

May 2009

# THE CORPORATION OF THE CITY OF YORK EMPLOYEE PENSION PLAN

## Report on the Actuarial Valuation for Funding Purposes as at December 31, 2008

### MERCER



MARSH MERCER KROLL  
GUY CARPENTER OLIVER WYMAN

Consulting. Outsourcing. Investments.

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## Summary of Results

<b>Asset Values</b>	<b>31.12.2008</b>	<b>31.12.2007</b>
Market value of assets	\$ 48,040,000	\$ 57,156,000
Rate of return during the year, based on market values (gross)	-9.66%	2.39%
Actuarial value of assets	\$ 54,984,000	\$ 57,046,000
Rate of return during the year, based on actuarial values (net of investment expenses)	2.85%	7.57%
<b>Going-Concern Financial Position</b>	<b>31.12.2008</b>	<b>31.12.2007</b>
Actuarial value of assets	\$ 54,984,000	\$ 57,046,000
Actuarial liability	(57,621,000)	(60,466,000)
Funding excess (deficiency)	\$ (2,637,000)	\$ (3,420,000)
<b>Wind-Up Financial Position</b>	<b>31.12.2008</b>	<b>31.12.2007</b>
Market value of assets (net of estimated Plan termination expenses)	\$ 47,973,000	\$ 57,085,000
Wind-Up liability	(60,189,000)	(64,974,000)
Wind-Up excess/(deficiency)	\$ (12,216,000)	\$ (7,889,000)
Transfer Ratio	80%	88%

<b>Solvency Financial Position</b>	<b>31.12.2008</b>	<b>31.12.2007</b>	
Solvency assets	\$ 47,973,000	\$ 57,085,000	
Solvency asset adjustment			
▪ Asset smoothing adjustment	6,472,000	(392,000)	
▪ Present value of funding and pre-existing solvency special payments due within 5 years	5,244,000	4,804,000	
Adjusted solvency assets	\$ 59,689,000	\$ 61,497,000	
Solvency liability	\$ 60,189,000	\$ 64,974,000	
Solvency liability adjustment	970,000	(1,180,000)	
Adjusted solvency liability	\$ 61,159,000	\$ 63,794,000	
Prior year credit balance	0	0	
Solvency excess (deficiency)	\$ (1,470,000)	\$ (2,297,000)	
Solvency position without asset adjustment for funding and solvency special payments	\$ (6,714,000)	\$ (7,101,000)	
<b>Plan Membership</b>	<b>31.12.2008</b>	<b>31.12.2007</b>	
▪ Active	0	0	
▪ Suspended or disabled	0	0	
▪ Retired members in receipt of pensions	163	174	
▪ Surviving spouses in receipt of pensions	105	108	
Total membership	268	282	
<hr/>			
<b>Funding Requirements (annualized)</b>	<b>2009</b>	<b>2008</b>	
Estimated minimum Employer contribution	\$ 3,495,862	\$ 3,121,244	
Estimated maximum Employer contribution	\$ 12,216,000	\$ 7,889,000	
<b>Schedule of Employer Contributions</b>	<b>2009</b>	<b>2010-2012</b>	<b>2013</b>
Current Service Cost	\$ 0	\$ 0	\$ 0
Unfunded Liability	1,938,214	221,316	221,316
Solvency Deficiency	1,557,648	845,016	329,016
Total	\$ 3,495,862	\$ 1,066,332	\$ 550,332

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## Introduction and Executive Summary

### Introduction

**To: *Pension and Benefit Committee,  
Corporation of the City of York Employee Pension Plan***

At your request, we have conducted an actuarial valuation of the Corporation of the City of York Employee Pension Plan (the "Plan") as at December 31, 2008. The previous actuarial valuation was prepared as at December 31, 2007.

The purpose of this valuation is to determine:

- the funded status of the Plan as at December 31, 2008 on going-concern and solvency bases, and
- the minimum funding requirements by the City of Toronto (the "Employer") and the Plan members during the period from January 1, 2009 through December 31, 2009.

The Report sets out full details of the Plan's financial position on the valuation date, makes recommendations as to the utilization of the experience gains and illustrates the effect of these recommendations on the Plan's funded position.

## Executive Summary

### **Summary of Results**

#### **a) Plan Assets**

For purposes of the going-concern valuation, the assets are valued on a smoothed market value basis.

A description of the asset valuation method is provided in Section 3. There were no changes made to the method used to value the Plan's assets.

The assets of the Plan, as reported on financial statements obtained from the custodian, have changed as follows during 2008.

	December 31, 2007	December 31, 2008	Rate of Return in 2008 *
Market Value	\$ 57,156,000	\$ 48,040,000	-9.90%
Actuarial Value	\$ 57,046,000	\$ 54,984,000	2.85%

\* The rate of return is net of investment expenses.

#### **b) Going-Concern Financial Position as at December 31, 2008**

On a going-concern basis, the actuarial value of assets of \$ 54,984,000 is less than the actuarial liabilities of \$ 57,621,000, producing a funding deficiency of \$ 2,637,000. The previous valuation at December 31, 2007 indicated a funding deficiency of \$ 3,420,000. The improvement in the funded position since the previous valuation is primarily due to special payments made to fund the deficiency partially offset by net experience losses primarily due to the worse than expected performance of the assets on the actuarial value basis. Further details can be found in Section 4.

#### **c) Solvency Position as at December 31, 2008**

On a solvency basis, the value of the assets of \$ 54,445,000 (market value adjusted to reflect estimated termination expenses and the asset smoothing adjustment) is less than the actuarial liabilities of \$ 61,159,000, producing a total solvency shortfall of \$ 6,714,000. The previous valuation at December 31, 2007 indicated a total solvency shortfall of \$ 7,101,000.

The improvement in the solvency position (from \$7.1 million to \$6.7 million) since the previous valuation is primarily the result of Employer contributions to fund the deficiency partially offset by losses from the worse than expected performance of the assets on the actuarial value basis. Further details can be found in Section 6.

On a wind-up basis, the value of the liabilities of \$ 60,189,000 exceeds the value of assets of \$ 47,973,000 (market value less estimated termination expenses), producing a wind-up deficiency of \$ 12,216,000. The previous valuation at December 31, 2007 indicated a wind-up deficiency of \$ 7,889,000.

#### **d) Funding Requirements**

In 2009, it is recommended that the Employer make contributions at least equal to the minimum contributions of \$ 3,495,862 (\$ 292,218 per month to October and \$ 286,841 thereafter) in respect of the going-concern and solvency deficiencies.

Since all active members have retired at December 31, 2008, current service contributions for 2008, and thereafter, are nil.

The minimum required and maximum allowable Employer contributions for 2009 are as follows:

Employer Contributions	Minimum Required	Maximum Allowable
▪ in respect of current service	\$ 0	\$ 0
▪ in respect of the funding deficiency	1,938,214	2,637,000
▪ in respect of the solvency/wind-up deficiency	1,557,648	9,579,000
Total Employer contributions	\$ 3,495,862	\$ 12,216,000

The minimum contribution requirements based on this report exceed the minimum contribution requirements recommended in the previous valuation report. Upon filing this report, the Employer must contribute the excess, if any, of the minimum contribution with an allowance for interest recommended in this report over contributions actually made in respect of the period following January 1, 2009. This contribution, along with an allowance for interest, is due no later than 60 days following the date this report is filed.

#### **e) Plan Membership**

The membership data received from the Employer for purposes of this valuation includes:

- 0 active members, since the last remaining active member retired in 2006.
- 163 retired members having an average age of 77.6 years, in receipt of annual pensions totalling \$ 5,075,356 (this includes annual bridge pensions totalling \$ 42,668 in respect of 5 pensioners).
- 105 surviving spouses having an average age of 81.7 years, in receipt of annual pensions totalling \$ 1,376,562.

- The number of retired members and surviving beneficiaries receiving pensions from the Plan decreased from 282 to 268 during 2008.

Reconciliation of these membership changes and further details are included in Appendix B.

### ***Changes in Actuarial Assumptions and Methods***

There have been no changes made to the going-concern actuarial assumptions and methods from those used in the last actuarial valuation at December 31, 2007. A complete description of the going-concern actuarial methods and assumptions is provided in Appendix C.

### ***Changes in By-law Provisions***

There have been no material changes to the By-law provisions since the previous valuation as at December 31, 2007. A summary of the main By-law provisions in effect on the valuation date is provided in Appendix A.

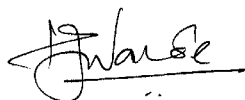
### ***Recommendations***

Based on the results of this valuation and in accordance with our calculations in Appendix E, which are based on the inactive lives excess yield method for determining such adjustments as outlined in the Plan document, it is recommended that no post retirement cost-of-living adjustment be made to pensions in payment as at July 1, 2009.

The next actuarial valuation of the Plan will be required as at a date not later than December 31, 2009 or as at the date of an earlier amendment to the Plan, in accordance with the minimum requirements of the *Pension Benefits Act (Ontario)*.

This report will be filed with the Financial Services Commission of Ontario ("FSCO") and with the Canada Revenue Agency ("CRA").

Respectfully submitted,



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Anil Narale

Fellow of the Canadian Institute of Actuaries  
Fellow of the Society of Actuaries

May 12, 2009

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Date



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Frank Dekeyser

Associate of the Society of Actuaries

May 12, 2009

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Date

***The Corporation of the City of York Employee Pension Plan***

Registration number with the FSCO and with the CRA: 0320622



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## Plan Assets

The pension fund is held in trust by CIBC Mellon and is invested in accordance with the investment policy by McLean Budden.

The going-concern assets are recorded at an "Actuarial Value" which is determined as follows:

- (1) The market value of total assets at the previous year-end is accumulated, together with the current year's cash flow, with interest at the valuation rate of 5.50%; and
- (2) The difference between the accumulation in (1) and the market value of total assets at the valuation date is spread over the current year and the three succeeding years in four equal amounts.

The value determined in accordance with the above method is **\$ 54,984,000** as at December 31, 2008.

The effect of the foregoing is shown below (in \$ 000).

Assets of the Pension Fund	Market Value	Actuarial Value
I. Cash and Equivalents		
▪ Cash and short-term investments	902	902
II. External Management		
Short-term investments	1	1
Bonds	23,625	23,625
Canadian equities	10,603	10,603
Foreign equities	12,909	12,909
Subtotal	47,138	47,138
III. Smoothing Adjustment		6,944
<b>Total</b>	<b>48,040</b>	<b>54,984</b>
Net amount in-transit	0	0
<b>Total Fund</b>	<b>58,040</b>	<b>54,984</b>

Under this adopted asset valuation method, the Plan's investment rate of return in 2008 was equal to 2.85% (net of investment expenses). After netting out a 2.37% Consumer Price Index increase (based on a 12 month average to December), the real rate earned was 0.48%.

The currently unrecognized elements of the market value of assets will be taken into account in future years in the following amounts (\$ 000).

2008	25% of 2006 gain	514	
	25% of 2007 loss	(502)	
	25% of 2008 loss	(2,151)	(2,139)
2009	25% of 2007 loss	(503)	
	25% of 2008 loss	(2,151)	(2,654)
2010	25% of 2008 loss	(2,151)	(2,151)
<b>Total</b>			<b>(6,944)</b>

A reconciliation of the pension fund assets during 2008 on both market and actuarial value bases is provided in the table below.

Reconciliation of Fund Assets (\$ 000)

		Market Value	Actuarial Value
<b>Value at 31.12.2007</b>		57,156	57,046
Contributions in-transit		(0)	(0)
<b>Adjusted value at 31.12.2007</b>		57,156	57,046
I. Contributions			
Employee Current Service	0		
Employer Current Service	0		
Employer Special Payments	3,121	3,121	3,121
II. Adjusted Investment Income		(5,340)	1,714
III. Pensions & Other Benefits			
Pensions for Members	5,214		
Pensions for Widows & Others	1,464		
Lump sum payments	0	(6,678)	(6,678)
IV. Actuarial, Legal and Other Fees			
Actuarial Fees	70		
Custodial Fees	7		
Investment Management Fees	140		
Other Fees (audit, legal, etc.)	2	(219)	(219)
<b>Value at 31.12.2008 (before in-transits)</b>		<b>48,040</b>	<b>54,984</b>
Net amount in-transit		0	0
<b>Value at 31.12.2008 (after in-transits)</b>		<b>48,040</b>	<b>54,984</b>

**Historical Fund Performance**

Annual rates of return, net of investment expenses, for the last 11 years are provided below on both a market value and actuarial value bases.

	Year-end Market Value	Market Value Rate of Return	Year-end Actuarial Value	Actuarial Value Rate of Return
2008	\$ 48,040,000	-9.90%	\$ 54,984,000	2.85%
2007	57,156,000	2.12%	57,046,000	7.57%
2006	58,764,000	9.33%	55,755,000	9.46%
2005	56,236,000	10.61%	53,424,000	4.78%
2004	53,087,000	8.93%	53,292,000	0.42%
2003	51,524,000	11.27%	55,969,000	0.61%
2002	46,557,000	-8.38%	55,899,000	0.10%
2001	57,408,000	-5.64%	62,147,000	4.60%
2000	67,243,000	8.12%	65,496,000	7.65%
1999	68,313,000	9.22%	66,974,000	7.18%
1998	68,709,000	6.75%	68,709,000	14.00%

**Historical Updates to Pensions In-Payment**

Annual cost-of-living adjustments (COLA) for the last 12 years, applicable to pensions that have been in payment for at least one year on the effective date, are provided below.

Effective Date	COLA Update *	Effective Date	COLA Update
July 1, 1996	1.16%	July 1, 2006	0.00%
July 1, 1997	2.91%	July 1, 2007	0.00%
July 1, 1998	3.59%	July 1, 2008	0.00%
July 1, 1999	4.41%		
July 1, 2000	4.79%		
July 1, 2001	4.01%		
July 1, 2002	0.00%		
July 1, 2003	0.00%		
July 1, 2004	0.00%		
July 1, 2005	0.00%		

\* The COLA updates indicated are the maximum pension increases determined under the excess yield method. It should be noted that the annual increase for some pensioners is limited to the change in CPI calculated in the year prior to the adjustment.

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## Valuation Results – Going-Concern Basis

On the basis of the foregoing, the financial position of the Plan on the going concern basis as at December 31, 2008, with comparable results from the previous valuation, is summarized below:

### Financial Position – Going-Concern Basis

	December 31, 2008 (\$ 000)	December 31, 2007 (\$ 000)
<b>Assets</b>		
▪ Value of Pension Fund	54,984	57,046
▪ Net amount in-transit	0	0
Total value of assets	54,984	57,046
<b>Liabilities</b>		
▪ Active and disabled members	0	0
▪ Retired members' pensions	47,137	49,798
▪ Spouses and other survivor pensions	10,484	10,668
Total actuarial liabilities	57,621	60,466
<b>Funding Excess (Deficiency)</b>	<b>(2,637)</b>	<b>(3,420)</b>

## Current Service Cost

As at December 31, 2008 all active members had retired. Therefore, no further contributions for current service are required by the Employer and the Plan members.

## Special Payments for Unfunded Liabilities

The unfunded liability created at January 1, 2003 funded by special payments of \$16,496 per month has been fully amortized as at the valuation date. The present value of the remaining special payments of \$143,971 per month for unfunded liabilities created prior to the valuation date was \$ 1,668,000 as at December 31, 2008. Net actuarial losses resulting from Plan experience in 2008 has created an unfunded liability of \$969,000 at December 31, 2008, which is to be amortized over 5 years with special payments of \$18,443 per month.

After including the above changes, the following minimum special payments must be made to the Plan in order to eliminate the funding deficiency of \$ 2,637,000 as at December 31, 2008 within the periods specified.

### Minimum Funding Schedule

Unfunded Liability	Effective Date	Monthly Payment	Last Payment	Present Value of Remaining Payments at 31.12.2008
Plan experience and changes in assumptions	01.01.2003	\$ 80,375	12.2009	\$ 937,000
Plan experience	01.01.2004	29,109	12.2009	339,000
Plan experience and changes in assumptions	01.01.2005	29,110	12.2009	339,000
Plan experience and changes in assumptions	01.01.2006	5,377	10.2009	53,000
Plan experience	01.01.2009	18,443	12.2013	969,000
		\$ 162,414		\$ 2,637,000

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## Reconciliation of Funded Position

As the foregoing actuarial balance sheet indicates, the Plan has a funding deficiency on the going-concern basis of \$ 2,637,000 on the valuation date. The analysis of change in the funded position during 2008 is as follows.

	(\$ 000)	(\$ 000)
<b>Funding Deficiency at December 31, 2007</b>		3,420
▪ Interest on deficiency at 5.50% per annum	188	
▪ Cost of 60% survivor pension update	300	
▪ Employer special payments made in 2007, with interest	<u>(3,207)</u>	(2,719)
Experience losses (gains)		
▪ Investment experience	1,545	
▪ Mortality experience	314	
▪ Data corrections	72	
▪ Miscellaneous	<u>5</u>	1,936
<b>Funding Deficiency at December 31, 2008</b>		<u>2,637</u>

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## Valuation Results – Solvency Basis

When conducting a solvency valuation, we determine the relationship between the respective values of the Plan's assets and its liabilities on a solvency basis, determined in accordance with the *Pension Benefits Act (Ontario)*. The value of the Plan's assets and liabilities on a solvency basis are related to the corresponding values calculated as though the Plan were wound up and settled on the valuation date.

### Pre-Existing Special Payments

The present value at December 31, 2008 of the pre-existing special payments established in the prior valuation to eliminate the solvency deficiencies over the prescribed periods is determined as follows:

#### Present Value of Pre-Existing Solvency Special Payments

Effective Date	Monthly Special Payment	Last Payment	Present Value of Remaining Payments as at 31.12.2008
01.10.2005	\$ 59,177	12.2009	\$ 693,000
31.12.2005	209	12.2009	2,000
31.12.2007	43,000	12.2012	1,885,000
Total	\$ 102,386		\$ 2,580,000

As indicated above, the present value of the pre-existing solvency special payments of \$ 102,386 per month from the previous valuation is \$ 2,580,000 at the current valuation date.



## Financial Position on a Solvency Basis

The Plan's solvency position as at December 31, 2008, in comparison with that of the previous valuation as at December 31, 2007, is determined as follows:

Financial Position – Solvency Basis		
	Dec. 31, 2008 (\$ 000)	Dec. 31, 2007 (\$ 000)
<b>Assets</b>		
Market value of assets (before in-transit amounts)	48,040	57,156
▪ Net amount in-transit	0	0
Market value of assets (after in-transit amounts)	48,040	57,156
▪ Termination expenses	(67)	(71)
Solvency assets	47,973	57,085
Solvency asset adjustment:		
▪ Asset smoothing adjustment	6,472 *	(392)
▪ Present value of funding and pre-existing solvency special payments due within 5 years	5,244	4,804
Adjusted solvency assets	59,689	61,497
<b>Actuarial liability</b>		
Present value of accrued benefits for:		
▪ Active and disabled members	0	0
▪ Retired members pensions	49,278	53,587
▪ Souses and other survivor pensions	10,911	11,387
Solvency liabilities	60,189	64,974
Solvency liability adjustment	970	(1,180)
Adjusted solvency liability	61,159	63,794
<b>Solvency excess (deficiency) created at the valuation date</b>	<b>(1,470)</b>	<b>(2,297)</b>
<b>Total solvency surplus (shortfall), excluding asset adjustment for funding and solvency deficiency payments and prior year credit balance adjustment</b>	<b>(6,714)</b>	<b>(7,101)</b>
<b>Market value less prior year credit balance</b>	<b>48,040</b>	<b>57,156</b>
<b>Solvency liability, excluding adjustments</b>	<b>60,189</b>	<b>64,974</b>
<b>Transfer ratio</b>	<b>80%</b>	<b>88%</b>

\* Averaging method adjustment = 75% of investment losses (i.e. below the 4.75% expected) of \$6,143,000 from 2008 plus 50% of investment losses of \$861,000 from 2007 less 25% of investment gains of \$532,000 from 2006.

## Impact of Plan Wind-Up

In our opinion, the value of the Plan's assets would be less than its actuarial liabilities if the Plan were to be wound up on the valuation date. Specifically, actuarial liabilities of \$ 60,189,000 would exceed the market value of Plan assets of \$ 47,973,000 by an amount of \$ 12,216,000. For purposes of this calculation, the market value of assets includes a provision for Plan termination expenses that might be payable from the pension fund and the liabilities exclude the potential liability for future cost-of-living adjustments to pensions in payment.

## Total Special Payments for Solvency Deficiency

In accordance with the *Pension Benefits Act (Ontario)*, each solvency deficiency must be eliminated by special payments within five years of the respective effective date.

The pre-existing solvency deficiencies established at January 1, 2005 and December 31, 2005 shall continue to be amortized with monthly special payments of \$59,177 and \$209, respectively, until December 31, 2009. In addition, the pre-existing solvency deficiency established at December 31, 2007 will continue to be amortized with monthly special payments of \$43,000 until December 31, 2012. There is a new solvency deficiency of \$1,470,000 created at December 31, 2008 which shall be funded within 5 years by minimum special payments of \$ 27,418 per month.

After including the above changes, the following minimum special payments must be made to the Plan in order to eliminate the total solvency shortfall of \$ 4,050,000 as at December 31, 2008 within the periods specified.

### Present Value of Monthly Special Payments

Effective Date	Monthly Special Payment	Last Payment	Present Value of Remaining Payments as at 31.12.2008
01.01.2005	\$ 59,177	12.2009	\$ 693,000
31.12.2005	209	12.2009	2,000
31.12.2007	43,000	12.2012	1,885,000
31.12.2008	27,418	12.2013	1,470,000
Total	\$ 129,804		\$ 4,050,000

## Pension Benefits Guarantee Fund (PBGF) Assessment

In accordance with subsection 47(1)(p.18) of the Regulations under the *Pension Benefits Act (Ontario)*, the pension benefits provided by this Plan are not guaranteed by the Pension Benefits Guarantee Fund (PBGF) and are therefore exempt from the filing of PBGF assessment certificate (subsection 18(7) of the Regulations) and payment of an annual PBGF assessment (section 37 of the Regulations).

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## Recommendations and Funding

### Post-Retirement Adjustment at July 1, 2009

In accordance with the Plan provisions, a post-retirement adjustment is scheduled to be granted on pensions, effective July 1, 2009, to all pensioners whose benefit payments commenced prior to 2008. However, in accordance with our calculations in Appendix E, we have determined this adjustment to be 0.00%, based on 2008 returns and the inactive lives excess yield method described in the Plan provisions.

**It is recommended that:**

- no post-retirement adjustment be made as at July 1, 2009.

The minimum funding schedule after the above recommendation(s) is provided below.

#### Minimum Funding Schedule after Recommendations

Type of Deficiency	Effective Date	Monthly Payment	Last Payment
Unfunded Liability	01.01.2003	80,375	12.2009
Unfunded Liability	01.01.2004	29,109	12.2009
Unfunded Liability	01.01.2005	29,110	12.2009
Unfunded Liability	31.12.2005	5,377	10.2009
Unfunded Liability	31.12.2008	18,443	12.2013
Subtotal – Going-Concern		<u>\$ 162,414</u>	
Solvency Deficiency	01.01.2005	59,177	12.2009
Solvency Deficiency	31.12.2005	209	12.2009
Solvency Deficiency	31.12.2007	43,000	12.2012
Solvency Deficiency	31.12.2008	27,418	12.2013
Subtotal – Solvency		<u>\$ 129,804</u>	
Total		<u>\$ 292,218</u>	

Since all active members have retired, no Employer contributions are required for current service. Therefore, we recommend that the Employer contribute at the rate of \$ 292,218 per month to October, 2009 and \$286,841 per month thereafter in respect of the unfunded liabilities and solvency deficiencies, until revised by a subsequent valuation report.

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## Actuarial Opinion

**with respect to the Actuarial Valuation as at December 31, 2008  
of the Corporation of the City of York Employee Pension Plan**  
FSCO and CRA Registration No. 0320622

It is hereby certified that, in our opinion, with respect to the Corporation of the City of York Employee Pension Plan:

- 1) since all active members were retired as at December 31, 2008, current service contributions for 2009, and thereafter, are nil;
- 2) on a going-concern basis, the Plan is not fully funded as at December 31, 2008, with liabilities exceeding assets by \$ 2,637,000. In order to comply with the provisions of the *Pension Benefits Act (Ontario)*, the unfunded liability must be liquidated by monthly special payments over a period not exceeding 15 years. Due to the mature nature of the Plan, we recommend a shorter amortization period of 5 years. Accordingly, the recommended special payments are set forth below:

Type of Deficiency	Effective Date	Monthly Special Payment	Date of Last Payment
Unfunded Liability	01.01.2003	80,375	12.2009
Unfunded Liability	01.01.2004	29,109	12.2009
Unfunded Liability	01.01.2005	29,110	12.2009
Unfunded Liability	31.12.2005	5,377	10.2009
Unfunded Liability	31.12.2008	18,443	10.2013
		\$ 162,414	

- 3) on a solvency basis, the Plan is not fully funded as at December 31, 2008, with liabilities exceeding assets by \$ 4,050,000. In order to comply with the *Pension Benefits Act (Ontario)*, the solvency deficiency must be eliminated by monthly special payments at least equal to the amounts indicated and for the period set forth below:

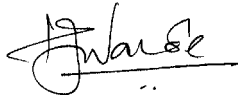
Type of Deficiency	Effective Date	Monthly Special Payments	Date of Last Payment
Solvency Deficiency	01.01.2005	\$ 59,177	12.2009
Solvency Deficiency	31.11.2005	209	12.2009
Solvency Deficiency	31.12.2007	43,000	12.2012
Solvency Deficiency	31.12.2008	27,418	12.2013
Total		\$ 129,804	

- 4) as at December 31, 2008, the transfer ratio of the Plan is 0.80 and the Prior Year Credit Balance is \$ 0; and
- 5) the Plan benefits are not guaranteed by the Pension Benefits Guarantee Fund and are therefore exempt from the annual filing of the PBGF assessment certificate and payment of any associated fees, in accordance with subsection 47(1)(p.18) of the Regulations under the *Pension Benefits Act (Ontario)*.

In our opinion,

- the data on which the valuation is based are sufficient and reliable for the purpose of the valuation.
- the assumptions are, in aggregate, appropriate for the purpose of the valuation.
- the methods employed in the valuation are appropriate for the purpose of the valuation.
- the liabilities would exceed the assets if the Plan were to be wound up on the valuation date.

This report has been prepared, and our opinions have been given, in accordance with accepted actuarial practice.



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Anil Narale

Fellow of the Society of Actuaries

Fellow of the Canadian Institute of Actuaries

May 12, 2009

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Date



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Frank Dekeyser

Associate of the Society of Actuaries

May 12, 2009

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Date



## Appendix A

## By-law Provisions

The following is a summary of the main provisions of the Plan, contained in By-law no. 3001999, which are relevant to the actuarial valuation. For complete details reference should be made to the formal Plan document.

<b>Effective Date:</b>	January 1, 1955.
<b>Membership:</b>	Employees who were hired before July 1, 1968.
<b>Normal Retirement:</b>	Age 60 for firefighters; age 65 for others.
<b>Early Retirement:</b>	Unreduced pensions upon completion of 30 years of service and attainment of age 55 (age 50 for firefighters). Otherwise the pension will be actuarially reduced.
<b>Disability Retirement:</b>	Permitted, with unreduced accrued pension, <ul style="list-style-type: none"><li>(a) after 10 years, if disability is total and permanent, or</li><li>(b) after 20 years, if the employee is incapable of continuing in the employer's service.</li></ul>

**Member Contributions:** Firefighters: 4.4% of Salary up to YMPE and  
6.5% of Salary over YMPE.

All Others: 3.9% of Salary up to YMPE and  
6.0% of Salary over YMPE.

Since all active members had completed 35 years of pensionable service as at December 31, 2003, there are no further contribution requirements after this date.

**Employer Contributions:** Such amounts as certified by the Actuary in the actuarial valuation reports.

**Normal Retirement Pension:** 2% of employee's best consecutive 5-year average earnings, multiplied by his number of years of service up to a maximum of 35 years, less (after age 65 or total disability) 0.7% of final 3 year average Y.M.P.E., multiplied by number of years of service after 1.1.66, up to a maximum of 35 years. For years of service after 1990, Revenue Canada restricted pensions to a flat dollar amount per year of service. For 2008, this amount was \$ 2,333.33.

**Pre-Retirement Death Benefits:** The pre-retirement death benefit is equal to five times the annual pension accrued to date of death, less any benefit payments made prior to date of death. In addition, commencing 5 years after the date of death an eligible widow or widower will receive 50% of the annual pension accrued to date of death, and if there are any surviving children this benefit will be increased by 10% of the accrued pension for each eligible child up to a maximum benefit of 75% of the accrued pension. If there is no surviving widow or widower the 50% benefit will be divided equally among the eligible surviving children. Dependent children's benefits cease on attainment of age 21.

**Form of Retirement Pension:** The normal form of pension benefit for a member who is not married at retirement is a lifetime pension, guaranteed for 5 years and for a married member is a joint and survivor 60% pension, guaranteed for 5 years. Effective as at January 1, 2002, survivor benefits are provided on post-retirement marriage, after the spouse has completed a 3-year period of marriage or co-habitation in a conjugal relationship.

<b>Withdrawal Benefits:</b>	Vested pension, or return of terminated member's pre-1987 contributions plus interest plus the commuted value of the member's post-1986 accrued pension.
<b>Employer Cost-Sharing:</b>	Upon termination, death or retirement, the member or his beneficiary is entitled to receive the excess, if any, of the member's post-1986 contributions plus interest over 50% of the commuted value of the pension earned over the same period.
<b>Post-Retirement Adjustments:</b>	Each July 1, the monthly income of members in receipt of pensions, survivors in receipt of pensions and terminated vested members entitled to a deferred pension shall be increased, as determined annually by the actuary and subject to Revenue Canada limitations, by a factor calculated as the sum of the inactive lives excess yields calculated for each of the 4 previous calendar years divided by 4. The inactive lives excess yield means the earnings of the pension fund that are in excess of that needed to match the inactive liabilities.

**Notes:**

1. All pensions are subject to the maximum limitation imposed by the *Municipal Act and the Income Tax Act*.
2. The Plan is subject to the provisions of the *Pension Benefits Act, Revised Statutes of Ontario, 1990*.

Appendix B

## Membership Data

Data as to the membership of the Plan were obtained from the Employer for purposes of this actuarial valuation. These data reflect membership changes up to the end of January (approximately) of the year following the valuation date. Tests were carried out as to the validity of the data by comparison with the data obtained in the previous valuation, by reconciliation of the membership movement during the inter-valuation period and by performing various data checks to ensure that pension amounts, dates of birth, and so on are reasonable. The results of these tests were satisfactory.

## Membership Reconciliation

A reconciliation of the membership data since the previous valuation is provided below.

	Active & Disabled Members	Pensioners	Surviving Spouses	Total
<b>As at 12.31.2007</b>	0	174	108	282
Pension Splits				
Data Corrections				
<b>Exits By:</b>				
Retirement				
Death - no spouse		(7)	(7)	(14)
Death - with spouse		(4)	4	
<b>As at 31.12.2008</b>	0	163	105	268

## Active and Disabled Members

The sole remaining active Plan member retired in 2006.

## Pensioners and Spouses

As at December 31, 2008, there are 163 pensioners having an average age of 77.6 years, receiving annual pensions totalling \$ 5,075,357 (this includes annual bridge pensions of \$ 42,668 in respect of 5 pensioners) and there are 105 surviving spouses having an average age of 81.7 years, receiving annual pensions totalling \$ 1,376,562.

The following table provides a further breakdown:

Age Group	PENSIONERS		SURVIVING SPOUSES	
	No.	Average Annual Pension	No.	Average Annual Pension
55 – 59	0	\$ 0	1	\$ 17,139
60 – 64	5	30,682	1	21,888
65 – 69	19	40,073	6	22,452
70 – 74	39	37,286	11	18,145
75 – 79	44	32,771	21	16,139
80 – 84	30	20,808	27	10,120
85 – 89	20	25,616	28	11,580
90 – 94	5	9,653	8	7,734
95 & over	1	11,615	2	2,473
Total	163	\$ 30,720	108	\$ 13,110
Males	142	\$ 33,681	10	\$ 9,447
Females	21	\$ 13,934	95	\$ 13,496

## Appendix C

### Actuarial Methods and Assumptions – Going-Concern Basis

The actuarial value of benefits is based on economic and demographic assumptions. At each valuation, we determine whether, in our opinion, the actuarial assumptions are still appropriate for the purposes of the valuation, and we revise the assumptions if necessary.

In this valuation, we have used the same assumptions as in the previous valuation, except as noted. Emerging experience will result in gains or losses that will be revealed and considered in future actuarial valuations. For this valuation, we have used the following assumptions:

#### Economic Assumptions

##### Investment Return

We have assumed that the investment return on the actuarial value of the fund, net of eligible Plan expenses charged to the Plan assets, will average 5.50% per year over the long term.

This is based on an assumed inflation rate of 2.50% per year plus a real rate of return of 3.00% per year.

##### Discount Rate

We have assumed that the discount rate for determination of the actuarial liabilities will be equal to the investment return assumption of 5.50% per year.

##### Expenses

We have not included a specific allowance for eligible Plan expenses. Instead, we have assumed that the investment return assumption is net of all eligible Plan expenses.

## Demographic Assumptions

### Mortality

The actuarial value of the pension depends on the lifetime of the member. We have assumed mortality rates after retirement in accordance with the Uninsured Pensioner Mortality Table for 1994 (UP94), with allowance for future mortality improvements. No mortality assumption was included in the pre-retirement period. According to this table, the life expectancy at age 65 years is 18.7 years for a male and 21.3 years for a female.

### Spousal Benefit Assumptions

The survivor benefit assumption is based on actual data provided and an allowance for remarriage of 0.25% of the pensioner liability.

Subject to the entitlement of the prior spouse, if any, the 3-year waiting period specified in the Plan and the requirements under the *Pension Benefits Act (Ontario)*, a spouse acquired after retirement date may be entitled to receive the spousal pension. Based on remarriage rates for older adults in Canada, it was estimated that the additional liability as a result of this provision is approximately 0.25% of the pensioner liability.

### Assumed Percentage of Members Married

No marriage assumption was made for inactive members. Instead, actual spousal information was used.

## Deviation from Assumptions

Emerging experience differing from the assumptions will result in gains or losses in future actuarial valuations.

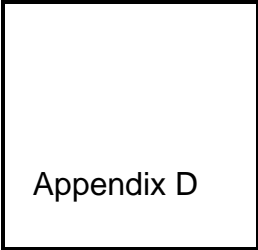
## Funding Method

The total *actuarial liability* has been determined as the actuarial present value of accrued benefits for current pensioners and spousal pensioners.

The total *value of assets* has been determined as the actuarial value of invested assets.

The difference between the total value of assets and the total actuarial liability is called the *funding excess* or *unfunded liability*, as the case may be. An unfunded liability will be amortized over no more than 15 years through special payments as required under the *Pension Benefits Act (Ontario)*.

Differences between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates will result in experience gains/(losses) which will increase/(decrease) the funding excess/(unfunded liability).



## Appendix D

### Actuarial Methods and Assumptions – Solvency Basis

The value of assets used for determining the financial position of the Plan on the solvency basis includes the solvency assets plus a solvency asset adjustment.

The *solvency assets* are determined as the market value of investments held by the Plan plus any cash balances of the Plan and accrued or receivable income items.

The *solvency asset adjustment* is determined as (1) the present value at the interest rate used to calculate the solvency liability adjustment of the special payments required to eliminate any going-concern unfunded liability and pre-existing solvency deficiency that are scheduled for payment within 5 years of the valuation date, plus (2) the amount, positive or negative, by which the value of the solvency assets are adjusted as a result of applying an averaging method that stabilizes short-term fluctuations of the Plan assets.

The value of the liabilities used for determining the financial position of the Plan on the solvency basis includes the solvency liabilities plus a solvency liability adjustment.

To determine the *solvency liability*, we have valued those benefits that would have been paid had the Plan been wound up on the valuation date with all members vested in their accrued benefits.

The *solvency liability adjustment* is determined as the amount, positive or negative, by which the value of the solvency liabilities are adjusted as a result of using a solvency valuation interest rate that is the average of the market interest rates calculated over a period of 4 years (the same period used for the averaging method used to determine the solvency asset adjustment).

The difference between (1) the sum of the solvency assets and solvency asset adjustment and (2) the sum of the solvency liability and solvency liability adjustment is called the *solvency excess* or *solvency deficiency*, as the case may be.



Since all members have qualified for a retirement pension, we have assumed that all benefits will be settled through the purchase of annuities and have used a valuation interest rate for solvency purposes which, when used with the 1994 Uninsured Pensioners mortality table with mortality projected to 2015 (U94P2015), provides an estimate of group annuity purchase rates for non-indexed pensions.

The Plan provides that the new spouse of a pensioner, whose former spouse at retirement has died or who was without spouse at retirement, is eligible for a survivor pension provided that the new spousal relationship, as defined in the Plan, has been in effect for a minimum of 3 years. In order to make allowance for the possible increase in future liabilities on remarriage of a pensioner, we have loaded the pensioner liabilities by 0.25% as an allowance for remarriage.

For this valuation, the asset smoothing method has been changed for consistency with the going-concern asset smoothing method.

It should be noted that we have excluded from our calculations any potential liability for future cost-of-living increases provided under the Plan.

Assumptions for determination of the solvency liability are as follows:

#### Actuarial Assumptions

Mortality rates:	UP1994 table, with mortality projection to 2015
Interest rate for benefits to be settled through annuity purchase:	4.85%
Termination expenses:	\$ 67,000 (based on \$ 250 per pensioner/survivor)

Assumptions for determination of the solvency liability adjustment are as follows:

#### Actuarial Assumptions

Mortality rates:	UP1994 table, with mortality projection to 2015
Interest rate for benefits to be settled through annuity purchase:	4.625%

We have used an average of the annuity proxy rates as at December 31, 2005 (4.50% per year), December 31, 2006 (4.60% per year), December 31, 2007 (4.50% per year) and December 31, 2008 (4.85% per year) which produces a rate of 4.625% per year (rounded to the nearest 1/8%).

## Appendix E

### Post Retirement Cost-of-Living Adjustments

#### COLA at July 1, 2009

The COLA at July 1, 2009 is based on the average of the Inactive Lives Excess Yields calculated for each of the previous 4 calendar years (i.e. 2005, 2006, 2007, 2008).

If the increase calculated is zero or negative, no adjustment to pensions is to be granted. In accordance with the calculation on the following page, since the increase calculated is negative, no adjustments to pensions arises at July 1, 2009.

## Calculation of COLA at July 1, 2009

The calculation of COLA as at July 1, 2009 on pensions in payment at December 31, 2008 is as follows:

	2008	2007	2006	2005
MV of assets at Dec. 31	\$48,040,000	\$57,156,000	\$58,764,000	\$56,236,000
Inactive liability at Dec. 31 based on Jan 1 benefits	\$57,621,000	\$60,466,000	\$64,191,000	\$68,139,000
<b>Inactive Lives Reserve</b>				
OILR at Jan. 1	\$60,466,000	\$64,191,000	\$68,139,000	\$69,382,000
CILR at Dec. 31	\$57,621,000	\$60,466,000	\$64,191,000	\$68,139,000
<b>Inactive Lives Fund</b>				
OILF at Jan. 1	\$57,156,000	\$58,764,000	\$56,236,000	\$53,087,000
Fund income & appreciation	(5,340,000)	1,370,000	5,279,000	5,657,000
Pensions paid in year	(6,678,000)	(6,728,000)	(7,051,000)	(7,167,000)
Expenses paid in year	(219,000)	(222,000)	(197,000)	(178,000)
CILF at Dec. 31	\$44,919,000	\$53,184,000	\$54,267,000	\$51,399,000
<b>Inactive Lives Excess Yield (CILF-CILR)/CILR</b>	-22.04%	-12.04%	-15.46%	-24.57%
<b>4-Year Average Excess Yield</b>	-18.61%			
<b>COLA Adjustment for 2009</b>	<b>0.00%</b>			

## Definition of Terms and Actuary's Interpretations

**Inactive Lives Excess Yield** (s2.27), means “the earnings of the Fund that are in excess of that needed to match the liabilities established for pensioners, survivors and deferred members. This percentage is calculated annually by the formula:

$$100\% \times (\text{CILF} - \text{CILR}) / \text{CILR} “$$

**Opening Inactive Lives Reserve (OILR)** (s2.34), means “the liability of the Fund, as determined by the Actuary, with regard to pensioners, deferred members eligible for pensions and survivors in receipt of pension benefits as of each January 1.

*We have interpreted the OILR to be equal to the inactive going-concern actuarial liabilities as of each January 1 (i.e. as of December 31 of the previous year).*

**Opening Inactive Lives Fund (OILF)** (s2.33), means “the amount of the Fund set aside to match the OILR. This amount, as determined by the Actuary, will always equal the OILR for the same calendar year.”

*If the market value of assets at January 1 is less than the OILR at that date, we have interpreted the OILF to be equal to the market value of assets at that date, otherwise, the OILF will equal the OILR.*

**Closing Inactive Lives Reserve (CILR)** (s2.12), means “the liability of the Fund, as determined by the Actuary, with regard to pensioners, deferred members eligible for pensions and survivors in receipt of pension benefits as of each December 31. The reserve shall be calculated using the amounts of pension and recipients utilized in determining the OILR for the same calendar year.”

*We have interpreted the CILR to be equal to the inactive going-concern actuarial liabilities as of each December 31, but excluding the liability for any amendments during the year which affected the pension benefits of the inactive members and excluding liability for new retirements.*

**Closing Inactive Lives Fund (CILF)** (s2.11), means “the amount, as determined by the Actuary, of the OILF at the end of the calendar year. This figure is calculated by adjusting the OILF for the investment income, recognized capital gains and losses and expenses on a pro rata basis with the entire Fund, and assuming that all benefits paid to recipients valued in that year's OILR are paid from the OILF.”

*We have interpreted the above calculation of the CILF to include all interest and dividend income and both realized and unrealized capital gains and losses. As well, if the OILF is less than the OILR, we have interpreted the pro rata percentage to be 100%, otherwise the pro rata percentage is equal to the ratio of OILF to total Fund at January 1. The contributions made to the Fund in a calendar year are not included in the CILF for that year.*

Appendix F

## Employer Certification

With respect to the report on the actuarial valuation of the *Corporation of the City of York Employee Pension Plan*, as at December 31, 2008, I hereby certify that, to the best of my knowledge and belief:

- a copy of the official Plan documents, and of all amendments made up to the date of the valuation, were provided to the actuary;
- the membership and financial data provided to the actuary for the purposes of this valuation are accurate and complete;
- the membership data provided to the actuary include a complete and accurate description of every person who is entitled to benefits under the terms of the Plan for service up to the date of the valuation, and
- all events subsequent to December 31, 2008 that may have an impact on the results of the valuation have been communicated to the actuary.

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Date

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Signed

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Name

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Title

# MERCER



MARSH MERCER KROLL  
GUY CARPENTER OLIVER WYMAN

Mercer (Canada) Limited  
161 Bay Street  
P.O. Box 501  
Toronto, Ontario M5J 2S5  
416 868 2000

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