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August 15, 2016

Mr. N. Reid Baker III
Finance Director
Guilford County
P.O. Box 3427
Greensboro, NC 27402

Re: Invoice for Guilford County

Dear Mr. Baker:

We have performed the December 31, 2015 Actuarial Valuation and GASB 68 reporting for the Separation Allowance for Law Enforcement Officers under Article 12D of Chapter 143 North Carolina General Statutes. The invoice for this service is $1,381.50. Please send a check payable to Cavanaugh Macdonald Consulting, LLC to my attention at the address below.

If you have any questions, please give me a call at 678.388.1705 or Joseph Walls at 678.388.1704.

Sincerely,

Todd B. G

Todd B. Green, ASA, FCA, MAAA
Principal and Consulting Actuary

TBG:jnw

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3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144
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August 15, 2016

Mr. N. Reid Baker III
Finance Director
Guilford County
P.O. Box 3427
Greensboro, NC 27402

Dear Mr. Baker:

Presented in this report is information to assist Guilford County in providing necessary Governmental Accounting Standards Board (GASB) Statement No. 68 disclosure information related to the Law Enforcement Officers Separation Allowance Plan under Article 12D of Chapter 143 North Carolina General Statutes. GASB Statement No. 68 establishes accounting and financial reporting requirements for governmental employers who provide pension benefits to their employees through a trust. This report has been prepared as of December 31, 2015 for the reporting date of June 30, 2016.

In preparing the valuation, the actuary relied on data provided by both the employer and the Local Governmental Employees' Retirement System. The active data used for the valuation was based on the census data provided by the Local Governmental Employees' Retirement System, while the inactive data was supplied by the employer. While not verifying the data at source, the actuary performed tests for consistency and reasonability. The assumptions used by the actuary are in the aggregate reasonably related to the experience under the program and to reasonable expectations of anticipated experience under the program.

This is to certify that the independent consulting actuary is a Member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the plan and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the plan.

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Future actuarial results may differ significantly from the current results 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. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

If you have any questions about this information, please call Todd Green at 678.388.1705 or Joseph Walls at 678.388.1704.

Respectfully submitted,

Todd B. G

Todd B. Green, ASA, FCA, MAAA
Principal and Consulting Actuary

TBG:jnw

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Section I – Summary

REPORT OF THE ANNUAL GASB STATEMENT NO. 68
REQUIRED INFORMATION FOR THE GUILFORD COUNTY
LAW ENFORCEMENT OFFICERS' SEPARATION ALLOWANCE PLAN
PREPARED AS OF DECEMBER 31, 2015

Valuation Date (VD):		December 31, 2015
Measurement Date (MD):		December 31, 2015
Reporting Date (RD):		June 30, 2016
Single Equivalent Interest Rate (SEIR):		
Long-Term Expected Rate of Return		3.57%
Municipal Bond Index Rate		3.57%
Fiscal Year in which Plan's Fiduciary Net Position is projected to be depleted from future benefit payments for current members		N/A
Single Equivalent Interest Rate		3.57%
Net Pension Liability (Beginning of Year):		
Total Pension Liability (TPL)	$	12,039,707
Fiduciary Net Position (FNP)		978,887
Net Pension Liability (NPL = TPL – FNP)	$	11,060,820
FNP as a percentage of TPL		8.13%
Net Pension Liability (End of Year):		
Total Pension Liability (TPL)	$	12,245,917
Fiduciary Net Position (FNP)		1,181,795
Net Pension Liability (NPL = TPL – FNP)	$	11,064,122
FNP as a percentage of TPL		9.65%
Pension Expense (PE):	$	821,196
Deferred Outflows of Resources:	$	136,451
Deferred Inflows of Resources:	$	-

Section II – Introduction

The Governmental Accounting Standards Board issued Statement No. 68 (GASB 68), "*Accounting and Financial Reporting for Pensions*", in June 2012. GASB 68's effective date for employers is the first fiscal year beginning after June 15, 2014. This report, prepared as of December 31, 2015 (the Measurement Date), presents information to assist the County in providing the required information under GASB 68 for fiscal year ending June 30, 2016 (the Reporting Date).

GASB 68 replaces GASB 27, and represents a significant departure from the requirements of the prior statement. GASB 27 required employers providing benefits through pension plans to report items consistent with the results of the plan's actuarial valuations, as long as those valuations met certain parameters. GASB 68 creates disclosure and reporting requirements that may or may not be consistent with the basis used for funding the Plan.

Two major changes in GASB 68 are the requirements to include the Net Pension Liability (NPL) and to recognize a Pension Expense (PE) in the Guilford County financial statements.

Pension Expense includes amounts for service cost (the normal cost under the Entry Age Normal actuarial cost method for the year), interest on the Total Pension Liability (TPL), changes in benefit structure, amortization of increases/decreases in liability due to actuarial experience and actuarial assumption changes, and amortization of investment gains/losses. The actuarial experience and assumption change impacts are amortized over the average expected remaining service life of the Plan membership as of the Measurement Date, and investment gains/losses are amortized over five years. The development of the PE is shown in Section V.

The unrecognized portions of each year's experience, assumption changes and investment gains/losses are used to develop deferred inflows and outflows, which also must be included in the employer's financial statements. The development of the deferred inflows and outflows is shown in Section III.

Section I of this report is a summary of the principal results of the amounts under GASB 68. Section III and Section IV provides the results of all the necessary calculations, presented in the order laid out in GASB 68 for note disclosure and Required Supplementary Information (RSI).

Section III – Financial Statement Notes

The material presented herein will follow the order presented in GASB 68. Paragraph numbers are provided for ease of reference. Amounts are shown in aggregate.

Paragraph 40(a) and (b): The information required to be prepared by the Plan and/or the employer.

Paragraph 40(c): The data required regarding the membership of the Guilford County Law Enforcement Officers' Separation Allowance Plan was furnished by the County's Staff and the North Carolina Local Governmental Employees' Retirement System. The following table summarizes the membership of the Plan as of December 31, 2015, the Valuation Date.

Membership

	Number
Inactive Members Or Their Beneficiaries Currently Receiving Benefits	40
Inactive Members Entitled To But Not Yet Receiving Benefits	0
Active Members	269
Total	309

Paragraph 40(d) – (e): The information required is to be supplied by the Plan and/or the employer.

Section III – Financial Statement Notes

Paragraph 41: This paragraph requires information regarding the actuarial assumptions used to measure the TPL. The actuarial assumptions utilized in developing the TPL are outlined in Schedule B. The total pension liability was determined on December 31, 2015, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.00 percent
Salary increases	3.50 – 7.35 percent, average, including inflation
Investment rate of return	3.57 percent, net of pension plan investment expense, including inflation
Mortality	The rates of mortality for the period after service retirement are according to the RP-2014 Healthy Annuitant base rates projected to the valuation date using MP-2015, projected forward generationally from the valuation date using MP-2015. Rates are adjusted by 104% for males and 100% for females.

Paragraph 42:

(a) Discount rate: The discount rate used to measure the total pension liability was 3.57%. Since the Separation Allowance assets are held in short term investments, a discount rate equal to the 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate was used. The index used for this purpose is the General Obligation 20-year Municipal Bond Index published monthly by the St. Louis Federal Reserve Bank, which was 3.57% as of December 31, 2015.

(b) Projected cash flows: The projection of cash flows used to determine the discount rate assumed that the employer would contribute the actuarially determined contribution in the future.

(c) Long term rate of return: The long-term expected rate of return on pension plan investments is assumed to be 3.57% annually. Since the Separation Allowance assets are held in short term investments, a discount rate equal to the 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate was used. The index used for this purpose is the General Obligation 20-year Municipal Bond Index published monthly by the St. Louis Federal Reserve Bank, which was 3.57% as of December 31, 2015.

Section III – Financial Statement Notes

(d) Municipal bond rate: The discount rate uses municipal bond rates of 3.57% as of the measurement date and 3.70% at the beginning of the measurement period.

(e) Periods of projected benefit payments: projected future benefit payments for all current plan members were projected through 2053.

(f) Assumed Asset Allocation: The target asset allocation and best estimates of arithmetic real rates of return for each major asset class will be provided by the Plan's investment monitor.

(g) Sensitivity analysis: This paragraph requires disclosure of the sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability of the Plan, calculated using the discount rate of percent, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease 2.57%	Current Discount Rate 3.57%	1% Increase 4.57%
Net pension liability	$12,024,145	$11,064,122	$10,180,909

Section III – Financial Statement Notes

Paragraph 44: This paragraph requires a schedule of changes in Net Pension Liability. The needed information is provided in the table below.

CHANGES IN THE NET PENSION LIABILITY

	Total Pension Liability (a)	Plan Net Position (b)	Net Pension Liability (a) - (b)
Balance as of December 31, 2014	$ 12,039,707	$ 978,887	$ 11,060,820
Changes for the year:			
Service Cost	410,014		410,014
Interest	431,513		431,513
Benefit changes			
Difference between expected and actual experience			
Changes of assumptions or other inputs	119,089		119,089
Contributions - employer		954,345	(954,345)
Contributions - member			
Net investment income		3,665	(3,665)
Refunds of contributions			
Benefits paid	(754,406)	(754,406)	
Plan administrative expenses		(696)	696
Other changes			
Net changes	$ 206,210	$ 202,908	$ 3,302
Balance as of December 31, 2015	$ $ 12,245,917	$ 1,181,795	$ 11,064,122

Section III – Financial Statement Notes

Paragraph 45(a): December 31, 2015 is the actuarial valuation date upon which the TPL is based. An expected TPL is determined as of December 31, 2014 using standard roll-forward techniques. The roll-forward calculation adds the annual normal cost (also called the service cost), subtracts the actual benefit payments and refunds for the plan year and then applies the expected investment rate of return for the year. The procedure was used to determine the TPL as of December 31, 2014, as shown in the following table:

	TPL Roll-Forward		TPL Reported as of 12/31/2014 based on 12/31/2015 Valuation Date
(a)	Interest Rate (Beginning of Year)		3.70%
(b)	Valuation Date for Measurement		December 31, 2015
(c)	TPL as of December 31, 2015 with Beginning of Year Interest Rate (3.70%)	$	12,126,828
(d)	Entry Age Normal Cost for the period January 1, 2015 - December 31, 2015		395,385
(e)	Actual Benefit Payments for the period January 1, 2015 - December 31, 2015		754,406
(f)	TPL as of December 31, 2014 [c + [(e x (1 + a x 0.5)) / (1 + a)] - d]		12,039,707
(g)	TPL as of December 31, 2015 with End of Year Interest Rate (3.57%)		12,245,917
(h)	Assumption Change (Gain)/Loss: (g - c)		119,089

Paragraph 45(c): The assumed rate of return was decreased from 3.70% to 3.57% to reflect the change in the Municipal Bond Rate.

Paragraph 45(d): There were no changes in benefit terms that affected measurement of the total pension liability since the prior measurement period.

Section III – Financial Statement Notes

Paragraphs 45(f): There were no changes between the measurement date of the net pension liability and the employer's reporting date that are expected to have a significant effect on the net pension liability, and the amount of the expected resultant change in the net pension liability, if known.

Paragraph 45(g): The information required is to be supplied by the Employer.

Paragraph 45(h): Since certain expense items are amortized over closed periods each year, the deferred portions of these items must be tracked annually. If the amounts serve to reduce pension expense they are labeled deferred inflows. If they will increase pension expense they are labeled deferred outflows. As noted in the previous section, the amortization of these amounts is accomplished on a level dollar basis, with no interest included in the deferred amounts. Experience gains/losses and the impact of changes in actuarial assumptions, if any, are amortized over the average remaining service life of the active and inactive Plan members at the beginning of the fiscal year. Investment gains and losses are amortized over a fixed five year period.

The table below provide a summary of the deferred inflows and outflows as of December 31, 2015, the Measurement Date.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 0	$ 0
Changes of assumptions and other inputs	107,459	0
Net difference between projected and actual earnings on plan investments	28,992	0
Employer contributions subsequent to the Measurement Date	0	0
Total	$ 136,451	$ 0

Section III – Financial Statement Notes

Paragraph 45(i): Employer contributions subsequent to the Measurement Date will be recognized as a reduction of the net pension liability in the year ended December 31, 2016. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Deferred Amounts to be recognized in Fiscal Years Ending	Deferred Outflows of Resources	Deferred Inflows of Resources
2017	$ 18,878	$ 0
2018	18,878	0
2019	18,878	0
2020	18,878	0
2021	11,630	0
2022	11,630	0
2023	11,630	0
2024	11,630	0
2025	11,630	0
2026	2,789	0
Thereafter	0	0

Section IV – Required Supplementary Information

There are several tables of Required Supplementary Information (RSI) that need to be included in the Plan's financial statements:

Paragraphs 46(a) and (b): The required tables are provided in Schedule C and the information is as of the Measurement dates.

Paragraph 46(c): The required table is provided in Schedule C and the information is as of the Employer's Fiscal Year Ends.

Paragraph 47: In addition the following should be noted regarding the RSI:

Changes of benefit terms: None

Changes of assumption:

2015: The assumed rate of return was decreased from 3.70% to 3.57% to reflect the change in the Municipal Bond Rate.

Method and assumptions used in calculations of actuarially determined contributions. The actuarially determined contribution rates are determined on an annual basis. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule:

Actuarial cost method	Entry age
Amortization method	Level dollar, closed
Remaining amortization period	15 years
Asset valuation method	Market Value
Inflation	3.00 percent
Salary increase	3.50-7.35 percent, including inflation
Investment rate of return	3.57 percent, net of pension plan investment expense, including inflation

Section V – Pension Expense

As noted earlier, the Pension Expense (PE) consists of a number of different items. GASB 68 refers to the first as Service Cost which is the Normal Cost using the Entry Age Normal actuarial funding method. To this is added interest on the TPL at the rate of return in effect as of the prior measurement date.

The next three items refer to any changes that occurred in the TPL (i.e., actuarial accrued liability (AAL) under EAN) due to:

1. Benefit changes,
2. Actual versus expected experience or
3. Changes in actuarial assumptions.

Benefit changes, which are reflected immediately in PE, can be positive, if there is a benefit improvement for existing Plan members, or negative if there is a benefit reduction. For the year ended December 31, 2015 there were no benefit changes to be recognized.

The next item to be recognized is the portion of current year changes in TPL due to actual versus expected experience for the year. The portion to recognize in the current year is determined by spreading the total change over the average expected remaining service life of the entire Plan membership.

For illustrative purposes, the remaining service life of active members is the average number of years the active members are expected to remain active. For the year ended December 31, 2015 this number is 11.76. The remaining service life of the inactive members is zero. The figure to use for the amortization is the weighted average of these two amounts, or 10.24. The development of the average remaining service life is shown in the table on the following page.

Section V – Pension Expense

Calculation of Weighted Average Years of Working Lifetime

Category	Number (1)	Average Years of Working Lifetime (2)
a. Active Members	269	11.76
b. Inactive Members	40	0.00
c. Total	309	
Weighted Average Years of Working Lifetime [(a1 * a2) + (b1 * b2)]/c1		10.24

The last item under changes in TPL are changes in actuarial assumptions. The portion to recognize in the current year is determined by spreading the total change over the average expected remaining service life of the entire Plan membership, similar to the way experience gains and losses are recognized. For the year ended December 31, 2015, this amount was 119,089 and is attributable to the reduction in the assumed rate of return from 3.70% to 3.57%. Of the $119,089, $11,630 will be recognized in pension expense while $107,459 will be a deferred outflow of resources.

One-fifth of current-period difference between actual and projected earnings on the FNP are recognized in the pension expense. For the year ended December 31, 2015 the actual investment return was $3,665. The projected earnings for the year were $39,905. The total investment loss for the year ended December 31, 2015 was $36,240. One-fifth of this amount or $7,248 is recognized in pension expense. The remaining $28,992 is a deferred outflow of resources that will be recognized over the remaining four year period. The development of the expected return on assets is shown in the table on the following page.

The current year portions of previously determined experience, assumption, and earnings amounts, recognized as deferred inflows and outflows are included. Deferred outflows are added to the PE and deferred inflows are subtracted from the PE. Finally administrative expenses and other miscellaneous items are included.

Section V – Pension Expense

Calculation of Expected Return on Assets For the Year Ending December 31, 2015		
1) Market Value of Assets - Beginning of Year	$	978,887
2) Market Value of Assets - End of Year		1,181,795
3) Expected Return on Market Value [1 x 3.70%]		36,219
4) Cash Flow:		
a) Employee Contributions		-
b) Employer Contributions		954,345
c) Refunds of Contributions		-
d) Benefit Payments		(754,406)
e) Administrative Expenses		(696)
f) Other Changes		-
g) Net Cash Flow [a + b + c + d + e + f]	$	199,243
5) Expected Return on Cash Flow Items [4(g) x 3.70% x 0.5]	$	3,686
6) Expected Return on Assets [3 + 5]		39,905
7) Actual Return on Assets [2 - 1 - 4(g)]		3,665
8) Investment (Gain) / Loss [6 - 7]	**$**	**36,240**

Section V – Pension Expense

The calculation of the Pension Expense for the year ended December 31, 2015 for the Plan is shown in the following table.

Pension Expense Determined as of the Measurement Date		
Service Cost	$	410,014
Interest on the TPL and Cash Flow		431,513
Current-period benefit changes		-
Expensed portion of current-period difference between expected and actual experience in the total pension liability		-
Expensed portion of current-period changes of assumptions		11,630
Member contributions		-
Projected earnings on plan investments		(39,905)
Expensed portion of current-period differences between actual and projected earnings on plan investments		7,248
Administrative expense		696
Other		-
Recognition of beginning deferred outflows of resources as pension expense		-
Recognition of beginning deferred inflows of resources as pension expense		-
Pension Expense	$	821,196

Schedule A – Plan Provisions

COVERAGE, AUTHORITY AND ADMINISTRATION

All law enforcement officers who are members of the North Carolina Local Governmental Employees' Retirement System are covered under the program. This plan is an agent multiple-employer plan established in North Carolina G.S. 143-166.41 and may be amended only by the General Assembly. The plan does not issue a separate standalone financial report. Each local government makes benefit payments required under this plan.

DEFINITIONS

Base Rate of Compensation

An officer's dollar rate of pay at retirement, excluding pay for longevity, overtime, shift differential, unused sick leave and expense reimbursement.

Creditable Service

The service for which credit is allowed, at the retirement of an officer, under the Local Governmental Employees' Retirement System. For the purpose of eligibility only, "creditable service" means that a minimum of 50% of the service is as a law-enforcement officer.

BENEFITS

Eligibility for Allowance

Any officer who commences retirement and meets the following conditions shall receive a separation allowance. An officer must have:

(1) Either accrued 30 years of creditable service, regardless of age, or have attained 55 years of age with a minimum of 5 years of creditable service.

(2) Completed a minimum of 5 years of continuous service as a law-enforcement officer immediately preceding retirement.

(3) Not attained 62 years of age.

Schedule A – Plan Provisions

Amount of Allowance

The annual allowance to an eligible retired officer, which is payable monthly, is equal to 0.85% of the officer's annual base rate of compensation multiplied by total creditable service.

Cessation of Allowance

The allowance payable to a retired officer ceases at age 62, at death, or upon reemployment by a State department, agency, or institution.

EMPLOYER AND MEMBER CONTRIBUTIONS

No member contributions are required. The full cost of the allowances is paid by the employer. The Director of the Budget may authorize the transfer of funds within the budgets of each State department, agency or institution to fund this plan's benefits. The participating employers generally fund benefits on a pay-as-you-go basis.

Schedule B – Actuarial Assumptions & Methods

INTEREST RATE: 3.57% per annum, compounded annually.

INFLATION: 3.00% per annum.

REAL WAGE GROWTH: 0.5% per annum.

SEPARATIONS FROM SERVICE AND SALARY INCREASES: Representative values of the annual rates of separation and annual rates of salary increases are as follows:

ANNUAL RATE OF SALARY INCREASES*									
Service	0	5	10	15	20	25	30	35	40
	7.35%	6.15%	5.15%	4.45%	4.02%	3.90%	3.80%	3.70%	3.50%

**These rates iclude inflation of 3.00% and real wage growth of 0.5% .*

ANNUAL RATE OF							
	Withdrawal			Withdrawal and Vesting*		Disability	
Service	Male	Female	Age	Male	Female	Male	Female
0	12.0%	12.0%	25	5.00%	5.00%	0.06%	0.25%
1	8.5%	8.5%	30	5.00%	5.00%	0.10%	0.30%
2	8.0%	8.0%	35	4.00%	4.00%	0.20%	0.40%
3	7.5%	7.5%	40	3.00%	3.00%	0.30%	0.50%
4	7.0%	7.0%	45	3.50%	3.50%	0.40%	0.60%
			50	3.50%	3.50%	0.40%	0.70%
			55	3.50%	3.50%	0.40%	0.70%
			60	3.50%	3.50%	0.40%	0.70%
			65				

**These rates apply only after five years of membership in the system.*

ANNUAL RATE OF RETIREMENT							
Age	5	10	15	20	25	30	35
50			8.0%	8.0%	8.0%	40.0%	40.0%
55	10.0%	32.5%	32.5%	32.5%	32.5%	75.0%	40.0%
60	10.0%	20.0%	20.0%	20.0%	20.0%	22.5%	20.0%
65	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
70	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
75	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Schedule B – Actuarial Assumptions & Methods

DEATHS AFTER RETIREMENT (HEALTHY)**:** RP-2014 Healthy Annuitant base rates projected to the valuation date using MP-2015, projected forward generationally from the valuation date using MP-2015. Rates are adjusted by 104% for males and 100% for females.

DEATHS BEFORE RETIREMENT**:** RP-2014 Employee base rates projected to the valuation date using MP-2015, projected forward generationally from the valuation date using MP-2015.

DEATHS AFTER RETIREMENT (BENEFICIARY**):** RP-2014 Healthy Annuitant base rates projected to the valuation date using MP-2015, projected forward generationally from the valuation date using MP-2015. Rates are adjusted by 123% for males and females.

DEATHS AFTER RETIREMENT (DISABLED)**:** RP-2014 Disabled Retiree base rates projected to the valuation date using MP-2015, projected forward generationally from the valuation date using MP-2015. Rates are adjusted by 103% for males and 99% for females.

LEAVE CONVERSION**:** Eligibility service for unreduced retirement has been increased by one year. Credited service for benefit calculation purposes has been increased by 1.2 years. The service conversions are based on the service totals received from the Local Government Employees' Retirement System.

ASSET VALUATION METHOD**:** Market Value.

ACTUARIAL METHOD**:** Costs were determined using the Entry Age Normal Actuarial Cost Method. This method allocates the actuarial present value of each member's projected benefits on a level basis over the member's compensation between the entry-age of the member and the expected exit ages. The portion of the actuarial present value allocated to the valuation year is called the normal cost. The portion of the actuarial present value not provided for by the actuarial present value of future costs is called the actuarial accrued liability. The excess of the actuarial accrued liability over current assets is the unfunded actuarial accrued liability. The actuarially determined employer contribution (ADEC) consists of the normal cost and the amortization of the unfunded actuarial accrued liability within a 15 year period.

SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY
GASB 68 Paragraph 46(a)

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Total pension liability										
Service Cost	$ 410,014									
Interest	431,513									
Benefit changes	-									
Difference between expected and actual experience	-									
Changes of assumptions and other inputs	119,089									
Benefit payments	(754,406)									
Refunds of contributions	-									
Net change in total pension liability	$ 206,210									
Total pension liability - beginning	$ 12,039,707									
Total pension liability - ending (a)	$ 12,245,917									
Plan net position										
Contributions - employer	$ 954,345									
Contributions - member	-									
Net investment income	3,665									
Benefit payments	(754,406)									
Administrative expense	(696)									
Refunds of contributions	-									
Other	-									
Net change in plan net position	$ 202,908									
Plan net position - beginning	$ 978,887									
Plan net position - ending (b)	$ 1,181,795									
Net pension liability - ending (a) - (b)	$ 11,064,122									

Schedule C – Required Supplementary Information Tables

SCHEDULE OF THE NET PENSION LIABILITY
GASB 68 Paragraph 46(b)

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Total pension liability	$ 12,245,917									
Plan net position	1,181,795									
Net pension liability	$ 11,064,122									
Ratio of plan net position to total pension liability	9.65%									
Covered-employee payroll	$ 15,110,053									
Net pension liability as a percentage of covered-employee payroll	73.22%									

Schedule C – Required Supplementary Information Tables

SCHEDULE OF EMPLOYER CONTRIBUTIONS
GASB 68 Paragraph 46(c)

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Actuarially determined employer contribution	$ 984,456									
Actual employer contributions	984,456									
Annual contribution deficiency (excess)	$ -									
Covered-employee payroll	$ 14,480,738									
Actual contributions as a percentage of covered-employee payroll	6.80%									

Cavanaugh Macdonald
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August 15, 2016

Mr. N. Reid Baker III
Finance Director
Guilford County
P.O. Box 3427
Greensboro, NC 27402

Guilford County
December 31, 2015 Actuarial Valuation of the
Separation Allowance for Law Enforcement Officers

Dear Mr. Baker:

Enclosed are the results of the December 31, 2015 Actuarial Valuation of the Separation Allowance for Law Enforcement Officers under Article 12D of Chapter 143 North Carolina General Statutes for funding purposes. In preparing the valuation, the actuary relied on data provided by both the employer and the Local Governmental Employees' Retirement System. The active data used for the valuation was based on the census data provided by the Local Governmental Employees' Retirement System, while the inactive data was supplied by the employer. While not verifying the data at source, the actuary performed tests for consistency and reasonability. The assumptions used by the actuary are in the aggregate reasonably related to the experience under the program and to reasonable expectations of anticipated experience under the program.

Since the previous valuation the Actuarial Assumptions have been updated based on the recent Experience Study completed for the Local Governmental Employees' Retirement System. To comply with the reporting required under GASB Statement No. 68, the actuarial cost method has also been changed from Projected Unit Credit to Entry Age Normal using a discount rate equal to the 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate as of the valuation date. The index used for this purpose is the General Obligation 20-year Municipal Bond Index published monthly by the St. Louis Federal Reserve Bank, which was 3.57% as of December 31, 2015.

Schedule A summarizes the valuation results, including membership data, the valuation balance sheet and the Actuarially Determined Employer Contribution (ADEC) for fiscal year 2017. Schedule B provides the Schedule of Funding Progress. Schedule C outlines the full set of actuarial assumptions and methods employed. Schedule D provides a summary of the benefit and contribution provisions taken into account.

This is to certify that the independent consulting actuary is a Member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the plan and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the plan.

Future actuarial results may differ significantly from the current results 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. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

If you have any questions about this information, please call Todd Green at 678.388.1705 or Joseph Walls at 678.388.1704.

Respectfully submitted,

Todd B. G

Todd B. Green, ASA, FCA, MAAA
Principal and Consulting Actuary

TBG:jnw

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SCHEDULE A

SEPARATION ALLOWANCE FOR LAW ENFORCEMENT OFFICERS
GUILFORD COUNTY
RESULTS OF DECEMBER 31, 2015 ACTUARIAL VALUATION

MEMBERSHIP

Active Members		
Number		269
Valuation Compensation	$	15,110,053
Retired Members		
Number		40
Annual Benefits	$	647,681

VALUATION BALANCE SHEET

(1) Present value of benefits payable in respect of:		
(a) Present retired members and beneficiaries	$	2,843,917
(b) Present active members		13,664,588
(c) Total present value of benefits [(a) + (b)]	$	16,508,505
(2) Present value of future normal cost:		4,262,588
(3) Actuarial accrued liability [(1)(c) – (2)]:	$	12,245,917
(4) Actuarial value of assets:		1,181,795
(5) Unfunded actuarial accrued liability [(3) - (4)]:	$	11,064,122

ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTION (ADEC)
(for fiscal year ending June 30, 2017)

		Annual Amount
(1) Normal Cost	$	420,359
(2) Unfunded Accrued Liability Contribution		965,432
(3) Total [(1) + (2)]	$	1,385,791

SCHEDULE A
(continued)

The actuarially determined employer contribution (ADEC) for the fiscal year ended June 30, 2017 is calculated as of December 31, 2015 using the following information.

Valuation date	12/31/2015
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar closed
Remaining amortization period	15 years
Asset valuation method	Market Value
Actuarial assumptions:	
Investment rate of return*	3.57%
Projected salary increases*	3.50 – 7.35%
*Includes inflation at	3.00%
Cost-of-living adjustments	N/A

SCHEDULE B

SEPARATION ALLOWANCE FOR LAW ENFORCEMENT OFFICERS
GUILFORD COUNTY

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b – a)	Funded Ratio (a / b)	Covered Payroll for Year Ending On Val Date (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
12/31/2010	1,030,668	7,320,905	6,290,237	14.08%	13,996,047	44.94%
12/31/2011	963,291	7,744,871	6,781,580	12.44%	14,564,460	46.56%
12/31/2012	892,971	7,685,267	6,792,296	11.62%	14,249,536	47.67%
12/31/2013	928,399	8,128,731	7,200,332	11.42%	13,812,657	52.13%
12/31/2014	978,886	8,502,626	7,523,740	11.51%	14,480,738	51.96%
12/31/2015	1,181,795	12,245,917	11,064,122	9.65%	15,110,053	73.22%

SCHEDULE C

SEPARATION ALLOWANCE FOR LAW ENFORCEMENT OFFICERS

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

INTEREST RATE: 3.57% per annum, compounded annually.

INFLATION: 3.00% per annum.

REAL WAGE GROWTH: 0.5% per annum.

SEPARATIONS FROM SERVICE AND SALARY INCREASES: Representative values of the annual rates of separation and annual rates of salary increases are as follows:

ANNUAL RATE OF SALARY INCREASES*									
Service	0	5	10	15	20	25	30	35	40
	7.35%	6.15%	5.15%	4.45%	4.02%	3.90%	3.80%	3.70%	3.50%

**These rates iclude inflation of 3.00% and real wage growth of 0.5% .*

ANNUAL RATE OF							
	Withdrawal			Withdrawal and Vesting*		Disability	
Service	Male	Female	Age	Male	Female	Male	Female
0	12.0%	12.0%	25	5.00%	5.00%	0.06%	0.25%
1	8.5%	8.5%	30	5.00%	5.00%	0.10%	0.30%
2	8.0%	8.0%	35	4.00%	4.00%	0.20%	0.40%
3	7.5%	7.5%	40	3.00%	3.00%	0.30%	0.50%
4	7.0%	7.0%	45	3.50%	3.50%	0.40%	0.60%
			50	3.50%	3.50%	0.40%	0.70%
			55	3.50%	3.50%	0.40%	0.70%
			60	3.50%	3.50%	0.40%	0.70%
			65				

**These rates apply only after five years of membership in the system.*

ANNUAL RATE OF RETIREMENT							
Age	5	10	15	20	25	30	35
50			8.0%	8.0%	8.0%	40.0%	40.0%
55	10.0%	32.5%	32.5%	32.5%	32.5%	75.0%	40.0%
60	10.0%	20.0%	20.0%	20.0%	20.0%	22.5%	20.0%
65	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
70	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
75	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SCHEDULE C
(continued)

***DEATHS AFTER RETIREMENT (HEALTHY)*:** RP-2014 Healthy Annuitant base rates projected to the valuation date using MP-2015, projected forward generationally from the valuation date using MP-2015. Rates are adjusted by 104% for males and 100% for females.

***DEATHS BEFORE RETIREMENT*:** RP-2014 Employee base rates projected to the valuation date using MP-2015, projected forward generationally from the valuation date using MP-2015.

***DEATHS AFTER RETIREMENT (BENEFICIARY)*:** RP-2014 Healthy Annuitant base rates projected to the valuation date using MP-2015, projected forward generationally from the valuation date using MP-2015. Rates are adjusted by 123% for males and females.

***DEATHS AFTER RETIREMENT (DISABLED)*:** RP-2014 Disabled Retiree base rates projected to the valuation date using MP-2015, projected forward generationally from the valuation date using MP-2015. Rates are adjusted by 103% for males and 99% for females.

***LEAVE CONVERSION*:** Eligibility service for unreduced retirement has been increased by one year. Credited service for benefit calculation purposes has been increased by 1.2 years. The service conversions are based on the service totals received from the Local Government Employees' Retirement System.

***ASSET VALUATION METHOD*:** Market Value.

***ACTUARIAL METHOD*:** Costs were determined using the Entry Age Normal Actuarial Cost Method. This method allocates the actuarial present value of each member's projected benefits on a level basis over the member's compensation between the entry-age of the member and the expected exit ages. The portion of the actuarial present value allocated to the valuation year is called the normal cost. The portion of the actuarial present value not provided for by the actuarial present value of future costs is called the actuarial accrued liability. The excess of the actuarial accrued liability over current assets is the unfunded actuarial accrued liability. The actuarially determined employer contribution (ADEC) consists of the normal cost and the amortization of the unfunded actuarial accrued liability within a 15 year period.

SCHEDULE D

SPECIAL SEPARATION ALLOWANCE FOR LAW ENFORCEMENT OFFICERS

SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS

COVERAGE, AUTHORITY AND ADMINISTRATION

All law enforcement officers who are members of the North Carolina Local Governmental Employees' Retirement System are covered under the program. This plan is an agent multiple-employer plan established in North Carolina G.S. 143-166.41 and may be amended only by the General Assembly. The plan does not issue a separate standalone financial report. Each local government makes benefit payments required under this plan.

DEFINITIONS

Base Rate of Compensation

An officer's dollar rate of pay at retirement, excluding pay for longevity, overtime, shift differential, unused sick leave and expense reimbursement.

Creditable Service

The service for which credit is allowed, at the retirement of an officer, under the Local Governmental Employees' Retirement System. For the purpose of eligibility only, "creditable service" means that a minimum of 50% of the service is as a law-enforcement officer.

BENEFITS

Eligibility for Allowance

Any officer who commences retirement and meets the following conditions shall receive a separation allowance. An officer must have:

(1) Either accrued 30 years of creditable service, regardless of age, or have attained 55 years of age with a minimum of 5 years of creditable service.

(2) Completed a minimum of 5 years of continuous service as a law-enforcement officer immediately preceding retirement.

(3) Not attained 62 years of age.

SCHEDULE D
(continued)

Amount of Allowance

The annual allowance to an eligible retired officer, which is payable monthly, is equal to 0.85% of the officer's annual base rate of compensation multiplied by total creditable service.

Cessation of Allowance

The allowance payable to a retired officer ceases at age 62, at death, or upon reemployment by a State department, agency, or institution.

EMPLOYER AND MEMBER CONTRIBUTIONS

No member contributions are required. The full cost of the allowances is paid by the employer. The Director of the Budget may authorize the transfer of funds within the budgets of each State department, agency or institution to fund this plan's benefits. The participating employers generally fund benefits on a pay-as-you-go basis.