MC, Inc.

Menard Consulting, Inc.

Actuaries & Consultants

GASB 45 Actuarial Valuation

Fiscal Year 2017 Liability Information and Annual Required Contribution

Frankfort School District #157-C
Postretirement Health Plan

August 16, 2017

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Executive Summary

This report details the data, assumptions, and underlying methodology used in the GASB 45 actuarial valuation for Fiscal Year 2017. The following exhibit illustrates the Actuarial Accrued Liability ("AAL"), Annual Required Contribution ("ARC"), Annual OPEB Cost, and Net OPEB Obligation.

	Fiscal Year 2017
Actuarial Accrued Liability (AAL)	
Actives Fully Eligible	$30,180
Actives Not Yet Fully Eligible	215,184
Retirees and Dependents	124,445
TOTAL AAL	**$369,809**
Annual Required Contribution (ARC)	**$34,854**
Annual OPEB Cost	**$34,854**
Net OPEB Obligation (end of the year)	**$9,722**

Refer to the "GASB Terminology" section of this report for definitions of the GASB 45 terms.

Notes to Financial Statements

	Fiscal Year 2017
Annual OPEB Cost & Net OPEB Obligation	
Annual Required Contribution	$34,854
Interest on Net OPEB Obligation	0
Adjustment to Annual Required Contribution	0
Annual OPEB Cost	$34,854
Estimated Employer Contributions (Payments)	(25,132)
Change in Net OPEB Obligation	$9,722
Net OPEB Obligation – Beginning of the Year	0
Net OPEB Obligation – End of the Year	$9,722
Annual OPEB Cost (Income Statement charge)	$34,854
Percentage of Annual OPEB Cost Contributed	72%
Net OPEB Obligation at End of the Year (Balance Sheet Asset / Liability)	$9,722
Funded Status	
Actuarial Accrued Liability (AAL)	$369,809
Actuarial Value of Assets (AVA)	0
Unfunded Actuarial Accrued Liability (UAAL)	$369,809
Funded Ratio (Assets as a percentage of AAL)	0%
Annual Covered Payroll	$10,724,106
UAAL as a Percentage of Covered Payroll	3%
Actuarial Methods and Assumptions	
Measurement Date	July 1, 2016
Investment Rate of Return	
Expected Return on Plan Assets	Not Applicable
Expected Return on Employer's Assets	4.00%
Rate of Compensation Increase	4.00%

Notes to Financial Statements
(Continued)

Assumed Health Care Trend Rates	
Initial Health Care Cost Trend Rate (1)	7.50%
Ultimate Health Care Cost Trend Rate	5.00%
Fiscal Year the Ultimate Rate is Reached	Fiscal Year 2027
Additional Information	
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Projected Payroll – Open
Amortization Period (years)	30
Method Used To Determine Actuarial Value of Assets	Not Applicable

(1) Trend rates are adjusted to reflect the difference between the Insurance Year (1/1 – 12/31) and the Fiscal Year (7/1 – 6/30). Trend rates shown are Insurance Year trends.

Statement of Actuarial Opinion

This report documents the results of an actuarial valuation for the Frankfort School District #157-C of their Postretirement Health Plan. The primary purpose of the valuation is to determine the obligations and costs for Fiscal Year 2017 in accordance with Government Accounting Standard No. 45 ("GASB 45"). Determinations for purposes other than meeting the Employer's financial accounting requirements may be significantly different from the results herein.

In performing the valuation, I relied on information and data regarding plan provisions, plan participants, and other information provided by District personnel. An audit of the information was not performed, but the information was reviewed for reasonableness as appropriate based on the purpose of this valuation. The accuracy of the results is dependent upon the accuracy and completeness of the underlying information. All of the information provided was relied upon in drawing conclusions.

The valuation results in this report involve actuarial calculations that require assumptions about future events. Frankfort School District #157-C is responsible for the selection of assumptions. I believe that the assumptions used in this valuation are reasonable and appropriate for the purposes for which they have been used.

To the best of my knowledge, all calculations are in accordance with requirements of applicable financial accounting standards, including GASB 45, and the procedures followed and presentation of results conform to generally accepted actuarial principles and practices. I meet the Qualification Standards of the American Academy of Actuaries to render this Actuarial Opinion. There is no relationship between the Frankfort School District #157-C and Menard Consulting, Inc. that impairs objectivity.

The information contained in this report was prepared for the use by the District and its auditors. It is not intended or necessarily suitable for other purposes. It is intended to be used in its entirety to avoid misrepresentations.

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Annual Required Contribution ("ARC") Development

Calculation of Normal Cost Component

1.	Normal Cost	$21,187
2.	Interest on Normal Cost	847
3.	Normal Cost Component [1. + 2.]	$22,034

Calculation of Amortization Component

4.	Actuarial Accrued Liability (AAL)	$369,809
5.	Actuarial Value of Assets	0
6.	Unfunded Actuarial Accrued Liability (UAAL) [4. – 5.]	$369,809
7.	Amortization Period (years)	30
8.	Investment Rate of Return	4.00%
9.	Amortization Factor	30.0000
10.	Annual Amortization	$12,327
11.	Interest on Amortization Payment	493
12.	Amortization Component [10. + 11.]	$12,820

Calculation of ARC

Normal Cost Component	$22,034
Amortization Component	12,820
Annual Required Contribution	$34,854

Balance Sheet Item & Expense – Development

Calculation of Interest on Net OPEB Obligation

Net OPEB Obligation – End of the Prior Year	$0
Investment Rate of Return	4.00%
Interest on Net OPEB Obligation	$0

Calculation of Annual OPEB Cost

Annual Required Contribution (ARC)	$34,854
Interest on Net OPEB Obligation	0
Adjustment to Annual Required Contribution	0
Annual OPEB Cost	$34,854

Calculation of Net OPEB Obligation

Net OPEB Obligation – Beginning of the Year	$0
Annual OPEB Cost	34,854
Estimated Employer Contributions (Payments)	(25,132)
Net OPEB Obligation – End of the Year	$9,722

Expected Cash Flows

Fiscal Year	Estimated Benefit Payments
2017	$25,132
2018	33,053
2019	30,838
2020	29,161
2021	22,790
2022	23,532
2023	25,405
2024	28,358
2025	27,287
2026	29,895
2027	19,826

The projection of future cash flows is based on a closed group valuation. It does not take into account the impact of future new hires.

Participant Data

Counts and Statistics

Census Date	August 2017
Participants	
Actives Fully Eligible to Retire	16
Actives Not Yet Fully Eligible to Retire	190
Retirees	6
TOTAL	**212**
Average Ages	
Actives Fully Eligible to Retire	59.6
Actives Not Yet Fully Eligible to Retire	42.3
Retirees	64.2
Average Service	
Actives Fully Eligible to Retire	15.3
Actives Not Yet Fully Eligible to Retire	8.0

Actuarial Methods and Assumptions

Actuarial Methods

Measurement Date	July 1, 2016
Data Collection Date	August 2017
Participant Data	Employee and retiree data was supplied by the plan sponsor as of the census date. Data on persons receiving benefits was supplied by the plan sponsor.
Fiscal Year	July 1 – June 30
Actuarial Cost Method	Entry Age Normal
Asset Valuation Method	Not Applicable
Benefits Not Included	None
Nature of Actuarial Calculations	The results are estimates based on assumptions about future events. Assumptions may be made about participant data or other factors. All approximations and assumptions are noted. Reasonable efforts were made in this valuation to ensure that significant items in the context of the actuarial liabilities or costs are treated appropriately, and not excluded or included inappropriately. Actual future experience will differ from the assumptions used. As these differences arise, the expense for accounting purposes will be adjusted in future valuations to reflect such actual experience. The numbers are not rounded, but this is for convenience only and should not imply precision which is not inherent in actuarial calculations.

Actuarial Methods and Assumptions
(Continued)

Actuarial Assumptions

Discount Rate	4.00%			
Salary Rate Increase	4.00%			
Expected Rate of Return on Assets	Not Applicable			
Health Care Trend	Insurance Year Trends		Fiscal Year Trends	
	Period	Medical Plans	Period	Medical Plans
(1) Known rate	IY16 – IY17	11.01% (1)	FY17 – FY18	9.26%
	IY17 – IY18	7.50%	FY18 – FY19	7.34%
	IY18 – IY19	7.19%	FY19 – FY20	7.03%
	IY19 – IY20	6.88%	FY20 – FY21	6.72%
	IY20 – IY21	6.56%	FY21 – FY22	6.41%
	IY21 – IY22	6.25%	FY22 – FY23	6.09%
	IY22 – IY23	5.94%	FY23 – FY24	5.78%
	IY23 – IY24	5.63%	FY24 – FY25	5.47%
	IY24 – IY25	5.31%	FY25 – FY26	5.16%
	IY25 – IY26	5.00%	FY26 – FY27	5.00%
	Subsequent	5.00%	Subsequent	5.00%
Retiree Contribution Trend	Same as Health Care Trend			

Mortality

IMRF Employees and Retirees: Rates from the December 31, 2016 IMRF Actuarial Valuation Report

	Pre-Retirement		Post Retirement	
Age	Male	Female	Male	Female
20	0.0003	0.0001	------	------
25	0.0004	0.0001	------	------
30	0.0004	0.0002	------	------
35	0.0004	0.0002	------	------
40	0.0005	0.0003	0.002105	0.001101
45	0.0008	0.0005	0.003112	0.001712
50	0.0013	0.0009	0.004339	0.002657
55	0.0023	0.0013	0.006040	0.003898
60	0.0040	0.0019	0.008667	0.005413
65	0.0070	0.0028	0.013820	0.007981
70	0.0113	0.0047	0.022131	0.012641
75	0.0187	0.0081	0.035602	0.020877
80	0.0312	0.0139	0.058216	0.034760

TRS Employees and Retirees: Rates from the June 30, 2016 Teachers' Retirement System Actuarial Valuation Report

	Pre-Retirement		Post Retirement	
Age	Male	Female	Male	Female
20	0.000406	0.000162	------	------
25	0.000484	0.000173	------	------
30	0.000452	0.000218	------	------
35	0.000523	0.000286	------	------
40	0.000628	0.000396	------	------
45	0.000973	0.000657	------	------
50	0.001686	0.001102	0.004064	0.002768
55	0.002788	0.001673	0.005735	0.003622
60	0.004688	0.002442	0.007771	0.005191
65	0.008277	0.003696	0.011013	0.008048
70	0.013854	0.006309	0.016769	0.012868

Actuarial Methods and Assumptions
(Continued)

Retirement Rates

IMRF Employees: Rates from the December 31, 2016 IMRF Actuarial Valuation Report. No Early Retirement Rates assumed.

Regular IMRF Normal Retirement Rates – Tier 1					
Age	Male	Female	Age	Male	Female
55	33%	27%	65	25%	25%
56-59	25%	20%	66	30%	25%
60-61	12%	10%	67	25%	25%
62	22%	18%	68-79	20%	20%
63-64	20%	18%	80+	100%	100%

Regular IMRF Normal Retirement Rates – Tier 2, Males							
	Service				Service		
Age	< 30	30-35	>35	Age	< 30	30-35	>35
62-66	0%	0%	75%	70-72	20%	50%	75%
67-68	30%	50%	75%	73-79	18%	50%	75%
69	25%	50%	75%	80+	100%	100%	100%

Regular IMRF Normal Retirement Rates – Tier 2, Females							
	Service				Service		
Age	< 30	30-35	>35	Age	< 30	30-35	>35
62-66	0%	0%	75%	70-79	18%	50%	75%
67-68	25%	50%	75%	80+	100%	100%	100%
69	20%	50%	75%				

Actuarial Methods and Assumptions
(Continued)

Retirement Rates (cont'd)

TRS Employees: Rates from the June 30, 2016 Teachers' Retirement System Actuarial Valuation Report

Tier 1 Employees

	Service				
Age	5-18	19-30	31	32-33	34+
54	0%	6%	8%	38%	60%
55	0%	10%	8%	38%	60%
56	0%	7%	8%	38%	45%
57	0%	7%	12%	40%	45%
58	0%	7%	12%	40%	40%
59	0%	25%	38%	60%	40%
60	14%	30%	48%	60%	40%
61	14%	27%	33%	45%	40%
62	14%	27%	50%	45%	40%
63	14%	27%	38%	50%	40%
64	24%	37%	50%	60%	40%
65-67	26%	37%	50%	50%	40%
68-69	26%	33%	50%	50%	40%
70+	100%	100%	100%	100%	100%

Tier 2 Employees

	Service				
Age	9-18	19-30	31	32-33	34+
62	13%	15%	20%	25%	25%
63-65	8%	10%	15%	20%	20%
66	20%	10%	15%	20%	20%
67	20%	40%	70%	70%	70%
68-69	20%	40%	40%	40%	40%
70+	100%	100%	100%	100%	100%

Actuarial Methods and Assumptions
(Continued)

Withdrawal Rates

IMRF Employees: Rates from the December 31, 2016 IMRF Actuarial Valuation Report

Age	Service	Male	Female
	0	24.5%	29.0%
	1	19.0%	22.0%
	2	14.5%	17.0%
	3	12.0%	13.0%
	4	9.5%	11.0%
	5	8.0%	9.0%
	6	7.0%	7.5%
	7	6.5%	7.0%
30	8 & Over	4.1%	6.1%
35		3.2%	5.1%
40		2.6%	3.9%
45		2.2%	3.3%
50		1.9%	2.8%

TRS Employees: Rates from the June 30, 2016 Teachers' Retirement System Actuarial Valuation Report

	Male		Female	
Age	0-4 yos	5+ yos	0-4 yos	5+ yos
25	9.5%	6.0%	8.4%	6.5%
30	8.8%	2.8%	11.3%	5.0%
35	10.2%	2.1%	11.6%	3.5%
40	12.3%	1.7%	10.8%	2.2%
45	12.6%	1.5%	10.3%	1.9%
50	16.7%	1.9%	11.8%	1.7%
55	20.7%	5.0%	17.0%	3.8%
60	16.4%	4.6%	16.9%	4.0%
65	30.2%	4.6%	35.0%	4.0%

Actuarial Methods and Assumptions
(Continued)

Disability Rates

IMRF Employees: Rates from the December 31, 2016 IMRF Actuarial Valuation Report

TRS Employees: Rates from the June 30, 2016 Teachers' Retirement System Actuarial Valuation Report

IMRF			TRS		
Age	Male	Female	Age	Male	Female
25	< 0.01%	< 0.01%	25	0.029%	0.030%
30	0.01%	< 0.01%	30	0.023%	0.061%
35	0.01%	0.01%	35	0.030%	0.069%
40	0.02%	0.01%	40	0.051%	0.112%
45	0.03%	0.02%	45	0.068%	0.140%
50	0.05%	0.03%	50	0.117%	0.192%
55	0.08%	0.04%	55	0.138%	0.240%
60	0.10%	0.07%	60	0.179%	0.227%
65	0.11%	0.08%	65	0.536%	0.410%

Starting Per Capita Costs

	HMO Plan		PPO Plan	
Age	Retiree	Spouse	Retiree	Spouse
55	$7,591	$8,444	$10,442	$11,649
57	8,210	9,133	11,294	12,599
60	9,235	10,274	12,705	14,173
62	9,989	11,112	13,741	15,329
64	10,804	12,019	14,863	16,580

	PPO HSA Plan	
Age	Retiree	Spouse
55	$8,473	$9,426
57	9,165	10,195
60	10,309	11,468
62	11,150	12,403
64	12,060	13,416

Actuarial Methods and Assumptions
(Continued)

Retiree Contributions	Pay-all amounts: | | Retiree | Spouse | HMO Plan: Retiree $5,128, Spouse $5,705 PPO Plan: Retiree 7,054, Spouse 7,870 PPO HSA Plan: Retiree 5,724, Spouse 6,368

	Retiree	Spouse
HMO Plan	$5,128	$5,705
PPO Plan	7,054	7,870
PPO HSA Plan	5,724	6,368

Morbidity

Age	Rate Per Age
Under 65	4.00%

Election at Retirement — 10% of employees are assumed to elect coverage continuation on the District plans at retirement.

Marital Status — 40% of employees electing coverage continuation are assumed to be married and to elect spousal coverage with males three years older than females. Actual spouse data was used for current retirees.

Starting Per Capita Costs Development

Starting per capita costs are based on premium rates. The same premiums are charged for actives and pre-Medicare retirees. According to GASB 45, when an employer provides benefits to both active employees and retirees through the same plan, the benefits to retirees should be segregated and measured independently for actuarial measurement purposes. The projection of future retiree benefits should be based on claims costs, or age-adjusted premiums approximating claims costs, for retirees, in accordance with actuarial standards issued by the Actuarial Standards Board. As such, premiums were estimated for retirees as if they were rated on a stand-alone basis. These costs were adjusted to reflect the difference between the Insurance Year (1/1 – 12/31) and the Fiscal Year (7/1 – 6/30), and then disaggregated into age-specific starting costs using assumptions on the relationship between costs and increasing age (i.e., Morbidity). Retiree contributions are based on the unadjusted premiums.

Post-Medicare medical coverage is also provided on a retiree-pay-all basis. Costs do not exhibit the active / retiree subsidization as that for pre-Medicare. Therefore, it is assumed that retirees pay the entire costs for these coverages and the District has no liability. This treatment follows generally accepted actuarial practice.

Summary of Eligibility & Coverage

Eligibility Provisions

Certified Employees

Employees must meet the Teachers' Retirement System ("TRS") requirements for participation in the TRS retirement program:

Tier I Members (First Contributed Prior to January 1, 2011)

- Age 62 with 5 years of service, or
- Age 60 with 10 years of service, or
- Age 55 with 20 years of service (discounted benefits), or
- Age 55 with 35 years of service.

Tier II Members (First Contributed On or After January 1, 2011)

- 62 years old with 10 years of service (reduced pension), or
- 67 years old with 10 years of service (full pension).

IMRF Employees

Employees must meet the following Illinois Municipal Retirement Fund ("IMRF") requirements for participation in the IMRF retirement program:

Regular Plan Tier 1 (Enrolled in IMRF prior to January 1, 2011)

- At least 55 years old and at least 8 years of credited service (reduced pension)
- At least 60 years old and at least 8 years of credited service (full pension)

Regular Plan Tier 2 (Enrolled in IMRF on or After January 1, 2011)

- At least 62 years old and at least 10 years of credited service (reduced pension)
- At least 67 years old and at least 10 years of credited service (full pension)

Medical Coverage

All Employees

Employees may continue coverage into retirement on the District medical plans on a pay-all basis. Dependents may also continue coverage on a pay-all basis. Coverage may continue for as long as required contributions are paid.

Comments

In the past, it was determined that the liability to the District is immaterial. As such, the Net OPEB Obligation as of June 30, 2016 is $0.

GASB 45 Terminology

Actuarial Accrued Liability ("AAL")

The AAL is the Actuarial Present Value of future benefits based on employees' length of service rendered to the measurement date using the selected Actuarial Cost Method. It is that portion of the Actuarial Present Value of plan benefits and expenses allocated to prior years of employment. It is not provided for by future Normal Costs.

> *Retirees & Dependents* – Former employees who have satisfied the age and service requirement and are currently receiving benefits.
>
> *Actives Fully Eligible* – Active employees who have satisfied the age and service requirement for benefits.
>
> *Actives Not Fully Eligible* – Active employees who have not yet satisfied the age and service requirement for benefits.

Normal Cost

The Normal Cost is the present value of future benefits earned by employees during the current fiscal year. It is that portion of the Actuarial Present Value of benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

Unfunded Actuarial Accrued Liability ("UAAL")

The UAAL is the excess of the AAL over the Actuarial Value of Assets. It is amortized over a period either as a level dollar amounts or level percentage of projected payroll. For an unfunded plan, the UAAL is equal to the AAL.

UAAL =		AAL
	–	Actuarial Value of Assets

The maximum amortization period is 30 years. The minimum amortization period for a decrease in liability as a result of a method change is 10 years.

Annual Required Contribution ("ARC")

The ARC is the "required" cash contribution to the plan in order to keep up with benefit accruals and payments. It is an amount that would be expected to provide sufficient resources to fund both the normal cost for each year and the amortized unfunded liability if paid on an ongoing basis. If the plan were funded, the ARC would equal the employer's periodic required contributions to a defined benefit OPEB plan, calculated in accordance with the GASB 45 parameters. For non-funded plans, this amount is calculated and used to increase the net unfunded OPEB obligation.

ARC =		Normal Cost
	+	Amortization of the UAAL
	+	Interest Adjustment

GASB 45 Terminology
(Continued)

Net OPEB Obligation ("NOO")

The NOO is the cumulative difference between past amounts expensed and past amounts actually contributed. If expense is greater than contributions, then there will a Liability. If contributions are greater than the expense, then there will be an Asset.

NOO =		NOO at the Beginning of the Year
	+	Annual OPEB Cost
	–	Actual Contributions

The NOO is represented as a Balance Sheet Liability in the Statement of Net Assets.

Annual OPEB Cost

The Annual OPEB Cost is also referred to as the "expense". It is accrual-basis measure of the periodic cost of an employer's participation in a defined benefit OPEB plan. The Annual OPEB Cost is recorded as an expense and disclosed in the government-wide financial statement. It is the annual charge to the Income Statement.

Annual OPEB Cost =		ARC
	+	Interest on Net OPEB Obligation
	–	Adjustment to the ARC