

November 26, 2018

City of Algonac  
805 St. Clair River Drive  
Algonac, MI 48001

Attention: Ms. Linda G. Mackie, City Treasurer

***This report contains*** the results of an actuarial valuation of the liabilities associated with retiree health benefits provided by the City of Algonac, together with computed contributions to systematically finance these benefits.

***The date of the valuation*** was June 30, 2018.

***The purpose of the actuarial valuation*** is to:

- Compute the liabilities associated with post-retirement health benefits likely to be paid on behalf of current active employees and retirees, and
- Compute a pre-funding contribution rate for the City to finance the post-retirement health benefits as they accrue.

***This valuation has been conducted*** in accordance with generally accepted actuarial principles and practices. Data concerning active employees, retirees and assets was provided by the City. This data has been reviewed for reasonableness, but no attempt has been made to audit such information. The valuation was based on the benefit provisions as submitted by the City. This valuation has been prepared under the supervision of a Member of the American Academy of Actuaries who meets the qualification standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,



Denise M. Jones  
Senior Consultant



Sandra W. Rodwan  
Member, American Academy of Actuaries

***City of Algonac  
Post-Employment Health Benefits***

***Actuarial Valuation as of June 30, 2018***

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***Section One:***

***Valuation Summary***



### **Purpose of Valuation –**

The purpose of this actuarial valuation of post-retirement health benefits as of June 30, 2018 is to:

- ❖ Compute the liabilities associated with post-retirement health benefits likely to be paid on behalf of current active and retired participants,
- ❖ Compute a pre-funding contribution to finance the benefits as they accrue.

### **Assumptions Used in the Valuation**

The liabilities and pre-funding contribution are very sensitive to the long-term assumptions used in making the valuation. The assumptions used in making this valuation, summarized in Section Four, are only one reasonable set out of a large number of possibilities. To the extent that actual experience differs from the long-term assumptions, the liabilities and contributions will be greater or less than those indicated in this report. The assumptions having the greatest impact are the rate of medical care inflation and the investment return rate. We have assumed an 6.0% annual increase for medical care inflation in the first year, decreasing in increments of 0.5% over the next 10 years to the ultimate 5.0% assumption. The assumed investment return rate was 7.0%. Liabilities and computed contributions can change significantly in future years depending upon the actual and assumed rates of medical care inflation, investment return, benefit provisions and demographics of the participant group.

### **Actuarial Accrued Liabilities**

Actuarial accrued liabilities as of June 30, 2018, were computed to be \$111,500 for General and \$83,205 for Water. Of this amount, \$28,399 was attributable to current General active employees, \$62,405 was attributable to current Water active and employees and \$83,101 to current General retirees and \$20,800 to current Water retirees.

### **Funding Value of Assets**

The Market Value of assets as of June 30, 2018, \$641,880, was used for this valuation.

**Participants**

	<b>06/30/2018</b>	
	<b>General</b>	<b>Water</b>
Active Employees	1	1
Active Employee Payroll	\$51,631	\$47,974
Retirees	2	1



***Section Two:***

***Actuarial Calculations –  
Funding***



**Actuarial Accrued Liabilities**

The actuarial accrued liability as of June 30, 2018 was computed to be \$194,705.

	<b>General</b>	<b>Water</b>	<b>Total</b>
Active participants	\$28,399	\$62,405	\$90,804
Retirees	83,101	20,800	103,901
Inactive vested participants	<u>0</u>	<u>0</u>	<u>0</u>
Total Actuarial Accrued Liability	\$111,500	\$83,205	194,705
Funding Value of Assets			641,880
Unfunded Actuarial Accrued Liability			\$(447,175)

**Computed Contribution Rates – Annual Required Contribution**

The computed contribution rate consists of two components: normal cost and amortization of unfunded actuarial accrued liability. Normal cost was computed to be a level as a percent of pay from date of hire to date of termination. The normal cost can be considered to be the ongoing cost.

The portion of the total present value of future benefits allocated to service already rendered is the actuarial accrued liability. Accrued assets exceeded actuarial accrued liability, resulting in no unfunded actuarial accrued liability.

The computed contribution amounts are as follows:

	<b>City of Algonac</b>		
	<b>Computed Employer Contributions</b>		
	<b>General</b>	<b>Water</b>	<b>Total</b>
Normal Cost	\$985	\$888	\$1,873
Unfunded Actuarial Accrued Liability	0	0	0
Total Computed Contribution	\$985	\$888	\$1,873



## Comments

**Comment 1:** In order for assets to be considered in determining the unfunded actuarial accrued liability, the assets must be a) irrevocably held in a trust or equivalent arrangement, b) dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan, and c) legally protected from creditors of the employer or plan.



***Section Three:***  
***Benefit Provisions***



## Benefit Provision Summary

**Eligibility:** Normal retirement with 30 years of service at retirement.  
Employees hired prior to January 1, 2011 are eligible.

**Benefit:** To 65: City pays 40% of premium for retiree and spouse.  
At 65: \$125/mo. for retiree and spouse. \$125 is increased annually based on increases in the Michigan CPI.

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***Section Four:***

***Actuarial Assumptions  
And Methods***



**Actuarial Assumptions**

**Economic Assumptions**

(i) Interest Rate	7.0% (net of expenses)
(ii) Inflation Rate	
Medical	6.0% graded down to ultimate 5% in 0.5% increments over 10 years.
Wage	2.5%

**Demographic Assumptions**

**(i) Mortality**

RP 2014 Healthy Mortality Table

Sample Ages	Future Life Expectancy (Years)	
	Men	Women
55	28.23	30.70
60	24.07	26.29
65	20.05	22.04
70	16.23	18.01
75	12.70	14.28
80	9.54	10.90

**(ii) Disability**

Percent Becoming Disabled At Indicated Age	
Ages	
20	0.02%
25	0.02
30	0.02
35	0.02
40	0.05
45	0.12
50	0.25
55	0.40
60	0.45

**(ii) Termination of Employment**

Service related rates for first 5 years of employment. Age related rates after first 5 years of employment

<b>Sample Ages</b>	<b>Years of Service</b>	
ALL	0	18.00%
	1	18.00
	2	16.00
	3	12.00
	4	10.00
25	5 & Over	9.00
30		9.00
35		7.00
40		5.00
45		4.00
50		3.00
55		3.00
60		3.00
65		2.00

**(iii) Retirement Rates**

100% at eligibility.

### **Actuarial Method Used for the Valuation**

**Normal Cost.** Normal cost and the allocation of actuarial present values between service rendered before and after the valuation date were determined using an individual entry age actuarial cost method having the following characteristics:

- ❖ The annual normal costs for each individual active participant, payable from date of hire to date of retirement, are sufficient to accumulate the value of the participant's benefit at the time of retirement;
- ❖ Each annual normal cost is a constant percentage of the participant's year-by-year projected covered pay.

**Financing of Unfunded Actuarial Accrued Liability.** There was no unfunded actuarial accrued liability as of June 30, 2018.





***Section Five:***  
***Valuation Data***



**Participant Summary**

**Retirees – June 30, 2018**

<b>Attained Age</b>	<b>General</b>	<b>Water</b>	<b>Totals</b>
67		1	1
68	1		1
76	1		1
<b>Total</b>	<b>2</b>	<b>1</b>	<b>3</b>

There are also 2 spouses of these retirees who are receiving retiree health benefits from the City.

**General Active Members – June 30, 2018  
Age and Service Distribution**

<b>Attained Age</b>	<b>Service</b>						<b>Totals</b>	
	<b>0-4</b>	<b>5-9</b>	<b>10-14</b>	<b>15-19</b>	<b>20-24</b>	<b>25-29</b>	<b>No.</b>	<b>Payroll</b>
40-44				1			1	51,631
<b>Totals</b>							<b>1</b>	<b>\$51,631</b>

**Group Averages:**

Age: 43.1 years  
 Service: 15.5 years  
 Annual Pay: \$51,631

**Water Active Members – June 30, 2018  
Age and Service Distribution**

Attained Age	Service						No.	Totals
	0-4	5-9	10-14	15-19	20-24	30-34		Payroll
50-54						1	1	47,974
<b>Totals</b>						<b>1</b>	<b>1</b>	<b>\$47,974</b>

**Group Averages:**

Age: 53.9 years  
 Service: 30.9 years  
 Annual Pay: \$47,974