2016-15

COUNTY OF TUSCOLA

At a regular meeting of the Board of Commissioners of the County of Tuscola, Michigan, held on the 27th day of October, 2016, at 8:00 a.m., Eastern Time, at the H. H. Purdy Building in Caro, Michigan there were:

PRESENT: Thomas Young, Thomas Bardwell, Craig Kirkpatrick, Matthew Bierlein

ABSENT: Christine Trisch

The following preambles and resolution were offered by Bierlein and seconded by Young:

RESOLUTION APPROVING THE COMPREHENSIVE PLAN FOR THE TUSCOLA COUNTY HEALTH DEPARTMENT RETIREMENT SYSTEM

WHEREAS the County of Tuscola, Michigan (the "County") currently provides pension benefits to qualified retirees and/or their spouses and dependents of the Tuscola County Health Department, as provided by the County and its policies; and

WHEREAS, an amendment to Public Act No. 34 of the Public Acts of 2001, as amended ("Act 34") enacted in October of 2012 permits the County to issue Bonds for the purpose of providing funds to fund the unfunded portion of the Tuscola County Health Department's pension obligations; and

WHEREAS, pursuant to Act 34 the County has adopted a bond resolution (the "Resolution") authorizing the issuance of Pension Obligation Bonds and in connection therewith authorized the Controller/Administrator to submit a Comprehensive Financial Plan for the Tuscola County Health Department Retirement System (the "Plan"); and

WHEREAS, the Controller/Administrator will finalize and post the Plan on the County website, a copy of which is attached hereto as Appendix A.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE COUNTY OF TUSCOLA, MICHIGAN, AS FOLLOWS:

1. <u>Comprehensive Pension Plan</u>. The Comprehensive Financial Plan for the Tuscola County Health Department Retirement System attached hereto as Appendix A is hereby approved and shall be posted on the County website and filed in the office of the County Clerk.

2. **Conflicting Resolutions**. All resolutions and parts of resolutions in conflict with the foregoing are hereby rescinded.

3. **Effective Date**. This Resolution shall become effective upon its adoption by the County of Tuscola Board of Commissioners.

A roll call vote on the foregoing resolution was then taken, and was as follows:

YES: Kirkpatrick; Bierlein; Young; Bardwell

NO: None

ABSTAIN: None

The resolution was declared adopted.

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STATE OF MICHIGAN)
)ss.
COUNTY OF TUSCOLA)

CERTIFICATION

The undersigned, being the Clerk of the County of Tuscola, hereby certifies that the foregoing is a true and complete copy of a resolution duly adopted by the County of Tuscola Board of Commissioners at its regular meeting held on the 27th day of October, 2016, at which meeting a quorum was present and remained throughout and that an original thereof is on file in the records of the County. I further certify that the meeting was conducted, and public notice thereof was given, pursuant to and in full compliance with Act No. 267, Public Acts of Michigan, 1976, as amended, and that minutes of such meeting were kept and will be or have been made available as required thereby.

Jodi Fetting
COUNTY CLERK

DATED: October 27, 2016

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APPENDIX A

[SEE ATTACHED COMPREHENSIVE FINANCIAL PLAN
FOR THE TUSCOLA COUNTY HEALTH DEPARTMENT RETIREMENT SYSTEM]

COMPREHENSIVE FINANCIAL PLAN FOR THE TUSCOLA COUNTY HEALTH DEPARTMENT

RETIREMENT SYSTEM

DATED: OCTOBER 27, 2016

Plan Certified by:

MICHAEL HOAGLAND
CONTROLLER/ADMINISTRATOR
COUNTY OF TUSCOLA

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I. INTRODUCTION

The Tuscola County Health Department, in order to fully fund its Unfunded Liability to the Tuscola County Health Department's Retirement System, intends to have the County issue municipal securities under Public Act No. 34 of the Public Acts of Michigan of 2001, as amended, ("Public Act 34"), which will be used to achieve the full funding.

II. BONDING FOR PENSION AND OPEB LIABILITIES

The state of Michigan recognized the financial savings potential of allowing local units to issue bonds for pension and/or other post-employment benefit (OPEB) liabilities by enacting Amendments to Public Act 34. The new act controls in legislation:

- Measures to thwart bargaining groups from seeking increases in benefits. Required the defined benefit plan to be closed (with the new hires covered by a defined contribution plan). Defined contribution plans must continue while the debt is outstanding.
- Fiscal and program plan to be submitted to State Treasury for approval and required to demonstrate control over future pension and/or OPEB costs.
- Minimum bond rating required of AA-.

III. TUSCOLA BORROWING

Once the borrowing is completed, the funds will be deposited in the Municipal Employees Retirement System of Michigan ("MERS") and, thereafter, invested by MERS in investments authorized by Michigan law.

VI. COMPREHENSIVE FINANCAL PLAN

The comprehensive financial plan consists of the following parts:

PART I: An analysis of the current and future obligations of the County's Health Department with respect to each retirement program and any post-employment health care benefit program of the county, if one exists.

PART II: Evidence that the issuance of the municipal security will be sufficient to eliminate the unfunded pension liability or the unfunded accrued health care liability.

PART III: A debt service amortization schedule and a description of actions required to satisfy the debt service amortization schedule.

V. ANALYSIS OF THE CURRENT AND FUTURE OBLIGATIONS WITH RESPECT TO TUSCOLA COUNTY HEALTH DEPARTMENT 'S RETIREMENT SYSTEM AND THE COUNTY HEALTH DEPARTMENT'S POST EMPLOYMENT HEALTH CARE BENEFIT PROGRAM

A. Tuscola County Health Department's Pension Financial Status Today

1. December 31, 2015 Actuarial Report

As of December 31, 2015, as reflected in the actuarial report attached hereto as Appendix A:

Pension Actuarial Accrued Valuartion of Assets	$ 8,132,623
Less - estimated actuarial accrued liabilities	$10,521,930
Net Estimated shortfall of assets under liabilities	$ 2,389,307

2. Amounts due to the Municipal Employees Retirement System of Michigan (MERS)

On September 1, 2016, the Tuscola County Health Department was advised by CBIZ Retirement Plan Services that it would be required to make amortization payments related to its unfunded actuarial liability based on actuarial value in the amount of $2,400,000 as set forth in a letter bearing that date which is attached hereto as Appendix B.

B. Tuscola County Health Department Retiree Health Care Financial Status Today

The Tuscola County Health Department does not provide any Retirees Health Care Benefits to its retired employees.

VI. EVIDENCE THAT THE ISSUANCE OF THE MUNICIPAL SECURITY TOGETHER WITH OTHER FUNDS LAWFULLY AVAILABLE WILL BE SUFFICIENT TO ELIMINATE THE UNFUNDED PENSION LIABILITY

A. Unfunded Pension Liability

As indicated in V above, the County Health Department's Unfunded Pension Liability with actuarial value adjustments through September 1, 2016 is $2,400,000.

B. Sources of Funds to Eliminate the Unfunded Pension Liability

$2,400,000 from Borrowing Proceeds

When the bonds are delivered, $2,400,000 from bond proceeds will be deposited to the Project Fund; $2,400,000 will be thereafter transferred to MERS.

C. Summary of Sources and Uses

1.	Sources	
	Borrowing Proceeds	$2,500,000
2.	Uses	
	Deposit in MERS	$2,400,000
	Payment of Financing costs including Bond Discount and Contingency	$ 100,000
	Total	$2,500,000

VII. DEBT SERVICE AMORTIZATION SCHEDULE AND DESCRIPTION OF ACTIONS REQUIRED TO SATISFY THE DEBT SERVICE AMORTIZATION SCHEDULE

A. Estimated Debt Service Amortization Schedule for $2,500,000 County of Tuscola Pension Obligation Bonds (Tuscola County Health Department)

Set forth hereafter is an estimated debt service schedule for the bonds planned in March of 2017, which schedule is based upon page 4 of the letter dated September 1, 2016 based on Option B with an assumption rate of 7.75% which has an amortization through 2034. As can be seen from this schedule, annual debt service is less than $200,000 per year. (Please see the schedule on the next page.)

$2,500,000
County of Tuscola Pension Obligation Bonds, Series 2017
(Tuscola County Health Department)
(Federally Taxable – General Obligation Limited Tax)

ESTIMATED DEBT SERVICE SCHEDULE

Date	Principal	Coupon	Interest	Total Debt Service	Annual Total
12/01/17	$100,000.00	2.00%	$60,277.50	$160,277.50	$160,277.50
06/01/18			39,185.00	39,185.00	
12/01/18	100,000.00	2.00%	39,185.00	139,185.00	178,370.00
06/01/19			38,185.00	38,185.00	
12/01/19	100,000.00	2.00%	38,185.00	138,185.00	176,370.00
06/01/20			37,185.00	37,185.00	
12/01/20	100,000.00	3.00%	37,185.00	137,185.00	174,370.00
06/01/21			35,685.00	35,685.00	
12/01/21	115,000.00	3.00%	35,685.00	150,685.00	186,370.00
06/01/22			33,960.00	33,960.00	
12/01/22	120,000.00	3.00%	33,960.00	153,960.00	187,920.00
06/01/23			32,160.00	32,160.00	
12/01/23	125,000.00	3.00%	32,160.00	157,160.00	189,320.00
06/01/24			30,285.00	30,285.00	
12/01/24	125,000.00	3.00%	30,285.00	155,285.00	185,570.00
06/01/25			28,410.00	28,410.00	
12/01/25	140,000.00	3.00%	28,410.00	168,410.00	196,820.00
06/01/26			26,310.00	26,310.00	
12/01/26	145,000.00	3.00%	26,310.00	171,310.00	197,620.00
06/01/27			24,135.00	24,135.00	
12/01/27	150,000.00	3.15%	24,135.00	174,135.00	198,270.00
06/01/28			21,772.50	21,772.50	
12/01/28	150,000.00	3.30%	21,772.50	171,772.50	193,545.00
06/01/29			19,297.50	19,297.50	
12/01/29	155,000.00	3.45%	19,297.50	174,297.50	193,595.00
06/01/30			16,623.75	16,623.75	
12/01/30	160,000.00	3.55%	16,623.75	176,623.75	193,247.50
06/01/31			13,783.75	13,783.75	
12/01/31	170,000.00	3.65%	13,783.75	183,783.75	197,567.50
06/01/32			10,681.25	10,681.25	
12/01/32	175,000.00	3.75%	10,681.25	185,681.25	196,362.50
06/01/33			7,400.00	7,400.00	
12/01/33	180,000.00	4.00%	7,400.00	187,400.00	194,800.00
06/01/34			3,800.00	3,800.00	
12/01/34	190,000.00	4.00%	3,800.00	193,800.00	197,600.00
	$2,500,000.00		$897,995.00	$3,397,995.00	$3,397,995.00

Interest Start Date (Dated Date): 03/01/17

B. County Repayment

1. Annual Appropriations Sources

Currently the Tuscola County Health Department pays its retirees' benefits for the pension fund by appropriations from its general fund and other funds sufficient to pay the annual ARC payments.

2. Anticipated Debt Service Payments on Pension Bonds and Repayment Thereof

Set forth below is a comparison of the County of Tuscola Pension Obligation Bonds (Tuscola County Health Department) Debt Service compared to the estimated appropriations in the future. (Please see schedule on the next page.)

$2,500,000

County of Tuscola Pension Obligation Bonds, Series 2017

(Tuscola County Health Department)

(Federally Taxable – General Obligation Limited Tax)

Year	Estimated * Bond Debt Service	7.75% Investment** Assumption Actuarial Value Estimated Payment Without Bonding	County Savings
2017	$ 160,277.50	$ 200,000.00	$ 39,722.50
2018	178,370.00	200,000.00	21,630.00
2019	176,370.00	200,000.00	23,630.00
2020	174,370.00	200,000.00	25,630.00
2021	186,370.00	200,000.00	13,630.00
2022	187,920.00	200,000.00	12,080.00
2023	189,320.00	200,000.00	10,680.00
2024	185,570.00	200,000.00	14,430.00
2025	196,820.00	300,000.00	103,180.00
2026	197,620.00	300,000.00	102,380.00
2027	198,270.00	300,000.00	101,730.00
2028	193,545.00	300,000.00	106,455.00
2029	193,595.00	300,000.00	106,405.00
2030	193,247.50	300,000.00	106,752.50
2031	197,567.50	300,000.00	102,432.50
2032	196,362.50	300,000.00	103,637.50
2033	194,800.00	300,000.00	105,200.00
2034	197,600.00	400,000.00	202,400.00
Total	$ 3,397,995.00	$ 4,700,000.00	$ 1,302,005.00

*Numbers provided by MFCI dated September 20, 2016.

**Numbers provided by CBIZ Report, dated September 1, 2016, page 4

VII. SAVINGS TO TUSCOLA COUNTY HEALTH DEPARTMENT BY ISSUANCE OF PENSION BONDS

A. Background

In the past, the Tuscola County Health Department made an annual ARC payment to the Pension Fund to cover its CURRENT LIABILITY and to make up in part its UNFUNDED LIABILITY which for 2016 is $2,400,000 according to the most recent letter from CBIZ dated September 1, 2016 based on Actuarial Value and an interest assumption rate of 7.75%.

B. Comparison of Estimated Future ARC Payments (without the Full Funding from the Issuance of Bonds) and the Debt Service Payment on the Bonds

By issuing the bonds the Tuscola County Health Department will save more than $1,300,000 over the next 18 years as is shown on the comparison schedule attached hereto as Appendix C.

Appendix A

ANNUAL ACTUARIAL VALUATION REPORT

[attach here]

MERS
Municipal Employees' Retirement System

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN
ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2015
TUSCOLA CO HLTH DPT (7901)

Spring, 2016

Tuscola Co Hlth Dpt

In care of:
Municipal Employees' Retirement System of Michigan
1134 Municipal Way
Lansing, Michigan 48917

This report presents the results of the Annual Actuarial Valuation, prepared as of December 31, 2015. The report includes the determination of liabilities and contribution rates resulting from the participation of Tuscola Co Hlth Dpt (7901) in the Municipal Employees' Retirement System of Michigan ("MERS"). MERS is a nonprofit organization, independent from the State, that has provided retirement plans for municipal employees for more than 65 years. Tuscola Co Hlth Dpt is responsible for the employer contributions needed to provide MERS benefits for its employees and former employees under the Michigan Constitution and the MERS Plan Document.

The purpose of the December 31, 2015 annual actuarial valuation is to:

- Measure funding progress
- Establish contribution requirements for the fiscal year beginning January 1, 2017
- Provide actuarial information in connection with applicable Governmental Accounting Standards Board (GASB) statements

This valuation report should not be relied upon for any other purpose. Reliance on information contained in this report by anyone for anything other than the intended purpose could be misleading.

The valuation uses financial data, plan provision data, and participant data as of December 31, 2015 furnished by MERS. In accordance with Actuarial Standards of Practice No. 23, the data was checked for internal and year to year consistency as well as general reasonableness, but was not otherwise audited. CBIZ Retirement Plan Services does not assume responsibility for the accuracy or completeness of the data used in this valuation.

The actuarial assumptions and methods are adopted by the MERS Retirement Board, and are reviewed every five years in an Experience Study. The most recent study was completed in 2015, and this December 31, 2015 valuation report reflects changes in assumptions and methods. Please refer to the division-specific assumptions described in table(s) in this report, and to the Appendix on the MERS website at:
www.mersofmich.com/Portals/0/Assets/Resources/AAV-Appendix/MERS-2015AnnualActuarialValuation-Appendix.pdf.

The actuarial assumptions used for this valuation produce results that we believe are reasonable.

To the best of our knowledge, this report is complete and accurate, was prepared in conformity with generally recognized actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board, and is in compliance with Act No. 220 of the Public Acts of 1996, as amended, and the MERS Plan Document as revised. All of the undersigned 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 contained herein. The Retirement Board of the Municipal Employees' Retirement System of Michigan confirms that the System provides for payment of the required employer contribution as described in Section 20m of Act No. 314 of 1965 (MCL 38.1140m).

This information is purely actuarial in nature. It is not intended to serve as a substitute for legal, accounting or investment advice.

This report was prepared at the request of the Retirement Board and may be provided only in its entirety by the municipality to other interested parties (MERS customarily provides the full report on request to associated third parties such as the auditor for the municipality). CBIZ Retirement Plan Services is not responsible for the consequences of any unauthorized use.

You should notify MERS if you disagree with anything contained in the report or are aware of any information that would affect the results of the report that have not been communicated to us. If you have reason to believe that the plan provisions are incorrectly described, that important plan provisions relevant to this valuation are not described, that conditions have changed since the calculations were made, that the information provided in this report is inaccurate or is in anyway incomplete, or if you need further information in order to make an informed decision on the subject matter in this report, please contact your Regional Manager at 1.800.767.MERS(6377).

Sincerely,

Cathy Nagy, MAAA, FSA
Jim Koss, MAAA, ASA
Curtis Powell, MAAA, EA
Alan Sonnanstine, MAAA, ASA

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Executive Summary

New Actuarial Assumptions and Methods

The actuarial assumptions and methods are adopted by the MERS Retirement Board, and are reviewed every five years in an Experience Study. The Experience Study is a comprehensive, detailed analysis that reviews MERS' funding policy and compares actual experience with the current actuarial assumptions; the study recommends adjustments as necessary. The most recent study was completed in 2015, and this December 31, 2015 valuation report reflects several changes in actuarial assumptions.

The main assumption and method changes were:

- The mortality table was adjusted to reflect longer lifetimes.
- The assumed annual rate of investment return, net of all expenses, was lowered from 8% to 7.75%.
- The asset smoothing was changed from 10 to 5 years.
- The amortization period was moved to a fixed period amortization for the December 31, 2014 annual valuations.
    - The period will continue to gradually decrease for both open and closed divisions until the current unfunded accrued liability (UAL) is completely paid off.
    - Moving to this type of "fixed period amortization" means that all unfunded liabilities will be fully funded by a specific date in the future.
    - Once the amortization period drops below 15 years (10 years for closed divisions), any future liability and asset gains or losses will be spread over a 15-year fixed period for open divisions and a 10-year fixed period for closed divisions — creating "layers" of UAL on an annual basis.
    - This transparent method allows tracking of what changed your UAL, and sets a fixed period in time in which that UAL change will be fully funded.

Various other actuarial assumptions were revised, but the revisions had a smaller impact than the two assumption changes above (first two bullets). For a summary of all of the actuarial assumptions and methods, please refer to the division-specific assumptions described on the last page of this report, and to the Appendix.

The new amortization period layers and the new 5-year asset smoothing do not impact this 2015 annual valuation, other than the 6 year projections. These method changes will first impact the December 31, 2016 annual valuations.

The impacts of the assumption changes on the funded ratio and the required employer contributions are displayed on the next few pages. While these changes in assumptions will mean larger liabilities and contributions than anticipated by the prior assumptions for most employers, they will ensure each employer makes reasonable progress towards funding the unfunded liabilities of the employer. When discussing changes in assumptions it is important to remember that, although the assumptions used impact the annual contributions, the true cost of the plan will be based on what will actually happen in the future – independent of the assumptions used. MERS recognizes that many municipalities are already taking steps to reduce their UAL. The MERS Board approved a "phase in" of the total impact of the assumption changes over the next 5 years (impacting fiscal years beginning 2017 – 2021) as an option for you. Of course, if the employer pays less in the first 4 years, they will likely have to pay somewhat more in later years.

MERS created a dedicated resource page on their website, www.mersofmich.com, regarding this topic, with links to frequently asked questions, upcoming events and additional details.

Impacts from the Assumption Changes

The new actuarial assumptions changed your December 31, 2015 percent funded from 81% to 77%, a change of -4%.

The new assumptions changed your total monthly employer contribution requirement, before any phase-in, from $18,885 to $22,484, a change of $3,599 (a 19% increase). Under the 5-year phase-in the first year increase is instead 4% (from $18,885 to $19,604 monthly).

Additional detail is shown on the following pages.

Funded Ratio and Required Employer Contributions

The MERS Defined Benefit Plan is an agent multiple-employer plan, meaning that assets are pooled for investment purposes but separate accounts are maintained for each individual employer. Each municipality is responsible for their own plan liabilities; MERS does not borrow from one municipality's account to pay for another.

The funded ratio of a plan is the percentage of the dollar value of the accrued benefits that is covered by the actuarial value of assets.

Your Funded Ratio:

For comparison purposes, we have included your December 31, 2015 funded ratio if it had been calculated under the previous assumptions. Note: Your actual funded level as of December 31, 2015 is the amount listed under the new assumptions.

	New Assumptions	Previous Assumptions	
	12/31/2015	12/31/2015	12/31/2014
Funded Ratio	77%	81%	82%

Michigan Law requires that pension plans be pre-funded, meaning money is set aside now to pay for future benefits. Pension plans are usually funded by employer and employee contributions, and investment income.

How quickly a plan attains the 100% funding goal depends on many factors such as:

- The current funded ratio
- The future experience of the plan
- The amortization period

It is more important to look at the trend in the funded ratio over a period of time than at a particular point in time.

Your Required Employer Contributions:

Your computed employer contributions are shown in the following table. Employee contributions, if any, are in addition to the computed employer contributions. Note: Your minimum required contribution is the amount listed under the new assumptions, with phase-in. For comparison purposes, we have included your computed employer contribution if it had been calculated under the previous assumptions.

	Percentage of Payroll				Monthly $ Based on Valuation Payroll			
	New Assumptions		Previous Assumptions		New Assumptions		Previous Assumptions	
	Phase-In	Full Impact			Phase-In	Full Impact		
Valuation Date:	12/31/2015	12/31/2015	12/31/2015	12/31/2014	12/31/2015	12/31/2015	12/31/2015	12/31/2014
Fiscal Year Beginning:	January 1, 2017	January 1, 2017	January 1, 2017	January 1, 2016	January 1, 2017	January 1, 2017	January 1, 2017	January 1, 2016
Division								
01 - General	-	-	-	17.84%	$ 18,839	$ 21,659	$ 18,135	$ 17,632
10 - All New Hires as of 1/	3.71%	4.00%	3.64%		765	825	750	
Municipality Total					$ 19,604	$ 22,484	$ 18,885	$ 17,632

Under the new assumptions, both the full impact and the phased in employer contribution requirements are shown in the table above. The phase in allows the employer to spread the increase of the new actuarial assumptions over 5 fiscal years. By default, MERS will invoice you the phased in contribution amount. However, MERS strongly encourages employers to contribute more than the minimum required contribution, including paying the full amount of the impact of the changes, if possible.

Employee contribution rates reflected in the valuations are shown below:

	Employee Contribution Rate	
Valuation Date:	12/31/2015	12/31/2014
Division		
01 - General	3% < ; 5% >	3% < ; 5% >
10 - All New Hires as of 1/	6.70%	0.00%

The employer may contribute more than the minimum required contributions, as these additional contributions will earn investment income and may result in lower future contribution requirements. **MERS strongly encourages employers to contribute more than the minimum contribution shown above.**

Assuming that experience of the plan meets actuarial assumptions:

- To accelerate to a 100% funding ratio in 10 years, estimated monthly employer contributions for the entire employer would be $ 33,988, instead of $ 22,484.

- To accelerate to a 100% funding ratio in 20 years, estimated monthly employer contributions for the entire employer would be $ 23,777, instead of $ 22,484.

If you are interested in making additional contributions, please contact MERS and they can assist you with evaluating your options.

How and Why Do These Numbers Change?

In a defined benefit plan contributions vary from one annual actuarial valuation to the next as a result of the following:

- Changes in benefit provisions (see Table 2)
- Changes in actuarial assumptions and methods (see the Appendix)
- Experience of the plan (investment experience and demographic experience); this is the difference between actual experience of the plan and the actuarial assumptions

Actuarial valuations do not affect the ultimate cost of the plan; the benefit payments (current and future) determine the cost of the plan. Actuarial valuations only affect the timing of the contributions into the plan. Because assumptions are for the long term, plan experience will not match the actuarial assumptions in any given year (except by coincidence). Each annual actuarial valuation will adjust the required employer contributions up or down based on the prior year's actual experience.

Comments on Asset Smoothing

The actuarial value of assets, used to determine both your funded ratio and your required employer contribution, is based on a smoothed value of assets (10-year smoothing prior to 2016; 5-year smoothing beginning in 2016). A smoothing method reduces the volatility of the valuation results, which affects your required employer contribution and funded ratio. The smoothed actuarial rate of return for 2015 was 5.21%.

As of December 31, 2015 the actuarial value of assets is 113% of market value. This means that meeting the actuarial assumption in the next few years will require average annual market returns that exceed the 7.75% investment return assumption.

If the December 31, 2015 valuation results were based on market value on that date instead of smoothed funding value: i) the funded percent of your entire municipality would be 68% (instead of 77%); and ii) your total employer contribution requirement for the fiscal year starting January 1, 2017 would be $ 339,084 (instead of $ 269,808).

The asset smoothing method is a powerful tool for reducing the volatility of your required employer contributions. However, **if the current 13% difference between the smoothed value and the market value of assets is not made up, the result would be gradual increases in your employer contribution requirement over the next few years (to around the levels described above).**

Risk Characteristics of Defined Benefit Plans

It is important to understand that retirement plans, by their nature, are exposed to certain risks. While risks cannot be eliminated entirely, they can be mitigated through various strategies. Below are a few examples of risk (this is not an all-inclusive list):

- Economic - investment return, wage inflation, etc.
- Demographic - longevity, disability, retirement, etc.
- Plan Sponsor and Employees - contribution volatility, attract/retain employees, etc.

The MERS Retirement Board adopts certain assumptions and methods to mitigate the economic and demographic risks, and the contribution volatility risks. For example, the investment risk is the largest economic risk and is mitigated by having a balanced portfolio and a clearly defined investment strategy. Demographic risks vary based on the age of the workforce and are mitigated by preparing special studies called experience studies on a regular basis to determine if the assumptions used are reasonable compared to the experience. Risk may be mitigated through a plan design that provides benefits that are sustainable in the long run. An Experience Study is completed every five years to review the assumptions and methods. The next Experience Study will be completed in 2020.

Alternate Scenarios to Estimate the Potential Volatility of Results ("What If Scenarios")

The calculations in this report are based on assumptions about long-term economic and demographic behavior. These assumptions will never materialize in a given year, except by coincidence. Therefore the results will vary from one year to the next. The volatility of the results depends upon the characteristics of the plan. For example:

- Open divisions that have substantial assets compared to their active employee payroll will have more volatile employer contribution rates due to investment return fluctuations.
- Open divisions that have substantial accrued liability compared to their active employee payroll will have more volatile employer contribution rates due to demographic experience fluctuations.
- Small divisions will have more volatile contribution patterns than larger divisions because statistical fluctuations are relatively larger among small populations.
- Shorter amortization periods result in more volatile contribution patterns.

The analysis in this section is intended to review the potential volatility of the actuarial valuation results. It is important to note that calculations in this report are mathematical estimates based upon assumptions regarding future events, which may or may not materialize. Actuarial calculations can and do vary from one valuation to the next, sometimes significantly depending on the group's size.

Many assumptions are important in determining the required employer contributions.

For example:

- Lower investment returns would result in higher required employer contributions, and vice-versa.

- Smaller than projected pay increases would lower required employer contributions.
- Reductions in the number of active employees would lower required contribution dollars, but would usually increase the contribution rate expressed as a percentage of (the now lower) payroll.
- Retirements at earlier ages than projected would usually increase required employer contributions.
- More non-vested terminations of employment than projected would decrease required contributions.
- More disabilities or survivor (death) benefits than projected would increase required contributions.
- Longer lifetimes after retirement than projected would increase required employer contributions.

In the table below, we show the impact of varying one actuarial assumption: the future annual rate of investment return. Lower investment returns would result in higher required employer contributions, and vice-versa.

The relative impact of each investment return scenario below will vary from year to year, as the participant demographics change. The impact of each scenario should be analyzed for a given year, not from year to year. The results in the table are based on the December 31, 2015 valuation, and are for the municipality in total, not by division. These results do not reflect a 5-year phase in of the impact of the new actuarial assumptions.

	Assumed Future Annual Smoothed Rate of Investment Return			
	Lower Future Annual Returns		**Valuation Assumption**	**Higher Returns**
12/31/2015 Valuation Results	**5.75%**	**6.75%**	**7.75%**	**8.75%**
Accrued Liability	$ 13,217,752	$ 11,755,592	$ 10,521,930	$ 9,473,550
Valuation Assets	$ 8,132,623	$ 8,132,623	$ 8,132,623	$ 8,132,623
Unfunded Accrued Liability	$ 5,085,129	$ 3,622,969	$ 2,389,307	$ 1,340,927
Funded Ratio	62%	69%	77%	86%
Monthly Normal Cost	$ 16,976	$ 12,381	$ 8,870	$ 6,220
Monthly Amortization Payment	$ 24,494	$ 19,131	$ 13,614	$ 7,927
Total Employer Contribution[1]	$ 41,470	$ 31,512	$ 22,484	$ 14,147

1 If assets exceed accrued liabilities for a division, the division's amortization payment is negative and is used to reduce the division's employer contribution requirement. If the overfunding credit is larger than the normal cost, the division's full credit is included in the municipality's amortization payment above but the division's total contribution requirement is zero. This can cause the displayed normal cost and amortization payment to not add up to the displayed total employer contribution.

Six Year Projection Scenarios

The table on the following page illustrates the plan's projected liabilities and computed employer contributions for the next six fiscal years, under the new actuarial assumptions and under three future economic/assumption scenarios. All four projections take into account the past financial losses that will continue to affect the smoothed rate of return for the next four years. Under the 7.75% scenarios, two sets of projections are shown:

- Based on the phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. This projects your minimum required contribution.
- Based on no phase-in of the increased contribution requirements.

The 7.75% scenarios provide an estimate of computed employer contributions based on current actuarial assumptions, and a projected 7.75% market return. The other two scenarios may be useful if the municipality chooses to budget more conservatively, and make contributions in addition to the minimum requirements. The 6.75% and 5.75% projections provide an indication of the potential required employer contribution if MERS were to realize investment returns of 6.75% and 5.75% over the long-term.

Valuation Year Ending 12/31	Fiscal Year Beginning 1/1	Actuarial Accrued Liability	Valuation Assets	Funded Percentage	Computed Annual Employer Contribution
7.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
WITH 5-YEAR PHASE-IN					
2015	2017	$ 10,521,930	$ 8,132,623	77%	$ 235,248
2016	2018	11,002,719	8,287,709	75%	268,572
2017	2019	11,471,078	8,411,390	73%	304,404
2018	2020	11,911,314	8,503,965	71%	343,428
2019	2021	12,323,166	8,570,817	70%	385,020
2020	2022	12,712,828	8,877,062	70%	398,520
NO 5-YEAR PHASE-IN					
2015	2017	$ 10,521,930	$ 8,132,623	77%	$ 269,808
2016	2018	11,002,719	8,287,709	75%	292,020
2017	2019	11,471,078	8,449,991	74%	317,028
2018	2020	11,911,314	8,569,738	72%	345,960
2019	2021	12,323,166	8,652,721	70%	378,108
2020	2022	12,712,828	8,967,558	71%	391,428
6.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
NO 5-YEAR PHASE-IN					
2015	2017	$ 11,755,592	$ 8,132,623	69%	$ 378,144
2016	2018	12,260,954	8,209,399	67%	399,816
2017	2019	12,749,456	8,408,524	66%	423,420
2018	2020	13,205,601	8,559,486	65%	452,052
2019	2021	13,629,346	8,666,116	64%	484,332
2020	2022	14,027,236	9,011,969	64%	498,960
5.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
NO 5-YEAR PHASE-IN					
2015	2017	$ 13,217,752	$ 8,132,623	62%	$ 497,640
2016	2018	13,750,045	8,131,078	59%	518,172
2017	2019	14,259,989	8,379,690	59%	540,408
2018	2020	14,732,417	8,573,046	58%	568,116
2019	2021	15,167,597	8,713,514	57%	600,204
2020	2022	15,572,611	9,059,102	58%	618,804

Employer Contribution Details (Without a 5-year Phase-In) For the Fiscal Year Beginning January 1, 2017

Table 1

Division	Amort. Period for Unfund. Liab.[4,5]	Employer Contributions[1]			Blended Employer Contribut.[6]	Employee Contribution Rate	Employee Contribut. Conversion Factor[2]
		Normal Cost	Unfunded Accrued Liability	Total Computed Employer Contribut.			
Percentage of Payroll							
01 - General	23	-	-	-	20.40%	3% < ; 5% >	
10 - All New Hires as o	23	3.99%	0.01%	4.00%	20.40%	6.70%	0.70%
Estimated Monthly Contribution[3]							
01 - General	23	$ 8,047	$ 13,612	$ 21,659			
10 - All New Hires as o	23	823	2	825			
Total Municipality		**$ 8,870**	**$ 13,614**	**$ 22,484**			
Estimated Annual Contribution[3]		**$ 106,440**	**$ 163,368**	**$ 269,808**			

1 The above employer contribution requirements are in addition to the employee contributions, if any.

2 If employee contributions are increased/decreased by 1.00% of pay, the employer contribution requirement will decrease/increase by the Employee Contribution Conversion Factor. The conversion factor is usually under 1%, because employee contributions may be refunded at termination of employment, and not used to fund retirement pensions. Employer contributions will all be used to fund pensions.

3 For divisions that are open to new hires, estimated contributions are based on projected fiscal year payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts. For divisions that will have no new hires, invoices will be based on the above dollar amounts which are based on projected fiscal year payroll. See description of Open Divisions and Closed Divisions in the Appendix.

4 If projected assets exceed projected liabilities as of the beginning of the January 1, 2017 fiscal year, the negative unfunded accrued liability is amortized (spread) over 10 years. This amortization is used to reduce the employer contribution rate. Note that if the overfunding credit is larger than the normal cost, the full credit is shown above but the total contribution requirement is zero. This will cause the displayed normal cost and unfunded accrued liability contributions to not add across.

5 If the division is closed to new hires, with new hires not covered by MERS Defined Benefit Plan or Hybrid Plan provisions, the amortization period will decrease as follows: Under Amortization Option A, the period will decrease by 2 years each valuation year, until it reaches 6 or 5 years. Then it decreases by 1 year each valuation year until the UAL is paid off. Under Amortization Option B, the period will decrease by 2 years each valuation year, until it reaches 16 or 15 years. Thereafter, the period will reduce by 1 year each valuation year, until the UAL is paid off. This will result in amortization payments that increase faster than the usual 3.75% each year. If the division is closed to new hires, with new hires (and transfers) covered by MERS Defined Benefit Plan or Hybrid Plan provisions, the standard open division amortization period will apply.

6 For linked divisions, the employer will be invoiced the Total Required Employer Contribution rate shown above for each linked division (a contribution rate for the open division; a contribution dollar for the closed-but-linked division), unless the employer elects to contribute the Blended Employer Contribution rate shown above, by contacting MERS at 800-767-2308.

Note that the Employer Contribution Details shown in Table 1 do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 1 above. The contribution requirements including the 5-year phase-in are shown on page 8.

Please see the Comments on Asset Smoothing.

Benefit Provisions

Table 2

01 - General: Closed to new hires, linked to Division 10

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	8 years	8 years
Early Retirement (Unreduced):	55/15	55/15
Early Retirement (Reduced):	50/25	50/25
Final Average Compensation:	5 years	5 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Employee Contributions:	3% under $4,200; 5% over $4,200	3% under $4,200; 5% over $4,200
Act 88:	Yes (Adopted 11/13/1970)	Yes (Adopted 11/13/1970)

10 - All New Hires as of 1/1/15: Open Division, linked to Division 01

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.00% Multiplier (no max)	-
Normal Retirement Age:	60	-
Vesting:	10 years	-
Early Retirement (Unreduced):	55/25	-
Early Retirement (Reduced):	50/25 55/15	-
Final Average Compensation:	5 years	-
Employee Contributions:	6.70%	-
Act 88:	Yes (Adopted 11/13/1970)	

Participant Summary

Table 3

Division	2015 Valuation Number	2015 Valuation Annual Payroll[1]	2014 Valuation Number	2014 Valuation Annual Payroll[1]	2015 Valuation Average Age	2015 Valuation Average Benefit Service[2]	2015 Valuation Average Eligibility Service[2]
01 - General							
Active Employees	25	$ 1,204,115	26	$ 1,186,002	52.2	18.5	19.6
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	29	438,662	28	426,324	68.9		
10 - All New Hires as of							
Active Employees	1	$ 24,727		$	53.8	0.6	0.6
Vested Former Employees	0	0			0.0	0.0	0.0
Retirees and Beneficiaries	0	0			0.0		
Total Municipality							
Active Employees	**26**	**$ 1,228,842**	**26**	**$ 1,186,002**	**52.3**	**17.8**	**18.9**
Vested Former Employees	**0**	**0**	**0**	**0**	**0.0**	**0.0**	**0.0**
Retirees and Beneficiaries	**29**	**438,662**	**28**	**426,324**	**68.9**		
Total Participants	**55**		**54**				

1 Annual payroll for active employees; annual deferred benefits payable for vested former employees; annual benefits being paid for retirees and beneficiaries.

2 Description can be found under Miscellaneous and Technical Assumptions in the Appendix.

Reported Assets (Market Value)

Table 4

Division	2015 Valuation		2014 Valuation	
	Employer and Retiree[1]	Employee[2]	Employer and Retiree[1]	Employee[2]
01 - General	$ 6,218,633	$ 942,677	$ 6,530,746	$ 887,004
10 - All New Hires as of 1/1/15	620	966		
Municipality Total	**$ 6,219,253**	**$ 943,643**	**$ 6,530,746**	**$ 887,004**
Combined Reserves	**$ 7,162,896**		**$ 7,417,750**	

1 Reserve for Employer Contributions and Benefit Payments

2 Reserve for Employee Contributions

The December 31, 2015 valuation assets are equal to 1.135382 times the reported market value of assets (compared to 1.059937 as of December 31, 2014). The derivation of valuation assets is described, and detailed calculations of valuation assets are shown, in the Appendix.

Flow of Valuation Assets

Table 5

Year Ended 12/31	Employer Contributions Required	Employer Contributions Additional	Employee Contributions	Investment Income	Benefit Payments	Employee Contribution Refunds	Net Transfers	Valuation Asset Balance
2005	$ 103,368		$ 59,006	$ 308,719	$ (103,521)	$ 0	$ 0	$ 5,033,724
2006	117,464		64,130	412,049	(138,452)	0	0	5,488,915
2007	128,686		65,918	447,315	(166,853)	0	0	5,963,981
2008	129,543		66,135	279,740	(184,598)	0	0	6,254,801
2009	137,036		70,707	335,452	(198,429)	(4,983)	0	6,594,584
2010	128,724		59,412	358,765	(287,405)	(28,700)	0	6,825,380
2011	136,309	$ 0	57,428	352,947	(326,620)	0	0	7,045,444
2012	161,369	7,939	56,409	328,211	(350,980)	0	0	7,248,392
2013	170,256	29,739	56,911	439,694	(379,358)	(133)	0	7,565,501
2014	188,823	29,864	57,344	436,768	(414,300)	(1,652)	0	7,862,348
2015	195,960	43,731	60,011	397,498	(426,925)	0	0	8,132,623

Notes:

Transfers in and out are usually related to the transfer of participants between municipalities, and to employer and employee payments for service credit purchases (if any) that the governing body has approved.

Additional employer contributions, if any, are shown separately starting in 2011. Prior to 2011, additional contributions are combined with the required employer contributions.

In the actuarial valuation additional employer contributions are combined with required contributions and used to reduce computed future required employer contributions.

The investment income column reflects the recognized investment income based on the smoothed value of assets. It does not reflect the market value investment return in any given year.

Actuarial Accrued Liabilities and Valuation Assets
As of December 31, 2015

Table 6

Division	Actuarial Accrued Liability	Valuation Assets[1]	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
01 - General				
Active Employees	$ 5,367,834	$ 2,979,168	55.5%	$ 2,388,666
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	5,131,540	5,131,540	100.0%	0
Pending Refunds	20,114	20,114	100.0%	0
Total	**$ 10,519,488**	**$ 8,130,822**	**77.3%**	**$ 2,388,666**
10 - All New Hires as of 1/1/15				
Active Employees	$ 2,442	$ 1,801	73.8%	$ 641
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 2,442**	**$ 1,801**	**73.8%**	**$ 641**
Total Municipality				
Active Employees	**$ 5,370,276**	**$ 2,980,969**	**55.5%**	**$ 2,389,307**
Vested Former Employees	**0**	**0**	**0.0%**	**0**
Retirees and Beneficiaries	**5,131,540**	**5,131,540**	**100.0%**	**0**
Pending Refunds	**20,114**	**20,114**	**100.0%**	**0**
Total Participants	**$ 10,521,930**	**$ 8,132,623**	**77.3%**	**$ 2,389,307**
The following results show the combined accrued liabilities and assets for each set of linked divisions. These results are already included in the table above.				
Linked Divisions 10, 01				
Active Employees	$ 5,370,276	$ 2,980,969	55.5%	$ 2,389,307
Vested Former Employees	0	0	0.0%	0
Retirees and Beneficiaries	5,131,540	5,131,540	100.0%	0
Pending Refunds	20,114	20,114	100.0%	0
Total	$ 10,521,930	$ 8,132,623	77.3%	$ 2,389,307

[1] Includes both employer and employee assets.

Please see the Comments on Asset Smoothing.

See the MERS Fiscal Responsibility Policy on the MERS website at:
http://www.mersofmich.com/Portals/0/Assets/PageResources/MERS/PlanDocument/Pension/MERSPlanDocument_Section46.pdf.

Actuarial Accrued Liabilities - Comparative Schedule

Table 7

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2001	$ 3,625,691	$ 3,774,946	104%	$ (149,255)
2002	4,083,638	3,920,070	96%	163,568
2003	4,478,686	4,300,960	96%	177,726
2004	4,958,294	4,666,152	94%	292,142
2005	5,493,348	5,033,724	92%	459,624
2006	6,009,115	5,488,915	91%	520,200
2007	6,452,569	5,963,981	92%	488,588
2008	6,872,962	6,254,801	91%	618,161
2009	7,433,999	6,594,584	89%	839,415
2010	7,941,980	6,825,380	86%	1,116,600
2011	8,324,050	7,045,444	85%	1,278,606
2012	8,668,145	7,248,392	84%	1,419,753
2013	9,136,246	7,565,501	83%	1,570,745
2014	9,641,723	7,862,348	82%	1,779,375
2015	10,521,930	8,132,623	77%	2,389,307

Notes: Actuarial assumptions were revised for the 2004, 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Division 01 - General

Table 8-01: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	$ 5,493,348	$ 5,033,724	92%	$ 459,624
2006	6,009,115	5,488,915	91%	520,200
2007	6,452,569	5,963,981	92%	488,588
2008	6,872,962	6,254,801	91%	618,161
2009	7,433,999	6,594,584	89%	839,415
2010	7,941,980	6,825,380	86%	1,116,600
2011	8,324,050	7,045,444	85%	1,278,606
2012	8,668,145	7,248,392	84%	1,419,753
2013	9,136,246	7,565,501	83%	1,570,745
2014	9,641,723	7,862,348	82%	1,779,375
2015	10,519,488	8,130,822	77%	2,388,666

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Table 9-01: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2005	33	$ 1,185,815	9.34%	4.83%
2006	36	1,376,380	9.40%	4.84%
2007	33	1,322,778	9.34%	4.84%
2008	32	1,349,891	10.42%	4.85%
2009	31	1,428,774	11.44%	4.84%
2010	28	1,205,813	13.74%	4.83%
2011	28	1,206,485	14.37%	4.83%
2012	27	1,172,048	15.87%	4.83%
2013	27	1,179,970	16.76%	4.84%
2014	26	1,186,002	17.84%	3% < ; 5% >
2015	25	1,204,115	$ 21,659	4.85%

[1] For open divisions, a percent of pay contribution is shown. For closed divisions, a monthly dollar contribution is shown.

[2] For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do not reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 8.

See the Benefit Provision History on page 25 for past benefit provision changes.

Division 10 - All New Hires as of 1/1/15

Table 8-10: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	$ 2,442	$ 1,801	74%	$ 641

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Table 9-10: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2015	1	$ 24,727	4.00%	6.70%

[1] For open divisions, a percent of pay contribution is shown. For closed divisions, a monthly dollar contribution is shown.

[2] For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 8.

See the Benefit Provision History on page 25 for past benefit provision changes.

GASB 68 Information

The following information has been prepared to provide some of the information necessary to complete GASB Statement No. 68 disclosures. Statement 68 is effective for fiscal years beginning after June 15, 2014. Additional resources, including an Implementation Guide, are available at www.mersofmich.com .

Actuarial Valuation Date:		12/31/2015
Measurement Date of Total Pension Liability (TPL):		12/31/2015
At 12/31/2015, the following employees were covered by the benefit terms:		
Inactive employees or beneficiaries currently receiving benefits:		29
Inactive employees entitled to but not yet receiving benefits:		0
Active employees:		26
		55
Total Pension Liability as of 12/31/2014 measurement date:	$	9,392,312
Total Pension Liability as of 12/31/2015 measurement date:	$	10,243,929
Service Cost for the year ending on the 12/31/2015 measurement date:	$	158,379
Change in the Total Pension Liability due to:		
- Benefit changes[1]:	$	0
- Differences between expected and actual experience[2]:	$	(113,593)
- Changes in assumptions[2]:	$	470,284

[1] A change in liability due to benefit changes is immediately recognized when calculating pension expense for the year.

[2] Changes in liability due to differences between actual and expected experience, and changes in assumptions, are recognized in pension expense over the average remaining service lives of all employees.

Average expected remaining service lives of all employees (active and inactive):		3
Covered employee payroll: (Needed for Required Supplementary Information)	$	1,228,842

Sensitivity of the Net Pension Liability to changes in the discount rate:

	1% Decrease (7.00%)	Current Discount Rate (8.00%)	1% Increase (9.00%)
Change in Net Pension Liability as of 12/31/2015:	$ 1,183,692	-	$ (1,007,538)

Note: The current discount rate shown for GASB 68 purposes is higher than the MERS assumed rate of return. This is because for GASB 68 purposes, the discount rate must be gross of administrative expenses, whereas for funding purposes it is net of administrative expenses.

GASB 68 Information

This page is for those municipalities who need to "roll-forward" their total pension liability due to the timing of completion of the actuarial valuation in relation to their fiscal year-end.

The following information has been prepared to provide some of the information necessary to complete GASB Statement No. 68 disclosures. Statement 68 is effective for fiscal years beginning after June 15, 2014. Additional resources, including an Implementation Guide, are available at www.mersofmich.com.

Actuarial Valuation Date:		12/31/2015
Measurement Date of Total Pension Liability (TPL):		12/31/2016
At 12/31/2015, the following employees were covered by the benefit terms:		
Inactive employees or beneficiaries currently receiving benefits:		29
Inactive employees entitled to but not yet receiving benefits:		0
Active employees:		26
		55
Total Pension Liability as of 12/31/2015 measurement date:	$	9,848,670
Total Pension Liability as of 12/31/2016 measurement date:	$	10,710,694
Service Cost for the year ending on the 12/31/2016 measurement date:	$	154,034
Change in the Total Pension Liability due to:		
- Benefit changes[1]:	$	0
- Differences between expected and actual experience[2]:	$	(83,766)
- Changes in assumptions[2]:	$	486,596

1 A change in liability due to benefit changes is immediately recognized when calculating pension expense for the year.

2 Changes in liability due to differences between actual and expected experience, and changes in assumptions, are recognized in pension expense over the average remaining service lives of all employees.

Average expected remaining service lives of all employees (active and inactive):		3
Covered employee payroll: (Needed for Required Supplementary Information)	$	1,228,842

Sensitivity of the Net Pension Liability to changes in the discount rate:

	1% Decrease (7.00%)	Current Discount Rate (8.00%)	1% Increase (9.00%)
Change in Net Pension Liability as of 12/31/2016:	$ 1,206,799	-	$ (1,028,614)

Note: The current discount rate shown for GASB 68 purposes is higher than the MERS assumed rate of return. This is because for GASB 68 purposes, the discount rate must be gross of administrative expenses, whereas for funding purposes it is net of administrative expenses.

Benefit Provision History

The following benefit provision history is provided by MERS. Any corrections to this history or discrepancies between this information and information displayed elsewhere in the valuation report should be reported to MERS. All provisions are listed by date of adoption.

01 - General

1/1/1998	E 2% COLA Adopted (01/01/1998)
1/1/1997	E 2% COLA Adopted (01/01/1997)
1/1/1996	E 2% COLA Adopted (01/01/1996)
1/1/1995	E 2% COLA Adopted (01/01/1995)
6/1/1991	8 Year Vesting
6/1/1991	Benefit B-3 (80% max)
6/1/1991	Benefit F55 (With 15 Years of Service)
1/1/1991	E 2% COLA Adopted (01/01/1991)
1/1/1991	E2 2.5% COLA for future retirees (01/01/1991)
7/1/1982	Benefit C-1 (Old)
12/18/1973	Exclude Temporary Employees
11/13/1970	Covered by Act 88
5/1/1967	Fiscal Month - January
5/1/1967	Benefit FAC-5 (5 Year Final Average Compensation)
5/1/1967	10 Year Vesting
5/1/1967	Benefit C (Old)
5/1/1967	Member Contribution Rate 3.00% Under $4,200.00 - Then 5.00%

10 - All New Hires as of 1/1/15

1/1/2015	Day of work defined as 7.5 Hours a Day for All employees.
1/1/2015	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/2015	Non Standard Compensation Definition
1/1/2015	10 Year Vesting
1/1/2015	Benefit B-2
1/1/2015	Benefit F55 (With 25 Years of Service)
1/1/2015	Participant Contribution Rate 6.7%
11/13/1970	Covered by Act 88
5/1/1967	Fiscal Month - January

Plan Provisions, Actuarial Assumptions, and Actuarial Funding Method

Details on MERS plan provisions, actuarial assumptions, and actuarial methodology can be found in the Appendix. Some actuarial assumptions are specific to this municipality and its divisions. These are listed below.

Increase in Final Average Compensation

Division	FAC Increase Assumption
All Divisions	1.00%

Withdrawal Rate Scaling Factor

Division	Withdrawal Rate Scaling Factor
All Divisions	100%

Miscellaneous and Technical Assumptions

Loads – None.

Appendix B

CBIZ RETIREMENT PLAN SERVICES

Letter dated September 1, 2016

[attach here]

CBIZ Retirement Plan Services
CBIZ Benefits & Insurance Services, Inc.
17199 Laurel Park North, Ste. 405
Livonia, MI 48152
http://retirement.cbiz.com

September 1, 2016

Tuscola Co Hlth Dpt

In care of:
Municipal Employees' Retirement System of Michigan
1134 Municipal Way
Lansing, Michigan 48917

Re: Tuscola Co Hlth Dpt (7901) – Divisions 01, 10 – Projections of Amortization Payment of Unfunded Accrued Liability

As requested by Tuscola Co Hlth Dpt (7901) – divisions 01 and 10, we have illustrated the series of amortization payments scheduled to fund the unfunded accrued liability (UAL) calculated as of December 31, 2015, using the data and benefit provisions from the December 31, 2015 annual actuarial valuation. The results are calculated using a 7.75% investment return assumption, as well as the 5.75% and 6.75% investment return assumptions, as requested by the Michigan Department of Treasury for their analysis of application requests to issue Long-Term Securities under PA 329 of 2012.

The purpose of this letter is to show the pattern in the annual amortization payment under the amortization policy for closed divisions (Option B) and to show the amortization payments of the UAL calculated using both the actuarial value and market value of assets.

The estimates from this study should not be used for short term budgeting purposes because the assumptions are designed to be a long term expectation of future events. These estimates illustrate the long term pattern of amortization payments under different funding policies. A projection of contribution rates for budgeting purposes would require additional analysis, which is beyond the scope of this study.

Please note this letter should be distributed to any interested parties only in its entirety.

Tuscola Co Hlth Dpt

We projected the annual amortization payments, starting with the amortization periods in effect for the calendar year beginning January 1, 2016, under the Option B amortization policy. The 2016 and 2017 amortization payments shown in this analysis will not match the amortization portion of the projected employer contributions from the 2014 annual valuations because for the 2014 valuations, the underlying actuarial assumptions are different. **Any normal cost payments are in addition to the amortization payment, and are not affected by the amortization policy used.**

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These results are for illustration purposes only. Actual amortization payments will depend on the results of future annual actuarial valuations.

Comments on Pension Obligation Bonds

A discussion of pension obligation bonds is beyond the scope of this letter. It is important for the County Health Department to understand and acknowledge the following implications of funding the UAL using pension obligation bonds:

1. **The County Health Department will continue to be responsible for funding the employer normal cost as long as there are active members in the plan, and**
2. **If future financial or demographic experience is less favorable than assumed, additional UAL may emerge which would require additional County Health Department contributions.**
3. **Fully funding the current UAL does not guarantee that there will be no employer contribution requirements in the future.**

Our calculations were based on the following:

- Demographic information, financial information, benefit provisions and Funding Methods provided by MERS for the December 31, 2015 annual actuarial valuation.
- The actuarial assumptions that were used in the December 31, 2015 annual actuarial valuation, except for any phase-in of the impact of assumption changes.

As always, the MERS actuaries will closely watch the funding progress of all closed divisions. While not currently anticipated, the actuaries may recommend changes to the amortization policy in the future if they deem it necessary for the financial security of benefits provided by the municipality, which could result in more accelerated employer contributions than those shown in this report.

The undersigned 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. Please see page 3 of this document for additional disclosures required by the Actuarial Standards of Practice.

If you have any questions or need additional information, please contact your MERS representative at (800) 767-6377.

Sincerely,

W. James Koss, ASA, MAAA	Curt Powell, EA, MAAA
Actuary	Senior Analyst

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Additional Disclosures Required by Actuarial Standards of Practice No. 41

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. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

This report should not be relied on for any purpose other than the purpose described in the primary communication. Determination of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

The calculation was based upon information furnished by the Employer and MERS staff, concerning Retirement System benefits and member information. CBIZ Retirement Plan Services is not responsible for the accuracy or completeness of the information provided to us for these calculations.

The developed findings included in this report consider data or other information through December 31, 2015. The findings are based on actuarial assumptions which were first used in the December 31, 2015 actuarial valuations.

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Tuscola Co Hlth Dpt (7901) - Divisions 01 and 10
Projected Amortization Payments Based on December 31, 2015 Actuarial Valuation Data
Closed Amortization Policy Option B - Using 7.75% Interest Rate

Calendar Year Beginning January 1	Based on the Actuarial Value of Assets: Beginning of Year UAL Balance	Based on the Actuarial Value of Assets: Amortization Payment	Based on the Market Value of Assets: Beginning of Year UAL Balance	Based on the Market Value of Assets: Amortization Payment
2016	2,400,000	200,000	3,400,000	200,000
2017	2,400,000	200,000	3,400,000	200,000
2018	2,400,000	200,000	3,400,000	300,000
2019	2,400,000	200,000	3,400,000	300,000
2020	2,400,000	200,000	3,400,000	300,000
2021	2,400,000	200,000	3,300,000	300,000
2022	2,300,000	200,000	3,300,000	300,000
2023	2,300,000	200,000	3,200,000	300,000
2024	2,200,000	200,000	3,100,000	300,000
2025	2,100,000	300,000	3,000,000	400,000
2026	2,000,000	300,000	2,800,000	400,000
2027	1,900,000	300,000	2,600,000	400,000
2028	1,700,000	300,000	2,400,000	400,000
2029	1,600,000	300,000	2,200,000	400,000
2030	1,400,000	300,000	1,900,000	400,000
2031	1,200,000	300,000	1,600,000	500,000
2032	900,000	300,000	1,300,000	500,000
2033	700,000	300,000	900,000	500,000
2034	300,000	400,000	500,000	500,000
2035	-	-	-	-
2036	-	-	-	-

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Tuscola Co Hlth Dpt (7901) - Divisions 01 and 10
Projected Amortization Payments Based on December 31, 2015 Actuarial Valuation Data
Closed Amortization Policy Option B - Using 6.75% Interest Rate

	Based on the Actuarial Value of Assets		Based on the Market Value of Assets	
Calendar Year Beginning January 1	Beginning of Year UAL Balance	Amortization Payment	Beginning of Year UAL Balance	Amortization Payment
2016	3,600,000	200,000	4,600,000	300,000
2017	3,600,000	200,000	4,600,000	300,000
2018	3,600,000	300,000	4,600,000	300,000
2019	3,600,000	300,000	4,600,000	300,000
2020	3,600,000	300,000	4,600,000	400,000
2021	3,500,000	300,000	4,500,000	400,000
2022	3,400,000	300,000	4,400,000	400,000
2023	3,300,000	300,000	4,200,000	400,000
2024	3,200,000	300,000	4,100,000	400,000
2025	3,100,000	400,000	3,900,000	500,000
2026	2,900,000	400,000	3,700,000	500,000
2027	2,700,000	400,000	3,500,000	500,000
2028	2,500,000	400,000	3,200,000	500,000
2029	2,300,000	400,000	2,900,000	500,000
2030	2,000,000	400,000	2,500,000	500,000
2031	1,700,000	400,000	2,100,000	600,000
2032	1,300,000	500,000	1,700,000	600,000
2033	900,000	500,000	1,200,000	600,000
2034	500,000	500,000	600,000	600,000
2035	-	-	-	-
2036	-	-	-	-

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Tuscola Co Hlth Dpt (7901) - Divisions 01 and 10
Projected Amortization Payments Based on December 31, 2015 Actuarial Valuation Data
Closed Amortization Policy Option B - Using 5.75% Interest Rate

	Based on the Actuarial Value of Assets		Based on the Market Value of Assets	
Calendar Year Beginning January 1	Beginning of Year UAL Balance	Amortization Payment	Beginning of Year UAL Balance	Amortization Payment
2016	5,100,000	300,000	6,100,000	300,000
2017	5,100,000	300,000	6,100,000	400,000
2018	5,100,000	300,000	6,000,000	400,000
2019	5,000,000	400,000	6,000,000	400,000
2020	5,000,000	400,000	5,900,000	500,000
2021	4,800,000	400,000	5,800,000	500,000
2022	4,700,000	400,000	5,600,000	500,000
2023	4,600,000	400,000	5,400,000	500,000
2024	4,400,000	400,000	5,200,000	500,000
2025	4,200,000	500,000	5,000,000	600,000
2026	3,900,000	500,000	4,700,000	600,000
2027	3,700,000	500,000	4,300,000	600,000
2028	3,300,000	500,000	4,000,000	600,000
2029	3,000,000	500,000	3,600,000	600,000
2030	2,600,000	600,000	3,100,000	700,000
2031	2,200,000	600,000	2,600,000	700,000
2032	1,700,000	600,000	2,100,000	700,000
2033	1,200,000	600,000	1,400,000	700,000
2034	600,000	600,000	800,000	800,000
2035	-	-	-	-
2036	-	-	-	-

Appendix C

$2,500,000
County of Tuscola Pension Obligation Bonds, Series 2017
(Tuscola County Health Department)
(Federally Taxable – General Obligation Limited Tax)

Year	Estimated * Bond Debt Service	7.75% Investment** Assumption Actuarial Value Estimated Payment Without Bonding	County Savings
2017	$ 160,277.50	$ 200,000.00	$ 39,722.50
2018	178,370.00	200,000.00	21,630.00
2019	176,370.00	200,000.00	23,630.00
2020	174,370.00	200,000.00	25,630.00
2021	186,370.00	200,000.00	13,630.00
2022	187,920.00	200,000.00	12,080.00
2023	189,320.00	200,000.00	10,680.00
2024	185,570.00	200,000.00	14,430.00
2025	196,820.00	300,000.00	103,180.00
2026	197,620.00	300,000.00	102,380.00
2027	198,270.00	300,000.00	101,730.00
2028	193,545.00	300,000.00	106,455.00
2029	193,595.00	300,000.00	106,405.00
2030	193,247.50	300,000.00	106,752.50
2031	197,567.50	300,000.00	102,432.50
2032	196,362.50	300,000.00	103,637.50
2033	194,800.00	300,000.00	105,200.00
2034	197,600.00	400,000.00	202,400.00
Total	$ 3,397,995.00	$ 4,700,000.00	$ 1,302,005.00

*Numbers provided by MFCI dated September 20, 2016.

**Numbers provided by CBIZ Report, dated September 1, 2016, page 4

MFCI

NOT TO EXCEED $2,500,000
COUNTY OF TUSCOLA
PENSION OBLIGATION BONDS, SERIES 2017
(Tuscola County Health Department)
(Federally Taxable - General Obligation Limited Tax)

PRELIMINARY TIMETABLE

STEPS	ACTION	DATE
1	Committee of the Whole of the Board of Commissioners Discusses the Possibility of Bonding for the County's Pension Obligations	July 25, 2016
2	Full Board of Commissioners Discusses the Possibility of Bonding for the County's Pension Obligations	July 28, 2016
3	Full Board of Commissioners Approves Notice of Intent Resolution	July 28, 2016
4	Notice of Intent Published in Tuscola Advertiser	August 3, 2016
5	County Health Department Receives Schedules from MERS Showing Amortization of the Pension Obligation	September 12, 2016
6	Referendum period Expires (45 days After Publication)	September 19, 2016
7	MFCI Prepares and Sends Schedules Showing Amortization of the Pension Obligation	September 20, 2016
9	MFCI and Clark Hill Prepare Tuscola County Plan	October 21, 2016
10	MFCI and Axe & Ecklund Finalize Amount Necessary for Bonding and Prepare and Forward to the County the Bond Resolution, Continuing Disclosure Resolution and Resolution Approving Comprehensive Financial Plan	October 24, 2016

MFCI

STEPS	ACTION	DATE
11	Full Board of Commissioners Approves Bond Resolution, Continuing Disclosure Resolution and Resolution Approving Comprehensive Financial Plan	October 27, 2016
12	Tuscola County Plan is completed for Submission to the Department of Treasury for Approval to Issue the Bonds	November 2016
13	Apply to Department of Treasury for Approval to Issue the Bonds	November 2016
14	Meet with Department of Treasury in Lansing to Discuss County's Plan	December 2016
15	Conference Call with Rating Agency to Discuss the Pension Bonds	January 2017
16	Receive Rating on the Bonds	January 2017
17	Receive Approval to Issue Bonds from Department of Treasury	February 2017
18	Circulate Official Statement and Publish Notice of Sale for the Bonds	February 2017
19	Hold Bond Sale	March 2017
20	Deliver Bonds	March 2017

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