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April 7, 2022

Ms. Melody Countess, CPA
Chief Operating Officer
Maryland State Retirement Agency
120 East Baltimore Street – 16th Floor
Baltimore, Maryland 21202

Re: Town of Bladensburg – Employee Transfer – Preliminary Valuation

Dear Melody:

It is our understanding that 20 employees currently enrolled under the Town of Bladensburg (Location 8139) are to be transferred from the Employees' Combined System(ECS) to the Law Enforcement Officers' Retirement System (LEOPS). We understand the transfer will be effective July 1, 2022, and is considered a partial withdrawal from ECS and an entry into LEOPS. Assets to be transferred to LEOPS as well as a new entrant liability (or asset) are calculated for the transferring members.

Asset Transfer at Market Value

In order to calculate the assets transferring to LEOPS, we used the calculation methodology set forth in Section 21-305.5 for determining assets allocable to employees who elect to withdraw from a system. We applied that method to this situation to determine the assets allocable to the 20 employees who are being transferred. We believe that this method is reasonable for this purpose, although it is not actually dictated by statute. **If another method should be used, please let us know.**

The Market Value of Assets attributable to the 20 transferring employees from the Town of Bladensburg is \$895,497, (the Actuarial Value is \$848,130). In order to calculate the assets attributable to the transferring employees, estimated assets as of June 30, 2022 were used. The June 30, 2021 Participant Funding Ratio (PFR) of 85.69% for ECS was used for this valuation. This is the PFR for the fiscal year preceding the effective date of transfer calculated in accordance with Section 21-305.5 of the Maryland Code. The PFR was developed from the annual valuation as of June 30, 2021, of the MSRPS for participating Municipal Corporations. The following exhibits contain details of this calculation:

- Exhibit I – Description of the Withdrawal Calculation for Withdrawals from ECS
- Exhibit II – Calculation of the Participant Funding Ratio (PFR)
- Exhibit III – Calculation of the Asset Transfer at Withdrawal
- Exhibit IV – Summary of the Data Used in the Calculation (as of June 30, 2021)

Calculation of the New Entrant Liability (or Asset)

The Town of Bladensburg will contribute the municipal LEOPS Basic Employer Cost Rate for its transferring employees plus the calculated new entrant unfunded liability payment/(credit) shown in Exhibit VI. Consistent with historical practice, PGUs entering the System contribute the pooled Basic Employer Rate. Differences in the demographic characteristics of the members of the PGU compared to the total LEOPS Municipal System may result in higher or lower costs than if the PGU was valued individually. The fiscal year 2023 municipal LEOPS Basic Employer Cost Rate is 36.20% of payroll. The actual rates will change from year to year based on future gains and losses, benefit changes, and assumption changes.

As requested, we have completed the valuation with 100% recognition of past service for all participants. The past service recognition will count toward all past service used for benefits and eligibility purposes. The new entrant liability credit is a result of comparing the estimated Unfunded Actuarial Accrued Liability (UAAL) contribution rate of 7.47% (based on the demographics of the Town of Bladensburg employees that are transferring and after applying the \$895,497 transferred assets) to the 16.84% LEOPS Municipal UAAL contribution rate as of June 30, 2022. The UAAL contribution rates will be based on amortizing the UAAL as a level percentage of payroll over a closed 17-year period (the remaining amortization period for LEOPS Municipal that will be used in the June 30, 2022 valuation).

The resulting new entrant credit is \$1,544,028 as of the fiscal year beginning July 1, 2023. This amount can be amortized with level dollar credits of \$125,905 over a 25-year period. All amortizations are over 25 years as provided by Section 21-306.1(d) of the Maryland Code. These annual credits are illustrated to begin December 31, 2023.

The following exhibits contain details of this calculation:

- Exhibit IV – Summary of the Data Used in the Calculation (as of June 30, 2021)
- Exhibit V – Calculation of the UAAL Contribution Rates and the New Entrant Payment/(Credit)
- Exhibit VI – New Entrant Payment/(Credit) Amortization Schedule

Data and Assumptions

The actuarial assumptions and applicable benefit provisions are the same as those adopted by the Board for first use in the actuarial valuation as of June 30, 2021. In particular, the assumed rate of investment return was 6.80% and the assumed rate of active member payroll growth was 2.75%.

The liability for transferring members is based on payroll and service from the actuarial valuation as of June 30, 2021. Transferring members were identified based on a file provided by SRA. Data and liabilities for the remaining members were from the valuation as of June 30, 2021. The calculations in this letter are based on assumptions and methods as described in the actuarial valuation as of June 30, 2021. All disclosures in the actuarial valuation report apply to the calculations in this letter.



The results of the final valuation will differ from the preliminary valuation based on such factors including, but not limited to: the extent actual experience differs from the assumptions used in the preliminary valuation, differences between the estimated and actual assets at June 30, 2022, future assumptions or benefit changes that are adopted and effective between the date of the preliminary valuation and the transfer date, or any differences or changes in the demographic data for LEOPS or the Town from the information used in the preliminary valuation, which may require a payment instead of receiving a credit. If you have reason to believe that the assumptions used are unreasonable, you should contact the author prior to relying on the information conveyed herein.

Required Disclosures

This report was prepared at the request of the Town of Bladensburg and is intended for use by the Maryland State Retirement Agency (SRA) and the Town of Bladensburg and those designated or approved by the SRA or the Town of Bladensburg. This report may be provided to other parties only in its entirety and only with the permission of the SRA or the Town of Bladensburg. GRS is not responsible for unauthorized use of this report. The purpose of this valuation is to calculate the new entrant liability or credit and resulting amortization payments or credits to be made over a 25-year period for the Town of Bladensburg to enter into the municipal Law Enforcement Officers' Retirement System (LEOPS) as of July 1, 2022. This report should not be relied on for any purpose other than the purpose previously described.

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 actuary did not perform an analysis of the potential range of such future measurements in this actuarial valuation report.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

This report has been prepared by an actuary who has substantial experience valuing public employee retirement systems. We certify that, to the best of our knowledge, this report is complete and accurate and has been prepared in accordance with Maryland's Annotated Code and generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice as promulgated by the Actuarial Standards Board.

The signing actuary is independent of the plan sponsor.




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Brad Lee Armstrong is a Member of the American Academy of Actuaries (MAAA), and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Please contact me if you have any questions or comments.

Sincerely,



Brad Lee Armstrong, ASA, EA, FCA, MAAA
Consulting Actuary

BLA:ah
Enclosure

cc: Martin Noven, Executive Director
Patricia Fitzhugh, Deputy Chief Operating Officer
Brian Murphy, GRS



Description of Withdrawal Calculation Withdrawals from ECS

Upon application of withdrawal by the Participating Governmental Unit (PGU) a special one-time calculation will be made by the actuary to determine: (1) whether any assets can be transferred out of the State System to a new successor plan on behalf of the withdrawing participants; and (2) whether a withdrawal liability needs to be assessed against the withdrawing PGU to fund liabilities remaining in the State System.

These determinations will be made as follows: At the time of withdrawal, an allocation of current State system assets, if any, will be made to all participants of the withdrawing PGU. This allocation will be based upon a determination made by the actuary in the preceding year's valuation which determines what portion of the actuarial value of total State System assets are available, if any, to cover the actuarial liabilities of all participants in the State System. This ratio will be called the "participant funding ratio" (PFR) and will be calculated as follows: The "adjusted actuarial value of assets" will be equal to the total actuarial value of assets less the present value of all future credits applied to over-funded PGUs, and plus the present value of all future (1) charges payable by under-funded PGUs, (2) special payments payable by prior new entrants, and (3) withdrawal liability payments due from PGUs who have withdrawn on or after July 1, 1997. The ratio of the "adjusted actuarial value of assets" to the total actuarial liability of the plan participants is the preliminary PFR for that valuation. If the preliminary PFR is less than 1.0, then the final PFR will equal the preliminary PFR. If the preliminary PFR is greater than 1.0 but less than 1.1, the final PFR will be set to 1.0. If the preliminary PFR is greater than 1.1, the final PFR will equal the preliminary PFR reduced by 0.1. That is, the final PFR will recognize any overfunding in excess of 110% of the liabilities. A separate PFR is calculated for those PGUs who declined to elect the enhanced pension system.

Once it is determined which participants of the withdrawing PGUs are electing to withdraw from the State System, and which elect to remain, the PFR from the prior year's valuation will be applied to the actuarial liabilities of each group to make the final determinations. Except for the transition amounts, which will be discussed on the following page, the assets available to be transferred out of the State System will be equal to the PFR times the actuarial liability attributable to withdrawing participants, less the outstanding balance, if any, of the future deficit charges and special payments owed by the withdrawing PGUs. This actuarial value of assets will be adjusted to a market value basis by applying the ratio of market value to the actuarial value of assets of the PGU plan as of the date of withdrawal.

The withdrawing PGU will continue to make normal cost, unfunded actuarial accrued liability contributions, and Retirement System surcharge payments for members who elect to remain within the State System. In addition, the PGU may make payments towards a withdrawal liability, calculated to fund the unfunded liability of those members remaining. The withdrawal liability for any withdrawing PGU shall be equal to the actuarial liabilities remaining in the State System on behalf of the remaining active participants multiplied by the complement of the PFR (i.e., $1 - \text{PFR}\%$), but not less than zero.

Transition Rule

When the withdrawal rules were changed in 1997 there was a special, one-time calculation made to avoid windfalls due to the change.

To avoid the situation of a particular PGU receiving a sudden gain in position between the current and previous withdrawal rules, a transition amount was determined for each PGU who as of June 30, 1995 was determined to be "underfunded" and as a result have been assessed the payment charge described earlier. For each of these affected PGUs a transition amount was determined as of June 30, 1995 which is equal to the difference, if any, between the net position of the PGU between the current and previous rules for withdrawal. If a withdrawal action is initiated by one of the PGUs which has a transition amount, the remaining balance of the transition amount will be used to reduce the assets otherwise transferable. This transition amount is being written down at the rate of 4% per year until it is eliminated 25 years from June 30, 1995.

As just stated, the transition amount is the difference between the net position of the PGU before and after the current withdrawal rules were applied, as of the effective date of the current rules. The net position is equal to the difference between the assets available to be transferred and the withdrawal liability amount as of the effective date assuming all Pension System active participants of the PGU elected to withdraw and all former and active participants in the Retirement System elected to remain in the System.

Partial Withdrawals

In the case of a partial withdrawal, that is a withdrawal for which only a certain homogenous group of members (e.g., law enforcement officers, detention center officers, or firefighters) is eligible, the calculations for asset transfer follow the same rules as for a full withdrawal. The only difference is that a first step must be taken to allocate all surplus amounts, deficit amounts, transition amounts and special payment amounts between the eligible group and the ineligible group on the basis of the ratio of active accrued liabilities of these groups.

In case of a partial withdrawal, there is no calculation of withdrawal liability. Members of the withdrawal-eligible group who elect to remain with the plan are treated in the same fashion as employees of the PGU who were not eligible to withdraw. The PGU will continue the full Pooled contribution rate on the payroll of these members.

**Employees Combined System
Participant Funding Ratio
as of June 30, 2021***

Numerator of the PFR

(1)	Actuarial Value of Assets	\$ 5,063,985,912
(2)	New Entrant Liability	476,678
(3)	Deficit Allocated	7,880,857
(4)	Withdrawn Liability	465,644
(5)	Surplus Allocated	-
(6)	Adjusted Assets (1) + (2) + (3) + (4) + (5)	\$ 5,072,809,091

Denominator of the PFR

(7)	Total Entry Age Actuarial Accrued Liability	\$ 5,920,163,966
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Participant Funding Ratio

(8)	Preliminary Participant Funding Ratio (6) / (7)	85.69%
(9)	Excess over 100% [(8) - 100%, bounded by 0%,10%]	0.00%
(10)	Final Participant Funding Ratio (8) - (9)	85.69%

* 2021 results from Table III-2, Table III-3, Table III-4, and Table IV-1 of the Maryland Municipal Corporations actuarial valuation report as of June 30, 2021.

**Town of Bladensburg
Asset Transfer at Withdrawal**

(1)	ECS Actuarial liabilities attributable to remaining active members#	\$	1,911,038
(2)	ECS Actuarial liabilities attributable to transferring active members#		989,765
(3)	Total ECS actuarial liability of all active members (1) + (2)#		2,900,803
(4)	<u>Outstanding Balance as of July 1, 2022</u>	Remaining	Transferring
	New Entrant Balance	\$ -	\$ -
	Surplus Balance	-	-
	Balances of Special Payments	-	-
	Transition Amount	-	-
(5)	Participant Funded Ratio (PFR) at June 30, 2021 (from Exhibit II)		85.69%
(6)	Portion of active assets attributable to transferring active members at actuarial value (2) x (5)	\$	848,130
(7)	<u>Reduce by transferring balance of</u>		
	a. New Entrant Balance	\$	-
	b. Surplus Balance		-
	c. Balances of Special Payments		-
	d. Transition Amount		-
	e. Total Reductions (a + b + c + d)	\$	-
(8)	Actuarial value of assets to be transferred (6) - (7)	\$	848,130
(9)	ECS Market Value of Assets (MVA) at July 1, 2022*	\$	5,688,057,683
	ECS Actuarial Value of Assets (AVA) at July 1, 2022*	\$	5,387,190,738
	ECS Ratio of MVA to AVA at July 1, 2022*		1.0558486
(10)	Gross assets attributable to transferring employees on a market value basis (8) x (9)	\$	895,497

Actuarial liabilities are projected from the measurement date of June 30, 2021 to the projected transfer date of July 1, 2022.

* Estimated based on assuming a market rate of return of 6.80% in fiscal year 2022.



**Town of Bladensburg
Summary of Data used in Calculations**

Active Members as of June 30, 2021	Count	Average Age	Average Service	Average Salary
Assumed to Transfer to LEOPS	20	38.3	5.4	\$ 60,948
Assumed to Remain with ECS	31	45.7	7.4	51,903
Total Active	51	42.8	6.6	55,450

Summary of Data Used in New Entrant Liability Calculations

	<u>Town of Bladensburg</u>	<u>LEOPS Municipal Actives at June 30, 2021</u>
Number:	20	1,112
Covered Payroll:	\$1,218,960	\$74,344,078
Average Age:	38.3 years	39.2 years
Average Eligibility Service Recognized:	5.4 years	10.6 years
Average Annual Pay:	\$60,948	\$66,856

MARYLAND STATE RETIREMENT AND PENSION SYSTEM
Calculation of New Entrant Liability Payment/(Credit)

Town of Bladensburg

	Town of Bladensburg	LEOPS Municipal	New Entrant Contribution
LEOPS Actuarial Accrued Liability (AAL) as of June 30, 2021	\$ 1,744,182	\$ 576,506,760	
Projected LEOPS AAL as of June 30, 2022	\$ 2,126,932	\$ 612,290,845	
Actuarial Value of Assets (AVA) as of June 30, 2021		\$ 414,016,807	
Market Value of Assets (MVA) as of June 30, 2021		\$ 444,727,692	
Projected AVA as of June 30, 2022		\$ 463,853,197	
Projected MVA as of June 30, 2022*	\$ 895,497	\$ 487,634,055	
Projected New Entrant Liability Balances as of June 30, 2022		\$ (12,321,759)	
Projected Unfunded AAL (UAAL) as of June 30, 2022	\$ 1,231,435	\$ 160,759,407	
17-year Level Percent of Pay Amortization Factor	12.291609	12.291609	
UAAL Amortization Payment	\$ 100,185	\$ 13,078,793	
Payroll as of June 30, 2021	\$ 1,006,116	\$ 74,344,078	
Projected Payroll as of June 30, 2022	\$ 1,322,562	\$ 76,388,540	
Payroll Projected to Next Fiscal Year	\$ 1,340,624	\$ 77,431,759	
UAAL Contribution Rate	7.47%	- 16.84%	= (9.37)%
New Entrant UAAL Balance (\$1,340,624 × -9.37% × 12.291609)			\$ (1,544,028)
25-Year Level Dollar Amortization Factor			12.263421
Level Dollar Payment/(Credit)			\$ (125,905)

* For LEOPS, assumes a market rate of return of 6.80% in fiscal year 2022.



MARYLAND STATE RETIREMENT AND PENSION SYSTEM
New Entrant Liability Payment/(Credit) Schedule

Town of Bladensburg

<u>Date</u>	<u>Balance before Payment/(Credit) #</u>	<u>Payment/ (Credit)</u>	<u>Interest*</u>	<u>Principal</u>	<u>Balance</u>
July 1, 2023					\$ (1,544,028)
December 31, 2023	\$ (1,595,662)	\$ (125,905)	\$ (51,634)	\$ (74,271)	(1,469,757)
December 31, 2024	(1,569,700)	(125,905)	(99,943)	(25,962)	(1,443,795)
December 31, 2025	(1,541,973)	(125,905)	(98,178)	(27,727)	(1,416,068)
December 31, 2026	(1,512,361)	(125,905)	(96,293)	(29,612)	(1,386,456)
December 31, 2027	(1,480,735)	(125,905)	(94,279)	(31,626)	(1,354,830)
December 31, 2028	(1,446,958)	(125,905)	(92,128)	(33,777)	(1,321,053)
December 31, 2029	(1,410,885)	(125,905)	(89,832)	(36,073)	(1,284,980)
December 31, 2030	(1,372,359)	(125,905)	(87,379)	(38,526)	(1,246,454)
December 31, 2031	(1,331,213)	(125,905)	(84,759)	(41,146)	(1,205,308)
December 31, 2032	(1,287,269)	(125,905)	(81,961)	(43,944)	(1,161,364)
December 31, 2033	(1,240,337)	(125,905)	(78,973)	(46,932)	(1,114,432)
December 31, 2034	(1,190,213)	(125,905)	(75,781)	(50,124)	(1,064,308)
December 31, 2035	(1,136,681)	(125,905)	(72,373)	(53,532)	(1,010,776)
December 31, 2036	(1,079,509)	(125,905)	(68,733)	(57,172)	(953,604)
December 31, 2037	(1,018,449)	(125,905)	(64,845)	(61,060)	(892,544)
December 31, 2038	(953,237)	(125,905)	(60,693)	(65,212)	(827,332)
December 31, 2039	(883,591)	(125,905)	(56,259)	(69,646)	(757,686)
December 31, 2040	(809,209)	(125,905)	(51,523)	(74,382)	(683,304)
December 31, 2041	(729,769)	(125,905)	(46,465)	(79,440)	(603,864)
December 31, 2042	(644,927)	(125,905)	(41,063)	(84,842)	(519,022)
December 31, 2043	(554,315)	(125,905)	(35,293)	(90,612)	(428,410)
December 31, 2044	(457,542)	(125,905)	(29,132)	(96,773)	(331,637)
December 31, 2045	(354,188)	(125,905)	(22,551)	(103,354)	(228,283)
December 31, 2046	(243,806)	(125,905)	(15,523)	(110,382)	(117,901)
December 31, 2047	(125,918)	(125,918)	(8,017)	(117,901)	-

* Interest calculated at 6.80% through the payment date.

If there is a positive balance, this represents a payoff amount to eliminate future liability payments assuming all prior payments were made in a timely manner. Please contact the SRA prior to submitting payment for a payoff.

