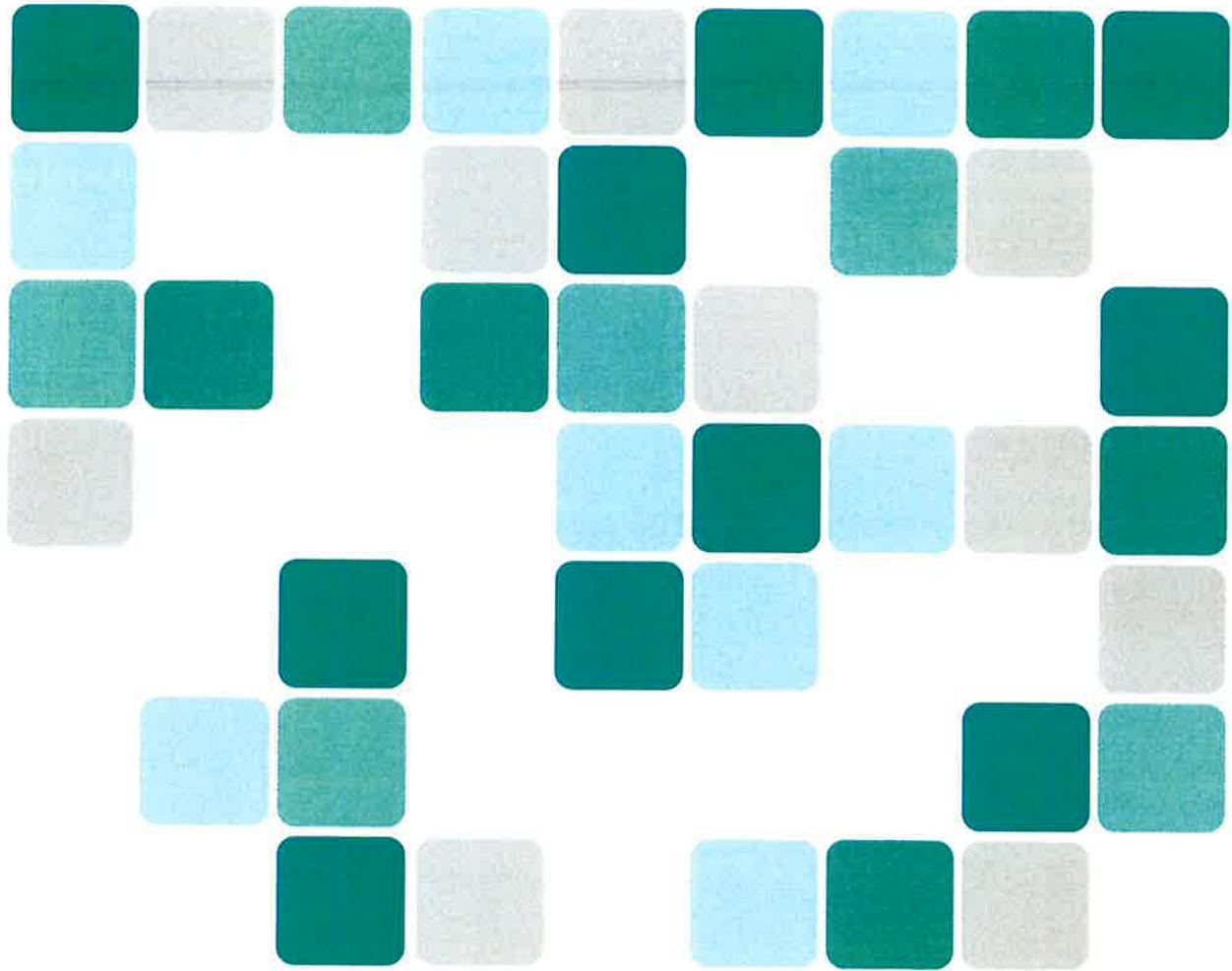




Middlesex County
Retirement System & Building
Annual Report
For Year Ending December 31, 2019



Commonwealth of Massachusetts
Public Employee Retirement Administration Commission

Annual Statement

2019





Public Employee Retirement Administration Commission Members

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Chairman

The Honorable Suzanne Bump
*Auditor of the Commonwealth
Vice Chairman*

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Practice Area Director, Public Consulting Group

Kate Fitzpatrick
Town Manager, Town of Needham

James M. Machado
Sergeant, Fall River Police Department

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*President Emeritus of the Professional
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*Investment Professional
Governor's Appointee*

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Elaine Pursley, *Auditor* | **Richard Wrona**, *Auditor* | **Junior Yanga**, *Auditor*

You may leave messages for any member of PERAC's Audit Staff at telephone extension 929 in our Somerville offices.



Commonwealth of Massachusetts
Public Employee Retirement Administration Commission
Five Middlesex Avenue, Suite 304 | Somerville, MA 02145
ph 617 666 4446 fax 617 628 4414
tty 617 591 8917 web www.mass.gov/perac

Instructions to Retirement Systems & Pension Funds
(Henceforth called Systems)

- (1) **Date of Filing:** The statement is required by law to be filed on or before May 1st.
- (2) **The Name of the System** must be typed or stamped at the top of all pages and schedules (and duplicate schedules), and on all inserted schedules and loose sheets.
- (3) This statement must be typewritten or prepared legibly using electronic media.
- (4) **Blank Schedules** will not be accepted. If no entries are to be made, type "NONE" across the schedule in question.
- (5) Each category of investment must be grouped alphabetically on appropriate schedules as listed below. Group totals in each category must be shown (sub-totals should be identified as such). Investments must be listed on a trade date basis (as opposed to the cashbook, which is on a settlement date basis). Purchases made prior to January 1st, but not settled until after December 31st, should be recorded as accounts payable and, as such, should be listed as purchased and owned. Sales made prior to January 1st, but not settled until after December 31st, should be recorded as accounts receivable and, as such, should be listed as sold and no longer owned. *

Schedule 1

Cash

Schedule 2

Short Term Securities (Treasury Bills, Commercial Paper, Repurchase Agreements, CDs, Term Deposits, Money Market Accounts, Cooperative Shares, and Savings and Loan Shares).

Schedule 3 (A, B, and C)

Fixed Income Securities

Schedule 4 (A, B, and C)

(a) Stocks

(b) Options

Schedule 5

Pooled Funds, PRIT Fund, Mutual or Commingled Funds, International Investments, Alternative Investments, and Real Estate Investments

Schedule 6

Recap of Schedules 1 through 5

Schedule 7

Recap of all investment-related management, custodial and consultant fees

Supplementary Schedule

We are now requesting that you provide us with a supplemental schedule for Members' Balances in the Annuity Savings Account. Previously, there was some confusion as to whether this information was required. **It is required.**

- (6) If the Annual Statement and Schedules do not contain the information asked for in the blanks, or are not prepared as requested above, they will NOT be accepted by the Commission.

Note: In accordance with the provisions of section 20(5)(h) and section 23(1)(c) and section 23(2)(e) of Chapter 32 of the General Laws, this statement must be filed in the office of the Public Employee Retirement Administration Commission no later than May 1, 2020. The due date for filing will be strictly enforced.

*It is critical that you determine the status of all pending transactions reported by your custodian on supplemental schedules provided by them. If any adjustments are required, these should be disclosed either in the details of accounts due in receivables, or payments pending in accounts payable. Otherwise, the supplemental schedules need to be notated for pending settlements. It may be necessary to revisit pending transactions from prior periods to properly reconcile these financial results.

Annual Statement for the Year Ended December 31, 2019 of the Conditions and Affairs of Middlesex County Retirement
(Name of Retirement System)

Organized Under the Laws of the Commonwealth of Massachusetts to the Public Employee Retirement Administration Commission

Date of Certificate 10/05/1936

Effective Date 01/01/1937

ADMINISTRATIVE OFFICE

25 Linnell Circle
Street & Number

Billerica, MA 01865
City/Town, State and Zip Code

(978) 439-3000
Telephone Number

We, the undersigned, members of the Middlesex Board of Retirement certify under the penalties of perjury, that we are the official board members of said retirement system, and that on the thirty-first day of December last, all of the herein-described assets were the absolute property of said retirement system, free and clear from any liens or claims thereon, except as stated, and the following statements, with the schedules and explanations therein contained, annexed, or referred to, are a full and correct exhibit of all the assets, liabilities, income and disbursements, changes in fund balances, and of the conditions and affairs of the said retirement system on the said thirty-first day of December last, and for the year ended on that date, according to the best of our information, knowledge, and belief, respectively.

BOARD OF RETIREMENT

Please identify the name of the Board Member who serves as Chairperson by inserting the title next to his or her name.

Ex-Officio Member

Thomas F. Gibson, Esq. Chairman
(Name Typed)

Term Expires: 12/31/2020

[Signature]
(Signature)

Appointed Member

Brian P. Curtin
(Name Typed)

Term Expires 12/31/2021

Brian P. Curtin
(Signature)

Elected Member

John Brown
(Name Typed)

Term Expires 12/31/2020

[Signature]
(Signature)

Elected Member

Joseph W. Kearns
(Name Typed)

Term Expires 12/31/2022

[Signature]
(Signature)

Member Appointed by Other Members

Robert W. Healy, Jr.
(Name Typed)

Term Expires 12/17/2020

[Signature]
(Signature)

INVESTMENT MANAGERS

Please compile/submit a complete list. Attach the list to this page.

(Name)

(Address)

(Name)

(Address)

(Name)

(Address)

CUSTODIAN BANK

~~INVESTMENT CONSULTANT~~

State Street Bank & Trust Co.
(Name)

801 Pennsylvania Avenue
Tower 1, 5th floor

(Address) Kansas City, MO 64105

CUSTODIAN

(Name)

(Address)

INVESTMENT MANAGER LIST AS OF DECEMBER 31, 2019

CORE

PRIM	84 State Street, Suite 250, Boston, MA 02109
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REAL ESTATE

Ares Real Estate Group – VEF Funds	3340 Peachtree RD NE, Suite 1660, Atlanta, GA 30326
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Hunt Investment Management (RIVA)	10 S. Wacker Drive, Suite 3250, Chicago, IL 60606
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PRIVATE EQUITY

Ascent Venture Partners, Inc.	255 State Street, 5 th Floor, Boston, MA 02109
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Boston Millennia Partners	30 Rowes Wharf, Boston, MA 02110
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Globespan Capital Partners	One Boston Place, Suite 2810, Boston, MA 02108
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North Atlantic Ventures	Two City Center, Portland, ME 04101
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ALTERNATIVE

Global Forest Partners LP	67 Etna Road, Suite 500, Lebanon, NH 03766
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Annual Statement of the Middlesex County Retirement System for the Year Ended December 31, 2019

ANNUAL STATEMENT BALANCE TESTS

1. ASSET BALANCE

Assets Previous Year	\$ 1,350,039,766.61
Income Current Year	404,616,518.41
Disbursements Current Year	(189,128,023.64)
Assets Current Year	1,565,528,261.38

2. ASSET DIFFERENCE

Assets Current Year	\$ 1,565,528,261.38
Assets Previous Year	(1,350,039,766.61)
Difference	215,488,494.77

3. INCOME DIFFERENCE

Income Current Year	\$ 404,616,518.41
Disbursements Current Year	(189,128,023.64)
Difference	215,488,494.77

4. FUND CHANGE DIFFERENCE - Add interfund transfer credits and debits respectively to Income and Disbursement activities.

Total Fund Change Credits Current Year	\$ 445,296,054.78
Total Fund Change Debits Current Year	(229,807,560.01)
Difference	215,488,494.77

NOTE: The difference as a result of tests 2,3, and 4 should be the same.

Annual Statement of the Middlesex County Retirement System for the Year Ended Dec. 31, 2019

ASSETS AND LIABILITIES

	2019	2018	2017
1. 1040-Cash	\$ 39,940,866.86	\$ 39,299,109.39	\$ 58,639,587.66
1130-Cash (MCRS Building)	152,241.19	216,557.19	123,577.10
2. 1100-short Term Investment			
3. 1180-Fixed Income Securities (Market Value)			
4. 1101-Pooled Short Term Funds			
5. 1170-Equities			
6. 1172-Pooled Domestic Equity Funds			
7. 1173-Pooled International Equity Funds			
8. 1174-Pooled Global Equity Funds			
9. 1181-Pooled Domestic Fixed Income Funds			
10. 1182-Pooled International Fixed Income Funds			
11. 1183-Pooled Global Fixed Income Funds			
12. 1193-Pooled Alternative Investments	3,421,665.83	4,786,461.63	6,432,161.68
13. 1194-Pooled Real Estate Funds	1,806,254.96	2,332,568.95	2,973,757.51
14. 1195-Pooled Domestic Balanced Funds			
15. 1196-Pooled International Balanced Funds			
16. 1197-Hedge Funds			
17. 1198-PRIT Cash Fund			
18. 1199-PRIT Core Fund	1,507,621,397.09	1,290,918,214.21	1,295,940,106.93
19. 1350-Prepaid Expenses			
20. 1398-Accounts Receivable (A)	7,920,146.69	7,479,617.65	8,851,643.81
12000-Accounts Receivable (MCRS Building)	180,284.43	182,673.29	178,568.54
21. 1550-Interest Due and Accrued	10,545.34	15,969.28	26,342.31
22. 2020-Accounts Payable (A)	(126,336.73)	(119,009.56)	(144,615.70)
2400-Prepaid Member Deductions	(79,305.75)	(73,859.99)	
2020-Accounts Payable (MCRS Building)	(15,905.31)	(22,470.21)	(6,039.58)
23. 1200-Advance to MCRS Building	1,131,650.01	1,131,650.01	881,650.01
1920-Software System	729,570.00	729,570.00	729,570.00
1920-Building-25 Linnell Circle	4,431,134.48	4,604,032.78	4,770,312.28
Liabilities Security Deposit (MCRS Building)	(26,555.70)	(17,840.00)	(17,840.00)
1929-1-Accumulated Depreciation FF & E			
1929-Accumulated Depreciation	(437,742.00)	(291,828.00)	(145,914.00)
2200-Advance From MCRS Building	(1,131,650.01)	(1,131,650.01)	(881,650.01)
TOTAL	\$ 1,565,528,261.38	\$ 1,350,039,766.61	\$ 1,378,351,218.54
FUNDS			
1. 3293-Annuity Savings Fund	\$ 493,501,199.61	\$ 479,620,656.95	\$ 464,335,075.14
2. 3294-Annuity Reserve Fund	128,223,419.92	119,606,751.41	113,576,797.98
3. 3295-Military Service Fund	296,116.58	252,717.56	218,745.75
4. 3296-Pension Fund	4,849,304.13	6,532,291.83	9,153,617.33
5. 3298-Expense Fund	0.00	0.00	0.00
6. 3297-Pension Reserve Fund	938,658,221.14	744,027,348.86	791,066,982.34
TOTAL	\$ 1,565,528,261.38	\$ 1,350,039,766.61	\$ 1,378,351,218.54
TOTAL ASSETS AT MARKET VALUE	\$ 1,565,528,261.38	\$ 1,350,039,766.61	\$ 1,378,351,218.54

(A) Specific details for Accounts Receivable and Accounts Payable are to be disclosed on Schedule A.

Annual Statement of the Middlesex County Retirement System for the Year Ended December 31, 2019

	Balance 12/31 Prior Year	Receipts	Interfund Transfers	Disbursements	Balance 12/31 Current Year
Annuity Savings Fund	479,620,656.95	55,974,795.24	(33,366,596.09)	(8,727,656.49)	\$ 493,501,199.61
Annuity Reserve Fund	119,606,751.41	3,674,038.63	33,103,877.10	(28,161,247.22)	\$ 128,223,419.92
Pension Fund	6,532,291.83	133,541,790.56	6,342,178.50	(141,566,956.76)	\$ 4,849,304.13
Special Military Service Credit Fund	252,717.56	43,399.02	0.00	0.00	\$ 296,116.58
Expense Fund	0.00	10,672,163.17	0.00	(10,672,163.17)	\$ 0.00
Pension Reserve Fund	744,027,348.86	200,710,331.79	(6,079,459.51)	0.00	\$ 938,658,221.14
TOTAL ALL FUNDS	\$ 1,350,039,766.61	404,616,518.41	0.00	(189,128,023.64)	\$ 1,565,528,261.38

List below all transfers:

Transfer from ASF to the ARF	in the amount of	33,100,477.36	on account of New Retirees.
Transfer from ASF	to the PRF in the amount of	746,624.70	on account of 10 Years No Deductions.
Transfer from PF	to the PRF in the amount of	30.00	on account of correction fy 18 between fund
Transfer from ARF	to the ASF in the amount of	986.56	on account of Recalculation for Retiree.
Transfer from ARF	to the ASF in the amount of		on account of Retiree's Settlement & Re-instate.
Transfer from MSF	to the ASF in the amount of	0.00	on account of Military Service to Retire
Transfer from PRF	to the ASF in the amount of	469,066.87	on account of Reverse 10 years no Deductions-Transfer Out, Refunds & Ret.
Transfer from ASF	to the ARF in the amount of	4,386.30	on account of Recalculation for Retiree.
Transfer from PRF	to the ASF in the amount of	15,342.46	on account of re-instate
Transfer from ASF	to the PRF in the amount of		on account of corrections.
Transfer from ASF	to the PRF in the amount of	503.62	on account of Interest Posted Past Date of Retirement.
Transfer from PRF	to the PF in the amount of	6,342,148.50	to meet the cost of benefits.

Annual Statement of the Middlesex County Retirement System for the Year Ended December 31, 2019

Receipts

	2019	2018	2017
1. Annuity Savings Fund			
(a) 4891-Members Deductions	\$48,445,697.73	\$46,064,419.79	\$44,020,430.74
(b) 4892-Transfers From Other Systems	6,071,000.77	5,276,441.84	5,727,458.54
(c) 4893-Member Make Up Payments & Redeposits	725,233.19	605,791.84	820,576.96
(d) 4900-Member Payments from Rollovers			
(e) Investment Income Credited to Members Accounts	732,863.55	687,644.61	680,900.12
Subtotal	55,974,795.24	52,634,298.08	51,249,366.36
2. Annuity Reserve Fund:			
(a) 4750-Recovery of Annuity from Reinstatement			
(b) Investment Income Credited to Annuity Reserve Fund	3,674,038.63	3,448,069.98	3,319,909.88
Subtotal	3,674,038.63	3,448,069.98	3,319,909.88
3. Pension Fund:			
(a) 4898-3(8) (c) Reimbursements from Other Systems	3,821,056.95	3,539,492.74	3,572,503.22
(b) 4899-Received From Commonwealth For COLA and Survivor Benefits	0.00	0.00	0.00
(c) 4894-Pension Fund Appropriation	129,610,440.59	120,499,451.00	115,377,205.40
(d) 4840-Workers' Compensation Settlements	77,800.00	68,542.26	58,300.00
(e) 4751-Recovery of Pension from Reinstatement			
(f) 4841-Recovery of 91 A Overearnings	32,493.02	(5,603.00)	87,745.51
Subtotal	133,541,790.56	124,101,883.00	119,095,754.13
4. Military Service Fund:			
(a) 4890-Contributions Received from Municipality for Military Service	43,157.72	33,881.35	157,383.65
(b) Investment Income Credited	241.30	90.46	84.36
Subtotal	43,399.02	33,971.81	157,468.01
5. Expenses Fund:			
(a) Investment Income Credited to Expenses Fund	10,672,163.17	9,863,888.47	9,131,462.85
Subtotal	10,672,163.17	9,863,888.47	9,131,462.85
6. Pension Reserve Fund:			
(a) 4897-Federal Grant Reimbursement	32,155.52	1,881.36	26,530.46
(b) 4100-Rental Income (MCRS Building)	210,350.22	146,628.67	153,816.09
(c) 4822-Interest Not Refunded	115,211.77	96,976.72	112,658.06
(d) 4825-Miscellaneous Income	388.10	13,981.48	335.26
(e) Excess Investment Income (from Page 6)	200,352,226.18	(38,162,607.97)	182,423,148.66
Subtotal	200,710,331.79	(37,903,139.74)	182,562,672.44
TOTAL RECEIPTS	\$ 404,616,518.41	\$ 152,178,971.60	\$ 365,516,633.67

Annual Statement of the Middlesex County Retirement System for the Year Ended December 31, 2019

Disbursements

	2019	2018	2017
1. Annuity Savings Fund:			
(a) 5757- Refunds to Member	\$ 3,115,771.15	\$ 3,031,448.79	\$ 3,564,979.76
(b) 5756-Transfers to Other System	5,611,885.34	5,934,117.16	5,051,691.06
Subtotal	8,727,656.49	8,965,565.95	8,616,670.82
2. Annuity Reserve Fund:			
(a) 5750-Annuities paid	27,817,305.46	25,663,078.80	23,853,776.72
(b) 5759-Option B refunded	343,941.76	174,370.85	0.00
Subtotal	28,161,247.22	25,837,449.65	23,853,776.72
3. Pension Fund:			
(a) 5751-Pension Paid			
Regular Pension Payments	105,946,728.66	99,461,542.18	94,423,315.32
Survivorship Payments	5,570,317.98	5,119,153.62	4,946,105.07
Ordinary Disability Payments	1,060,805.54	1,130,516.15	1,110,977.04
Accidental Disability Payments	14,126,885.66	13,409,632.41	13,247,123.19
Accidental Death Payments	2,748,016.83	2,779,427.22	2,705,183.74
Section 101 Benefits	820,532.21	822,038.44	771,077.79
(b) 5755-3(8) (c)Reimbursement to Other System	11,293,669.88	12,618,955.48	10,464,962.53
(c) 5752-COLA's Paid			
(d) 5753-Chapter 389 Beneficiary Increase Paid			
Subtotal	141,566,956.76	135,341,265.50	127,668,744.68
4. Expense Fund:			
(a) 5118-Board Member Stipend	18,000.00	18,000.00	18,000.00
(b) 5119-Salaries	1,370,751.11	1,295,420.21	1,239,430.07
(c) 5120-Benefits	289,014.85		
(d) 5304-Management Fees	7,266,300.83	7,018,694.19	6,312,178.66
(e) 5305-Custodial Fees	53,462.42	53,712.76	53,908.80
(g) 5308-Legal Expenses	5,732.66	15,190.66	13,801.16
(h) 5309-Medical Expenses	613.05	351.50	1,843.00
(i) 5310-Fiduciary Insurance	164,860.00	163,935.00	163,273.00
(k) 5312-Rent Expenses (MCRS Building)	279,205.88	309,355.66	306,177.94
(l) 5315-Professional Service	76,812.51	66,581.23	116,035.27
(m) 5316-Actuarial Service	33,450.00	78,000.00	0.00
(n) 5317-GASB 67/68 Implement	110,000.00	5,000.00	38,327.50
(o) 5320-Education & Training	14,693.80	12,542.80	15,089.59
(p) 5589-Administrative Expenses	650,961.08	968,070.80	991,515.94
(q) 5599-Furniture, Equipment & IT	145,914.00	145,914.00	145,914.00
(q) 5829-Depreciation Expenses (MCRS Building)	172,898.30	172,898.30	162,593.96
(r) 5719-Travel	19,492.68	22,475.32	22,145.86
Subtotal	10,672,163.17	10,346,142.43	9,600,234.75
TOTAL DISBURSEMENTS	\$ 189,128,023.64	\$ 180,490,423.53	\$ 169,270,655.07

Annual Statement of the Middlesex County Retirement System for the Year Ended December 31, 2019

Investment Income

	2019	2018	2017
Investment Income received from:			
(a) Cash(from schedule 1)	\$ 647,169.90	\$ 758,938.86	\$ 612,218.38
(b) Short Term Investments (from schedule 2)	0.00	0.00	0.00
(c) Fixed Income Securities (from schedules 3A & 3C)	0.00	0.00	0.00
(d) Equities (from schedules 4A & 4C)	0.00	0.00	0.00
(e) Pooled Funds (from schedule 5)	37,287,329.92	35,840,811.84	32,669,536.22
(f) Commission Recapture/Securities Litigation	12,577.74	4,469.48	11,068.31
4821-TOTAL INVESTMENT INCOME	<u>37,947,077.56</u>	<u>36,604,220.18</u>	<u>33,292,822.91</u>
Plus:			
4884-Realized Gains (Profits)	70,599,409.55	61,967,867.09	54,349,888.99
4886-Unrealized Gains (Inc. in Market Value)	168,895,770.57	48,087,115.64	109,657,791.06
1550-Interest Due and Accrued - Current Year	<u>10,545.34</u>	<u>15,969.28</u>	<u>26,342.31</u>
Less:			
4823-Paid Accrued Interest on Fixed Income Securities	0.00	0.00	0.00
4885-Realized Losses	(114,044.50)	(11,120.00)	(475,609.14)
4887-Unrealized Losses(Decrease in Market Value)	(61,775,804.41)	(170,800,624.33)	(1,283,517.81)
1550-Interest Due and Accrued - Prior Year	<u>(15,969.28)</u>	<u>(26,342.31)</u>	<u>(12,212.45)</u>
Additional Adjustmnets:			
4701-Carried Interest Expenses	(115,452.00)	-	
4702-Equalization Expenses	-	-	
4703-Miscellaneous Investment Expenses	-	-	
NET INVESTMENT INCOME	215,431,532.83	(24,162,914.45)	195,555,505.87
Income Required:			
Annuity Savings Fund (from Supplementary schedule)	732,863.55	687,644.61	680,900.12
Annuity Reserve Fund	3,674,038.63	3,448,069.98	3,319,909.88
Special Military Service Credit Fund	241.30	90.46	84.36
Expense Fund	<u>10,672,163.17</u>	<u>10,346,142.43</u>	<u>9,600,234.75</u>
TOTAL INCOME REQUIRED	15,079,306.65	14,481,947.48	13,601,129.11
Net Investment Income	215,431,532.83	(24,162,914.45)	195,555,505.87
Less Income Required	<u>(15,079,306.65)</u>	<u>(14,481,947.48)</u>	<u>(13,601,129.11)</u>
EXCESS INCOME TO PENSION RESERVE FUND	<u>\$ 200,352,226.18</u>	<u>\$ (38,644,861.93)</u>	<u>\$ 181,954,376.76</u>

Membership Counts for the as of 12/31/2019

MEMBERSHIP FOR CURRENT YEAR

ACTIVE MEMBERS

	Group 1	Group 2 & 4	TOTAL
Active Membership, Dec. 31st, Previous Year	7,377	1,686	9,063
Inactive Membership, Dec. 31st, Previous Year	3,237	151	3,388
Enrolled During Current Year	1,304	142	1,446
Transfers Between Groups	0	0	0
Reinstatements of Disabled Members	0	0	0
SUBTOTAL	1,304	142	1,446
Deduct:			
Death	9	1	10
Withdrawals	477	33	510
Retirements	286	59	345
SUBTOTAL	772	93	865
Active Membership, Current Year	7,553	1,704	9,257
Inactive Membership, Current Year	3,593	182	3,775

RETIRED MEMBERS, BENEFICIARIES & SURVIVORS

Retired, Beneficiary and Survivor Membership, Dec. 31st, Previous Year	4,431	1,355	5,786
Retirements During the Year			
Superannuation	271	44	315
Ordinary Disability	1	1	2
Accidental Disability	1	14	15
Termination Retirement Allowance	0	0	0
Beneficiary of Deceased Retiree	23	9	32
Survivor Benefits from Active Membership	10	0	10
SUBTOTAL	306	68	374
Deduct:			
Deaths of Retired Members	158	34	192
Termination of Survivor Benefits	21	6	27
Reinstatements of Disabled Pensions	0	0	0
SUBTOTAL	179	40	219
Retired Membership, Current Year			
Superannuation	3,952	934	4,886
Ordinary Disability	45	20	65
Accidental Disability	149	240	389
Termination	23	0	23
Beneficiaries from Accidental Deaths	15	63	78
Beneficiaries from Section 100	0	3	3
Beneficiaries from Section 101	21	40	61
Beneficiaries under Option C	203	57	260
Option (D) Survivor Allowance	149	26	175
Section 12B Survivor Allowance	1	0	1
Total Retired, Beneficiary and Survivor Membership, Current Year	4,558	1,383	5,949
TOTAL MEMBERSHIP			
Active, Inactive, Retired, Beneficiary and Survivor, Current Year	15,704	3,269	18,981

Annual Statement of the Middlesex County Retirement System for the year ended 12/31/19

Schedule A : Detail of Accounts Receivable and Accounts Payable

	Amount	Original Date
<u>Accounts Receivable</u>		
4891-Members Deductions(Current Year)	\$ 2,518,769.32	
4893-Member Make Up Payments and Redeposit	208,849.45	
4898-3(8) (c) Reimbursements From Other system	3,896,020.69	
4890- Military Service Contribution (Current Year)	35,557.60	
4894- Pension Fund Appropriation (Current Year)	830,947.00	
1398-14 Other	42,356.70	
1398-15- Excess Earnings(91A)	68,015.81	
4892- Transfer from Other System (Current Year)	319,630.12	
TOTAL RECEIVABLES	\$ 7,920,146.69	
<u>Accounts Payable</u>		
4891-Members Deductions(Current Year)	2,296.87	
5120-Benefits(Current Year)	\$ 63,851.85	
5315-Professional Services(Current Year)	\$ 9,612.51	
5316-Actuarial(Current Year)	23,450.00	
5589-13 Office Supplies(Current Year)	7,543.91	
5589-14 Postage(Current Year)	7,322.50	
5589-15 Telephone(Current Year)	468.41	
5589-21 Computer & Office Maintenance(Current Year)	579.33	
5719-1 Mileage & Parking(Current Year)	243.20	
5304-Management Fees/Timberfund 4Q.19	2,062.33	
5305-Custodial / Nov.2019 & Dec. 2019)	8,905.82	
TOTAL PAYABLES	\$ 126,336.73	

Schedule No. 1
Annual Statement of the Middlesex County Retirement System for the Year Ended December 31, 2019

Cash Account Activity During Year

Cash defined in ledger #1040 as Savings, Checking or Checking

Description:	(A)	(B)	(C)	(D)	(E)	(F)	(G)
type of account, account number, interest rate list alphabetically	Book Value at End of Previous Year	Total Deposits this year	Income Reinvested/ Redeposited into Account	Withdrawals During Year	=A+B+C-D Total Book Value December 31st This Year	Cash Income paid to System not Re-invested or Redeposited	Interest Due and Accrued December 31st
BELMONT BANK							
Belmont Bank(#8934)	\$ 0.12				\$ 0.12		
Belmont Bank(#8945 & #8956)	\$ 8,261,757.17		\$ 160,975.35		\$ 8,422,732.52		
ENTERPRISE BANK							
Debit Card(#763017)	\$ 4,751.64	\$ 10,000.00		\$ 12,061.35	\$ 2,690.29		
Operating Account(#769053)	\$ 14,533,370.45	\$ 183,991,083.51	\$ 3,705.74	\$ 181,831,500.52	\$ 16,696,659.18		
Retiree Payroll Account(#769082)	\$ 224,500.20	\$ 158,570,090.62		\$ 158,512,450.45	\$ 282,140.37		
Enterprise Bank(#834849)	\$ 4,089,879.23		\$ 84,122.18		\$ 4,174,001.41		
Enterprise Bank(#943081 & #943082))	\$ -				\$ -		
Enterprise Bank(#841586)	\$ 665,654.12	\$ 128,836,863.43	\$ 10,700.62	\$ 129,270,488.00	\$ 242,730.17		
READING COOPERATIVE BANK							
Reading Cooperative Bank(#4633)	\$ -				\$ -		
Reading Coop. Bank(#4625 & #4617)	\$ 8,258,888.23		\$ 180,311.06		\$ 8,439,199.29		
STATE STREET BANK							
State Street Bank(RBHD-00019851)	\$ 3,260,308.23	\$ 136,553,968.20	\$ 207,354.95	\$ 138,340,917.87	\$ 1,680,713.51	\$ 10,545.34	
TOTAL ACCOUNTS	\$ 39,299,109.39	\$ 607,962,005.76	\$ 647,169.90	\$ 607,967,418.19	\$ 39,940,866.86	\$ -	\$ 10,545.34

Schedule 2

Annual Statement of the Middlesex County Retirement System for the Year ended December 31, 2019

Short Term Securities *Bought and Sold or Matured during the Year as well as Still Held on December 31st

*Short Term defined in ledger #1100 as U.S. Treasury Bills, Commercial Paper, Repurchase Agreements, CDs, Term Deposits, Money Market,

Cooperative Shares, Savings and Loan Shares

Description:

(A)	(B)	(C)	(D)	(E)	(F)	(G)
Including CUSIP or Account no., interest Rate, Maturity Date,(List alphabetically. Rolled over securities must be listed as sold and then repurchased)	Date Acquired	Par Value	Cost Including Commissions	Amount Received at Maturity (Expiration or Upon Liquidation) Less Commissions and Excluding Interest	Market Value December 31st Current Year	Interest Received During Year December 31st Accrued

N/A

Schedule No. 3A
 Annual Statement of the Middlesex County Retirement System for the Year Ended December 31, 2019
 Domestic Fixed Income Securities Owned at End of Year
 (Foreign Fixed Income Securities must be Listed on Schedule 5)

Description: including maturity date and interest rate, list alphabetically	(A) Cusip Number	(B) Cost or Market Value at End of P/Y	(C) Unrealized Gain	(D) Unrealized Loss	(E) Market Value	(F) Interest Received During Year	(G) Interest Due and Accrued December 31st
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N/A

Total	\$	-	\$	-	\$	-	\$
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Schedule No. 3B
Annual Statement of the Middlesex County Retirement System for the Year Ended December 31, 2019

Domestic Fixed Income Securities Purchase During Year
(Foreign Fixed Income Securities must be Listed on Schedule 5)

Description: including date of maturity and interest rate, list alphabetically	(A)	(B)	(C)	(D)	(E)	(F)	(G)
	Cusip Number	Par Value	Date Acquired (Trade Date)	Name of Broker	Commissions Paid	Paid Accrued Interest	Cost excluding Accrued Interest , But Including Commissions

N/A

Total				\$		\$	-
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Schedule No. 3C
Annual Statement of the Middlesex County Retirement System for the Year Ended December 31, 2019

Domestic Fixed Income Securities Sold During Year
(Foreign Fixed Income Securities must be listed on Schedule 5)

Description: including date of maturity and interest rate, list alphabetically	(A) Cusip Number	(B) Par Value	(C) Date Sold or Matured (Trade Date)	(D) Name of Broker	(E) Commissions	(F) Market Value Previous Dec 31st or cost if purchased Current Year	(G) Amount Received on Sale Less Commissions Excl. Accrued Interest	(H) =G-F Realized Gain	(I) =G-F Realized Loss	(J) Interest Received During Year including Interest Sold
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N/A

Total		\$	-	\$	-	\$	-	\$	-	\$
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Schedule No. 4A
Annual Statement of the Middlesex County Retirement System for the Year Ended December 31, 2019

Equities Owned at End of Year
Equities defined as stocks or options (Pooled Funds must be listed on Schedule 5)

Description: Give complete description list alphabetically	(A) Cusip #	(B) Number of Shares	(C) Rate of share used to obtain Current Market Value	(D) Market Value at End of Previous Year	(E) Net Purchases and (Sales) at Book Value Current Year	(F) Market Value at end of Current Year	(G) =F-D-E Unrealized Gain	(H) =F-D-E Unrealized Loss	(I) Dividends Received During Year
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N/A

Total \$ - \$ - \$ - \$ - \$ -

Schedule No. 4B
Annual Statement of the Middlesex County Retirement System for the Year Ended December 31, 2019

Equities Purchased During Year

Equities defined as stocks or options (Pooled Funds must be Listed on Schedule 5)

Description: Give complete description list alphabetically	(A) Cusip Number	(B) Number of Shares	(C) Date Acquired (Trade Date)	(D) Name of Broker	(E) Commissions and Fees Paid	(F) Cost to System Including Commissions and Fees
--	---------------------	-------------------------------	--------------------------------------	-----------------------------	-------------------------------------	--

N/A

Total

\$

-

Schedule No. 4C
Annual Statement of the Middlesex County Retirement System for the Year Ended December 31, 2019

Equities Sold During Year
Equities defined as stocks or options (Pooled Funds must be listed on Schedule 5)

Description: Give complete description list alphabetically	(A) Cusip #	(B) Number of Shares	(C) Name of Broker	(D) Date Sold	(E) Commissions Paid	(F) Proceeds From Sale	(G) Market Value at Prior Year-end or Cost if Purchases in Current Year	(H) =F-G Realized Gain	(I) =F-G Realized Loss	(J) Dividends Received During Year
--	----------------	-------------------------------	--------------------------	---------------------	----------------------------	------------------------------	---	---------------------------------	---------------------------------	---

N/A

Total \$ - \$ - \$ - \$ - \$ - \$ -

Schedule 5

Annual Statement of the Middlesex County Retirement System the Year Ended December 31, 2019

Schedule of Pooled Funds

This schedule is to be used for PRIT Fund, and Pooled Funds (e.g. Venture Capital, Mutual funds, Commingled Funds)

PERAC Ledger Number	Description: Give complete description list alphabetically by category. <u>International Fixed Income Funds</u>	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
		Market Value at End of Previous Year	Total Purchases this year At Cost	Reinvested Income	Realized Gain	Realized (Loss)	Unrealized Gain	Unrealized (Loss)	Total Sales Redemptions this Year Amount Received	Cash Dividends /Distributions to System this year	Expenses Fees Paid	Market Value at End of Year
	<u>Alternative/Private Equity Funds</u>											
1193	Ascent Venture Partners II	\$ 23,111.00	0.00	(1,155.00)	4,944.00	(105.00)	0.00	0.00	0.00	0.00	0.00	26,795.00
1193	Ascent Venture Partners III	\$ 143,187.63	0.00	2,394.51	0.00	0.00	0.00	(40,980.31)	0.00	0.00	0.00	104,601.83
1193	Boston Millennium II	\$ 229,222.00	0.00	(866.13)	156.00	(8.00)	0.00	(12,783.00)	3,301.87	0.00	1,049.00	211,370.00
1193	First America Asia Fund*	\$ 1.00	0.00	0.00	0.00	0.00	0.00	(1.00)	0.00	0.00	0.00	0.00
1193	Globespan IV	\$ 1,356,525.00	0.00	1,257.50	543,908.00	0.00	248,147.00	(908,267.00)	628,271.50	0.00	49,629.00	563,670.00
1193	Globespan V	\$ 2,500,299.00	52,000.00	(820.94)	577,166.00	(113,868.00)	207,108.00	(133,916.00)	687,571.06	0.00	115,554.00	2,284,843.00
1193	North Atlantic Venture III	\$ 534,116.00	0.00	(2,300.00)	1.00	(36.00)	66,794.00	(320,189.00)	48,000.00	0.00	0.00	230,386.00
1193	SUBTOTAL Alternative/Private Eq	\$ 4,786,461.63	\$ 52,000.00	(1,490.06)	\$ 1,126,175.00	(114,017.00)	\$ 522,049.00	(1,416,136.31)	\$ 1,367,144.43	\$ -	\$ 166,232.00	\$ 3,421,665.83
	* Liquidation											
	<u>Real Estate Funds</u>											
1194	GFP-World Timberfund	\$ 1,649,862.00	0.00	-	-	-	42,419.60	(2,429.00)	18,057.60	-	-	1,671,795.00
1194	Hunt-Tuckerman RIVA	\$ 80,109.00	0.00	(1,119.00)	-	-	2,480.00	-	-	-	309.00	81,161.00
1194	Value Enhancement Fund V (8645)	\$ 51,731.21	0.00	246.16	-	-	1,761.24	(439.65)	-	-	-	53,298.96
1194	Value Enhancement Fund VI (8925)	\$ 550,866.74	0.00	2,797.68	164.49	(27.50)	90,683.37	(114.28)	644,370.50	-	-	0.00
1194	SUBTOTAL Real Estate Funds	\$ 2,337,568.95	0.00	1,924.84	164.49	(27.50)	137,344.21	(2,982.93)	662,428.10	-	309.00	1,806,254.96
	<u>PRIT FUND</u>											
1199	General-Allocation Account	1,290,918,214.21	129,270,488.00	37,286,895.14	69,473,070.06	0.00	168,236,377.36	(60,356,685.17)	120,000,000.00	0.00	7,206,962.51	1,507,621,397.09
1199	SUBTOTAL-PRIT Fund	1,290,918,214.21	129,270,488.00	37,286,895.14	69,473,070.06	0.00	168,236,377.36	(60,356,685.17)	120,000,000.00	0.00	7,206,962.51	1,507,621,397.09
	<u>Paid by Agency(RBHD) Account</u>											
	GFP-World Timberfund										8,249.32	8,249.32

Schedule 6

Annual Statement of the Middlesex County Retirement System for the Year Ended December 31, 2019

Summary of Investments Owned

Category of Investment	Current Market Value	Interest Due and Accrued as of 12/31/18	Paid Accrued Interest on Purchases in Current year	Commissions Paid During Current Year	Unrealized Gains (Losses)	Realized Gains (Losses)	Investment Income Received During Year
1. 1040-Cash	\$ 39,940,866.86	\$ 10,545.34					647,169.90
Commission Recapture/Securities Litigation							12,577.74
2. 1100-Short Term Securities							
3. 1180-Fixed Inc. Securities							
4. 1170-Equities							
5a. 1101-Pooled Short Term Funds							
5b. 1172-Pooled Domestic Equity Funds							
5c. 1173-Pooled International Equity Funds							
5d. 1174-Pooled Global Equity Funds							
5e. 1181-Pooled Domestic Fixed Income Funds							
5f. 1182-Pooled International Fixed Inc. Funds							
5g. 1183-Pooled Global Fixed Income Funds							
5h. 1193-Pooled Alt. Investment/Private Equity	3,421,665.83				522,049.00	1,126,175.00	(1,490.06)
5i. 1194-Pooled Real Estate Funds	1,806,254.96				137,344.21	164.49	1,924.84
5j. 1195-Pooled Domestic Balanced Funds						(2,982.93)	(27.50)
5k. 1196-Pooled International Balanced Funds							
5l. 1197-Hedge Funds							
5m. 1198-PRIT Cash Fund							
5n. 1199-PRIT General Allocation Account	1,507,621,397.09				168,236,377.36	69,473,070.06	37,286,895.14
					(60,356,685.17)	0.00	
Total	\$ 1,552,790,184.74	\$ 10,545.34	\$ -	\$ -	\$ 168,895,770.57	\$ 70,599,409.55	\$ 37,947,077.56

Annual Statement of the Middlesex County Retirement System for the Year Ended December 31, 2019

Manager/Vendor-All Managers/Vendors Must be Listed

State Street Bank

(19)

Supplementary Schedule
Annual Statement of the Middlesex County Retirement System for the Year Ended December 31, 2019

Members' Balance in the Annuity Savings Account

Previous Balance	Total Additions	Total Interest	Reductions	Transfer to ASF	Transfers to ARF	Transfer to PF	Transfer to/from PRF	Balance Current Year
\$ 479,425,217.58	\$ 48,445,697.73	\$ 732,863.55	\$ (8,612,444.72)	\$ 6,759,744.33	\$ (33,103,877.10)	-	\$ (377,930.76)	\$ 493,269,270.61
Military Service	<<2017							\$ 23,079.55
Account Receivable/4893/page 8								208,849.45
								3293--page 2>> \$ 493,501,199.61

MCRS									
Supplementary Schedule for 2019									
04/09/2020 10:36:40									
User: ChenChingLee									
	Previous Balance	Curr Year Deductions	Current Year Interest	Makeups / Xfers In	Refunds / Xfers Out	Xfer to Annuity Reserve	Xfer to Pension Fund	Xfer to Pen Res Fund	Current Year Balance
	479,425,217.58	48,445,697.73	732,863.55	6,759,744.33	8,612,444.72	33,103,877.10	0.00	377,930.76	493,269,270.61
15,352									

APPENDIX PAGE 3

ACTUARIAL VALUATION AND ASSUMPTIONS

The most recent actuarial valuation of the System was prepared by The Segal Group, Inc. as of January 1, 2018

The Normal Cost for Employees on that date was \$45,566,198 9.67% of Payroll
The Normal Cost for the Employer was \$22,549,712 4.79% of Payroll

The Actuarial Liability for Active Members was	\$ 1,329,121,646
The Actuarial Liability for Retired +Inactive Members was	\$ 1,468,414,324
Total Actuarial Accrued Liability	\$ 2,797,535,970
System Assets as of that Date	\$ 1,339,085,622
Unfunded Actuarial Accrued Liability	\$ 1,458,450,348

The principal actuarial assumptions used in the valuation are as follows:

Investment Return: 7.50% per annum
Rate of Salary Increase: 4.75% to 5.25% per annum

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 (c)	UAAL as a % of Covered Payroll ((b-a)/c)
01/01/18	1,339,085,622	2,797,535,970	1,458,450,348	47.87%	451,777,105	322.83%
01/01/16	1,141,122,663	2,492,161,766	1,351,039,103	45.79%	439,644,322	307.30%
01/01/14	967,146,018	2,195,732,452	1,228,586,434	44.05%	415,752,810	295.51%
01/01/12	862,323,395	1,974,144,909	1,111,821,514	43.68%	393,100,995	282.83%
01/01/10	819,987,914	1,743,581,707	923,593,793	47.03%	384,933,571	239.94%
01/01/08	774,863,669	1,529,806,307	754,942,638	50.65%	360,206,302	209.59%

Attach Copy of Current Approved Funding Schedule

MIDDLESEX COUNTY RETIREMENT SYSTEM, BUILDING
STATEMENT OF ASSETS, LIABILITIES AND RETAINED EARNINGS

YEARS ENDED DECEMBER 31, 2018 - 2019

	December 31, 2019	December 31, 2018
Assets		
Cash	152,241.19	216,557.19
Receivables:		
Other	180,284.43	182,673.29
Capital assets, net of accumulated depreciation	4,431,134.48	4,604,032.78
Total assets	4,763,660.10	5,003,263.26
Liabilities		
Accounts payable	15,905.31	22,470.21
Due to other:		
MCRS	1,131,650.01	1,131,650.01
Other Current Liabilities Security Deposit	26,555.70	17,840.00
Total liabilities	1,174,111.02	1,171,960.22
Net Assets		
Unrestricted net assets	3,589,549.08	3,831,303.04

**MIDDLESEX COUNTY RETIREMENT SYSTEM, BUILDING
STATEMENT OF CHANGES IN ASSETS**

YEARS ENDED DECEMBER 31, 2018 - 2019

	December 31, 2019	December 31, 2018
Revenues		
Rental Income	210,350.22	146,628.67
Miscellaneous Revenue		
Total Income	<u>210,350.22</u>	<u>146,628.67</u>
Expenses		
Building Maintenance	98,697.61	121,958.51
Insurance	19,369.00	18,842.00
Legal Fees	-	-
Bank Fees	315.50	235.45
License & Permits	-	-
Supplies	8,845.08	9,945.38
Utilities	73,393.26	90,718.25
Real estate taxes	77,723.65	67,612.54
Vehicle lease & expenses	861.78	43.53
Travel	-	-
Miscellaneous	-	-
Total expenditures	<u>279,205.88</u>	<u>309,355.66</u>
Net Income before depreciation and capital contributions	(68,855.66)	(162,726.99)
Depreciation expense	<u>(172,898.30)</u>	<u>(172,898.30)</u>
Net Income before capital contributions	(241,753.96)	(335,625.29)
Capital contributions from MCRS	<u>-</u>	<u>250,000.00</u>
Increase (decrease) in net assets	(241,753.96)	(85,625.29)
Net assets at beginning of year	<u>4,331,303.14</u>	<u>4,416,928.43</u>
Net assets at end of year	<u><u>4,089,549.18</u></u>	<u><u>4,331,303.14</u></u>

PERAC

COMMONWEALTH OF MASSACHUSETTS | PUBLIC EMPLOYEE RETIREMENT ADMINISTRATION COMMISSION

PHILIP Y. BROWN, ESQ., *Chairman*

JOHN W. PARSONS, ESQ., *Executive Director*

Auditor SUZANNE M. BUMP | KATHLEEN M. FALLON | KATE FITZPATRICK | JAMES M. MACHADO | ROBERT B. MCCARTHY | JENNIFER F. SULLIVAN

MEMORANDUM

TO: Middlesex County Retirement Board
FROM: John W. Parsons, Esq., Executive Director
RE: Appropriation for Fiscal Year 2021
DATE: December 11, 2019



Required Fiscal Year 2021 Appropriation: **\$137,847,583**

This Commission is hereby furnishing you with the amount to be appropriated for your retirement system for Fiscal Year 2021 which commences July 1, 2020.

Attached please find summary information based on the present funding schedule for your system and the portion of the Fiscal Year 2021 appropriation to be paid by each of the governmental units within your system. The allocation by governmental unit was determined by Segal Consulting as part of their January 1, 2018 actuarial valuation.

The current schedule is due to be updated by Fiscal Year 2021.

If you have any questions, please contact PERAC's Actuary, John Boorack, at (617) 666-4446 Extension 935.

JWP/jfb
Attachments

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Middlesex County Retirement Board

Projected Appropriations

Fiscal Year 2021 - July 1, 2020 to June 30, 2021

Aggregate amount of appropriation: **\$137,847,583**

Fiscal Year	Estimated Cost of Benefits	Funding Schedule (Excluding ERI)	ERI	Total Appropriation	Pension Fund Allocation	Pension Reserve Fund Allocation	Transfer From PRF to PF
FY 2021	\$133,754,541	\$137,787,154	\$60,429	\$137,847,583	\$133,754,541	\$4,093,042	\$0
FY 2022	\$138,049,043	\$146,747,247	\$60,429	\$146,807,676	\$138,049,043	\$8,758,633	\$0
FY 2023	\$142,491,471	\$156,350,175	\$0	\$156,350,175	\$142,491,471	\$13,858,704	\$0
FY 2024	\$147,086,921	\$166,512,936	\$0	\$166,512,936	\$147,086,921	\$19,426,015	\$0
FY 2025	\$151,840,663	\$177,336,277	\$0	\$177,336,277	\$151,840,663	\$25,495,614	\$0

The Total Appropriation column shown above is in accordance with your current funding schedule and the scheduled payment date(s) in that schedule. Whenever payments are made after the scheduled date(s), the total appropriation should be revised to reflect interest at the rate assumed in the most recent actuarial valuation. Payments should be made before the end of the fiscal year.

For illustration, we have shown the amount to be transferred from the Pension Reserve Fund to the Pension Fund to meet the estimated Cost of Benefits for each year. If there are sufficient assets in the Pension Fund to meet the Cost of Benefits, this transfer is optional.

Middlesex County Retirement System
January 1, 2018 Actuarial Valuation Results
Appropriations by Unit

Unit Code	Unit Name	2019 Budgeted Appropriation	2020 Appropriation, 6.5% Increase	% Increase	2021 Appropriation, 6.5% Increase	% Increase
1	Middlesex County Retirement Board	\$375,619	\$357,619	-4.77%	\$362,834	1.48%
300	Town of Acton	3,754,794	4,306,845	14.70%	4,615,717	7.16%
400	Town of Ashby	158,854	241,914	52.29%	258,575	6.06%
500	Town of Ashland	2,977,111	3,110,403	4.46%	3,268,560	5.08%
600	Town of Ayer	1,478,289	1,718,371	16.24%	1,820,362	5.94%
700	Town of Bedford	4,259,359	4,551,460	6.89%	4,873,932	7.09%
800	Town of Billerica	11,726,238	12,139,019	3.52%	13,015,806	7.22%
900	Town of Boxborough	858,895	960,359	11.71%	1,027,321	6.97%
1000	Town of Burlington	9,632,711	10,206,193	5.95%	10,870,587	6.51%
1100	Town of Carlisle	950,016	1,009,918	6.31%	1,077,116	6.65%
1200	Town of Chelmsford	8,488,002	9,034,113	6.46%	9,685,087	7.21%
1300	Town of Dracut	4,894,849	5,446,217	11.26%	5,832,149	7.09%
1400	Town of Dunstable	223,727	279,247	24.82%	297,629	6.56%
1500	Town of Groton	2,120,910	2,009,051	-5.27%	2,128,425	5.84%
1600	Town of Holliston	2,224,751	2,281,465	3.00%	2,429,118	6.01%
1700	Town of Hopkinton	2,145,296	2,377,619	10.83%	2,532,203	6.50%
1800	Town of Hudson	5,446,036	5,904,122	8.43%	6,317,370	7.00%
1900	Town of Lincoln	2,188,711	2,315,512	5.78%	2,478,416	7.04%
2000	Town of Littleton	2,227,119	2,247,212	0.90%	2,398,143	6.72%
2100	Town of North Reading	3,834,861	4,236,930	7.68%	4,482,287	5.78%
2200	Town of Pepperell	1,363,121	1,454,092	6.67%	1,558,220	7.16%
2300	Town of Sherborn	993,550	1,036,611	4.33%	1,107,319	6.82%
2400	Town of Shirley	818,851	799,342	-2.12%	833,806	4.32%
2500	Town of Stow	897,610	975,168	8.64%	1,043,838	7.02%
2600	Town of Sudbury	4,562,430	5,117,852	12.42%	5,488,182	7.24%
2700	Town of Tewksbury	8,121,864	8,701,140	7.13%	9,358,483	2.86%
2800	Town of Townsend	827,904	870,565	5.15%	927,789	6.57%
2900	Town of Tyngsborough	1,988,567	2,051,680	3.17%	2,191,986	6.84%
3000	Town of Wayland	4,736,553	4,951,673	4.54%	5,276,785	6.57%
3100	Town of Westford	4,995,038	5,246,775	5.04%	5,573,585	6.23%
3200	Town of Weston	5,210,970	5,384,362	3.33%	5,772,074	7.20%
3300	Town of Wilmington	8,658,133	7,209,349	8.28%	7,732,416	7.26%
3400	Acton-Boxborough RSD	2,513,930	2,683,092	5.93%	2,845,329	6.84%
3500	Acton Water Supply	222,170	247,600	11.45%	281,659	5.88%
3600	Bedford Housing Authority	31,094	32,964	6.01%	27,989	-15.15%
3700	Billerica Housing Authority	109,705	107,339	-2.16%	115,453	7.68%
3800	Chelmsford Housing Authority	119,217	225,881	89.47%	241,136	6.75%
3900	Chelmsford Water District	117,225	64,705	-44.80%	69,081	6.78%
4000	Dracut Housing Authority	133,690	153,242	14.62%	185,217	7.81%
4100	Dracut Water Supply	177,130	233,767	31.97%	251,851	7.74%
4200	E. Chelmsford Water	30,866	34,388	11.35%	38,856	6.86%
4300	E. Middlesex Mosq Control	47,391	48,825	3.24%	52,445	7.10%
4400	Greater Lowell RVTSD	1,274,347	1,237,280	-2.91%	1,330,937	7.57%
4500	Groton-Dunstable RSD	931,038	1,041,236	11.84%	1,097,516	5.41%
4600	Hudson Housing Authority	109,506	92,941	-15.13%	99,887	7.45%
4700	Lincoln Sudbury	859,098	718,917	8.77%	769,949	7.36%
4800	Nashoba Valley THSD	276,326	307,909	11.43%	329,921	7.15%
5000	N. Chelmsford Water	45,108	68,346	51.52%	73,858	7.77%
5100	North Middlesex RSD	992,998	1,088,793	7.83%	1,144,423	7.08%
5300	Shawshen Valley RVS	874,158	687,422	1.97%	719,179	4.62%
5400	South Middlesex RVS	588,264	568,819	-3.14%	610,897	7.21%
5500	Sudbury Water District	130,866	134,270	2.60%	144,757	7.81%
5600	Tewksbury Housing Authority	131,057	133,342	1.74%	137,197	2.89%
5700	Wayland Housing Authority	46,020	52,215	13.46%	56,109	7.46%
5800	Hopkinton Housing Authority	38,114	37,224	-2.34%	40,023	7.52%
6000	Sudbury Housing Authority	30,967	41,052	32.57%	43,939	7.03%
6100	Wilmington Housing Authority	30,667	34,546	12.65%	33,168	-3.99%
6200	Acton Housing Authority	74,503	62,074	-16.68%	66,700	7.45%
6300	Burlington Housing Authority	8,914	13,825	99.86%	14,811	5.89%
6400	Ayer Housing Authority	73,633	58,732	-20.24%	63,249	7.89%

Middlesex County Retirement System
January 1, 2018 Actuarial Valuation Results
Appropriations by Unit

Unit Code	Unit Name	2019 Budgeted Appropriation	2020 Appropriation, 6.5% Increase	% Increase	2021 Appropriation, 6.5% Increase	% Increase
6500	Holliston Housing Authority	18,726	15,085	-23.53%	18,070	6.53%
6600	Littleton Housing Authority	40,349	40,463	0.28%	43,366	7.15%
6700	Westford Housing Authority	46,011	47,397	3.01%	50,725	7.02%
6800	Shirley Water District	21,409	23,091	7.86%	25,056	8.51%
6800	Tyngsboro Housing Authority	40,609	42,306	4.18%	45,378	7.26%
7000	Pepperell Housing Authority	14,633	17,472	19.40%	18,666	6.83%
7100	Groton Housing Authority	3,284	2,860	-12.91%	2,919	2.06%
7200	Tyngsboro Water District	34,388	38,339	11.49%	40,984	6.90%
7400	North Reading Housing Authority	18,702	18,972	1.62%	18,031	6.24%
7500	West Groton Water	1,059	2,581	144.66%	2,767	7.56%
7600	Ayer-Shirley RSD	464,409	476,070	4.77%	507,204	6.54%
Total		\$121,634,801	\$129,434,350	6.50%	\$137,847,583	6.50%