# 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

**Philip Y. Brown, Esq.**
*Chairman*

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

**Kathleen M. Fallon**
*Practice Area Director, Public Consulting Group*

**Kate Fitzpatrick**
*Town Manager, Town of Needham*

**James M. Machado**
*Sergeant, Fall River Police Department*

**Robert B. McCarthy**
*President Emeritus of the Professional Firefighters of Massachusetts*

**Jennifer F. Sullivan**
*Investment Professional*
*Governor's Appointee*

**John W. Parsons, Esq.**
*Executive Director*

## Audit Unit Staff

**Caryn Shea,** *Director of Audits* | **Scott Henderson,** *Deputy Chief Auditor*
**Ernie Calavritinos,** *Auditor* | **Karen Casper,** *Auditor* | **Michelle Lastra,** *Auditor*
**Alice Munafo,** *Auditor* | **George Nsia,** *Auditor* | **Carol Poladian,** *Auditor*
**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**

| Street & Number | City/Town, State and Zip Code | Telephone Number |
|---|---|---|
| 25 Linnell Circle | Billerica, MA 01865 | (978) 439-3000 |

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)

**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)

**Elected Member**
Joseph W. Kearns
(Name Typed)
**Term Expires** 12/31/2022
(Signature)

**Member Appointed by Other Members**
Robert W. Healy, Jr.
(Name Typed)
**Term Expires** 12/17/2020
(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 |

### REAL ESTATE

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

### PRIVATE EQUITY

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

### ALTERNATIVE

| | |
|---|---|
| Global Forest Partners LP | 67 Etna Road, Suite 500, Lebanon, NH 03766 |

## 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

| | 2019 | 2018 | 2017 |
|---|---|---|---|
| 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-Eduction & 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** | 37,947,077.56 | 36,604,220.18 | 33,292,822.91 |
| **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** | 10,545.34 | 15,969.28 | 26,342.31 |
| **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** | (15,969.28) | (26,342.31) | (12,212.45) |
| **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** | 10,672,163.17 | 10,346,142.43 | 9,600,234.75 |
| **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** | (15,079,306.65) | (14,481,947.48) | (13,601,129.11) |
| **EXCESS INCOME TO PENSION RESERVE FUND** | $ 200,352,226.18 | $ (38,644,861.93) | $ 181,954,376.76 |

**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 |
|---|---|---|
| **Accounts Receivable** | | |
| 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** | |

| | Amount |
|---|---|
| **Accounts Payable** | |
| 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:** type of account, account number, interest rate list alphabetically | **(A)** Book Value at End of Previous Year | **(B)** Total Deposits this year | **(C)** Income Reinvested/ Redeposited into Account | **(D)** Withdrawals During Year | **(E)** =A+B+C-D Total Book Value December 31st This Year | **(F)** Cash Income paid to System not Re-invested or Redeposited | **(G)** 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 | Due and Accrued December 31st |
| 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 |
|---|---|---|---|---|---|---|---|
| N/A | | | | | | | |
| Total | | $ - | $ - | $ - | $ - | $ - | $ - |

**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) Cusip Number | (B) Par Value | (C) Date Acquired (Trade Date) | (D) Name of Broker | (E) Commissions Paid | (F) Paid Accrued Interest | (G) Cost excluding Accrued Interest , But Including Commissions |
|---|---|---|---|---|---|---|---|
| N/A | | | | | | | |
| Total | | | | | | $ - | $ - |

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 |
|---|---|---|---|---|---|---|---|---|---|---|
| N/A | | | | | | | | | | |
| Total | | | | | | $ - | $ - | $ - | $ - | $ - |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| 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, Real Estate, Mutual funds, Commingled Funds)

| PERAC Ledger Number | Description: Give complete description list alphabetically by category | (A) Market Value at End of Previous Year | (B) Total Purchases this year At Cost | (C) Reinvested Investment Income | (D) Realized Gain | (E) Realized (Loss) | (F) Unrealized Gain | (G) Unrealized (Loss) | (H) Total Sales Redemptions this Year Amount Received | (I) Cash Dividends /Distributions to System this year | (J) Expenses Fees Paid | (K) =A+B+C+D+E+F+G-H-I Market Value at End of Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | International Fixed Income Funds | | | | | | | | | | | |
| | Alternative/Private Equity Funds | | | | | | | | | | | |
| 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 Millennia 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 | | | | | | | | | | | |
| | Real Estate Funds | | | | | | | | | | | |
| 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** | **2,332,568.95** | **0.00** | **1,924.84** | **164.49** | **(27.50)** | **137,344.21** | **(2,982.93)** | **662,428.10** | **-** | **309.00** | **1,806,254.96** |
| | PRIT FUND | | | | | | | | | | | |
| 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** |
| | Paid by Agency(RBHD) Account | | | | | | | | | | | |
| | GFP-World Timberfund | | | | | | | | | | 8,249.32 | |
| | | | | | | | | | | | **8,249.32** | |
| | **TOTAL ALL POOLED FUNDS** | $ 1,298,037,244.79 | **$ 129,322,488.00** | **$ 37,287,329.92** | **$ 70,599,409.55** | **$ (114,044.50)** | $ 168,895,770.57 | **$ (61,775,804.41)** | **$ 122,029,572.53** | **$ -** | **$ 7,381,752.83** | $ 1,512,849,317.88 |

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 | Unrealized (Losses) | Realized Gains | Realized (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 | (1,416,136.31) | 1,126,175.00 | (114,017.00) | (1,490.06) |
| 5i. 1194-Pooled Real Estate Funds | 1,806,254.96 | | | | 137,344.21 | (2,982.93) | 164.49 | (27.50) | 1,924.84 |
| 5j. 1195-Pooled Domestic Balanced Funds | | | | | | | | | |
| 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 | (60,356,685.17) | 69,473,070.06 | 0.00 | 37,286,895.14 |
| Total | $ 1,552,790,184.74 | $ 10,545.34 | $ - | $ - | $ 168,895,770.57 | $ (61,775,804.41) | $ 70,599,409.55 | $ (114,044.50) | $ 37,947,077.56 |

**Schedule 7**

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

**Summary of Investment Related Fees**

| Manager/Vendor-All Managers/Vendors Must be Listed | 1stQ | 2ndQ | 3rdQ | 4thQ | Accrued Payable at Year End | Total Paid or Accrued in 19 | Market Value as of 12/31/19 | *Payment Method | #4701 Carried Interest Exp. | #4702 Equalization Expense | #4703 Investment Expense |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **5304-Management Fee** | | | | | | | | | | | |
| Ascent Venture Partners II | - | - | - | - | - | - | 26,795.00 | | - | - | - |
| Ascent Venture Partners III | - | - | - | - | - | - | 104,601.83 | | - | - | - |
| Boston Millennia II | 284.00 | 233.00 | 266.00 | 266.00 | - | 1,049.00 | 211,370.00 | | - | - | - |
| Globespan IV | - | - | - | - | - | - | 563,670.00 | | 49,629.00 | - | - |
| Globespan VI | 12,976.00 | 12,975.00 | 12,976.00 | 10,804.00 | - | 49,731.00 | 2,284,843.00 | | 65,823.00 | - | - |
| North Atlantic Venture III | - | - | - | - | - | - | 230,386.00 | | - | - | - |
| GFP-World Timberfund | 2,062.33 | 2,062.33 | 2,062.33 | 2,062.33 | - | 8,249.32 | 1,671,795.00 | wire | - | - | - |
| Hunt-Tuckerman RIVA | 77.00 | 76.00 | 78.00 | 78.00 | - | 309.00 | 81,161.00 | | - | - | - |
| Value Enhancement Fund V (8645) | - | - | - | - | - | - | 53,298.96 | | - | - | - |
| Value Enhancement Fund VI (8925) | 0.00 | 0.00 | 0.00 | 0.00 | - | - | 0.00 | | - | - | - |
| General-Allocation Account | 1,705,886.30 | 1,743,249.84 | 1,811,101.09 | 1,946,725.28 | - | 7,206,962.51 | 1,507,621,397.09 | | - | - | - |
| * liquidation | | | | | | | | | | | |
| | 1,721,285.63 | 1,758,596.17 | 1,826,483.42 | 1,959,935.61 | - | 7,266,300.83 | 1,512,849,317.88 | | 115,452.00 | - | - |
| **5305-Custodial Fee** | | | | | | | | | | | |
| State Street Bank | 13,375.05 | 13,389.94 | 13,344.89 | 13,352.54 | - | 53,462.42 | | C | | | |
| | 13,375.05 | 13,389.94 | 13,344.89 | 13,352.54 | - | 53,462.42 | | | | | |
| | | | | | | 7,319,763.25 | | | | | |

*N=Net / C=Check / W=Wire

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 Current Year | Total Interest Current Year | 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 liabilies | 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 | 210,350.22 | 146,628.67 |
| **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 | 279,205.88 | 309,355.66 |
| Net Income before depreciation and capital contributions | (68,855.66) | (162,726.99) |
| Depreciation expense | (172,898.30) | (172,898.30) |
| Net Income before capital contributions | (241,753.96) | (335,625.29) |
| Capital contributions from MCRS | - | 250,000.00 |
| Increase (decrease) in net assets | (241,753.96) | (85,625.29) |
| Net assets at beginning of year | 4,331,303.14 | 4,416,928.43 |
| Net assets at end of year | 4,089,549.18 | 4,331,303.14 |

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

*p:\actuaria\approp\approp21\fy21 for web\middlesex approp 21.docx*

FIVE MIDDLESEX AVENUE, SUITE 304 | SOMERVILLE, MA 02145
PH 617 666 4446 | FAX 617 628 4002 | TTY 617 591 8917 | WWW.MASS.GOV/PERAC

**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 |
|---|---|---|---|---|
| **FY 2021** | $133,754,541 | $137,787,154 | $60,429 | $137,847,583 |
| **FY 2022** | $138,049,043 | $146,747,247 | $60,429 | $146,807,676 |
| **FY 2023** | $142,491,471 | $156,350,175 | $0 | $156,350,175 |
| **FY 2024** | $147,086,921 | $166,512,936 | $0 | $166,512,936 |
| **FY 2025** | $151,840,663 | $177,336,277 | $0 | $177,336,277 |

| Pension Fund Allocation | Pension Reserve Fund Allocation | Transfer From PRF to PF |
|---|---|---|
| $133,754,541 | $4,093,042 | $0 |
| $138,049,043 | $8,758,633 | $0 |
| $142,491,471 | $13,858,704 | $0 |
| $147,086,921 | $19,426,015 | $0 |
| $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% Increases | % Increase | 2021 Appropriation, 6.5% Increases | % Increase |
|---|---|---|---|---|---|---|
| 1 | Middlesex County Retirement Board | $375,519 | $357,619 | -4.77% | $362,834 | 1.46% |
| 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% | 256,576 | 6.06% |
| 500 | Town of Ashland | 2,977,111 | 3,110,403 | 4.48% | 3,268,560 | 5.08% |
| 600 | Town of Ayer | 1,478,269 | 1,718,371 | 16.24% | 1,820,362 | 5.94% |
| 700 | Town of Bedford | 4,259,359 | 4,551,460 | 6.86% | 4,873,932 | 7.09% |
| 800 | Town of Billerica | 11,726,238 | 12,139,019 | 3.52% | 13,015,606 | 7.22% |
| 900 | Town of Boxborough | 859,695 | 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% | 1,077,118 | 6.65% |
| 1200 | Town of Chelmsford | 8,486,002 | 9,034,113 | 6.46% | 9,685,097 | 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 | 6.58% |
| 1500 | Town of Groton | 2,120,910 | 2,009,051 | -5.27% | 2,128,425 | 5.94% |
| 1600 | Town of Holliston | 2,224,751 | 2,291,465 | 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 | 5,445,036 | 5,904,122 | 8.43% | 6,317,370 | 7.00% |
| 1900 | Town of Lincoln | 2,188,711 | 2,315,512 | 5.79% | 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 | 3,934,661 | 4,236,930 | 7.68% | 4,482,267 | 5.79% |
| 2200 | Town of Pepperell | 1,363,121 | 1,454,092 | 6.67% | 1,558,220 | 7.16% |
| 2300 | Town of Sherborn | 993,560 | 1,036,611 | 4.33% | 1,107,319 | 6.82% |
| 2400 | Town of Shirley | 816,861 | 799,342 | -2.12% | 833,906 | 4.32% |
| 2500 | Town of Stow | 897,610 | 975,168 | 8.64% | 1,043,638 | 7.02% |
| 2600 | Town of Sudbury | 4,552,430 | 5,117,652 | 12.42% | 5,488,182 | 7.24% |
| 2700 | Town of Tewksbury | 8,121,864 | 8,701,140 | 7.13% | 8,958,483 | 2.96% |
| 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% | 5,573,565 | 6.23% |
| 3200 | Town of Weston | 5,210,970 | 5,384,362 | 3.33% | 5,772,074 | 7.20% |
| 3300 | Town of Wilmington | 6,658,133 | 7,209,349 | 8.28% | 7,732,415 | 7.26% |
| 3400 | Acton-Boxborough RSD | 2,513,930 | 2,663,092 | 5.93% | 2,845,329 | 6.84% |
| 3500 | Acton Water Supply | 222,170 | 247,600 | 11.45% | 261,659 | 5.68% |
| 3600 | Bedford Housing Authority | 31,094 | 32,964 | 6.01% | 27,969 | -15.15% |
| 3700 | Billerica Housing Authority | 109,705 | 107,339 | -2.16% | 115,453 | 7.56% |
| 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 | 6.76% |
| 4000 | Dracut Housing Authority | 133,690 | 153,242 | 14.62% | 165,217 | 7.81% |
| 4100 | Dracut Water Supply | 177,130 | 233,767 | 31.97% | 251,851 | 7.74% |
| 4200 | E. Chelmsford Water | 30,866 | 34,368 | 11.35% | 36,656 | 6.66% |
| 4300 | E. Middlesex Mosq Control | 47,391 | 48,925 | 3.24% | 52,445 | 7.19% |
| 4400 | Greater Lowell RVTSD | 1,274,347 | 1,237,260 | -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% | 99,867 | 7.45% |
| 4700 | Lincoln Sudbury | 659,098 | 716,917 | 8.77% | 769,649 | 7.36% |
| 4900 | Nashoba Vally THSD | 276,326 | 307,909 | 11.43% | 329,921 | 7.15% |
| 5000 | N. Chelmsford Water | 45,108 | 68,346 | 51.52% | 73,658 | 7.77% |
| 5100 | North Middlesex RSD | 992,998 | 1,068,793 | 7.63% | 1,144,423 | 7.08% |
| 5300 | Shawsheen Valley RVS | 674,158 | 687,422 | 1.97% | 719,179 | 4.62% |
| 5400 | South Middlesex RVTS | 588,264 | 569,819 | -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 | 6,914 | 13,825 | 99.96% | 14,611 | 5.69% |
| 6400 | Ayer Housing Authority | 73,633 | 58,732 | -20.24% | 63,249 | 7.69% |

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

| Unit Code | Unit Name | 2019 Budgeted Appropriation | 2020 Appropriation, 6.5% Increases | % Increase | 2021 Appropriation, 6.5% Increases | % Increase |
|---|---|---|---|---|---|---|
| 6500 | Holliston Housing Authority | 19,726 | 15,085 | -23.53% | 16,070 | 6.53% |
| 6600 | Littleton Housing Authority | 40,349 | 40,463 | 0.28% | 43,356 | 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% |
| 6900 | Tyngsboro Housing Authority | 40,609 | 42,306 | 4.18% | 45,378 | 7.26% |
| 7000 | Pepperell Housing Authority | 14,633 | 17,472 | 19.40% | 18,665 | 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 | 16,702 | 16,972 | 1.62% | 18,031 | 6.24% |
| 7500 | West Groton Water | 1,059 | 2,591 | 144.66% | 2,787 | 7.56% |
| 7600 | Ayer-Shirley RSD | 454,409 | 476,070 | 4.77% | 507,204 | 6.54% |
| | Total | $121,534,601 | $129,434,350 | 6.50% | $137,847,583 | 6.50% |