GRS Gabriel Roeder Smith & Company
Consultants & Actuaries

ADAMS COUNTY RETIREMENT PLAN

ACTUARIAL VALUATION REPORT

AS OF JANUARY 1, 2016

GRS

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June 2, 2016

Ms. Pamela Mathisen
Plan Administrator
Adams County
4430 South Adams County Parkway, Suite C3406
Brighton, CO 80601-8202

Re: Actuarial Valuation of the Adams County Retirement Plan as of January 1, 2016

Dear Pam:

We are pleased to present our Report on the actuarial valuation of the Adams County Retirement Plan as of January 1, 2016.

This Report presents the results of the January 1, 2016 actuarial valuation of the Adams County Retirement Plan. The Report describes the current actuarial condition of the Adams County Retirement Plan, determines the annual required contribution (ARC), and analyzes changes in these required rates.

We certify that the information included herein and contained in our January 1, 2016 Actuarial Valuation Report is accurate and fairly presents the actuarial position of the Adams County Retirement Plan as of the valuation date.

All of our work conforms with generally accepted actuarial principles and practices, and to the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

The valuation was based upon information, furnished by the Plan, concerning Plan benefits, financial transactions, active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. This report and these calculations are not intended as legal or accounting advice, and we would recommend review by legal counsel for the compliance of these calculations with all relevant agreements.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events for the Pension Plan. 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.

The 9.00% employer and employee contribution are the rates that comply with law. Due to the many factors affecting a retirement system, users of this report should be aware that contributions made at that rate do not necessarily guarantee long-term benefit security.

This report does not include a detailed assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment. We encourage a review and assessment of investment and other significant risks that may have a material effect on the plan's financial condition.

We believe that the assumptions and methods used in this report are reasonable and appropriate for the purpose for which they have been used. However, other assumptions and methods could also be reasonable and could result in materially different results. In addition, because it is not possible or practical to consider every possible contingency, we may use summary information, estimates or simplifications of calculations to facilitate the modeling of future events. We may also exclude factors or data that are deemed to be immaterial.

Certification

The undersigned are independent actuaries and consultants. Leslie Thompson and Paul Wood are actuaries and meet the Qualification Standards of the American Academy of Actuaries. Both of the undersigned are experienced in performing valuations for large public retirement systems.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

Leslie Thompson, FSA, FCA, EA, MAAA
Senior Consultant

Paul Wood, ASA, FCA, MAAA
Consultant

TABLE OF CONTENTS

SECTION A

EXECUTIVE SUMMARY

Actuarial Valuation

Valuations are prepared annually, as of January 1 of each year, the first day of the fiscal year. The primary purposes of the valuation report are to measure the plan's liabilities, to determine the required contribution rate and to analyze changes in the Adams County Retirement Plan's actuarial position.

In addition, the report provides summaries of the member data, financial data, plan provisions, and actuarial assumptions and methods.

Financing Objectives

The Adams County Retirement Plan is supported by member contributions, employer contributions, and net earnings on the investments of the fund. Contribution rates are set in ordinance, currently at 9.00% for members and employers.

The combined member and employer contributions are intended to be sufficient to pay the normal cost and to amortize the Unfunded Actuarial Accrued Liability (UAAL) over a period of 30 years from the valuation date.

Progress toward Realization of Financing Objectives

The UAAL/(surplus) and the funded ratio (ratio of the actuarial value of assets to the actuarial accrued liability) illustrate the progress toward the realization of certain financing objectives. Based on the actuarial valuation as of January 1, 2016, the Plan has an unfunded liability of $183.63 million and a funded ratio of 56.2%. The funded ratio decreased from 57.1% to 56.2% and the Net Employer Annual Required Contribution decreased, from 14.14% of pay, to 13.91% of pay.

The net employer Annual Required Contribution as a percentage of pay for the year beginning January 1, 2016 is 13.91%. The expected County contribution is 9.00% of pay which creates a contribution shortfall of 4.91% of pay.

The recent amendments to lower future benefit accruals help to decrease the future cost of the plan. Projections indicate an improvement in funded status over time. However, projections are built on assumptions from which experience may very over time. Ongoing monitoring of the funded levels of the plan is recommended.

Experience During the Year

The plan experienced a liability loss of $5.99 million during fiscal year 2015. This loss was largely due to more retirements than expected and salary increases that were also higher than expected.

The plan experienced an actuarial asset loss of $2.57 million during fiscal year 2015. This loss was due to the actuarial value of assets earning a return less than the assumed 7.5% return. The overall result was an unfunded liability $8.56 million more than expected at January 1, 2016.

There was also a loss due to a contribution shortfall of $5.55 million. This contribution shortfall decreased the funded ratio by 1.4% and increased the Annual Required Contribution by 0.40% of pay.

Assumptions and methods

There have not been changes in actuarial assumptions since the prior valuation. The assumptions have been selected by the Adams County Board of Retirement based upon the actuary's analysis and recommendations from the 2013 Experience Study.

The results of any actuarial valuation are dependent upon the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods. The actuarial calculations presented in this Report are intended to provide information for rational decision making.

Benefit Provisions

All of the benefit provisions reflected in this valuation are those which were in effect on January 1, 2016.

The benefit provisions are summarized in Section D of our Report.

Data

Adams County staff supplied data for retired, active and inactive members as of January 1, 2016. We did not audit this data, but we did apply a number of tests to the data, and we have concluded that the data is reasonable and consistent with the prior year's data. Adams County staff also supplied asset data as of January 1, 2016.

Financial Position

Due largely to liability and investment losses on the actuarial value of assets, the funded ratio declined from January 1, 2015 to January 1, 2016.

Funded Status Summary ($ in millions)		
Valuation Date	**January 1, 2016**	**January 1, 2015**
Accrued Liability	$419.36	$398.08
Actuarial Value of Assets (smoothed)	235.73	227.35
Unfunded Accrued Liability	$183.63	$170.73
Funded Ratio (AVA basis)	56.2%	57.1%
Market Value of Assets	$224.98	$234.81
Unfunded Accrued Liability	$194.38	$163.27
Funded Ratio (MVA basis)	53.6%	59.0%
Market Value Rate of Return	(1.7%)	7.1%
Actuarial Value Rate of Return	6.4%	8.7%

Investment losses increased the Total Annual Required Contribution by roughly 0.18%. Liability losses increased the Total Annual Required Contribution by approximately 0.41%. The Employer Net Annual Required Contribution of 14.14% of pay for Fiscal Year 2015 and 13.91% of pay for Fiscal Year 2016 are based on contributions being made throughout the year, consistent with the funding policy of the Plan.

Contribution Requirement Summary All Numbers Reported Middle of Year, Percent of Pay		
Fiscal Year Beginning	**January 1, 2016**	**January 1, 2015**
Total Annual Required Contribution	22.91%	23.14%
Estimated Member Contribution	9.00%	9.00%
Net Annual Required Contribution Mid-Year	13.91%	14.14%
Estimated County Contribution	9.00%	9.00%
Contribution Shortfall	4.91%	5.14%

Benefit changes were made as of January 1, 2014 which decrease the rate of benefits accrued for all service after January 1, 2014, both for current members and future members. The lower benefit accruals helped decrease the normal cost rate from 10.29% in 2014 to 9.55% this year and will have the effect of continuing to decrease the normal cost rate over time. So while a contribution shortfall exists this year, this contribution shortfall is expected to decrease over time.

Exhibit A.1
Adams County Retirement Plan
Executive Summary

	January 1, 2016	January 1, 2015
1. **Annual Required Contribution**		
a. Total	$ 26,117,781	$ 24,961,808
b. Net Employer Contribution	15,858,211	15,254,244
c. Net Employer %	13.91%	14.14%
2. **Funded Status**		
a. Actuarial Accrued Liability	$ 419,358,970	$ 398,075,505
b. Actuarial Value of Assets (AVA)	235,725,998	227,350,888
c. Unfunded Liability (AVA-basis)	183,632,972	170,724,617
d. Funded Ratio (AVA-basis)	56.2%	57.1%
e. Market Value of Assets (MVA)	$ 224,983,164	$ 234,812,371
f. Unfunded Liability (MVA-basis)	194,375,806	163,263,134
g. Funded Ratio (MVA-basis)	53.6%	59.0%
3. **Summary of Census Data**		
a. Actives		
i. Counts	1,986	1,934
ii. Total Annual Projected Compensation	$ 113,995,220	$ 107,861,819
iii. Average Projected Compensation	57,399	55,771
iv. Average Age	43.4	43.8
v. Average Service	8.4	8.8
b. Members with Refunds Due Counts	99	98
c. Deferred Vested Member Counts	186	181
d. Retired Member Counts	857	804
e. Beneficiary Counts	96	91
f. Disabled Retiree Counts	38	35
g. Total Members Included in Valuation	3,262	3,143

SECTION B

VALUATION RESULTS

Exhibit B.1
Adams County Retirement Plan
Actuarial Valuation Results
Accrued Accrued Liability

	January 1, 2016	January 1, 2015
1. **Active Members**		
a. Retirement Benefits	$ 168,377,845	$ 171,117,402
b. Withdrawal Benefits	(1,788,687)	(1,537,796)
c. Refund Benefits	(4,840,906)	(4,929,033)
d. Disability Benefits	7,348,813	7,436,269
e. Death Benefits	2,604,865	2,593,798
f. Total	$ 171,701,930	$ 174,680,640
2. **Members with Deferred Benefits**	$ 13,378,913	$ 11,357,300
3. **Members Receiving Benefits**	$ 234,278,127	$ 212,037,565
4. **Total**	$ 419,358,970	$ 398,075,505
5. **Actuarial Value of Assets**	$ 235,725,998	$ 227,350,888
6. **Unfunded Actuarial Accrued Liability**	$ 183,632,972	$ 170,724,617

Exhibit B.2
Adams County Retirement Plan
Actuarial Valuation Results
Normal Cost

	January 1, 2016	January 1, 2015
1. **Total Dollar Normal Cost**		
a. Retirement Benefits	$ 7,403,289	$ 7,331,354
b. Withdrawal Benefits	2,686,674	2,583,309
c. Disability Benefits	535,711	520,202
d. Death Benefits	264,451	250,999
e. Total	$ 10,890,125	$ 10,685,864
2. **Normal Cost as a Percentage of Pay**	9.55%	9.91%
3. **Normal Cost as a Percentage of Pay by Tier**		
a. Tier 1	12.03%	12.12%
b. Tier 2	10.44%	10.53%
c. Tier 3	7.01%	6.97%

Exhibit B.3
Adams County Retirement Plan
Actuarial Valuation Results
Present Value of Projected Benefits

	January 1, 2016	January 1, 2015
1. **Active Members**		
a. Retirement Benefits	$ 225,541,045	$ 227,597,168
b. Withdrawal Benefits	16,207,736	15,295,984
c. Disability Benefits	11,249,238	11,175,818
d. Death Benefits	4,819,213	4,666,493
e. Total	$ 257,817,232	$ 258,735,463
2. **Members with Deferred Benefits**	$ 13,378,913	$ 11,357,300
3. **Members Receiving Benefits**	$ 234,278,127	$ 212,037,565
4. **Total**	$ 505,474,272	$ 482,130,328

Exhibit B.4
Adams County Retirement Plan
Development of the Annual Required Contribution

Fiscal Year Beginning	January 1, 2016		January 1, 2015	
	Dollar	Percent of Pay	Dollar	Percent of Pay
1. Total Normal Cost	$ 10,890,125	9.55%	$ 10,685,864	9.91%
2. Amortization of Unfunded Actuarial Accrued Liability Over 30 Years	14,463,656	12.69%	13,446,944	12.46%
3. Assumed Administrative Expenses	764,000	0.67%	829,000	0.77%
4. Annual Required Contribution (ARC)	$ 26,117,781	22.91%	$ 24,961,808	23.14%
5. Estimated Member Contribution	10,259,570	9.00%	9,707,564	9.00%
6. Net ARC Mid-Year	$ 15,858,211	13.91%	$ 15,254,244	14.14%
7. Estimated County Contribution Mid-Year	10,259,570	9.00%	9,707,564	9.00%
8. Contribution Shortfall	$ 5,598,641	4.91%	$ 5,546,680	5.14%
9. Annual Projected Payroll	$ 113,995,220		$ 107,861,819	

Exhibit B.5
Adams County Retirement Plan
Plan Experience for Fiscal Year 2015

	Liabilities	
1.	Actuarial Accrued Liability at January 1, 2015	$ 398,075,505
2.	Normal Cost for Fiscal Year 2015	10,685,864
3.	Benefit Payments during Fiscal Year 2015	24,725,396
4.	Interest on Items 1-3 to End of Year	29,329,180
5.	Change in Actuarial Accrued Liability Due to Assumption Changes	-
6.	Change in Actuarial Accrued Liability Due to Provision Changes	-
7.	Expected Actuarial Accrued Liability at January 1, 2016	413,365,153
8.	Actual Actuarial Accrued Liability at January 1, 2016	419,358,970
9.	Liability Gain/(Loss)	(5,993,817)
	Assets	
10.	Actuarial Value of Assets at January 1, 2015	$ 227,350,888
11.	Benefit Payments and Expenses during Fiscal Year 2015	25,413,206
12.	Contributions during Fiscal Year 2015	19,530,415
13.	Interest on Items 10-12 to End of Year	16,830,712
14.	Expected Actuarial Value of Assets at January 1, 2016	238,298,809
15.	Actual Actuarial Value of Assets at January 1, 2016	235,725,998
16.	Asset Gain/(Loss)	(2,572,811)
	Total	
17.	Total Gain/(Loss)	**$ (8,566,628)**

SECTION C

PLAN ASSETS

Exhibit C.1
Adams County Retirement Plan
Statement of Plan Net Assets

	December 31, 2015	December 31, 2014
Assets		
Investments, at fair value:		
Cash	$ 25,360	$ 67,684
Money market funds and cash equivalents	5,447,224	5,424,082
U.S. Government obligations	4,968,314	9,705,959
Foreign bonds	715,734	1,393,553
Corporate bonds	9,213,459	12,906,266
Municipal bonds	1,366,769	1,377,335
Equity securities	27,282,458	29,973,837
Foreign equity securities	-	-
Real estate	29,281,310	25,787,116
Hedge fund of funds	26,941,659	31,766,757
Partnerships/joint ventures	33,730,291	24,469,393
Mutual funds	85,993,962	91,855,850
Total cash and investments	$ 224,966,540	$ 234,727,832
Receivables:		
Dividends and Interest	162,090	231,811
Other Assets:		
Prepaid insurance for retirees	-	-
Total assets	$ 225,128,630	$ 234,959,643
Liabilities and net assets held in trust for benefits		
Accrued liabilities	145,466	147,272
Total payables	$ 145,466	$ 147,272
Net assets held in trust for pension benefits	$ 224,983,164	$ 234,812,371

Exhibit C.2
Adams County Retirement Plan
Statement of Changes in Plan Net Assets

	Year Ended December 31, 2015		Year Ended December 31, 2014	
Additions to Net Assets Attributed to:				
Contributions:				
Employer contributions	$	9,709,230	$	8,964,812
Plan Members contributions		9,709,230		8,964,812
Plan Members for Purchase of service		111,955		282,498
Total contributions	$	19,530,415	$	18,212,122
Investment Income:				
Net appreciation in fair value of investments		(6,089,002)		13,829,930
Interest		1,418,630		967,680
Dividends		2,259,684		2,333,605
Other		152,549		117,307
Total Investment Income	$	(2,258,139)	$	17,248,522
Less Investment expense		(1,688,277)		(1,504,419)
Net investment income	$	(3,946,416)	$	15,744,103
Total additions	$	15,583,999	$	33,956,225
Deductions to Net Assets Attributed to:				
Benefit payments		21,639,193		19,385,185
Refunds		3,086,203		3,253,473
Administrative expenses		687,810		806,310
Total deductions	$	25,413,206	$	23,444,968
Change in net assets		(9,829,207)		10,511,257
Net assets held in trust for benefits:				
Beginning of year		234,812,371		224,301,114
End of year	$	224,983,164	$	234,812,371

Exhibit C.3
Adams County Retirement Plan
Development of the Actuarial Value of Assets

	Item		Year Ending December 31, 2015
1.	Actuarial value of assets, at beginning of year (prior to corridor)	$	227,350,888
2.	Market value of assets, at beginning of year		234,812,371
3.	Net new investments		
	a. Contributions received for prior plan year	$	19,530,415
	b. Benefits paid and administrative expenses		(25,413,206)
	c. Net	$	(5,882,791)
4.	Market value of assets, at end of year	$	224,983,164
5.	Net MVA earnings [(4) - (2) - (3c)]	$	(3,946,416)
6.	Assumed investment return rate		7.50%
7.	Expected return [(6)*(2)+(6)*(3c)/2]	$	17,390,323
8.	Excess return [(5) - (7)]	$	(21,336,739)
9.	Expected actuarial value of assets as of December 31, 2015 [(1) + (3c) + (7)]	$	238,858,420
10.	Deferred amounts for fiscal year ending December 31,		

	Year	Gain/(Loss)	20% Recognized This Year	Percent Deferred	Amount Deferred
a.	2015	$ (21,336,739)	$ (4,267,348)	80%	$ (17,069,391)
b.	2014	(882,249)	(176,450)	60%	(529,349)
c.	2013	13,000,059	2,600,012	40%	5,200,024
d.	2012	8,279,413	1,655,883	20%	1,655,882
e.	2011	(14,722,595)	(2,944,519)	0%	-
f.	Total	$ (15,662,111)	$ (3,132,422)		$ (10,742,834)

11.	Asset gain/(loss) to be recognized as of December 31, 2015		(3,132,422)
12.	80% of Market Value	$	179,986,531
13.	120% of Market Value	$	269,979,797
14.	Actuarial value of assets [(Item 9 + Item 11), but not more than Item 13 or less than Item 12]	$	235,725,998

Exhibit C.4
Average Annual Rates of Investment Return

Fiscal Year Ended December 31,	Actuarial Value		Market Value	
	Annual	Cumulative	Annual	Cumulative
1993	11.4 %	10.9 %	12.2 %	10.1 %
1994	9.1	10.3	(1.6)	6.1
1995	12.1	10.7	22.9	10.1
1996	11.6	10.9	12.0	10.4
1997	13.0	11.3	17.0	11.5
1998	12.2	11.4	9.0	11.1
1999	12.0	11.5	4.0	10.2
2000	8.7	11.2	2.6	9.4
2001	6.2	10.7	(1.6)	8.2
2002	(4.5)	9.2	(10.9)	6.3
2003	9.7	9.2	22.4	7.6
2004	4.3	8.8	11.0	7.8
2005	4.4	8.5	6.2	7.7
2006	7.6	8.5	14.2	8.1
2007	11.1	8.6	8.2	8.1
2008	(7.9)	7.6	(26.2)	5.7
2009	11.6	7.8	12.5	6.1
2010	1.9	7.5	9.5	6.3
2011	(0.1)	7.1	(0.5)	5.9
2012	0.4	6.8	12.1	6.2
2013	9.3	6.9	14.1	6.6
2014	8.7	6.9	7.1	6.6
2015	6.4	6.8	(1.7)	6.1

SECTION D

SUMMARY OF BENEFIT PROVISIONS

SUMMARY OF BENEFIT PROVISIONS

BASED ON THE PLAN ORIGINALLY EFFECTIVE JULY 1, 1968 AND AMENDED AND RESTATED EFFECTIVE JANUARY 1, 2014

Participation

Membership in the Retirement Plan is automatic upon the first day of Covered Employment. You are in Covered Employment when you are (1) an elected or appointed County official or deputy, or staff of such person, (2) an employee of an Employer who is in a regular position regularly scheduled to work or budgeted for at least 30 hours each week, or (3) an employee of the Retirement Board who meets these requirements. Any employee of the Retirement Board who meets these requirements is considered an employee of the County for purposes of the Plan.

You are not eligible to participate in the Retirement Plan if you are (1) an employee in a position regularly scheduled to work or budgeted for less than 30 hours each week, (2) a leased employee, (3) an independent contractor, or (4) in a position that does not meet the criteria in the above paragraph, such as a position designated as temporary, seasonal, provisional, regular part-time scheduled to work less than 30 hours per week, project designated full-time, project designated part-time, or an election judge.

Member Contributions

Effective January 1, 2015, each member contributes 9.00% of compensation on a monthly basis. Interest on contributions is credited at a rate of 3.0% per annum compounded monthly.

Contribution Accumulation means the total of the member Pre-2014 Contribution Accumulation and Post- 2013 Contribution Accumulation. The Pre-2014 Contribution Accumulation means the total of the member contributions to the retirement fund prior to January 1, 2014, plus interest. The Post-2013 Contribution Accumulation means the total of the member contributions to the retirement fund on or after January 1, 2014, plus interest. The Contribution Accumulation does not include any amounts paid to purchase previous service credit.

After December 31, 1983 member contributions are picked up and paid by the County as provided in Code Section 414(h).

County Contributions

The County will match member contributions.

Credited Service

All service completed during the elapsed time from the member's date of employment, excluding any breaks in service, to the member's date of termination on the basis of 1/365th year for each day of employment after January 1, 1965, provided an employee joined the plan on the first date eligible. Service prior to January 1, 1970 will be included (up to five years) provided the employee became a Member on the first date of eligibility.

Service is credited while a member is on long-term disability or is eligible for disability benefits from Social Security, even if the member does not receive disability benefits from Social Security because they are reduced to zero due to other disability benefits received. No credited service will be granted if the member chooses to receive a lump-sum payment from the Employer's LTD plan unless the member qualifies for disability benefits from Social Security (regardless of whether or not the member actually receives Social Security disability benefits).

Service Purchase

Eligible members may purchase additional years of service credit for any full-time, non-vested previous employment with any public or private employer in the United States, subject to certain restrictions.

Classification of Tiers

- *Tier 1* - Members hired prior to January 1, 2005
- *Tier 2* - Members hired on or after January 1, 2005 but before January 1, 2010
- *Tier 3* - Members hired on or after January 1, 2010

Compensation

Compensation is the total regular compensation paid to the member, reflecting the normal regular salary or hourly wage rate, before any payroll deductions for income tax, Social Security, group insurance, or any other purpose, excluding bonuses, extra pay, overtime pay, workers' compensation, single-sum payments received in lieu of accrued vacation and sick leave upon termination of employment or during the course of employment, required contributions by the County under this Plan, or for Social Security, group insurance, retainers' fees under contract, or the like, but including compensation deferred under Sections 125, 403(b), 414(h), or 457 of the Internal Revenue Code.

<u>Final Average Monthly Compensation</u>

- *Tier 1 - Members hired prior to January 1, 2005:*

  Average of the highest 36 consecutive calendar months of compensation during the last 120 months of employment.

- *Tier 2 - Members hired on or after January 1, 2005 but before January 1, 2010:*

  Average of the highest 60 consecutive calendar months of compensation during the last 120 months of employment.

<u>Career Compensation</u>

- *Tier 3 - Members hired on or after January 1, 2010:*

  Pensionable Compensation from date of participation to retirement.

- *Tiers 1 & 2 - Members hired prior to January 1, 2010:*

  Pensionable Compensation from January 1, 2014 to retirement.

<u>Career Monthly Compensation</u>

Career Compensation divided by Credited Service accrued during the period. If hired before January 1, 2010 and become disabled before January 1, 2014, special calculations apply. For members with a qualified military leave of absence, career compensation will include compensation credited at a rate that would have been in effect during the leave.

<u>Accrued Benefit</u> (Monthly)

Effective January 1, 2014, the accrued benefit for Tier 1 and Tier 2 members is composed of "Component A" benefit plus a "Component B" benefit. Component A shall mean the benefit attributable to service credit earned prior to January 1, 2014. Component B shall mean the benefit attributable to service credit earned on or after January 1, 2014.

Tiers 1 & 2 - Members hired prior to January 1, 2010:

- *Component A Benefit::*

  2.5% of Final Average Monthly Compensation multiplied by Credited Service prior to January 1, 2014 including purchased service.

- *Component B Benefit:*

  Greater of 1.75% of Career Compensation divided by 12, or 1.75% of Career Monthly Compensation times Credited Service earned on or after January 1, 2014.

Tier 3 - Members hired on or after January 1, 2010:

- 1.75% of Career Compensation divided by 12 or 1.75% of Career Monthly Compensation times Credited Service, if greater.

The minimum monthly accrued benefit for all members is $25 per month per year of Credited Service.

Vested Accrued Benefit

- *Tiers 1 & 2 - Members hired prior to January 1, 2010:*

  Five years of Credited Service

- *Tier 3 - Members hired on or after January 1, 2010:*

  Ten years of Credited Service

Benefit:

100% of the Accrued Benefit determined as of the date of termination. The benefit may be reduced if payment commences before the Normal Retirement Date or the Special Early Retirement Date.

Normal Retirement

Eligibility:

Attainment of age 65.

Benefit:

Accrued Benefit up to a maximum of 80% of the member's average monthly compensation during any consecutive 12-month period in which the member receives their highest average monthly compensation.

Regular Early Retirement

Eligibility:

- *Tier 1 - Members hired prior to January 1, 2005:*

  Attainment of age 55 and 5 years of Credited Service.

- *Tiers 2 & 3 - Members hired on or after January 1, 2005:*

  Attainment of age 55 and 10 years of Credited Service.

Benefit:

- *Tier 1 - Members hired prior to January 1, 2005:*

  Vested Accrued Benefit determined as of the Early Retirement Date, reduced by 1/6 of 1% for each of the first 36 months and 1/4 of 1% for each additional month payments commence prior to the Normal Retirement Date.

- *Tiers 2 & 3 - Members hired on or after January 1, 2005:*

  Vested Accrued Benefit determined as of the Early Retirement Date, reduced by 1/3 of 1% for each of the first 36 months and 5/12 of 1% for each additional month payments commence prior to the Normal Retirement Date.

Special Early Retirement

Eligibility:

- *Tier 1 - Members hired prior to January 1, 2005:*

  Attainment of any age and age plus credited service equals 70 or more at termination.

- *Tier 2 - Members hired on or after January 1, 2005 and prior to January 1, 2010:*

  Attainment of age 50 and age plus credited service equals 70 or more at termination.

- *Tier 3 - Members hired on or after January 1, 2010:*

  Attainment of age 55 and age plus credited service equals 80 or more at termination.

Benefit:

Vested Accrued Benefit determined as of the Special Early Retirement Date, unreduced for early payment.

Disability Retirement

Eligibility:

Total and permanent disability. Member qualifies for disability under the County's long-term disability plan or under Title II of the Social Security Act.

Benefit:

Normal Retirement Benefit considering annual rate of compensation at disability and Credited Service that would have accumulated if employment had continued uninterrupted to the later of the Normal Retirement Date, or the date that the County's long-term disability benefits end. The Component A Benefit will be based on Credited Service attributable to the period ending on December 31, 2013 (including any period through December 31, 2013 while the member was disabled), and the Average Monthly Compensation when the member became disabled. The Component B Benefit will be based on Credited Service attributable to the period beginning on January 1, 2014 and ending on retirement or the date payments under the Employer's LTD plan end, whichever is later (including the period on or after January 1, 2014 while the member was disabled), and the Career Monthly Compensation when the member became disabled.

Benefits commence at Normal Retirement Date, or if later, the first day of the month after payments cease under the County's long-term disability insurance contract.

Termination Benefit

Eligibility:

- *Tiers 1 & 2 - Members hired prior to January 1, 2010:*

  Members with less than five years of Credited Service receive a refund of the member's contributions. Members who have completed at least five years of Credited Service are eligible to receive their Vested Accrued Benefit payable at Normal Retirement Date.

- *Tier 3 - Members hired on or after January 1, 2010:*

  Members with less than ten years of Credited Service receive a refund of the member's contributions. Members who have completed at least ten years of Credited Service are eligible to receive their Vested Accrued Benefit payable at Normal Retirement Date.

Benefit:

Vested Accrued Benefit determined as of the date of termination but not less than the actuarial equivalent value, determined as of the benefit commencement date, of the Accumulated Contributions as of the Normal Retirement Date.

Refund of Accumulated Contributions

Upon termination prior to any type of retirement, in lieu of a monthly pension benefit, the member may elect to receive a refund of a percentage of the Pre-2014 accumulated contributions (excluding service purchase contributions) according to the following schedule, plus 100% of the Post-2013 accumulated contributions:

Completed Years of Service	Percent Vested of Pre-2014 Contributions Accumulated At Termination		
	Hired Prior to 1/1/2005	Hired 2005-2010	Hired on or after January 1, 2010
Less Than 5	100%	100%	100%
5	110%	100%	100%
6	125%	110%	100%
7	140%	120%	100%
8	155%	130%	100%
9	170%	140%	100%
10	185%	150%	100%
11	200%	160%	100%
12	200%	170%	100%
13	200%	180%	100%
14	200%	190%	100%
15 or more	200%	200%	100%

Pre-Retirement Death Benefit

- *Member is single:*

  Beneficiary receives two times member's accumulated contributions at date of death (excluding service purchase contributions).

- *Member is married:*

  Spouse receives two times member's accumulated contributions at date of death (excluding service purchase contributions); or

  A monthly benefit equal to 60% of the member's vested accrued benefit, commencing the first day of the month after the member's death or age 50 (55 for Terminated Vested Members) whichever is later.

<u>Normal Form</u>

- *Tier 1* - 10-year certain and life
- *Tier 2* - 10-year certain and life
- *Tier 3* - Single life annuity

<u>Optional Forms</u>

- 100% joint and survivor annuity
- 50% joint and survivor annuity
- 66-2/3% last survivor annuity
- 100% joint and survivor annuity with pop up
- 50% joint and survivor annuity with pop up
- For members in Tier 1 and Tier 2 only: Single life annuity
- For members in Tier 3 only: 10-year certain and life

<u>Optional Form Conversion Factors</u>

Optional annuity forms are actuarially equivalent based on 7.50% interest and the 1983 Group Annuity Mortality table blended 50% male and 50% female.

<u>Payment Date</u>

Benefits are paid on the first day of the month following eligibility for receipt.

SECTION E

SUMMARY OF PARTICIPANT DATA

Exhibit E.1
Adams County Retirement Plan
Summary of Census Data

	January 1, 2016	January 1, 2015
1. Active Members		
a. Counts		
Tier 1	642	717
Tier 2	381	425
Tier 3	963	792
Total	1,986	1,934
b. Annual Projected Compensation	$ 113,995,220	$ 107,861,819
c. Average Annual Compensation	$ 57,399	$ 55,771
d. Average Age	43.4	43.8
e. Average Service	8.4	8.8
f. Accumulated Member Contributions with Interest	$ 71,041,826	$ 68,911,145
2. NonVested Members with Refunds Due		
a. Counts	99	98
b. Amount of Refunds Due	$ 514,091	$ 539,847
3. Deferred Vested Members*		
a. Counts	186	181
b. Annual Deferred Benefits	$ 2,504,590	$ 2,327,359
c. Average Benefit	$ 13,466	$ 12,858
4. Retired Members		
a. Counts	857	804
b. Annual Benefits	$ 20,463,946	$ 18,468,082
c. Average Benefit	$ 23,879	$ 22,970
5. Beneficiaries		
a. Counts	96	91
b. Annual Benefits	$ 1,177,082	$ 1,083,317
c. Average Benefit	$ 12,261	$ 11,905
6. Disabled Retirees		
a. Counts	38	35
b. Annual Benefits	$ 639,705	$ 594,109
c. Average Benefit	$ 16,834	$ 16,975
7. Total Members Included in Valuation	3,262	3,143

*Includes 31 deferred disableds in 2016 and 30 deferred disableds in 2015.

Exhibit E.2
Summary of Changes in Participant Status
During Fiscal Year 2015

	Active Members	With Deferred Benefits[1]	With Refunds Due	Retirees	Disabled Retirees	Beneficiaries	Total
As of January 1, 2015	1,934	181	98	804	35	91	3,143
Age retirements	(67)	(6)		73			0
Disability retirements	(1)	(3)			4		0
Deferred disability	(5)	5					0
Deaths	(2)		(1)	(22)	(1)	(3)	(29)
Vested terminations	(30)	30					0
Rehires	5	(1)	(4)				0
Cashouts	(114)	(20)	(57)				(191)
Expiration of benefits						(5)	(5)
Terminated nonvested with refunds due	(40)		40				0
New beneficiary or Alternate Payee				1		13	14
New entrants during the year[2]	308		23	1			332
Data correction	(2)						(2)
Net change	52	5	1	53	3	5	119
As of January 1, 2016	1,986	186	99	857	38	96	3,262

[1] Includes 31 deferred disabled members at January 1, 2016

[2] Includes 23 members hired and terminated in 2015 with refunds due.

Exhibit E.3
Active Member Counts by Age and Service
as of January 1, 2016

Age	Service							
	0-4	5-9	10-14	15-19	20-24	25-29	Over 30	Total
Under 20	2	0	0	0	0	0	0	2
20-24	66	0	0	0	0	0	0	66
25-29	196	11	3	0	0	0	0	210
30-34	181	61	26	0	0	0	0	268
35-39	145	66	61	11	0	0	0	283
40-44	106	57	62	42	9	0	0	276
45-49	93	42	63	56	19	5	2	280
50-54	68	36	54	37	19	18	7	239
55-59	46	28	38	26	22	17	11	188
60-64	21	16	23	19	14	13	11	117
65-69	9	13	6	6	5	2	5	46
Over 70	3	0	3	1	1	0	3	11
Total	936	330	339	198	89	55	39	1,986

Exhibit E.4
Active Member Average Salary at Valuation Date by Age and Service[1]

Age	Service							
	0-4	5-9	10-14	15-19	20-24	25-29	Over 30	Total
Under 20								
20-24	$37,688							$37,688
25-29	43,420	$49,243						43,754
30-34	46,725	53,601	$51,949					48,797
35-39	48,934	61,930	64,061	$63,153				55,778
40-44	53,411	54,716	61,050	63,352	$73,105			57,551
45-49	50,865	49,415	64,624	67,095	75,383	$72,925		59,256
50-54	50,646	55,416	60,412	63,881	68,215	80,203	$70,107	59,813
55-59	53,578	49,810	50,726	55,229	68,446	84,099	61,617	57,639
60-64	44,830	54,223	59,172	59,322	64,262	61,322	70,797	57,886
65-69	65,878	59,035	56,239	49,276	63,106		76,041	61,183
Over 70								60,876
Total	$47,642	$54,902	$59,781	$62,536	$69,353	$75,644	$71,146	$54,615

[1] Average Salary not shown if group contains less than five members

Exhibit E.5
10-Year Projected Benefit Payments (Closed Group)

Fiscal Year Ended December 31,	Actives	Inactives	Total
2016	$ 2,241,100	$ 22,772,965	$25,014,065
2017	3,910,014	22,591,114	26,501,128
2018	5,323,533	22,455,932	27,779,465
2019	6,775,929	22,291,585	29,067,514
2020	8,333,690	22,154,434	30,488,124
2021	9,899,142	21,936,315	31,835,457
2022	11,437,826	21,736,165	33,173,991
2023	13,067,766	21,435,243	34,503,009
2024	14,708,208	21,097,946	35,806,154
2025	16,409,254	20,750,371	37,159,625

Exhibit E.6
History of Refunds

Fiscal Year Ended December 31,	Refund Amount
2004	$ 1,086,548
2005	1,231,836
2006	1,225,048
2007	1,187,708
2008	1,220,911
2009	1,043,307
2010	910,161
2011	1,761,213
2012	1,870,042
2013	2,029,377
2014	3,253,473
2015	3,086,203

SECTION F

HISTORICAL SCHEDULES

Exhibit F.1
Adams County Retirement Plan
Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a Percentage of Covered Payroll
(1)	(2)	(3)	(4)=(3)-(2)	(5)=(2)/(3)	(6)	(7)=(4)/(6)
1/1/2008	$ 194,027,237	$ 287,832,266	$ 93,805,029	67.4%	$ 87,215,518	107.6%
1/1/2009	179,216,396	316,117,270	136,900,874	56.7%	94,396,658	145.0%
1/1/2010	200,975,215	340,984,767	140,009,552	58.9%	98,982,060	141.4%
1/1/2011	204,666,912	356,275,436	151,608,524	57.4%	95,737,553	158.4%
1/1/2012	201,712,397	371,702,160	169,785,105	54.3%	94,160,223	180.3%
1/1/2013	199,076,191	386,835,357	187,759,166	51.5%	96,443,158	194.7%
1/1/2014	214,140,815	379,802,962	165,662,147	56.4%	102,088,234	162.3%
1/1/2015	227,350,888	398,075,505	170,724,617	57.1%	107,861,819	158.3%
1/1/2016	235,725,998	419,358,970	183,632,972	56.2%	113,995,220	161.1%

Exhibit F.2
Adams County Retirement Plan
Schedule of Employer Contributions

Fiscal Year Ended December 31,	Annual Required Contribution	Actual County Contribution	Percentage Contributed
2004	$ 6,858,772	$ 4,054,317	59.1%
2005	9,359,536	4,597,297	49.1%
2006	10,110,243	5,175,320	51.2%
2007	11,320,501	5,740,166	50.7%
2008	11,542,116	6,445,284	55.8%
2009	16,237,097	7,048,276	43.4%
2010	16,856,144	7,153,366	42.4%
2011	17,559,138	7,235,764	41.2%
2012	18,762,499	7,533,395	40.2%
2013	19,659,013	8,289,767	42.2%
2014	15,406,279	8,964,812	58.2%
2015	15,254,244	9,709,230	63.6%
2016	15,858,211	TBD	TBD

Exhibit F.3
Adams County Retirement Plan
Supplementary Information

Valuation Date	January 1, 2016
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Dollar Open
Remaining Amortization Periods	30 Years
Asset Valuation Method	5-Year Smoothed Market
Actuarial Assumptions:	
Investment Rate of Return	7.50%
Projected Salary Increases	Service-based increases from 3.8% to 9.30%
Inflation	2.80%
Cost of Living Adjustments	N/A

SECTION G

ACTUARIAL ASSUMPTIONS AND METHODS

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

I. Valuation Date

The valuation date is January 1st of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

II. Actuarial Cost Method

The actuarial valuation uses the Entry Age Normal actuarial cost method. Under this method, the employer contribution rate is the sum of (i) the employer normal cost rate, and (ii) a rate that will amortize the unfunded actuarial liability.

1. The valuation is prepared on the projected benefit basis. The present value of each participant's expected benefit payable at retirement or termination is determined, based on age, service, sex, compensation, and the interest rate assumed to be earned in the future (7.50%). The calculations take into account the probability of a participant's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of terminating with a service benefit. Future salary increases are also anticipated. The present value of the expected benefits payable on account of the active participants is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits payable from the Plan on account of the present group of participants and beneficiaries.

2. The employer contributions required to support the benefits of the Plan are determined following a level funding approach, and consist of a normal cost contribution and an accrued liability contribution.

3. The normal contribution is determined using the Entry Age Normal cost method. Under this method, a calculation is made to determine the average uniform and constant percentage rate of employer contribution which, if applied to the compensation of each new participant during the entire period of anticipated covered service, would be required in addition to the contributions of the participant to meet the cost of all benefits payable on their behalf.

4. The unfunded accrued liability contributions are determined by subtracting the actuarial value of assets from the actuarial accrued liability and amortizing the result over 30 years from the valuation date as a level dollar. It is assumed that payments are made throughout the year.

III. Actuarial Value of Assets

The actuarial value of assets is based on recognizing gains and losses over a five-year period where gains and losses are determined by comparing the projected market value of assets (based on the prior year's market value of assets, cash flows during the year and expected investment returns on those amounts) to the current year's market value of assets. The actuarial value of assets must be between 80% and 120% of market value.

IV. Actuarial Assumptions

A. Economic Assumptions

1. Investment return: 7.50% per annum, compounded annually, composed of an assumed 2.80% inflation rate and a 4.70% real rate of return. This rate represents the assumed return, net of all investment expenses.

2. Salary increase rate: Inflation rate of 2.80%, plus productivity component of 1.00%, plus step-rate/ promotional component as shown (adopted December 2013).

Completed Years of Service	Percentage Increase in Salary		
	Merit	Wage Inflation	Total
0	5.50 %	3.80 %	9.30 %
5	1.50	3.80	5.30
10	0.25	3.80	4.05
15	0.00	3.80	3.80
20	0.00	3.80	3.80
25	0.00	3.80	3.80
30	0.00	3.80	3.80
35	0.00	3.80	3.80
40	0.00	3.80	3.80

B. Demographic Assumptions

1. Mortality rates (pre- and post-retirement) – The valuation assumes fully generational mortality. The base mortality table used is the RP-2000 Blue Collar Healthy Annuitant Generational Mortality Table. Future mortality improvements are assumed each year using Scale BB. Rates are set back one year for females for post-retirement mortality. The following are sample rates for 2016 (adopted December 2013):

Sample Attained Ages	Probability of Death Pre-Retirement	
	Men	Women
20	0.05 %	0.02 %
25	0.06	0.02
30	0.07	0.03
35	0.10	0.05
40	0.13	0.08
45	0.17	0.13
50	0.23	0.19
55	0.33	0.26
60	0.48	0.33
65	0.65	0.43
70	0.78	0.55
75	0.00	0.00
80	0.00	0.00
85	0.00	0.00
90	0.00	0.00

Sample Attained Ages	Probability of Death Post-Retirement	
	Men	Women
20	0.05 %	0.02 %
25	0.06	0.02
30	0.07	0.03
35	0.10	0.04
40	0.13	0.08
45	0.17	0.12
50	0.53	0.17
55	0.69	0.23
60	0.94	0.45
65	1.37	0.84
70	2.10	1.38
75	3.39	2.32
80	5.54	3.66
85	9.04	6.15
90	15.23	10.28

2. Mortality rates (post-disablement) – RP-2000 Disabled Male and Female No Collar Mortality Table. Sample rates shown below:

Sample Attained Ages	Probability of Death Post-Disability	
	Men	**Women**
20	2.26 %	0.75 %
25	2.26	0.75
30	2.26	0.75
35	2.26	0.75
40	2.26	0.75
45	2.26	0.75
50	2.90	1.15
55	3.54	1.65
60	4.20	2.18
65	5.02	2.80
70	6.26	3.76
75	8.21	5.22
80	10.94	7.23
85	14.16	10.02
90	18.34	14.00

3. Disability rates. Sample rates shown below:

Sample Attained Ages	Probability of Disablement Next Year	
	Men	Women
25	0.04 %	0.04 %
30	0.06	0.06
35	0.10	0.10
40	0.16	0.16
45	0.26	0.26
50	0.45	0.45
55	0.85	0.85
60	1.20	1.20

4. Termination rates (for causes other than death, disability or retirement): Termination rates are based on service. Termination rates are not applied after a member becomes eligible for a retirement benefit. Rates at selected ages are shown (adopted December 2013):

Completed Years of Service	Probability of Termination Next Year	
	Men	Women
0	20.00 %	20.00 %
5	8.00	8.00
10	3.00	3.00
15	2.00	2.00
20	1.00	1.00
25	1.00	1.00
30	1.00	1.00
35	1.00	1.00

5. Retirement rates (adopted December 2013).

	Tier 1		Tier 2		Tier 3	
Age	**Age-based**	**Rule-based**	**Age-based**	**Rule-based**	**Age-based**	**Rule-based**
< 46		18.00%				
46		18.00%				
47		15.00%				
48		12.00%				
49		12.00%				
50		8.00%		15.00%		
51		8.00%		8.00%		
52		8.00%		8.00%		
53		8.00%		8.00%		
54		8.00%		8.00%		
55	2.00%	8.00%	2.00%	8.00%	2.00%	20.00%
56	2.00%	8.00%	2.00%	8.00%	2.00%	8.00%
57	2.00%	8.00%	2.00%	8.00%	2.00%	8.00%
58	2.00%	10.00%	2.00%	10.00%	2.00%	10.00%
59	6.00%	10.00%	6.00%	10.00%	6.00%	10.00%
60	8.00%	10.00%	8.00%	10.00%	8.00%	10.00%
61	8.00%	10.00%	8.00%	10.00%	8.00%	10.00%
62	9.00%	25.00%	9.00%	25.00%	9.00%	25.00%
63	9.00%	15.00%	9.00%	15.00%	9.00%	15.00%
64	9.00%	20.00%	9.00%	20.00%	9.00%	20.00%
65	9.00%	20.00%	9.00%	20.00%	9.00%	20.00%
66	9.00%	20.00%	9.00%	20.00%	9.00%	20.00%
67	15.00%	20.00%	15.00%	20.00%	15.00%	20.00%
68	15.00%	20.00%	15.00%	20.00%	15.00%	20.00%
69	15.00%	20.00%	15.00%	20.00%	15.00%	20.00%
70+	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

C. Expense Loading. Based on the prior three year average, rounded to the nearest $1,000.

Year	Noninvestment Expenses		
2013	$798,751		
2014	806,310		
2015	687,810		
	$2,292,871	÷ 3 =	$764,290

Average	$764,290
Loading	$764,000

D. Other Assumptions

1. Percent married: 85% of employees are assumed to be married.

2. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.

3. Cost of living adjustment: None.

4. Optional forms: Members are assumed to elect the normal form of benefit.

5. Vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.

6. Current and future deferred vested participants are assumed to retire at the earlier of age 55 or the age they meet special early retirement eligibility. Deferred disabled participants are assumed to commence benefits at age 65.

7. Pay increase timing: Middle of year.

8. Decrement timing: Decrements of all types are assumed to occur mid-year.

9. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

10. Decrement relativity: Decrement rates are used directly, without adjustment for multiple decrement table effects.

11. Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.