

BARNSTABLE COUNTY RETIREMENT ASSOCIATION

FINANCIAL STATEMENTS

YEAR ENDED DECEMBER 31, 2018

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Financial Section



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Independent Auditor's Report

To the Honorable Barnstable County Retirement Board
Barnstable County Retirement Association
Barnstable, Massachusetts

Report on the Financial Statements

We have audited the accompanying financial statements of Barnstable County Retirement Association (BCRA) as of and for the year ended December 31, 2018, and the related notes to the financial statements, which collectively comprise the Barnstable County Retirement Association's financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Barnstable County Retirement Association as of December 31, 2018, and the results of its operations and changes in its financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that Management's Discussion and Analysis; the Schedule of Changes in the Net Pension Liability and Related Ratios; the Schedule of Contributions; and the Schedule of Investment Returns be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated August 27, 2019, on our consideration of the Barnstable County Retirement Association's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Barnstable County Retirement Association's internal control over financial reporting and compliance.

Restriction on Use

This report is intended solely for the information and use of the Barnstable County Retirement Association, the Public Employee Retirement Administration Commission and all member units and is not intended to be and should not be used by anyone other than these specified parties.

Powers & Sullivan LLC

August 27, 2019

Management's Discussion and Analysis

As management of the Barnstable County Retirement Association, we offer readers of these financial statements this narrative overview and analysis of the financial activities for the year ended December 31, 2018. The Association complies with financial reporting requirements issued by the Governmental Accounting Standards Board (GASB).

The GASB is the authoritative standard setting body that provides guidance on how to prepare financial statements in conformity with generally accepted accounting principles (GAAP). Users of these financial statements rely on the GASB to establish consistent reporting standards for all governments in the United States. This consistent application is the only way users can assess the financial condition of a public retirement system compared to others.

Financial Highlights

- The Association's assets exceeded its liabilities at the close of the most recent year by \$1.1 billion (net position).
- The Association's net position decreased by \$28.5 million for the year ended December 31, 2018.
- Total investment loss was \$20.3 million; investment expenses were \$5.8 million; and net investment loss was \$26.2 million.
- Total contributions were \$95.6 million including \$62.5 million from employers, \$28.3 million from members, and \$4.9 million from other transfers in and settlements.
- Retirement benefits, refunds and transfers to other systems amounted to \$96.6 million.
- Administrative expenses were \$1.4 million.
- The Total Pension Liability is \$1.9 billion as of December 31, 2018 while the Net Pension Liability is \$790.4 million.
- The Plan fiduciary net position as a percentage of the total pension liability is 57.63%.

Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to the Association's fiduciary financial statements. These fiduciary financial statements comprise of four components: 1) management's discussion and analysis, 2) fiduciary financial statements, 3) notes to the financial statements and 4) required supplementary information.

Fiduciary Financial Statements

The *statement of net position* presents information on all assets and deferred outflows less deferred inflows and liabilities with the difference reported as *net position*. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position is improving or deteriorating.

The *statement of changes in fiduciary net position* presents information showing how the Association's net position changed during the most recent year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, *regardless of the timing of related cash flows*. Thus, additions and deductions are reported in this statement for some items that will only result in cash flows in future periods.

Notes to the Financial Statements

The notes provide additional information that is essential to a full understanding of the data provided in the fiduciary financial statements.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Schedule of Changes in the Net Pension Liability and Related Ratios; the Schedule of Contributions; and the Schedule of Investment Returns be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context.

Financial Analysis

As noted earlier, net position may serve over time as a useful indicator of the Association's financial position. The Association's net position was \$1.075 billion at the close of 2018.

The assets accumulated are held to provide pension benefits for qualified retirees along with active and inactive employees of the member units. At year-end the Association's net position includes investments of \$1.070 billion, cash and cash equivalents of \$2.2 million and accounts receivable of \$2.4 million.

In 2018, the Association's contributions were \$95.6 million and net investment loss was \$26.2 million while retirement benefit payments, refunds, transfers and administration expenses were \$98.0 million, which resulted in a current decrease of \$28.5 million. In 2017, the Association's contributions were \$91.3 million and net investment income was \$160.8 million while retirement benefit payments, refunds, transfers and administration expenses were \$90.8 million, which resulted in a prior year increase of \$161.3 million.

In 2018, the Association's current contributions of \$95.6 million did not fully support deductions totaling \$98.0 million, which resulted in a current deficiency of (\$2.4) million. In 2017, the current contributions fully supported the current expenses.

The main difference of the change in net position between years was the change in net investment income between years. Net investment income was \$160.8 million in 2017, however in 2018 the Association experienced net investment loss of \$26.2 million. The annual money weighted rate of return was -2.34% and 17.17% in 2018 and 2017 respectively. Fluctuations in the Association's annual investment returns are expected.

The following tables present summarized financial information for the past two years:

	2018	2017
Assets:		
Cash and cash equivalents.....	\$ 2,214,268	\$ 2,459,946
Investments.....	1,070,428,012	1,097,123,904
Receivables.....	2,369,266	3,910,288
	<u>1,075,011,546</u>	<u>1,103,494,138</u>
Liabilities:		
Accounts payable.....	777	323
	<u>777</u>	<u>323</u>
Net Position Restricted for Pension Benefits...	\$ 1,075,010,769	\$ 1,103,493,815

	<u>2018</u>	<u>2017</u>
Additions:		
Contributions:		
Member contributions.....	\$ 28,253,747	\$ 27,339,086
Employer contributions.....	62,518,733	59,204,601
Other contributions.....	<u>4,862,203</u>	<u>4,753,312</u>
Total contributions.....	<u>95,634,683</u>	<u>91,296,999</u>
Net investment income (loss):		
Total investment income (loss).....	(20,308,800)	166,164,987
Less, investment expenses.....	<u>(5,842,481)</u>	<u>(5,352,824)</u>
Net investment income (loss).....	<u>(26,151,281)</u>	<u>160,812,163</u>
Total additions.....	<u>69,483,402</u>	<u>252,109,162</u>
Deductions:		
Administration.....	1,385,431	1,282,473
Retirement benefits, refunds and transfers.....	<u>96,581,017</u>	<u>89,495,593</u>
Total deductions.....	<u>97,966,448</u>	<u>90,778,066</u>
Net increase (decrease) in fiduciary net position...	(28,483,046)	161,331,096
Fiduciary net position at beginning of year....	<u>1,103,493,815</u>	<u>942,162,719</u>
Fiduciary net position at end of year.....	<u><u>\$ 1,075,010,769</u></u>	<u><u>\$ 1,103,493,815</u></u>

Requests for Information

This financial report is designed to provide a general overview of the Association's finances for all those with an interest in the Association's finances. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to the Association's Board, 750 Attucks Lane, Hyannis, MA 02601.

STATEMENT OF FIDUCIARY NET POSITION

DECEMBER 31, 2018

Assets

Cash and cash equivalents.....	\$ 2,214,268
Investments:	
Investments in Pension Reserve Investment Trust.....	1,069,334,612
Pooled real estate funds.....	<u>1,093,400</u>
Total investments.....	<u>1,070,428,012</u>
Receivables, net of allowance for uncollectibles:	
Member deductions.....	<u>2,369,266</u>
Total Assets.....	<u>1,075,011,546</u>
Liabilities	
Accounts payable.....	<u>777</u>
Net Position Restricted for Pensions.....	\$ <u><u>1,075,010,769</u></u>

See notes to financial statements.

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

YEAR ENDED DECEMBER 31, 2018

Additions:

Contributions:

Employer pension appropriation.....	\$ 62,518,733
Member contributions.....	28,253,747
Transfers from other systems.....	1,427,259
3(8)c reimbursements from other systems.....	2,586,821
Workers compensation settlements.....	62,900
Federal grant reimbursements.....	150,861
State COLA reimbursements.....	493,910
Member makeup payments and redeposits.....	137,899
Interest not refunded.....	230
Other revenue.....	<u>2,323</u>
 Total contributions.....	 <u>95,634,683</u>

Net investment income (loss):

Investment income (loss).....	(20,308,800)
 Less: investment expense.....	 <u>(5,842,481)</u>
 Net investment income (loss).....	 <u>(26,151,281)</u>
 Total additions.....	 <u>69,483,402</u>

Deductions:

Administration.....	1,385,431
Benefits and refunds.....	91,853,586
Transfers to other systems.....	2,019,136
3(8)c reimbursements to other systems.....	<u>2,708,295</u>
 Total deductions.....	 <u>97,966,448</u>

Net increase (decrease) in fiduciary net position..... (28,483,046)

Fiduciary net position at beginning of year..... 1,103,493,815

Fiduciary net position at end of year..... \$ 1,075,010,769

See notes to financial statements.

NOTE 1 – PLAN DESCRIPTION

The Barnstable County Retirement Association is a multiple-employer, cost-sharing, contributory defined benefit pension plan covering all employees of the governmental member units deemed eligible by the Barnstable County Retirement Board (the Board), with the exception of school department employees who serve in a teaching capacity. The pensions of such school employees are administered by the Commonwealth of Massachusetts' Teachers Retirement System. Membership in the Association is mandatory immediately upon the commencement of employment for all permanent employees working a minimum of 25 hours per week. The Association has 50 participating employers.

The Association is governed by a five member Board who establish the policies under which the Association operates. Board members also approve all of the Association's financial transactions, including the approval of retirement benefits to members. The day-to-day operations of the Association are managed by the Executive Director.

The legislative body for the Association is an Advisory Council consisting of treasurers of the member units. The Advisory Council meets semi-annually and is responsible for supervising and certifying the procedures involved in the election of members to the retirement board.

The Association is a member of the Massachusetts Contributory Retirement System and is governed by Chapter 32 of the Massachusetts General Laws (MGL). Public Employee Retirement Administration Commission (PERAC) is the state agency responsible for oversight of the Commonwealth's public retirement systems.

Massachusetts contributory retirement system benefits are, with certain exceptions, uniform from system to system. The Plan provides for retirement allowance benefits up to a maximum of 80% of a member's highest three-year average annual rate of regular compensation for those hired prior to April 2, 2012. For persons who became members on or after April 2, 2012, average salary is the average annual rate of regular compensation received during the five consecutive years that produce the highest average, or, if greater, during the last five years (whether or not consecutive) preceding retirement. Benefit payments are based upon a member's age, length of creditable service, level of compensation, and group classification.

There are three classes of membership in the retirement Association; Group 1, Group 2, and Group 4. Group 1 consists of general employees which includes clerical and administrative positions. Group 2 consists of positions that have been specified as hazardous. Lastly, Group 4 consists of police officers, firefighters, and other hazardous positions.

Any individual in Group 1 or Group 2 whose membership began before January 1, 1978, and who maintains an annuity savings fund account, is eligible to receive a superannuation retirement allowance at age 55 or later, regardless of how many years of credible service he or she has completed.

There are no minimum vesting requirements for individuals in Group 4.

Members in Groups 1 and 2, hired after January 1, 1978 and prior to April 2, 2012, are eligible to receive a superannuation retirement allowance upon the completion of 20 years of service or upon the completion of 10 years of service and upon reaching the age of 55.

Members in Groups 1 and 2, hired on or after April 2, 2012, are eligible to receive a superannuation retirement allowance upon the completion of 10 years of service and upon reaching the age of 60 (Group 1) or age 55 (Group 2).

A retirement allowance consists of two parts: an annuity and a pension. A member's accumulated total deductions and the interest they generate constitute the annuity. The difference between the total retirement benefit and the annuity is the pension.

Active members contribute between 5 and 9% of their gross regular compensation. The percentage rate is keyed to the date upon which an employee's membership commences. Members hired on or after January 1, 1979, contribute an additional 2% of annual regular compensation in excess of \$30,000. Deductions are deposited in the Annuity Savings Fund and earn interest at a rate determined by the PERAC actuary. When a member's retirement becomes effective, his/her deductions and related interest are transferred to the Annuity Reserve Fund. Any cost-of-living adjustments granted between 1981 and 1997 and any increase in other benefits imposed by the Commonwealth of Massachusetts' state law during those years are borne by the Commonwealth and are deposited into the Pension Fund. Cost-of-living adjustments granted after 1997 must be approved by the Association and all costs are borne by the Association.

The pension portion of any retirement benefit is paid from the Pension Fund of the Association. The governmental unit employing the member must annually appropriate and contribute the amount of current-year pension assessment. Chapter 32 of the MGL requires Massachusetts retirement systems to adopt funding schedules designed to reduce the unfunded actuarial liability of the system to zero by no later than June 30, 2040. The Association adopted Section 22d of Chapter 32 in April of 1989. The Association's current funding schedule is designed to reduce the unfunded actuarial liability to zero by 2036.

Administrative expenses, which were previously appropriated from the governmental entities whose employees are members of the Association, are now paid from investment income.

Members who become permanently and totally disabled for further duty may be eligible to receive a disability retirement allowance. The amount of benefits to be received in such cases is dependent on several factors, including whether or not the disability is work related, the member's age, years of creditable service, level of compensation, veterans' status and group classification.

Employees who resign from service are entitled to request a refund of their accumulated total deductions.

Survivor benefits are extended to eligible beneficiaries of members whose death occurs prior to or following retirement.

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The accompanying financial statements of the Barnstable County Retirement Association have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). The Governmental Accounting Standards Board (GASB) is the recognized standard-setting body for establishing governmental accounting and financial reporting principles.

BCRA is a special-purpose government engaged only in fiduciary activities. Accordingly, the financial statements are reported using the flow of economic resources measurement focus and the accrual basis of accounting. Under this method, additions are recorded when earned and deductions are recorded when the liabilities are incurred.

Cash and Investments

Cash and cash equivalents are considered to be cash on hand, demand deposits and short-term investments with an original maturity of three months or less from the date of acquisition. Investments are carried at fair value.

The fair values were determined by the closing price for those securities traded on national stock exchanges and at the average bid-and-asked quotation for those securities traded in the over-the-counter market. The fair value of private equities are based on management's valuation of estimates and assumptions from information and representations provided by the respective general partners, in the absence of readily ascertainable market values. Real estate assets are reported at fair value utilizing an income approach to valuation along with independent appraisals and estimates by management.

Fair Value Measurements

The Retirement Association reports required types of financial instruments in accordance with the fair value standards. These standards require an entity to maximize the use of observable inputs (such as quoted prices in active markets) and minimize the use of unobservable inputs (such as appraisals or valuation techniques) to determine fair value. Fair value standards also require the government to classify these financial instruments into a three-level hierarchy, based on the priority of inputs to the valuation technique or in accordance with net asset value practical expedient rules, which allow for either Level 2 or Level 3 depending on lock up and notice periods associated with the underlying funds.

Instruments measured and reported at fair value are classified and disclosed in one of the following categories:

Level 1 – Quoted prices are available in active markets for identical instruments as of the reporting date. Instruments, which are generally included in this category, include actively traded equity and debt securities, U.S. government obligations, and mutual funds with quoted market prices in active markets.

Level 2 – Pricing inputs are other than quoted in active markets, which are either directly or indirectly observable as of the reporting date, and fair value is determined through the use of models or other valuation methodologies. Certain fixed income securities, primarily corporate bonds, are classified as Level 2 because fair values are estimated using pricing models, matrix pricing, or discounted cash flows.

Level 3 – Pricing inputs are unobservable for the instrument and include situations where there is little, if any, market activity for the instrument. The inputs into the determination of fair value require significant management judgment or estimation.

In some instances the inputs used to measure fair value may fall into different levels of the fair value hierarchy and are based on the lowest level of input that is significant to the fair value measurement.

Market price is affected by a number of factors, including the type of instrument and the characteristics specific to the instrument. Instruments with readily available active quoted prices generally will have a higher degree of market price observability and a lesser degree of judgment used in measuring fair value. It is reasonably possible that change in values of these instruments will occur in the near term and that such changes could materially affect amounts reported in these financial statements. For more information on the fair value of the Retirement Association's financial instruments, see Note 4 – Cash and Investments.

Accounts Receivable

Accounts receivable consist of member deductions, pension fund appropriations, and federal grant reimbursements. These receivables are considered 100% collectible and therefore do not report an allowance for uncollectibles.

Deferred Outflows/Inflows of Resources

In addition to assets, the statement of fiduciary net position will sometimes report a separate section for deferred outflows of resources. This separate financial statement element, *deferred outflows of resources*, represents a consumption of fiduciary net position that applies to a future period(s) and so will not be recognized as an outflow of resources (deduction) until then. The BCRA did not have any items that qualify for reporting in this category.

In addition to liabilities, the statement of fiduciary net position will sometimes report a separate section for deferred inflows of resources. This separate financial statement element, *deferred inflows of resources*, represents an acquisition of net position that applies to a future period(s) and so will not be recognized as an inflow of resources (addition) until that time. The BCRA did not have any items that qualify for reporting in this category.

NOTE 3 – PLAN ADMINISTRATION

The Association is administered by a five-person Board of Retirement consisting of the County Finance Director/Treasurer, who shall be a member ex-officio, a second member appointed by the governing authority (the County Commission), a third and fourth member who shall be elected by the members in or retired from the service of such Association, and a fifth member appointed by the Advisory Council consisting of representatives from the member units.

Chairperson	Mary T. McIsaac	Term Expires:	Indefinite
Appointed Member	Ronald Bergstrom	Term Expires:	1/6/2020
Elected Member	Harold S. Brunelle	Term Expires:	1/6/2021
Elected Member	Robert F. Rolanti	Term Expires:	12/31/2019
Appointed Member	Judith C. Sprague	Term Expires:	Indefinite

Board members are required to meet at least once a month. The Board must keep a record of all of its proceedings. The Board must annually submit to the appropriate authority an estimate of the expenses of administration and cost of operation of the Association. The Board must annually file a financial statement of condition for the Association with the Executive Director of PERAC.

The investment of the Association's funds is the responsibility of the Board. All retirement allowances must be approved by the Retirement Board. The PERAC actuary performs verification prior to payment, unless the Association has obtained a waiver for superannuation calculations allowing them to bypass this requirement. All expenses incurred by the Association must be approved by a majority vote of the Board. Payments shall be made only upon vouchers signed by three persons designated by the Board.

The following retirement board members and employees are bonded by an authorized agent representing a company licensed to do business in Massachusetts as follows:

Treasurer-Custodian:)	MACRS Blanket Policy
Ex-Officio Member:)	\$50,000,000 Fiduciary Liability
Elected Members:)	\$1,000,000 Fidelity (ERISA) Bond
Appointed Members:)	St. Paul Travelers Insurance Company
Staff Employees:)	National Union Fire Arch Insurance Company

NOTE 4 – CASH AND INVESTMENTS

Custodial Credit Risk - Deposits

At December 31, 2018, the carrying amount of the Association’s deposits totaled \$2,214,268; this is comprised of \$1,382,732 of cash deposited with banks along with \$831,536 in the PRIT cash fund. Of the \$1,382,732, the bank balance totaled \$3,412,065, which was covered by Federal Depository Insurance. The \$831,536 in the PRIT Cash Fund is uninsured and uncollateralized.

Investments

The Association’s investments are as follows:

<u>Investment Type</u>	December 31, 2018
PRIT Pooled Funds.....	\$ 1,069,334,612
Pooled Real Estate Funds.....	1,093,400
Total Investments.....	\$ 1,070,428,012

Approximately 99% of the Retirement Association’s investments are in Pension Reserve Investment Trust (PRIT), which meets the criteria of an external investment pool. This investment pool was established by the Treasurer of the Commonwealth of Massachusetts, who serves as Trustee. PRIT is administered by the Pension Reserves Investment Management Board. The fair values of the positions in each investment Pool are the same as the value of each Pool’s shares. The Association does not have the ability to control any of the investment decisions relative to its funds in PRIT. PRIT investments are valued using the net asset value (NAV) method.

The remaining investments consist of real estate investments. The fair value of the investments in pooled real estate funds are categorized in Level 3 of the Fair Value Hierarchy as pricing inputs are unobservable and include situations where there is little, if any, market activity for the instrument. The inputs into the determination of fair value require significant management judgment or estimation.

The Association’s annual money-weighted rate of return on pension plan investments was -2.34%. The money-weighted rate of return expresses investment performance, net of pension plan investment expense, adjusted for the changing amounts actually invested, measured monthly.

NOTE 5 – MEMBERSHIP

The following table represents the Association’s membership at December 31, 2018:

Retirees and beneficiaries currently receiving benefits.....	3,254
Inactive members.....	795
Active members.....	<u>4,762</u>
 Total.....	 <u><u>8,811</u></u>

NOTE 6 – ACTUARIAL VALUATION

Components of the net pension liability as of December 31, 2018 were as follows:

Total pension liability.....	\$ 1,865,385,410
The pension plan's fiduciary net position.....	<u>(1,075,010,769)</u>
The net pension liability.....	<u>\$ 790,374,641</u>
 The pension plan's fiduciary net position as a percentage of the total pension liability.....	 57.63%

The total pension liability was determined by an actuarial valuation as of January 1, 2018, using the following actuarial assumptions, applied to all periods included in the measurement that was rolled back to December 31, 2018:

Valuation date.....	January 1, 2018
Actuarial cost method.....	Entry Age Normal Cost Method.
Amortization method.....	Appropriations increase at 5.28% per year
Remaining amortization period.....	17 years from July 1, 2018 for 2002 and 2003 Early Retirement Incentives, retiree sheriffs liability and remaining unfunded liability, and 4 years from July 1, 2018 for 2010 Early Retirement Incentive.
Asset valuation method.....	The net pension liability is calculated using the market value of assets. The Association also uses an actuarial value of assets that gradually reflects year-to-year changes in the market value of assets in determining contribution requirements.
Inflation rate.....	3.25%
Projected salary increases.....	Varies by length of service with ultimate rates of 4.00% for Group 1, 4.25% for Group 2 and 4.50% for Group 4.

Cost of living adjustments.....	3.0% of the first \$18,000 of retirement income.
Rates of retirement.....	Varies based upon age for general employees, police and fire employees.
Rates of disability.....	For general employees, it was assumed that 55% of all disabilities are accidental disability. For police and fire employees, 90% of all disabilities are assumed to be accidental disability.
Mortality Rates:	
Pre-Retirement.....	The RP-2014 Blue Collar Employee Mortality Table projected generationally with Scale MP-2017.
Healthy Retiree.....	The RP-2014 Blue Collar Healthy Annuitant Mortality Table projected generationally with Scale MP-2017.
Disabled Retiree.....	The RP-2014 Blue Collar Healthy Annuitant Mortality Table set forward one year and projected generationally with Scale MP-2017.
Investment rate of return/Discount rate.	7.375%, net of pension plan investment expense, including inflation.

Investment policy: The pension plan’s policy in regard to the allocation of invested assets is established by PRIT. Plan assets are managed on a total return basis with a long-term objective of achieving a fully funded status for the benefits provided through the pension plan.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the future real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation (approved by the Board) and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic equity.....	21.00%	6.16%
International developed markets equity.....	13.00%	6.69%
International emerging markets equity.....	5.00%	9.47%
Core fixed income.....	15.00%	1.89%
High-yield fixed income.....	8.00%	4.00%
Real estate.....	10.00%	4.58%
Commodities.....	4.00%	4.77%
Hedge fund, GTAA, Risk parity.....	11.00%	3.68%
Private equity.....	13.00%	10.00%
	<u>100.00%</u>	

Discount rate: The discount rate used to measure the total pension liability was 7.375%. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rate. For this purpose, only employer contributions that are intended to fund the service costs for future plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the pension plan’s fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the net pension liability to changes in the discount rate: The following presents the net pension liability, calculated using the discount rate of 7.375%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.375%) or 1-percentage-point higher (8.375%) than the current rate:

	1% Decrease (6.375%)	Current Discount Rate (7.375%)	1% Increase (8.375%)
Barnstable County Retirement Association's net pension liability as of December 31, 2018..... \$	1,008,933,895	\$ 790,374,641	\$ 606,529,204

Contributions: Governmental employers are required to pay an annual appropriation as established by PERAC. The total appropriation includes the amounts to pay the pension portion of each member’s retirement allowance, an amount to amortize the actuarially determined unfunded liability to zero in accordance with the Association’s funding schedule, and additional appropriations in accordance with adopted early retirement incentive programs. The pension fund appropriations are allocated amongst employers based on covered payroll.

NOTE 7 – COMMITMENTS AND CONTINGENCIES

Various legal actions and claims are pending against the Association. Litigation is subject to many uncertainties, and the outcome of individual litigated matters is not always predictable. Although the amount of liability, if any, at December 31, 2018 cannot be ascertained, management believes any resulting liability should not materially affect the financial position at December 31, 2018.

NOTE 8 – IMPLEMENTATION OF GASB PRONOUNCEMENTS

During 2018, the following GASB pronouncements were implemented:

- The GASB issued Statement #85, *Omnibus 2017*. The financial statements and related notes were not impacted by the implementation of this pronouncement.
- The GASB issued Statement #86, *Certain Debt Extinguishment Issues*. The financial statements and related notes were not impacted by the implementation of this pronouncement.

The following GASB pronouncements will be implemented in the future:

- The GASB issued Statement #83, *Certain Asset Retirement Obligations*, which is required to be implemented in 2019.
- The GASB issued Statement #84, *Fiduciary Activities*, which is required to be implemented in 2019.
- The GASB issued Statement #87, *Leases*, which is required to be implemented in 2020.
- The GASB issued Statement #88, *Certain Disclosures Related to Debt, Including Direct Borrowings and Direct Placements*, which is required to be implemented in 2019.
- The GASB issued Statement #89, *Accounting for Interest Costs Incurred Before the End of a Construction Period*, which is required to be implemented in 2020.
- The GASB issued Statement #90, *Majority Equity Interests – An Amendment of GASB Statements No. 14 and No. 61*, which is required to be implemented in 2019.
- The GASB issued Statement #91, *Conduit Debt Obligations*, which is required to be implemented in 2021.

Management is currently assessing the impact the implementation of these pronouncements will have on the financial statements.

NOTE 9 – SUBSEQUENT EVENTS

Management has evaluated subsequent events through August 27, 2019, which is the date the financial statements were available to be issued.

Required Supplementary Information

**SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY
AND RELATED RATIOS**

	December 31, 2014	December 31, 2015	December 31, 2016	December 31, 2017	December 31, 2018
Total pension liability:					
Service cost.....	\$ 36,820,342	\$ 38,962,546	\$ 42,095,884	\$ 41,043,966	\$ 42,023,138
Interest.....	105,040,822	110,695,407	116,551,753	125,242,091	131,278,572
Changes in benefit terms.....	-	-	23,494,437	-	-
Differences between expected and actual experience.....	-	-	(10,802,611)	(3,055,533)	-
Changes in assumptions.....	-	-	50,013,040	61,743,785	-
Benefit payments.....	<u>(69,038,553)</u>	<u>(73,639,192)</u>	<u>(79,260,605)</u>	<u>(85,780,394)</u>	<u>(91,853,586)</u>
Net change in total pension liability.....	72,822,611	76,018,761	142,091,898	139,193,915	81,448,124
Total pension liability - beginning.....	<u>1,353,810,101</u>	<u>1,426,632,712</u>	<u>1,502,651,473</u>	<u>1,644,743,371</u>	<u>1,783,937,286</u>
Total pension liability - ending (a).....	<u>\$ 1,426,632,712</u>	<u>\$ 1,502,651,473</u>	<u>\$ 1,644,743,371</u>	<u>\$ 1,783,937,286</u>	<u>\$ 1,865,385,410</u>
Plan fiduciary net position:					
Employer pension appropriation.....	\$ 51,562,171	\$ 53,626,350	\$ 56,269,527	\$ 59,204,601	\$ 62,518,733
Member contributions.....	24,847,689	25,867,837	26,411,361	27,339,086	28,253,747
Other contributions.....	3,779,205	3,575,730	4,900,585	4,753,312	4,862,203
Net investment income (loss).....	60,614,682	5,470,561	64,678,206	160,812,163	(26,151,281)
Administrative expenses.....	(1,210,998)	(1,288,422)	(1,384,804)	(1,282,473)	(1,385,431)
Retirement benefits and refunds.....	(69,038,553)	(73,639,192)	(79,260,605)	(85,780,394)	(91,853,586)
Other retirement deductions.....	<u>(2,469,197)</u>	<u>(2,680,065)</u>	<u>(2,453,642)</u>	<u>(3,715,199)</u>	<u>(4,727,431)</u>
Net increase (decrease) in fiduciary net position.....	68,084,999	10,932,799	69,160,628	161,331,096	(28,483,046)
Fiduciary net position - beginning of year.....	<u>793,984,293</u>	<u>862,069,292</u>	<u>873,002,091</u>	<u>942,162,719</u>	<u>1,103,493,815</u>
Fiduciary net position - end of year (b).....	<u>\$ 862,069,292</u>	<u>\$ 873,002,091</u>	<u>\$ 942,162,719</u>	<u>\$ 1,103,493,815</u>	<u>\$ 1,075,010,769</u>
Net pension liability - ending (a)-(b).....	<u>\$ 564,563,420</u>	<u>\$ 629,649,382</u>	<u>\$ 702,580,652</u>	<u>\$ 680,443,471</u>	<u>\$ 790,374,641</u>
Plan fiduciary net position as a percentage of the total pension liability.....	60.43%	58.10%	57.28%	61.86%	57.63%
Covered payroll.....	\$ 253,920,107	\$ 264,076,910	\$ 269,672,807	\$ 271,510,348	\$ 283,145,854
Net pension liability as a percentage of covered payroll.....	222.34%	238.43%	260.53%	250.61%	279.14%

Note: this schedule is intended to present information for 10 years.
Until a 10-year trend is compiled, information is presented for those years for which information is available.

See notes to required supplementary information.

SCHEDULE OF CONTRIBUTIONS

	December 31, 2014	December 31, 2015	December 31, 2016	December 31, 2017	December 31, 2018
Actuarially determined contribution.....	\$ 51,562,171	\$ 53,626,350	\$ 56,269,527	\$ 59,204,601	\$ 62,518,733
Contributions in relation to the actuarially determined contribution.....	<u>(51,562,171)</u>	<u>(53,626,350)</u>	<u>(56,269,527)</u>	<u>(59,204,601)</u>	<u>(62,518,733)</u>
Contribution deficiency (excess).....	<u>\$ -</u>				
Covered payroll.....	\$ 253,920,107	\$ 264,076,910	\$ 269,672,807	\$ 271,510,348	\$ 283,145,854
Contributions as a percentage of covered payroll.....	20.31%	20.31%	20.87%	21.81%	22.08%

Note: this schedule is intended to present information for 10 years.
Until a 10-year trend is compiled, information is presented for those years for which information is available.

See notes to required supplementary information.

SCHEDULE OF INVESTMENT RETURNS

<u>Year</u>	<u>Annual money-weighted rate of return, net of investment expense</u>
December 31, 2018.....	-2.34%
December 31, 2017.....	17.17%
December 31, 2016.....	7.40%
December 31, 2015.....	0.57%
December 31, 2014.....	7.58%

Note: this schedule is intended to present information for 10 years. Until a 10-year trend is compiled, information is presented for those years for which information is available.

See notes to required supplementary information.

NOTE A – CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS

The Schedule of Changes in the Net Pension Liability and Related Ratios includes the detailed changes in the Association's total pension liability, changes in the Associations net position, and the ending net pension liability. It also demonstrates the plan's net position as a percentage of the total pension liability and the net pension liability as a percentage of covered payroll.

NOTE B – CONTRIBUTIONS

Governmental employers are required to pay an annual appropriation as established by PERAC. The total appropriation includes the amounts to pay the pension portion of each member's retirement allowance, an amount to amortize the actuarially determined unfunded liability to zero in accordance with the Association's funding schedule, and additional appropriations in accordance with adopted early retirement incentive programs. The total appropriations are payable on July 1 and January 1. Employers may choose to pay the entire appropriation in July at a discounted rate. Accordingly, actual employer contributions may be less than the "total appropriation". The pension fund appropriations are allocated amongst employers based on covered payroll.

NOTE C – MONEY WEIGHTED RATE OF RETURN

The money weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense. A money weighted rate of return expresses investment performance, net of pension plan investment expense, adjusted for the changing amounts actually invested. Inputs to the money weighted rate of return calculation are determined monthly.

NOTE D – CHANGES IN ACTUARIAL ASSUMPTIONS AND PLAN PROVISIONSChanges in Assumptions

None

Changes in Plan Provisions

None

Audit of Specific Elements, Accounts and Items of Financial Statements



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Independent Auditor's Report

To the Honorable Barnstable County Retirement Board
Barnstable County Retirement Association
Barnstable, Massachusetts

We have audited the accompanying schedule of employer allocations of the Barnstable County Retirement Association (BCRA) as of and for the year ended December 31, 2018, and the related notes. We have also audited the total for all entities of the rows titled net pension liability, total deferred outflows of resources, total deferred inflows of resources, total contributions and total pension expense included in the accompanying schedule of pension amounts by employer of the BCRA Pension Plan as of and for the year ended December 31, 2018, and the related notes.

Management's Responsibility for the Schedules

Management is responsible for the preparation and fair presentation of these schedules in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the schedules that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on the schedule of employer allocations and the specified row totals included in the schedule of pension amounts by employer based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the schedule of employer allocations and specified row totals included in the schedule of pension amounts by employer are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedule of employer allocations and the specified row totals included in the schedule of pension amounts by employer. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the schedule of employer allocations and the specified row totals included in the schedule of pension amounts by employer, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the schedule of employer allocations and the specified row totals included in the schedule of pension amounts by employer in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the schedule of employer allocations and the specified row totals included in the schedule of pension amounts by employer.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the schedules referred to above present fairly, in all material respects, the employer allocations and net pension liability, total deferred outflows of resources, total deferred inflows of resources, total contributions and total pension expense for the total of all participating entities for the Barnstable County Retirement Association as of and for the year ended December 31, 2018, in accordance with accounting principles generally accepted in the United States of America.

Other Matter

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the Barnstable County Retirement Association as of and for the year ended December 31, 2018, and our report thereon, dated August 27, 2019, expressed an unmodified opinion on those financial statements.

Restriction on Use

This report is intended solely for the information and use of the Barnstable County Retirement Association management, the Barnstable County Retirement Association employers and their auditors and is not intended to be and should not be used by anyone other than these specified parties.

Powers & Sullivan LLC

August 27, 2019

SCHEDULE OF EMPLOYER ALLOCATIONS

FOR THE YEAR ENDED DECEMBER 31, 2018

Employer	FY2019 Pension Fund Appropriation	Direct Appropriation E.R.I., Sheriff and Hospital	FY2019 Total Appropriation	Share of Net Pension Liability	Percent of Total Net Pension Liability
Barnstable County.....	\$ 2,659,382	\$ 126,287	\$ 2,785,669	\$ 34,388,815	4.351%
Barnstable County Hospital.....	-	8,262	8,262	113,988	0.014%
Barnstable County Retired Sheriffs.....	-	1,506,576	1,506,576	24,908,609	3.151%
Town of Barnstable.....	9,263,504	217,094	9,480,598	117,037,064	14.808%
Barnstable Fire District.....	409,133	4,645	413,778	5,108,049	0.646%
Barnstable Housing Authority.....	177,087	4,170	181,257	2,237,600	0.283%
Town of Bourne.....	3,669,984	86,253	3,756,237	46,370,383	5.867%
Bourne Housing Authority.....	61,065	-	61,065	753,842	0.095%
Bourne Recreation Authority.....	109,916	18,357	128,273	1,583,518	0.200%
Bourne Water District.....	140,449	5,322	145,771	1,799,529	0.228%
Town of Brewster.....	2,363,201	18,224	2,381,425	29,398,461	3.720%
Brewster Housing Authority.....	12,213	-	12,213	150,768	0.019%
Buzzards Bay Water District.....	79,384	-	79,384	979,988	0.124%
Cape Light Compact JPE.....	277,827	-	277,827	3,429,747	0.434%
Cape Cod Mosquito Control District.....	287,004	2,912	289,916	3,578,985	0.453%
Cape Cod Regional Technical High School.....	506,836	-	506,836	6,256,841	0.792%
Centerville/Osterville/Marstons Mills Fire District.....	1,422,806	5,317	1,428,123	17,630,040	2.231%
Town of Chatham.....	1,972,388	101,140	2,073,528	25,597,503	3.239%
Chatham Housing Authority.....	36,639	-	36,639	452,305	0.057%
Cotuit Fire District.....	305,323	-	305,323	3,769,183	0.477%
Town of Dennis.....	3,291,383	-	3,291,383	40,631,805	5.141%
Dennis Housing Authority.....	73,278	2,781	76,059	938,941	0.119%
Dennis Water District.....	262,578	-	262,578	3,241,500	0.410%
Dennis/Yarmouth Regional School District.....	1,349,528	-	1,349,528	16,659,793	2.108%
Town of Eastham.....	1,563,254	25,572	1,588,826	19,613,903	2.482%
Town of Harwich.....	2,815,079	-	2,815,079	34,751,878	4.397%
Hyannis Fire District.....	1,105,270	1,837	1,107,107	13,667,129	1.729%
Town of Mashpee.....	2,973,847	40,818	3,014,665	37,215,748	4.709%
Mashpee Housing Authority.....	61,065	-	61,065	753,842	0.095%
Mashpee Water District.....	158,768	4,628	163,396	2,017,108	0.255%
Town of Nantucket.....	6,259,124	128,530	6,387,654	78,854,971	9.977%
Nantucket Housing Authority.....	18,319	-	18,319	226,146	0.029%
County of Nantucket.....	232,046	-	232,046	2,864,585	0.362%
Nantucket Regional Transit Authority.....	36,639	-	36,639	452,305	0.057%
Nauset Regional School District.....	891,544	-	891,544	11,006,024	1.393%
North Sagamore Water District.....	54,958	-	54,958	678,451	0.086%
Town of Orleans.....	2,088,410	-	2,088,410	25,781,220	3.262%
Orleans Housing Authority.....	42,745	-	42,745	527,683	0.067%
Town of Provincetown.....	1,807,513	-	1,807,513	22,313,573	2.823%
Town of Sandwich.....	3,914,243	-	3,914,243	48,320,951	6.114%
Sandwich Housing Authority.....	30,532	-	30,532	376,915	0.048%
Sandwich Water District.....	195,407	-	195,407	2,412,281	0.305%
Town of Truro.....	1,135,802	14,901	1,150,703	14,205,317	1.797%
Veterans District.....	61,065	4,463	65,528	808,937	0.102%
Town of Wellfleet.....	1,264,038	15,607	1,279,645	15,797,094	1.999%
Town of Yarmouth.....	4,298,950	99,447	4,398,397	54,297,786	6.870%
Yarmouth Housing Authority.....	36,639	4,477	41,116	507,573	0.064%
West Barnstable Fire District.....	116,023	-	116,023	1,432,293	0.181%
Cape Cod Regional Transit Authority.....	189,300	-	189,300	2,336,890	0.296%
Monomoy Regional School District.....	983,141	-	983,141	12,136,781	1.536%
Provincetown Housing Authority.....	-	-	-	-	0.000%
Total.....	\$ 61,064,629	\$ 2,447,620	\$ 63,512,249	\$ 790,374,641	100.000%

See notes to schedule of employer allocations and schedule of pension amounts by employer.

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

FOR THE YEAR ENDED DECEMBER 31, 2018

	Barnstable County	Barnstable County Hospital	Barnstable County Retired Sheriffs	Town of Barnstable
Net Pension Liability				
Beginning net pension liability.....	\$ 33,423,155	\$ 98,671	\$ 21,125,831	\$ 102,598,144
Ending net pension liability.....	\$ 34,388,815	\$ 113,988	\$ 24,908,609	\$ 117,037,064
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....	2,008,302	6,657	1,454,659	6,834,948
Changes of assumptions.....	2,878,983	9,543	2,085,313	9,798,172
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	658,584	-	258,385	1,373,686
Total Deferred Outflows of Resources.....	\$ 5,545,869	\$ 16,200	\$ 3,798,357	\$ 18,006,806
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 323,638	\$ 1,073	\$ 234,418	\$ 1,101,450
Net difference between projected and actual investment earnings on pension plan investments.....	-	-	-	-
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	4,042,462	16,579	1,298,304	2,099,363
Total Deferred Inflows of Resources.....	\$ 4,366,100	\$ 17,652	\$ 1,532,722	\$ 3,200,813
Pension Expense				
Proportionate share of plan pension expense.....	\$ 4,273,785	\$ 14,165	\$ 3,095,601	\$ 14,545,171
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	(577,545)	(4,795)	(315,907)	(224,332)
Total Employer Pension Expense.....	\$ 3,696,240	\$ 9,370	\$ 2,779,694	\$ 14,320,839
Contributions				
Statutory required contribution.....	\$ 2,830,830	\$ 8,112	\$ 1,479,152	\$ 9,308,022
Contribution in relation to statutory required contribution.....	(2,830,830)	(8,112)	(1,479,152)	(9,308,022)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	22.83%	N/A	N/A	21.67%
Deferred Outflows/(Inflows) Recognized in Future Pension Expense				
June 30, 2020.....	\$ 856,367	\$ (42)	\$ 722,708	\$ 4,655,764
June 30, 2021.....	320,753	(1,815)	334,769	2,832,884
June 30, 2022.....	68,437	(1,416)	382,641	2,938,579
June 30, 2023.....	523,535	2,057	856,841	4,663,783
June 30, 2024.....	(589,323)	(236)	(31,324)	(285,017)
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 1,179,769	\$ (1,452)	\$ 2,265,635	\$ 14,805,993
Discount Rate Sensitivity				
1% decrease (6.375%).....	\$ 43,898,222	\$ 145,509	\$ 31,796,491	\$ 149,400,874
Current discount rate (7.375%).....	\$ 34,388,815	\$ 113,988	\$ 24,908,609	\$ 117,037,064
1% increase (8.375%).....	\$ 26,389,790	\$ 87,474	\$ 19,114,731	\$ 89,813,605
Covered Payroll.....	\$ 12,401,788	\$ -	\$ -	\$ 42,953,226
See notes to schedule of employer allocations and schedule of pension amounts by employer.				

(continued)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

FOR THE YEAR ENDED DECEMBER 31, 2018

	Barnstable Fire District	Barnstable Housing Authority	Town of Bourne	Bourne Housing Authority
Net Pension Liability				
Beginning net pension liability.....	\$ 4,723,263	\$ 2,056,991	\$ 40,456,504	\$ 713,971
Ending net pension liability.....	\$ 5,108,049	\$ 2,237,600	\$ 46,370,383	\$ 753,842
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....	298,309	130,676	2,708,024	44,024
Changes of assumptions.....	427,639	187,329	3,882,063	63,111
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	175,839	156,611	299,813	2,054
Total Deferred Outflows of Resources.....	\$ 901,787	\$ 474,616	\$ 6,889,900	\$ 109,189
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 48,073	\$ 21,058	\$ 436,398	\$ 7,095
Net difference between projected and actual investment earnings on pension plan investments.....	-	-	-	-
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	259,179	281,228	1,238,021	158,807
Total Deferred Inflows of Resources.....	\$ 307,252	\$ 302,286	\$ 1,674,419	\$ 165,902
Pension Expense				
Proportionate share of plan pension expense.....	\$ 634,820	\$ 278,086	\$ 5,762,836	\$ 93,687
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	15,048	(18,664)	(204,523)	(38,677)
Total Employer Pension Expense.....	\$ 649,868	\$ 259,422	\$ 5,558,313	\$ 55,010
Contributions				
Statutory required contribution.....	\$ 406,246	\$ 187,687	\$ 3,738,770	\$ 59,953
Contribution in relation to statutory required contribution.....	(406,246)	(187,687)	(3,738,770)	(59,953)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.41%	22.86%	21.97%	21.17%
Deferred Outflows/(Inflows) Recognized in Future Pension Expense				
June 30, 2020.....	\$ 228,038	\$ 74,637	\$ 1,728,983	\$ (7,244)
June 30, 2021.....	148,475	39,782	1,006,746	(18,989)
June 30, 2022.....	108,081	46,066	853,377	(19,856)
June 30, 2023.....	161,437	30,864	1,700,073	(330)
June 30, 2024.....	(51,496)	(19,019)	(73,698)	(10,294)
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 594,535	\$ 172,330	\$ 5,215,481	\$ (56,713)
Discount Rate Sensitivity				
1% decrease (6.375%).....	\$ 6,520,558	\$ 2,856,355	\$ 59,193,006	\$ 962,299
Current discount rate (7.375%).....	\$ 5,108,049	\$ 2,237,600	\$ 46,370,383	\$ 753,842
1% increase (8.375%).....	\$ 3,919,889	\$ 1,717,122	\$ 35,584,380	\$ 578,494
Covered Payroll.....	\$ 1,897,077	\$ 821,123	\$ 17,017,066	\$ 283,146
See notes to schedule of employer allocations and schedule of pension amounts by employer.				

(continued)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

FOR THE YEAR ENDED DECEMBER 31, 2018

	Bourne Recreation Authority	Bourne Water District	Town of Brewster	Brewster Housing Authority
Net Pension Liability				
Beginning net pension liability.....	\$ 1,301,008	\$ 1,550,129	\$ 25,055,360	\$ 129,811
Ending net pension liability.....	\$ 1,583,518	\$ 1,799,529	\$ 29,398,461	\$ 150,768
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....	92,477	105,092	1,716,866	8,805
Changes of assumptions.....	132,570	150,654	2,461,197	12,622
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	76,703	118,283	1,126,796	759
Total Deferred Outflows of Resources.....	\$ 301,750	\$ 374,029	\$ 5,304,859	\$ 22,186
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 14,903	\$ 16,936	\$ 276,673	\$ 1,419
Net difference between projected and actual investment earnings on pension plan investments.....	-	-	-	-
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	57,835	110,831	413,930	35,811
Total Deferred Inflows of Resources.....	\$ 72,738	\$ 127,767	\$ 690,603	\$ 37,230
Pension Expense				
Proportionate share of plan pension expense.....	\$ 196,800	\$ 223,641	\$ 3,653,595	\$ 18,733
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	2,943	1,901	128,875	(17,687)
Total Employer Pension Expense.....	\$ 199,743	\$ 225,542	\$ 3,782,470	\$ 1,046
Contributions				
Statutory required contribution.....	\$ 128,273	\$ 143,118	\$ 2,342,130	\$ 12,213
Contribution in relation to statutory required contribution.....	(128,273)	(143,118)	(2,342,130)	(12,213)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	25.17%	21.98%	21.37%	21.57%
Deferred Outflows/(Inflows) Recognized in Future Pension Expense				
June 30, 2020.....	\$ 68,971	\$ 76,936	\$ 1,354,703	\$ (11,400)
June 30, 2021.....	44,305	48,907	896,815	(13,746)
June 30, 2022.....	32,364	29,124	888,638	3,987
June 30, 2023.....	72,967	91,314	1,431,029	6,068
June 30, 2024.....	10,405	(19)	43,071	47
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 229,012	\$ 246,262	\$ 4,614,256	\$ (15,044)
Discount Rate Sensitivity				
1% decrease (6.375%).....	\$ 2,021,402	\$ 2,297,146	\$ 37,527,904	\$ 192,459
Current discount rate (7.375%).....	\$ 1,583,518	\$ 1,799,529	\$ 29,398,461	\$ 150,768
1% increase (8.375%).....	\$ 1,215,183	\$ 1,380,949	\$ 22,560,219	\$ 115,699
Covered Payroll.....	\$ 509,663	\$ 651,235	\$ 10,957,745	\$ 56,629
See notes to schedule of employer allocations and schedule of pension amounts by employer.				

(continued)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

FOR THE YEAR ENDED DECEMBER 31, 2018

	Buzzards Bay Water District	Cape Light Compact JPE	Cape Cod Mosquito Control District	Cape Cod Regional Technical High School
Net Pension Liability				
Beginning net pension liability.....	\$ 778,876	\$ -	\$ 2,952,144	\$ 4,608,363
Ending net pension liability.....	\$ 979,988	\$ 3,429,747	\$ 3,578,985	\$ 6,256,841
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....	57,231	200,297	209,012	365,399
Changes of assumptions.....	82,043	287,134	299,628	523,814
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	95,946	2,355,147	218,075	678,813
Total Deferred Outflows of Resources.....	\$ 235,220	\$ 2,842,578	\$ 726,715	\$ 1,568,026
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 9,223	\$ 32,278	\$ 33,682	\$ 58,884
Net difference between projected and actual investment earnings on pension plan investments.....	-	-	-	-
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	27,407	-	119,131	401,697
Total Deferred Inflows of Resources.....	\$ 36,630	\$ 32,278	\$ 152,813	\$ 460,581
Pension Expense				
Proportionate share of plan pension expense.....	\$ 121,794	\$ 426,244	\$ 444,792	\$ 777,588
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	12,381	471,030	29,078	38,233
Total Employer Pension Expense.....	\$ 134,175	\$ 897,274	\$ 473,870	\$ 815,821
Contributions				
Statutory required contribution.....	\$ 79,384	\$ 277,827	\$ 284,639	\$ 497,610
Contribution in relation to statutory required contribution.....	(79,384)	(277,827)	(284,639)	(497,610)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.57%	22.82%	21.39%	21.17%
Deferred Outflows/(Inflows) Recognized in Future Pension Expense				
June 30, 2020.....	\$ 53,243	\$ 614,040	\$ 178,311	\$ 299,125
June 30, 2021.....	37,979	560,621	122,565	201,675
June 30, 2022.....	36,972	557,884	119,375	169,596
June 30, 2023.....	59,779	606,727	132,872	312,769
June 30, 2024.....	10,617	471,028	20,779	124,280
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 198,590	\$ 2,810,300	\$ 573,902	\$ 1,107,445
Discount Rate Sensitivity				
1% decrease (6.375%).....	\$ 1,250,980	\$ 4,378,162	\$ 4,568,668	\$ 7,987,021
Current discount rate (7.375%).....	\$ 979,988	\$ 3,429,747	\$ 3,578,985	\$ 6,256,841
1% increase (8.375%).....	\$ 752,037	\$ 2,631,969	\$ 2,746,494	\$ 4,801,466
Covered Payroll.....	\$ 368,090	\$ 1,217,527	\$ 1,330,786	\$ 2,350,111
See notes to schedule of employer allocations and schedule of pension amounts by employer.				

(continued)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

FOR THE YEAR ENDED DECEMBER 31, 2018

	Centerville/ Osterville/ Martsons Mills Fire District	Town of Chatham	Chatham Housing Authority	Cotuit Fire District
Net Pension Liability				
Beginning net pension liability.....	\$ 14,985,740	\$ 21,967,203	\$ 389,444	\$ 3,180,421
Ending net pension liability.....	\$ 17,630,040	\$ 25,597,503	\$ 452,305	\$ 3,769,183
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....	1,029,592	1,494,890	26,415	220,120
Changes of assumptions.....	1,475,962	2,142,987	37,866	315,551
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	195,685	180,585	2,298	273,143
Total Deferred Outflows of Resources.....	\$ 2,701,239	\$ 3,818,462	\$ 66,579	\$ 808,814
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 165,919	\$ 240,902	\$ 4,257	\$ 35,472
Net difference between projected and actual investment earnings on pension plan investments.....	-	-	-	-
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	157,284	224,586	71	89,754
Total Deferred Inflows of Resources.....	\$ 323,203	\$ 465,488	\$ 4,328	\$ 125,226
Pension Expense				
Proportionate share of plan pension expense.....	\$ 2,191,031	\$ 3,181,216	\$ 56,210	\$ 468,423
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	(8,751)	(53,710)	627	25,674
Total Employer Pension Expense.....	\$ 2,182,280	\$ 3,127,506	\$ 56,837	\$ 494,097
Contributions				
Statutory required contribution.....	\$ 1,402,127	\$ 2,035,784	\$ 36,639	\$ 299,765
Contribution in relation to statutory required contribution....	(1,402,127)	(2,035,784)	(36,639)	(299,765)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.25%	22.26%	21.57%	21.17%
Deferred Outflows/(Inflows) Recognized in Future Pension Expense				
June 30, 2020.....	\$ 726,369	\$ 1,013,629	\$ 19,487	\$ 182,838
June 30, 2021.....	451,774	614,938	12,442	124,131
June 30, 2022.....	441,800	690,132	11,969	165,743
June 30, 2023.....	726,335	1,021,441	18,222	200,360
June 30, 2024.....	31,758	12,834	131	10,516
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 2,378,036	\$ 3,352,974	\$ 62,251	\$ 683,588
Discount Rate Sensitivity				
1% decrease (6.375%).....	\$ 22,505,207	\$ 32,675,882	\$ 577,379	\$ 4,811,461
Current discount rate (7.375%).....	\$ 17,630,040	\$ 25,597,503	\$ 452,305	\$ 3,769,183
1% increase (8.375%).....	\$ 13,529,197	\$ 19,643,385	\$ 347,096	\$ 2,892,451
Covered Payroll.....	\$ 6,597,298	\$ 9,145,611	\$ 169,888	\$ 1,415,729
See notes to schedule of employer allocations and schedule of pension amounts by employer.				

(continued)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

FOR THE YEAR ENDED DECEMBER 31, 2018

	Town of Dennis	Dennis Housing Authority	Dennis Water District	Dennis/Yarmouth Regional School District
Net Pension Liability				
Beginning net pension liability.....	\$ 35,309,162	\$ 808,810	\$ 2,920,800	\$ 13,889,994
Ending net pension liability.....	\$ 40,631,805	\$ 938,941	\$ 3,241,500	\$ 16,659,793
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....	2,372,891	54,834	189,303	972,929
Changes of assumptions.....	3,401,637	78,607	271,374	1,394,734
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	686,079	62,319	45,040	548,805
Total Deferred Outflows of Resources.....	\$ 6,460,607	\$ 195,760	\$ 505,717	\$ 2,916,468
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 382,392	\$ 8,837	\$ 30,506	\$ 156,788
Net difference between projected and actual investment earnings on pension plan investments.....	-	-	-	-
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	717,729	369	231,097	463,298
Total Deferred Inflows of Resources.....	\$ 1,100,121	\$ 9,206	\$ 261,603	\$ 620,086
Pension Expense				
Proportionate share of plan pension expense.....	\$ 5,049,651	\$ 116,691	\$ 402,848	\$ 2,070,451
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	35,260	20,197	(54,832)	(49,111)
Total Employer Pension Expense.....	\$ 5,084,911	\$ 136,888	\$ 348,016	\$ 2,021,340
Contributions				
Statutory required contribution.....	\$ 3,231,470	\$ 76,059	\$ 257,798	\$ 1,324,963
Contribution in relation to statutory required contribution.....	(3,231,470)	(76,059)	(257,798)	(1,324,963)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.17%	22.39%	21.17%	21.17%
Deferred Outflows/(Inflows) Recognized in Future Pension Expense				
June 30, 2020.....	\$ 1,729,485	\$ 59,348	\$ 80,329	\$ 645,553
June 30, 2021.....	1,096,635	44,721	29,845	386,071
June 30, 2022.....	928,421	34,612	36,067	506,398
June 30, 2023.....	1,655,577	47,654	118,378	685,217
June 30, 2024.....	(49,632)	219	(20,505)	73,143
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 5,360,486	\$ 186,554	\$ 244,114	\$ 2,296,382
Discount Rate Sensitivity				
1% decrease (6.375%).....	\$ 51,867,561	\$ 1,198,583	\$ 4,137,860	\$ 21,266,661
Current discount rate (7.375%).....	\$ 40,631,805	\$ 938,941	\$ 3,241,500	\$ 16,659,793
1% increase (8.375%).....	\$ 31,180,626	\$ 720,538	\$ 2,487,509	\$ 12,784,635
Covered Payroll.....	\$ 15,261,562	\$ 339,775	\$ 1,217,527	\$ 6,257,523
See notes to schedule of employer allocations and schedule of pension amounts by employer.				

(continued)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

FOR THE YEAR ENDED DECEMBER 31, 2018

	Town of Eastham	Town of Harwich	Hyannis Fire District	Town of Mashpee
Net Pension Liability				
Beginning net pension liability.....	\$ 16,956,243	\$ 30,570,977	\$ 12,416,917	\$ 31,854,119
Ending net pension liability.....	\$ 19,613,903	\$ 34,751,878	\$ 13,667,129	\$ 37,215,748
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....	1,145,449	2,029,505	798,158	2,173,394
Changes of assumptions.....	1,642,048	2,909,378	1,144,193	3,115,650
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	274,943	846,199	185,464	503,998
Total Deferred Outflows of Resources.....	\$ 3,062,440	\$ 5,785,082	\$ 2,127,815	\$ 5,793,042
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 184,589	\$ 327,055	\$ 128,623	\$ 350,243
Net difference between projected and actual investment earnings on pension plan investments.....	-	-	-	-
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	393,180	575,861	588,922	766,925
Total Deferred Inflows of Resources.....	\$ 577,769	\$ 902,916	\$ 717,545	\$ 1,117,168
Pension Expense				
Proportionate share of plan pension expense.....	\$ 2,437,581	\$ 4,318,902	\$ 1,698,528	\$ 4,625,110
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	(40,017)	137,111	(69,315)	(49,109)
Total Employer Pension Expense.....	\$ 2,397,564	\$ 4,456,013	\$ 1,629,213	\$ 4,576,001
Contributions				
Statutory required contribution.....	\$ 1,559,905	\$ 2,763,836	\$ 1,086,954	\$ 2,962,112
Contribution in relation to statutory required contribution....	(1,559,905)	(2,763,836)	(1,086,954)	(2,962,112)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.52%	21.17%	21.21%	21.48%
Deferred Outflows/(Inflows) Recognized in Future Pension Expense				
June 30, 2020.....	\$ 777,824	\$ 1,586,161	\$ 500,563	\$ 1,502,676
June 30, 2021.....	472,334	1,044,894	287,697	923,031
June 30, 2022.....	525,709	1,042,749	294,026	897,946
June 30, 2023.....	718,710	1,309,938	430,649	1,319,861
June 30, 2024.....	(9,906)	(101,576)	(102,665)	32,360
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 2,484,671	\$ 4,882,166	\$ 1,410,270	\$ 4,675,874
Discount Rate Sensitivity				
1% decrease (6.375%).....	\$ 25,037,660	\$ 44,361,681	\$ 17,446,448	\$ 47,506,875
Current discount rate (7.375%).....	\$ 19,613,903	\$ 34,751,878	\$ 13,667,129	\$ 37,215,748
1% increase (8.375%).....	\$ 15,051,603	\$ 26,668,402	\$ 10,488,081	\$ 28,559,163
Covered Payroll.....	\$ 7,248,534	\$ 13,053,024	\$ 5,124,940	\$ 13,789,203
See notes to schedule of employer allocations and schedule of pension amounts by employer.				

(continued)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

FOR THE YEAR ENDED DECEMBER 31, 2018

	Mashpee Housing Authority	Mashpee Water District	Town of Nantucket	Nantucket Housing Authority
Net Pension Liability				
Beginning net pension liability.....	\$ 584,160	\$ 1,802,295	\$ 65,965,497	\$ 259,622
Ending net pension liability.....	\$ 753,842	\$ 2,017,108	\$ 78,854,971	\$ 226,146
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....	44,024	117,799	4,605,119	13,207
Changes of assumptions.....	63,111	168,869	6,601,626	18,933
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	100,559	21,170	2,739,006	1,411
Total Deferred Outflows of Resources.....	\$ 207,694	\$ 307,838	\$ 13,945,751	\$ 33,551
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 7,095	\$ 18,983	\$ 742,115	\$ 2,128
Net difference between projected and actual investment earnings on pension plan investments.....	-	-	-	-
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	-	132,228	869,218	51,696
Total Deferred Inflows of Resources.....	\$ 7,095	\$ 151,211	\$ 1,611,333	\$ 53,824
Pension Expense				
Proportionate share of plan pension expense.....	\$ 93,686	\$ 250,683	\$ 9,799,963	\$ 28,102
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	29,425	(20,408)	493,225	(9,933)
Total Employer Pension Expense.....	\$ 123,111	\$ 230,275	\$ 10,293,188	\$ 18,169
Contributions				
Statutory required contribution.....	\$ 61,065	\$ 160,422	\$ 6,271,380	\$ 18,319
Contribution in relation to statutory required contribution.....	(61,065)	(160,422)	(6,271,380)	(18,319)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.57%	21.79%	21.61%	21.57%
Deferred Outflows/(Inflows) Recognized in Future Pension Expense				
June 30, 2020.....	\$ 60,858	\$ 63,699	\$ 3,781,242	\$ (503)
June 30, 2021.....	49,115	32,282	2,553,053	(4,030)
June 30, 2022.....	39,411	21,308	2,469,156	(4,282)
June 30, 2023.....	40,661	49,668	3,219,878	(1,193)
June 30, 2024.....	10,554	(10,330)	311,089	(10,265)
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 200,599	\$ 156,627	\$ 12,334,418	\$ (20,273)
Discount Rate Sensitivity				
1% decrease (6.375%).....	\$ 962,299	\$ 2,574,891	\$ 100,660,432	\$ 288,681
Current discount rate (7.375%).....	\$ 753,842	\$ 2,017,108	\$ 78,854,971	\$ 226,146
1% increase (8.375%).....	\$ 578,494	\$ 1,547,918	\$ 60,512,876	\$ 173,543
Covered Payroll.....	\$ 283,146	\$ 736,179	\$ 29,022,450	\$ 84,944
See notes to schedule of employer allocations and schedule of pension amounts by employer.				

(continued)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

FOR THE YEAR ENDED DECEMBER 31, 2018

	County of Nantucket	Nantucket Regional Transit Authority	Nauset Regional School District	North Sagamore Water District
Net Pension Liability				
Beginning net pension liability.....	\$ 2,271,723	\$ 389,444	\$ 9,865,791	\$ 584,160
Ending net pension liability.....	\$ 2,864,585	\$ 452,305	\$ 11,006,024	\$ 678,451
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....	167,291	26,415	642,750	39,621
Changes of assumptions.....	239,819	37,866	921,409	56,799
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	358,763	2,298	400,076	18,856
Total Deferred Outflows of Resources.....	\$ 765,873	\$ 66,579	\$ 1,964,235	\$ 115,276
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 26,959	\$ 4,257	\$ 103,579	\$ 6,385
Net difference between projected and actual investment earnings on pension plan investments.....	-	-	-	-
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	153,871	71	501,102	27,441
Total Deferred Inflows of Resources.....	\$ 180,830	\$ 4,328	\$ 604,681	\$ 33,826
Pension Expense				
Proportionate share of plan pension expense.....	\$ 356,003	\$ 56,210	\$ 1,367,810	\$ 84,318
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	18,801	627	45,391	66
Total Employer Pension Expense.....	\$ 374,804	\$ 56,837	\$ 1,413,201	\$ 84,384
Contributions				
Statutory required contribution.....	\$ 227,822	\$ 36,639	\$ 885,979	\$ 53,958
Contribution in relation to statutory required contribution.....	(227,822)	(36,639)	(885,979)	(53,958)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.17%	21.57%	21.43%	21.17%
Deferred Outflows/(Inflows) Recognized in Future Pension Expense				
June 30, 2020.....	\$ 138,246	\$ 19,487	\$ 504,309	\$ 28,355
June 30, 2021.....	93,629	12,442	332,888	17,788
June 30, 2022.....	127,042	11,969	180,923	8,270
June 30, 2023.....	194,992	18,222	401,085	27,003
June 30, 2024.....	31,134	131	(59,651)	34
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 585,043	\$ 62,251	\$ 1,359,554	\$ 81,450
Discount Rate Sensitivity				
1% decrease (6.375%).....	\$ 3,656,718	\$ 577,379	\$ 14,049,477	\$ 866,060
Current discount rate (7.375%).....	\$ 2,864,585	\$ 452,305	\$ 11,006,024	\$ 678,451
1% increase (8.375%).....	\$ 2,198,267	\$ 347,096	\$ 8,445,963	\$ 520,640
Covered Payroll.....	\$ 1,075,954	\$ 169,888	\$ 4,133,929	\$ 254,831

See notes to schedule of employer allocations and schedule of pension amounts by employer.

(continued)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

FOR THE YEAR ENDED DECEMBER 31, 2018

	Town of Orleans	Orleans Housing Authority	Town of Provincetown	Town of Sandwich
Net Pension Liability				
Beginning net pension liability.....	\$ 22,457,666	\$ 519,255	\$ 18,173,830	\$ 41,345,467
Ending net pension liability.....	\$ 25,781,220	\$ 527,683	\$ 22,313,573	\$ 48,320,951
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....	1,505,619	30,817	1,303,109	2,821,937
Changes of assumptions.....	2,158,367	44,177	1,868,061	4,045,361
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	766,138	2,942	1,185,834	1,352,828
Total Deferred Outflows of Resources.....	\$ 4,430,124	\$ 77,936	\$ 4,357,004	\$ 8,220,126
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 242,631	\$ 4,966	\$ 209,996	\$ 454,755
Net difference between projected and actual investment earnings on pension plan investments.....	-	-	-	-
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	366,256	51,750	292,061	-
Total Deferred Inflows of Resources.....	\$ 608,887	\$ 56,716	\$ 502,057	\$ 454,755
Pension Expense				
Proportionate share of plan pension expense.....	\$ 3,204,045	\$ 65,578	\$ 2,773,093	\$ 6,005,244
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	120,243	(9,517)	166,131	395,874
Total Employer Pension Expense.....	\$ 3,324,288	\$ 56,061	\$ 2,939,224	\$ 6,401,118
Contributions				
Statutory required contribution.....	\$ 2,050,395	\$ 42,745	\$ 1,774,611	\$ 3,842,992
Contribution in relation to statutory required contribution.....	(2,050,395)	(42,745)	(1,774,611)	(3,842,992)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.17%	21.57%	21.17%	21.17%
Deferred Outflows/(Inflows) Recognized in Future Pension Expense				
June 30, 2020.....	\$ 1,195,243	\$ 12,486	\$ 1,096,540	\$ 2,410,713
June 30, 2021.....	793,696	4,265	748,997	1,658,102
June 30, 2022.....	727,429	3,693	819,910	1,528,325
June 30, 2023.....	1,144,911	10,954	1,023,101	2,124,500
June 30, 2024.....	(40,042)	(10,178)	166,399	43,731
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 3,821,237	\$ 21,220	\$ 3,854,947	\$ 7,765,371
Discount Rate Sensitivity				
1% decrease (6.375%).....	\$ 32,910,401	\$ 673,601	\$ 28,483,859	\$ 61,682,957
Current discount rate (7.375%).....	\$ 25,781,220	\$ 527,683	\$ 22,313,573	\$ 48,320,951
1% increase (8.375%).....	\$ 19,784,368	\$ 404,941	\$ 17,123,315	\$ 37,081,235
Covered Payroll.....	\$ 9,683,588	\$ 198,202	\$ 8,381,117	\$ 18,149,649

See notes to schedule of employer allocations and schedule of pension amounts by employer.

(continued)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

FOR THE YEAR ENDED DECEMBER 31, 2018

	Sandwich Housing Authority	Sandwich Water District	Town of Truro	Veterans District
Net Pension Liability				
Beginning net pension liability.....	\$ 324,538	\$ 2,077,007	\$ 11,908,476	\$ 697,101
Ending net pension liability.....	\$ 376,915	\$ 2,412,281	\$ 14,205,317	\$ 808,937
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....	22,012	140,877	829,588	47,242
Changes of assumptions.....	31,555	201,953	1,189,249	67,723
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	2,835	3,666	286,806	58,995
Total Deferred Outflows of Resources.....	<u>\$ 56,402</u>	<u>\$ 346,496</u>	<u>\$ 2,305,643</u>	<u>\$ 173,960</u>
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 3,547	22,702	133,688	7,613
Net difference between projected and actual investment earnings on pension plan investments.....	-	-	-	-
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	67	165,264	130,225	28,115
Total Deferred Inflows of Resources.....	<u>\$ 3,614</u>	<u>\$ 187,966</u>	<u>\$ 263,913</u>	<u>\$ 35,728</u>
Pension Expense				
Proportionate share of plan pension expense.....	\$ 46,842	299,794	1,765,413	100,530
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	754	(54,058)	(1,600)	10,101
Total Employer Pension Expense.....	<u>\$ 47,596</u>	<u>\$ 245,736</u>	<u>\$ 1,763,813</u>	<u>\$ 110,631</u>
Contributions				
Statutory required contribution.....	\$ 30,532	\$ 191,850	\$ 1,129,757	\$ 64,335
Contribution in relation to statutory required contribution.....	(30,532)	(191,850)	(1,129,757)	(64,335)
Contribution deficiency/(excess).....	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Contributions as a percentage of covered payroll.....	21.57%	21.17%	21.45%	22.72%
Deferred Outflows/(Inflows) Recognized in Future Pension Expense				
June 30, 2020.....	\$ 16,470	\$ 46,527	\$ 590,719	\$ 43,831
June 30, 2021.....	10,599	8,955	369,469	31,232
June 30, 2022.....	10,198	6,920	410,237	21,290
June 30, 2023.....	15,411	96,009	619,269	41,937
June 30, 2024.....	110	119	52,036	(58)
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	<u>\$ 52,788</u>	<u>\$ 158,530</u>	<u>\$ 2,041,730</u>	<u>\$ 138,232</u>
Discount Rate Sensitivity				
1% decrease (6.375%).....	\$ 481,142	3,079,340	18,133,459	1,032,629
Current discount rate (7.375%).....	\$ 376,915	\$ 2,412,281	\$ 14,205,317	\$ 808,937
1% increase (8.375%).....	\$ 289,243	1,851,171	10,901,083	620,774
Covered Payroll.....	\$ 141,573	\$ 906,067	\$ 5,266,513	\$ 283,146

See notes to schedule of employer allocations and schedule of pension amounts by employer.

(continued)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

FOR THE YEAR ENDED DECEMBER 31, 2018

	Town of Wellfleet	Town of Yarmouth	Yarmouth Housing Authority	West Barnstable Fire District
Net Pension Liability				
Beginning net pension liability.....	\$ 13,084,397	\$ 46,788,644	\$ 437,636	\$ 1,427,942
Ending net pension liability.....	\$ 15,797,094	\$ 54,297,786	\$ 507,573	\$ 1,432,293
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....	922,548	3,170,983	29,642	83,646
Changes of assumptions.....	1,322,510	4,545,733	42,493	119,910
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	799,311	218,748	2,912	56,480
Total Deferred Outflows of Resources.....	\$ 3,044,369	\$ 7,935,464	\$ 75,047	\$ 260,036
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 148,669	\$ 511,004	\$ 4,777	\$ 13,480
Net difference between projected and actual investment earnings on pension plan investments.....	-	-	-	-
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	52,663	1,166,521	41,064	155,073
Total Deferred Inflows of Resources.....	\$ 201,332	\$ 1,677,525	\$ 45,841	\$ 168,553
Pension Expense				
Proportionate share of plan pension expense.....	\$ 1,963,238	\$ 6,748,033	\$ 63,082	\$ 178,002
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	160,851	(243,867)	(9,273)	(3,381)
Total Employer Pension Expense.....	\$ 2,124,089	\$ 6,504,166	\$ 53,809	\$ 174,621
Contributions				
Statutory required contribution.....	\$ 1,256,352	\$ 4,318,333	\$ 41,116	\$ 113,911
Contribution in relation to statutory required contribution.....	(1,256,352)	(4,318,333)	(41,116)	(113,911)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.44%	21.66%	24.20%	21.17%
Deferred Outflows/(Inflows) Recognized in Future Pension Expense				
June 30, 2020.....	\$ 819,543	\$ 2,020,189	\$ 11,891	\$ 56,341
June 30, 2021.....	573,500	1,174,488	3,984	34,028
June 30, 2022.....	586,078	1,048,249	3,112	5,977
June 30, 2023.....	780,821	2,018,259	10,166	26,056
June 30, 2024.....	83,095	(3,246)	53	(30,919)
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 2,843,037	\$ 6,257,939	\$ 29,206	\$ 91,483
Discount Rate Sensitivity				
1% decrease (6.375%).....	\$ 20,165,404	\$ 69,312,544	\$ 647,930	\$ 1,828,359
Current discount rate (7.375%).....	\$ 15,797,094	\$ 54,297,786	\$ 507,573	\$ 1,432,293
1% increase (8.375%).....	\$ 12,122,604	\$ 41,667,826	\$ 389,509	\$ 1,099,134
Covered Payroll.....	\$ 5,861,119	\$ 19,933,468	\$ 169,888	\$ 537,977

See notes to schedule of employer allocations and schedule of pension amounts by employer.

(continued)

SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

FOR THE YEAR ENDED DECEMBER 31, 2018

	Cape Cod Regional Transit Authority	Monomoy Regional School District	Provincetown Housing Authority	Totals
Net Pension Liability				
Beginning net pension liability.....	\$ 2,077,007	\$ 10,449,951	\$ 129,811	\$ 680,443,471
Ending net pension liability.....	\$ 2,336,890	\$ 12,136,781	\$ -	\$ 790,374,641
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....	136,474	708,786	-	46,157,764
Changes of assumptions.....	195,641	1,016,074	-	66,169,041
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	<u>284,579</u>	<u>138,137</u>	<u>55,536</u>	<u>20,257,938</u>
Total Deferred Outflows of Resources.....	<u>\$ 616,694</u>	<u>\$ 1,862,997</u>	<u>\$ 55,536</u>	<u>\$ 132,584,743</u>
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 21,993	\$ 114,221	\$ -	\$ 7,438,327
Net difference between projected and actual investment earnings on pension plan investments.....	-	-	-	-
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	<u>261,013</u>	<u>352,437</u>	<u>103,306</u>	<u>19,671,103</u>
Total Deferred Inflows of Resources.....	<u>\$ 283,006</u>	<u>\$ 466,658</u>	<u>\$ 103,306</u>	<u>\$ 27,109,430</u>
Pension Expense				
Proportionate share of plan pension expense.....	\$ 290,422	\$ 1,508,339	\$ -	\$ 98,226,410
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	<u>(20,576)</u>	<u>(109,278)</u>	<u>(2,167)</u>	<u>148,814</u>
Total Employer Pension Expense.....	<u>\$ 269,846</u>	<u>\$ 1,399,061</u>	<u>\$ (2,167)</u>	<u>\$ 98,375,224</u>
Contributions				
Statutory required contribution.....	\$ 185,854	\$ 965,245	\$ -	\$ 62,544,990
Contribution in relation to statutory required contribution.....	<u>(185,854)</u>	<u>(965,245)</u>	<u>-</u>	<u>(62,544,990)</u>
Contribution deficiency/(excess).....	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Contributions as a percentage of covered payroll.....	21.17%	21.17%	N/A	22.09%
Deferred Outflows/(Inflows) Recognized in Future Pension Expense				
June 30, 2020.....	\$ 76,865	\$ 396,789	\$ (2,167)	\$ 33,105,075
June 30, 2021.....	40,467	207,758	(2,167)	20,794,779
June 30, 2022.....	73,828	278,136	(2,170)	20,164,430
June 30, 2023.....	152,743	513,053	(20,604)	31,411,029
June 30, 2024.....	<u>(10,215)</u>	<u>603</u>	<u>(20,662)</u>	<u>-</u>
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	<u>\$ 333,688</u>	<u>\$ 1,396,339</u>	<u>\$ (47,770)</u>	<u>\$ 105,475,313</u>
Discount Rate Sensitivity				
1% decrease (6.375%).....	\$ 2,983,101	\$ 15,492,918	\$ -	\$ 1,008,933,895
Current discount rate (7.375%).....	\$ 2,336,890	\$ 12,136,781	\$ -	\$ 790,374,641
1% increase (8.375%).....	\$ 1,793,317	\$ 9,313,700	\$ -	\$ 606,529,204
Covered Payroll.....	\$ 877,752	\$ 4,558,648	\$ -	\$ 283,145,854
See notes to schedule of employer allocations and schedule of pension amounts by employer.				(concluded)

NOTE I – Schedule of Employer Allocations

Governmental Accounting Standards Board (GASB) Statement #68 requires employers participating in a cost-sharing pension plan to recognize pension liabilities as employees provide services to the government and earn their pension benefits. Employers participating in cost-sharing plans are required to recognize their proportionate share of the plan's collective pension amounts for all benefits provided through the plan including the net pension liability, deferred outflows of resources, deferred inflows of resources, contributions and pension expense.

GASB Statement #68 requires the allocation of the collective pension amounts be consistent with the manner in which contributions to the plan are determined. As permissible under GASB Statement #68, The Schedule of Employer Allocations is used to demonstrate the allocation of Barnstable County Retirement Association's collective pension amounts.

Massachusetts General Law (MGL) Chapter 32 Section 22 Paragraph 7c dictates that Massachusetts cost sharing defined benefit pension plans allocate the annual required pension fund appropriation to employer units based on their proportionate share of the aggregate of the annual rates of regular compensation of all members in service of the Association who are employees of any government unit at the close of business on the September 30th immediately preceding the fiscal year. Accordingly, the proportionate aggregate rates of regular compensation as of the close of business on September 30, 2017 were applied to allocate the Association's December 31, 2018 pension fund appropriation by member unit.

The Barnstable County Hospital was operated by Barnstable County from the late 1800s to 1995, when it was closed and all employees were terminated. The remaining payments due from the Barnstable County Retirement Association to the former employees of the Barnstable County Hospital were actuarially determined and are separately identified in the Association's funding schedule. Barnstable County continues to pay for the retirement obligations related to previously retired Hospital employees.

In 2012, the Barnstable County Sheriff's functions were taken over by the Commonwealth of Massachusetts. Barnstable County continues to pay for the retirement obligations related to previously retired Sheriff's employees. These liabilities are actuarially determined and are separately identified in the Association's funding schedule.

When a member unit accepts an Early Retirement Incentive Program (E.R.I. or ERIP), PERAC completes an analysis of the costs and liabilities attributable to the additional benefits payable in accordance with the ERIP. The accrued liability for the members who accept the ERIP as retirees including the ERIP less the accrued liability for the members as active employees excluding the ERIP represents the increase in accrued liability due to the ERIP. The net increase is amortized for each member unit accepting the ERIP, and is separately identified in the Association's funding schedule. The 2003 ERIP amortization is occurring over 25 years, increasing 4.5% per year. The 2010 ERIP amortization is occurring over a 10 year, straight-line basis.

The allocation percentage of the total net pension liability is a blended rate of the following three items. (1) The proportionate share of active employer's covered payroll is applied to the fiscal year 2018 pension fund appropriation calculated by the actuary. (2) ERI is a direct charge calculated by PERAC for only the employers that accepted the ERI. (3) The direct amortization of the actuarially determined net pension liability for Barnstable County Sheriff and Barnstable County Hospital since they no longer have active covered payroll.

NOTE II – Schedule of Pension Amounts by Employer

The Schedule of Pension Amounts by Employer presents the net pension liability, the various categories of deferred outflows of resources and deferred inflows of resources, contributions and pension expense for all participating employers including differences between expected and actual economic experience; differences between projected and actual investment earnings, net; and changes of assumptions.

Changes in Assumptions

None

Changes in Plan Provisions

None

NOTE III – Change in Member Units

Cape Light Compact JPE

The Cape Light Compact (Compact) was originally established in 1997 pursuant to an Inter-Municipal Agreement for the purpose of providing competitive electric supply, green power options, energy efficiency programs and consumer advocacy for the residents and businesses of Cape Cod and Martha's Vineyard. Prior to 2017, the Compact operated through Barnstable County and all employees were employees of Barnstable County. The Compact was charged for their proportionate share of employee related costs, including their share of Barnstable County's annual pension assessment. Accordingly, the full net pension liability was reported under Barnstable County as the employer and member unit of Barnstable County Retirement Association.

In 2017, the Cape Light Compact reorganized and reconstituted itself as a joint powers entity (JPE). As of July 1, 2017, the Cape Light Compact JPE became the legal and operational successor to the Cape Light Compact. As of that date, employees who were previously employees of Barnstable County became employees of the Cape Light Compact JPE. For the year ended December 31, 2018, Cape Light Compact JPE has been assessed its share of the pension fund appropriation for Barnstable County Retirement Association, for the first time. As a result, previously reported net pension liabilities of the transferred employees are now reported under the new entity (Cape Light Compact JPE) as a new member unit and are no longer included within the net pension liability of Barnstable County.

As of December 31, 2017, the Compact was 9.81% of Barnstable County's Net Pension Liability and related Deferred Outflows and Deferred Inflows of Resources. This represents an increase from 9.58% as of December 31, 2016. The Compact's share of the Net Pension Liability, Deferred Outflows of Resources, and Deferred Inflows of Resources totaled \$3,278,811 in Net Pension Liability; \$408,597 in Deferred Outflows from changes in assumptions; \$141,479 in Deferred Outflows from changes in proportion; \$46,972 in Deferred Inflows from differences between expected and actual experience, \$213,988 in Deferred Inflows from the difference between projected and actual investment earnings on pension plan investments; and \$123,182 in Deferred Inflows from changes in proportion, as of December 31, 2017.

Provincetown Housing Authority

Each member unit's share of the net pension liability is based on the pension fund appropriation, which is based on the covered payroll of the member unit. The Provincetown Housing Authority did not have covered payroll and, as a result, had no pension fund appropriation or net pension liability for the year ended December 31, 2018.