salaries, and (iii) competition from other employers for personnel. A schedule of long-term rates of increase in individual salaries used for the valuation follows for sample ages:

	% Increase in Salary at Sample Ages		
Sample Ages	**Merit & Seniority**	**Base (Economic)**	**Increase Next Year**
35	2.5%	3.5%	6.0%
40	2.2%	3.5%	5.7%
45	1.7%	3.5%	5.2%
50	1.2%	3.5%	4.7%
55	0.7%	3.5%	4.2%
60	0.2%	3.5%	3.7%
65	0.0%	3.5%	3.5%
Ref	30		

Pay Projections. Active member covered payroll was projected to increase 3.5% a year, for the purpose of determining the level percent of payroll contributions. The rate of increase is consistent with the base rate of increase in salaries used to calculate actuarial present values.

The mortality table used to project the mortality experience is the RP-2000 Combined Healthy Mortality Table, for males and females. 80% of active member deaths are assumed to be non-duty deaths.

Sample Attained Ages	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	**Women**	**Men**	**Women**
50	0.21 %	0.17 %	30.80	33.59
55	0.36	0.27	26.18	28.91
60	0.67	0.51	21.74	24.38
65	1.27	0.97	17.61	20.12
70	2.22	1.67	13.88	16.23
75	3.78	2.81	10.57	12.74
80	6.44	4.59	7.75	9.68
Ref	#506x1sb0yrs0Unisex		#507x1sb0yrs0Unisex	

There is no margin for future mortality improvement in the above table.

The table used to project disabled mortality experience is the RP-2000 Combined Disabled Mortality Table, for males and females.

The rates of retirement used to measure the probability of eligible members retiring during the next year, were as follows:

	Percent of Eligible Active Members Retiring within Next Year			
Retirement Ages	**Non-Exempt, General AFSCME, Clerical, and MAP**	**T.F.S.O.A. & Exempt**	**T.C.O.A.**	**T.P.O.A.**
43			35 %	40 %
44			25	40
45			20	40
46			15	40
47			15	40
48			15	40
49			15	35
50	15 %	35 %	15	20
51	10	25	25	15
52	5	20	30	15
53	5	15	100	15
54	5	15		15
55	5	15		15
56	5	15		15
57	5	15		25
58	5	25		100
59	5	30		
60	5	100		
61	5			
62	30			
63	10			
64	10			
65	100			
Ref	39	23	23	46

Rates of separation from active membership are used to estimate the number of employees at each age that are expected to terminate employment before qualifying for retirement benefits. The withdrawal rates do not apply to members eligible to retire, and do not include separation on account of death or disability.

Sample rates of separation from active employment are shown below:

Sample Ages	Years of Service	% of Active Members Separating Within Next Year: General	% of Active Members Separating Within Next Year: Public Safety
ALL	0	30.00 %	15.00 %
	1	20.00	10.00
	2	15.00	8.00
	3	10.00	7.00
	4	7.00	6.00
25	5 & Over	6.00	5.00
30		6.00	4.50
35		6.00	3.55
40		6.00	1.45
45		3.50	0.75
50		1.50	0.75
55		1.50	0.75
60		1.50	0.75
Ref	11	18	55

Rates of disability among active members are used to estimate the incidence of member disability in future years. 80% of disabilities were assumed to be non-duty related.

Sample Ages	Percent Becoming Disabled Within Next Year: Male	Percent Becoming Disabled Within Next Year: Female
20	0.08 %	0.10 %
25	0.08	0.10
30	0.08	0.10
35	0.08	0.10
40	0.20	0.36
45	0.27	0.41
50	0.49	0.57
55	0.89	0.77
60	1.41	1.02
65	1.66	1.23
Ref	#9x1	#10x1

Health care trend rates used in the valuation were as shown below.

Year	Medical and Drugs	Dental
2013	9.00 %	3.50 %
2014	8.25	3.50
2015	7.50	3.50
2016	6.75	3.50
2017	6.25	3.50
2018	5.75	3.50
2019	5.25	3.50
2020	4.75	3.50
2021	4.25	3.50
2022 & Later	3.50	3.50

Valuation Date	December 31, 2012
Actuarial Cost Method	Individual Entry Age Normal Cost
Amortization Method	Level Dollar Closed
Remaining Amortization Periods	26 Years
Asset Valuation Method	Market Value
Actuarial Assumptions:	
Discount Rate	6.5% Per Year
Projected Salary Increases	3.5% - 8.0%
Valuation Health Care Cost Trend Rate	
Medical, Prescription Drug, and Vision	9% in 2013, grading to 3.5% in 2022
Dental	3.5% for all years

This information is presented in draft form for review by the City's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the City's financial statements.

SCHEDULE OF FUNDING PROGRESS

Rounded to the Nearest $1,000

Actuarial Valuation Date December 31	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b)-(a)	Funded Ratio (a)/(b)	Active Member Covered Payroll (c)	Unfunded AAL as a Percentage of Active Member Covered Payroll ((b-a)/c)
2001	$ 23,645	$ 27,804	$ 4,159	85.0 %	$26,847	15.5 %
2002	31,003	31,263	260	99.2	28,480	0.9
2003	32,815	37,000	4,186	88.7	31,790	13.2
2004	36,484	40,419	3,935	90.3	30,046	13.1
2005	37,190	43,554	6,364	85.4	29,937	21.3
2006*	43,983	78,901	34,918	55.7	31,038	112.5
2008	38,094	91,966	53,872	41.4	31,168	172.8
2010	60,360	89,952	29,592	67.1	25,951	114.0
2012	**59,131**	**100,064**	**40,932**	**59.1**	**19,194**	**213.2**

* *After adoption of OPEB compliant methods and assumptions.*

This information is presented in draft form for review by the City's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the City's financial statements.

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

Decrement Operation:	Disability and mortality decrements do not operate during the first five years of service. Disability and withdrawal also do not operate during retirement eligibility.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and exact fractional service on the date the decrement is assumed to occur.
Marriage Assumption:	90% of males and 90% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
Medicare Coverage:	Assumed to be available for all covered employees on attainment of age 65.
Children:	Children of active employees were assumed to not receive coverage upon retirement of the employee.
Election Percentage:	(General) It was assumed that 72% of retirees would choose to receive retiree health care benefits through the City. Of those assumed to elect coverage, 50% of retirees assumed to elect two-person coverage, if eligible. For those that elect two-person coverage, it was assumed that coverage would continue to the spouse upon death of the retiree 50% of the time, if eligible. (Public Safety) It was assumed that 85% of retirees would choose to receive retiree health care benefits through the City. Of those assumed to elect coverage, 90% of retirees assumed to elect two-person coverage, if eligible. For those that elect two-person coverage, it was assumed that coverage would continue to the spouse upon death of the retiree 50% of the time, if eligible.
Retiree Opt-Outs:	Retirees and spouses who have opted-out of coverage are assumed to not re-enroll.

APPENDIX A

OVERVIEW

GASB BACKGROUND

The purpose of this valuation is to provide information on the cost associated with providing postemployment benefits other than pensions, or OPEB, to current and former employees. The information is designed to assist you in complying with Governmental Accounting Standards Board (GASB) Statements No. 43 and No. 45. OPEB benefits are most often associated with postemployment health care, but cover almost any benefit not provided through a pension plan, including life insurance, dental and vision benefits. It is important to note that OPEB benefits, by definition, do not include benefits *currently* being provided to active employees – however, this report includes the liabilities for benefits expected to be paid to current active employees in the future when they retire.

GASB Statements No. 43 and No. 45 were released in the spring of 2004. GASB Statement No. 43 covers the accounting rules for OPEB *plans* while GASB Statement No. 45 describes the rules for *employers* sponsoring OPEB plans. Your auditor can assist you in determining which statements apply to your particular situation.

The specific items required to be disclosed on an OPEB sponsor's financial statements are described in detail in GASB Statements No. 43 and No. 45.

GASB Statement No. 45

Among the requirements of Statement No. 45 are recognition each year of an expense called the Annual OPEB Cost, and the accumulation of a liability to be disclosed on the employer's Statement of Net Assets called the Net OPEB Obligation (NOO).

The fundamental items required to determine the Annual OPEB Cost and the NOO are:

- the Annual Required Contribution (ARC)
- the Employer's Contributions in relation to the ARC

Although GASB does not require OPEB contributions, it has chosen to call the base component of the annual OPEB cost the Annual Required Contribution. The ARC is provided in this report.

Paragraph 13g. of Statement No. 45 states:

> "An employer has made a contribution in relation to the ARC if the employer has:
>
> 1. made payments of benefits directly to or on behalf of a retiree or beneficiary,
> 2. made premium payments to an insurer, or
> 3. irrevocably transferred assets to a trust, or equivalent arrangement in which Plan assets are dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the Plan and are legally protected from creditors of the employer(s) or plan administrator."

For each fiscal year shown in this report, we have provided the ARC and the estimated benefits and/or premiums (based on valuation assumptions).

The NOO is the cumulative difference between the Annual OPEB Cost each year and the Employer's Contribution in relation to the ARC. The Annual OPEB Cost for a year is equal to:

- the ARC, plus
- interest on the prior year's NOO, plus
- amortization of the prior year's NOO.

The Annual OPEB Cost and NOO are generally developed by the plan sponsor's auditor based on information contained herein and elsewhere.

GASB Statement No. 43

If the Plan has assets for Statement No. 43 purposes, then certain additional information useful in complying with the Statement is contained in this report.

OPEB PRE-FUNDING

Many employers fund retiree health care benefits using the pay-as-you-go (or cash disbursement) method. Under this method, the employer's annual contribution is equal to the actual disbursements during the year for OPEB for retired employees. This method of funding will result in increasing contributions over time. First, per capita cash disbursements will tend to increase from year to year as the cost of health care services, or the utilization of these services, increases. Second, the number of retired members is likely to increase for years to come. The more retirees, the greater the disbursements as a percentage of employee payroll.

A retiree health care plan is similar to a defined benefit pension plan in that promises are made to employees to provide them with a benefit payable at some future date. For defined benefit pension plan sponsors, a common funding objective is to contribute to a fund, annual amounts which will i) remain level as a percentage of active member payroll, and ii) when combined with present assets and future investment return be sufficient to meet the financial obligations of the Plan to current and future retirees.

The GASB statements are not funding requirements. They are accounting standards that require plan sponsors to calculate the annual expense associated with OPEB using certain methods.

The ultimate determination as to the level of pre-funding will be the result of decisions made in an attempt to support benefit security for members and the fiscal management needs of the employer.

APPENDIX B

GLOSSARY

GLOSSARY

Accrued Service - The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Accrued Liability - The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability".

Actuarial Assumptions - Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method - A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method".

Actuarial Equivalent - A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

Actuarial Present Value - The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Amortization - Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Glossary (Concluded)

Annual Required Contribution (ARC) - The ARC is the normal cost plus the portion of the unfunded actuarial accrued liability to be amortized in the current period. The ARC is an amount that is actuarially determined in accordance with the requirements so that, if paid on an ongoing basis, it would be expected to provide sufficient resources to fund both the normal cost for each year and the amortized unfunded liability.

Governmental Accounting Standards Board (GASB) - GASB is the private, nonpartisan, nonprofit organization that works to create and improve the rules U.S. state and local governments follow when accounting for their finances and reporting them to the public.

Medical Trend Rate (Health Care Inflation) - The increase in the cost of providing health care benefits over time. Trend includes such elements as pure price inflation, changes in utilization, advances in medical technology, and cost shifting.

Normal Cost - The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost". Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Other Postemployment Employee Benefits (OPEB) - OPEB are postemployment benefits other than pensions. OPEB generally takes the form of health insurance and dental, vision, prescription drugs or other health care benefits.

Reserve Account - An account used to indicate that funds have been set aside for a specific purpose and is not generally available for other uses.

Unfunded Actuarial Accrued Liability - The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability".

Valuation Assets - The value of current plan assets recognized for valuation purposes.

GRS

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November 14, 2013

Mr. Thomas Darling, CPA
Director of Financial Services
City of Troy
500 West Big Beaver Road
Troy, Michigan 48084

Re: City of Troy Retiree Health Care Plan Valuation

Dear Mr. Darling:

Enclosed are 15 copies of our report of the actuarial valuation as of December 31, 2012 of the City of Troy Retiree Health Care Plan.

Respectfully submitted,

Randall J. Dziubek, ASA, EA, MAAA

RJD:bd
Enclosures