

NEW JERSEY WATER SUPPLY AUTHORITY

BASIS AND BACKGROUND STATEMENT

**PROPOSED AMENDMENTS TO N.J.A.C. 7:11-4.1, et seq. IN THE SCHEDULE OF
RATES, CHARGES AND DEBT SERVICE ASSESSMENTS
FOR THE SALE OF WATER FROM THE
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM**

**ADJUSTMENT OF OPERATIONS AND MAINTENANCE EXPENSE COMPONENT
TO REFLECT NO CHANGE IN OPERATING EXPENSE FOR FISCAL YEAR 2019**

**ADJUSTMENT OF SOURCE WATER PROTECTION FUND COMPONENT TO
REFLECT NO CHANGE IN COMPONENT RATE
FOR FISCAL YEAR 2019**

**ADJUSTMENT OF DEBT SERVICE COST COMPONENTS TO
REFLECT BOND YEAR PAYMENTS DUE AND REQUIRED
FOR FISCAL YEAR 2019**

**ADJUSTMENT OF NJEIFP DEBT COMPONENT TO
REFLECT BOND YEAR PAYMENTS DUE AND REQUIRED
FOR FISCAL YEAR 2019**

Proposed Effective Date: July 1, 2018

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PART I – EXPLANATION OF PROPOSED REVISED RATE STRUCTURE

Overview of Rate Proposal for Fiscal Year 2019

(July 1, 2018 - June 30, 2019)

The New Jersey Water Supply Authority (Authority) is proposing to adjust its Schedule of Rates, Charges and Debt Service Assessments for the sale of water from the Manasquan Reservoir Water Supply System (System), to cover expenses for the Fiscal Year (FY) starting on July 1, 2018.

The Authority operates and maintains the System including the Intake Facilities located in Wall Township adjacent to Hospital Road, the Manasquan Reservoir located in Howell Township and 5 1/4 miles of 66-inch diameter pipeline which connects the Intake Facilities to the Reservoir. The Authority also operates and maintains a water treatment plant located on the same site as the Reservoir Intake Facilities and approximately 39,000 feet of transmission piping. This treatment plant/transmission system was constructed and is being operated by the Authority for the Southeast Monmouth Municipal Utilities Authority (SMMUA) on behalf of the Boroughs of Brielle, Spring Lake, Spring Lake Heights, Sea Girt and Wall Township, which have entered into agreements with SMMUA for the treatment/transmission of their portion of the supply from the System.

Summary of Proposed Adjustments

Initial Water Purchase Contracts of 15.008mgd (15.695mgd at July 1, 1990 and 14.980mgd at July 1, 2015) and Shorelands (.028mgd) delayed water contract effective July 1, 2006:

Component	Current (FY2018) Rates Per MG 7/1/2017 – 6/30/2018	Proposed (FY2019) Rates Per MG 7/1/2018 – 6/30/2019
Operations & Maintenance Component	\$432.87	\$432.87
Source Water Protection Fund Component	15.00	15.00
Debt Service Cost Component	570.55	570.55
NJEIFP Debt Component	24.93	24.93
TOTAL RATE	\$1,043.35/mg	\$1,043.35/mg

New Jersey American Water Delayed Water Purchase Contracts Effective July 1, 2001, October 1, 2002 and January 1, 2005 (4.435mgd):

Component	Current (FY2018) Rates Per MG 7/1/2017 – 6/30/2018	Proposed (FY2019) Rates Per MG 7/1/2018 – 6/30/2019
Operations & Maintenance Component	\$432.87	\$432.87
Source Water Protection Fund Component	15.00	15.00
Debt Service Cost Component	664.96	664.96
NJEIFP Debt Component	24.93	24.93
TOTAL RATE	\$1,137.76/mg	\$1,137.76/mg

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The General Rate Schedule for Operations and Maintenance (O&M) was last adjusted effective July 1, 2017 to cover the operating expenses of the System for FY2018. The FY2018 sales base was 19.443 million gallons per day (mgd). The Authority anticipates that the applicable raw water O&M sales base for FY2019 will remain the same at 19.443 mgd. The initial sales base will remain the same at 15.008mgd and the delayed sales base will remain at 4.435mgd.

After the allocation of appropriate Headquarters General and Administrative costs to the System, the Authority anticipates \$3,069,825 in O&M component revenue required during FY2019 with an O&M rate component of \$432.87 per million gallons, no change from FY2018, starting on July 1, 2018 (Schedule 20, page 41). The proposed operating expense budget for FY2019 is \$136,250 less than FY2018 and the proposed Capital Equipment Budget, net of depreciation reserve, is \$5,200 more than FY2018. In FY2019 there will be a \$10,000 contribution to the Sediment Reserve Fund, a \$120,000 contribution to the Renewal and Replacement Fund, a \$5,000 contribution to the Formal Dam Inspection Reserve, and a \$15,000 contribution to the High Voltage Testing Reserve Fund, the same as in FY2018. In FY2019 there will be no contribution to the Other Post-Employment Benefits Reserve and no Supplemental Renewal and Replacement Fund contribution. The OPEB Reserve is fully funded. See Budget Summary on page 19.

A credit of \$114,905 is owed from the SMMUA Water Treatment Plant and Transmission System to the Manasquan Reservoir for actual FY2017 salaries and fringe expenses and will be applied to the CY2018 SMMUA budget (Schedule 15, pages 34-36).

Miscellaneous revenue and interest income in FY2019 is projected to decrease by \$262,150 relative to FY2018 reflecting stable interest earnings (Schedule 16, page 37) and a decrease in the use of year end surplus available from FY2017 (Schedule 17, page 38). Overdraft revenue of \$188,350 is available from the summer of 2016 and 2017.

The System was financed with loans from the State of New Jersey and a Debt Service Assessment for contracts, effective as of July 1, 1990, was established to cover debt service payments on the initial loan of \$63,600,000 at a set interest rate of 7.15 percent and payment of the interim completion loan of \$7,416,000 at an interest rate of 7.16 percent. During FY1992 the State of New Jersey reduced the interest rate on the completion loan to 6.24 percent. During FY1997, the Authority negotiated an agreement with the State of New Jersey, which reduced the interest rate on the \$63,600,000 original State Loan Notes from 7.15 percent to 5.93 percent effective for the payments due on or after August 1998. The Debt Service component of the rate has been adjusted in the past to reflect the revised debt service schedules.

In August of 2005, the Authority refunded the current portion of the State Loan Notes and the Completion Notes at an average coupon of 4.83 percent and net present value savings of \$6.187 million. The terms of the bonds were 15 and 25 years respectively. The bond proceeds also fully funded the Debt Service Reserve Account.

On April 26, 2016, the Authority issued \$17,460,000 in Manasquan Reservoir Water Supply System Refunding Bonds, Series 2016. The proceeds, together with other monies on deposit, were used to prepay \$23,242,358 in Manasquan Reservoir Water Supply System Revenue Bonds, Series 2005 and Current Manasquan State Loan Notes and Completion Notes. The Refunding Bonds carry a bond yield of 1.59%, and mature in incremental annual principal amounts through 2031. The debt service component of the rate represents 120 percent of the principal and interest requirements and debt service coverage must remain at 120 percent through the life of the bonds.

The current refunding resulted in a difference between the par amount of the refunding bonds and the par amount of the refunded bonds of \$5,782,358. The net premium on the refunding bonds was \$1,821,414. The economic gain was a net present value debt savings of \$2,999,861.

The Debt Service component of the rate for the Initial Water Purchase Contracts will be \$570.55 (no change from FY2018) and \$664.96 (no change from FY2018) for the Delayed Water Purchase (DWP) Contracts in FY2019. These changes reflect 120 percent debt service coverage.

The Authority established a Source Water Protection Fund Component in FY2004 dedicating \$15.00 per million gallons to protect the quality and quantity of water in the Manasquan Water Supply System. The Authority decreased the rate component by \$5.00 per million gallons from \$15.00 to \$10.00 for this fund in FY2016. In order to cover program needs the Authority increased the rate by \$5.00 per million gallons to restore the rate to \$15.00 per million gallons in FY2018. The Authority recommends no change to the rate of \$15.00 per million gallons in FY2019.

The Authority closed on a loan to the New Jersey Environmental Infrastructure Financing Program (NJEIFP) on May 3, 2012 to finance the construction of a building structure over the Intake Pump Station and traveling water screens to protect the infrastructure from degradation by the elements. The final interest on the loan is based on 75 percent at zero interest and 25 percent market rate with coupons up to 5 percent for an effective interest rate of .8 percent over the twenty year life of the loans. The rate component of \$24.93 per million gallons in FY2019 is required to cover debt

service payments in accordance with the schedule and is no change from the FY2018 rate.

The base contract O&M Rate (\$432.87), Source Water Protection Program Rate (\$15.00), Debt Service Rate (\$570.55) and NJEIFP Debt Rate (\$24.93) comprise the total base contract rate for raw water of \$1,043.35 per million gallons, and represent no change relative to FY2018. This base contract rate is charged to all uninterruptible service contracts executed prior to July 1, 1990 (and renewed at July 1, 2015), the commencement date of Manasquan Reservoir System operations, and one Delayed Water Purchase contract with Shorelands Water Company executed on July 1, 2006. In order for its customers to be assessed the base contract rate on the .028mgd delayed contract, Shorelands Water Company prepaid the net present value of the difference between the initial water purchase contracts debt service schedule and the delayed water purchase contracts debt service schedule.

The total rate for delayed water purchase contracts in FY2019 is \$1,137.76 per million gallons representing no change relative to the FY2017 delayed water purchase rate. The O&M Component (\$432.87), the Source Water Protection Fund Component (\$15.00), the Debt Service Rate Component (\$664.96) and NJEIFP Debt Rate (\$24.93) comprise the total rate.

Table 1 (page 15) contains a summary of the proposed base contract rate and delayed water purchase contract rate components. The proposed rates shown in Table 1 are effective July 1, 2018 through June 30, 2019. These rates are based upon the projected operating costs and reflect an estimated contracted sales base of 19.443mgd.

Table 2 (page 16) is a twenty-year history of the total initial water purchase contract annual water rate.

Table 3 (page 17) is a fifteen-year history of the combined delayed water purchase contract annual water rates.

Water use payments are to be made quarterly with due dates of October 10, 2017, January 10, 2018, April 10, 2018 and July 10, 2018.

The balance of this document contains a further discussion of the individual rate components, a Schedule of Events and detailed supporting information for the proposed rate adjustment.

Schedule of Events

A pre-public hearing on the proposed rate adjustment is scheduled at 11:00 a.m. on Thursday, January 11, 2017, at the Authority's Manasquan Administration Building, Hospital Road, Wall, New Jersey.

A public hearing on the proposed rate adjustment is scheduled at 11:00 a.m. on Thursday, February 8, 2017, also at the Authority's Manasquan Administration Building in Wall, New Jersey. The public hearing record is scheduled to close on March 19, 2018.

The Authority will take final action on the proposed rate adjustment at its June 4, 2018 meeting at the Authority's Administration Building in Clinton, New Jersey.

Distribution of Headquarters General and Administrative Costs and Insurance Costs to all Operating Systems

On July 1, 1990 the Authority placed the Manasquan Reservoir Water Supply System in operation to provide an untreated water supply for use throughout Monmouth County. In addition to this major System, the Authority also began operation of the Water Treatment Plant and Transmission System for the Monmouth County Improvement Authority (MCIA) on July 1, 1990. The Boroughs of Brielle, Spring Lake, Spring Lake Heights, Sea Girt and Wall Township entered into agreements with the MCIA for this treatment/transmission system, which treats and conveys their portion of the supply from the Manasquan Reservoir Water Supply System. In December 2008, the five member communities created the Southeast Monmouth Municipal Utilities Authority and in September 2009 purchased the Water Treatment Plant from the MCIA and the Authority continues to operate the Water Treatment Plant. The Authority also operates the Spruce Run/Round Valley Reservoirs Complex and the Delaware and Raritan Canal Water Supply Transmission Complex comprising the Raritan Basin System, headquartered in Clinton, New Jersey. As a result, the Authority is operating, maintaining and managing three distinct Systems each with its own budget, cost accountability and revenue stream.

The Authority's headquarters staff located in Clinton provides general and administrative support services for all three Systems. These services include, but are not limited to, Financial Management, Payroll, Human Resources, Purchasing, Contract Administration, Risk Management, and overall management.

In order to equitably assess the customers of each of the three Systems, the Authority previously retained the services of an auditing firm to develop a methodology for the allocation of the Headquarters General and Administrative costs to all three operating Systems. After the close of each fiscal year, the Authority's current Auditors provide the Authority with their findings as to the adjustment, if any, of the allocation factors and the actual audited expenditures for the fiscal year.

The audit report for the immediately preceding fiscal year ending June 30 is available during November. Each September the Authority formulates the proposed budgets for the upcoming fiscal year starting on the following July 1. The adjusted allocation factors, if any and the audited expenditures for the previous fiscal year are used to establish a debit or credit for each of the three operating Systems. This debit or credit is applied to the budgets being prepared each September for the upcoming fiscal year starting on July 1.

An independent auditor performed the Authority's fiscal year 2017 audit. The audit included a review of the allocation factors, as well as the actual audited expenditures. The appropriate adjustments have been made to the FY2019 budget based on the FY2017 audit. A copy of the Auditor's report on the allocation of the Headquarters General and Administrative costs is included in the Appendices to the rate proposal package for each System.

Insurance costs are also allocated to each System based upon the recommendations of the Authority's Risk Management Consultant. See the rate proposal package for additional information.

Distribution of Costs Between the Manasquan Reservoir System and the Treatment Plant/Transmission System

A common staff operates the System and the Treatment Plant/Transmission System. Salaries are allocated between the two Systems based upon time records that were kept during the fiscal year ending on June 30, 2017. The percentages used to provide the basis for the salary allocation for FY2019, were established from the time records from FY2014 through FY2017. A listing of all positions and the percentage of each position's time assigned to each of the two Systems appear on Schedule 2 (page 21).

Detailed budgets have been prepared for the Manasquan Reservoir System and the Treatment Plant/Transmission System. Each System's budget has three main categories of annual operational expenses in addition to the allocation of headquarters overhead. The three categories include (a) salaries and fringes (b) direct operation and maintenance expenses and (c) general and administrative expenses. Part 2 of this document provides more information on both Systems including detailed summaries of the projected line item budget figures for General and Administrative expenses and Operations and Maintenance expenses for FY2019.

Analysis of Significant Changes in Operations and Maintenance Expenses and Sales Base - Manasquan Reservoir System

Overview of Sales Base

On July 1, 1990 the Authority placed the Manasquan Reservoir Water Supply System in operation to provide an untreated water supply for use throughout Monmouth County. Twelve of the 13 original water purchase contracts were renewed effective July 1, 2015 and expire June 30, 2040. The final customer contract, New Jersey American, consolidated the initial water purchase and delayed water purchases for a total of 12.5mgd and has an expiration date of June 30, 2031. Of the 13 contracts, six are two-party contracts with the New Jersey Water Supply Authority. These are the five treated water customers (Wall Township and the Boroughs of Brielle, Sea Girt, Spring Lake and Spring Lake Heights) of the Southeast Monmouth Municipal Utilities Authority's water treatment plant operated by the New Jersey Water Supply Authority and the New Jersey American Contract. One is a three party contract (Keyport Borough) among the Authority, the customer and Shorelands Water Company for the delivery of water through Shorelands' distribution system. Six contracts (the Boroughs of Avon, Belmar, Matawan, Red Bank and Lake Como, and Shorelands Water Company) are three party contracts among the Authority, the customers and New Jersey American for the provision of treated water from New Jersey American. The total sales base dropped from 20.560 to 19.443mgd effective July 1, 2015 and remains the total for FY2019.

Overview of Projected Operational Expenses

The Authority's proposed FY2019 Manasquan Reservoir Total Expense budget is \$122,250 less than the current FY2018 budget. The allocation of Authority Headquarters General and Administrative Expenses in FY2019 increases by \$14,000 over FY2018. Capital Equipment budget for FY2019 is \$5,200 more than FY2018. There will be no FY2019 contribution to the Depreciation Reserve account, Insurance Reserve, or Pumping Reserve. There will be a \$10,000 contribution to the Sediment Reserve, a \$5,000 contribution to the Formal Dam Inspection Reserve, and a \$15,000 contribution to the Reserve for High Voltage Testing. Formal Dam Inspections and High Voltage Testing are performed every three years and rather than raising the entire amount every third year, budget stability is created by raising one third of the cost every year. There will be a normal contribution to the Renewal and Replacement Fund of \$120,000. There will be no contribution to the reserve for other post-employment benefits (accrued sick leave payments for retirees) which was created in FY2017. Miscellaneous revenue and interest income decreases by \$262,150. These factors contribute to a \$14 increase in the total FY2019 O&M Component requirement relative to FY2018 (\$3,069,811 vs. \$3,069,825). (Budget Summary on page 19)

Total O&M Direct Expenses are decreasing by \$29,948 from FY2018. The largest contributor is a decrease in Sediment Removal costs. The Authority is again funding a water quality gaging station upstream at Squankum which will be operated by the USGS and will be useful to the Authority in attempting to determine the root cause of changes to water quality and color in the Manasquan River Basin over the past several years.. General and Administrative Expenses allocated to the Reservoir System are decreasing by \$17,298 from FY2018.

Salaries, Overtime and Benefits

One of the three union contracts under which Authority employees operate is not yet negotiated. The previous contract expired June 30, 2015. The FY2019 budget assumes a 1.5% cost of living adjustment payable July 1, 2018. This is the cost of living adjusted awarded in the International Federation of Professional and Technical Engineers (IFPTE) and International Brotherhood of Electrical Workers (IBEW) contracts. The IFPTE, AFL-CIO, represents the Authority's Maintenance, Craft and Security Units and the Communications Workers of America (CWA) represents the Authority's Administrative and Clerical, Primary Level and Higher Level Supervisors Units. The International Brotherhood of Electrical Workers (IBEW) represents two managers from the Raritan system and one from the Manasquan system.

The Authority has built in 32 percent per year growth for Pension contributions over actual FY2017. Although increases have stabilized in the last three years, there is still a level of uncertainty in this expense item because the pension system remains significantly underfunded.

Total salary and fringe is increasing by \$28,564 for FY2019 from FY2018, and the portion allocated to the Reservoir System is decreasing by \$89,000. The four-year averaging of allocation between the Reservoir System and the Treatment Plant projects has stabilized the movement of salary dollars to the Reservoir System from the Treatment Plant. In FY2019, 46 percent of total salary and fringe is allocated to the Reservoir System and 54% to the Treatment Plant. The number

of budgeted positions in FY2019 is 27, which is the same as FY2018. (Schedule 2, page 21) The Authority is budgeting 68 percent of the salary budget for fringe benefits in FY2019 which is inclusive of retiree medical.

Retiree Health Benefits

Employees who retired with a minimum of 25 years of service prior to July 1, 1997 are entitled to paid health benefits. For those who attain 25 years on or after July 1, 1997, share some portion of post-retirement health benefit costs with the employer as determined by union contract or bargaining unit agreement. The Authority retiree health benefits expense item is increasing in FY2019 from \$165,000 to \$204,300. The original retirement estimates for FY2018 were not realized and unless there are an unusually high number of retirements in FY2019, the line item should be adequate (\$93,713 increase over FY17 actual). Because there are only five retirees at present in the Manasquan System, each additional retiree will drive a large increase on a percentage basis. The FY2019 budget plans for three additional retirees, the same number that was budgeted for FY2018 but not realized.

Insurance Program

The Authority is recommending a \$4,419 increase in insurance expenses for FY2019 reflecting general market conditions based on the advice of the Authority's insurance broker and consultant. As always, the Authority will review the rate projection for FY2019 in February 2018 to determine if adjustments are necessary.

Allocation of the Primary, Umbrella and Public Officials Liability insurance costs between the three Systems is based upon proportionate water sales. The Automobile Liability cost is allocated based upon the assignment of vehicular equipment to each System. The cost of the Business Property coverage is allocated on the basis of insured values for each System and the Workers Compensation premiums are allocated on the basis of salaries for each System.

Fees and Permits

Staff proposes a FY2019 budgetary line item of \$35,500 for fees and permits reflecting no change over FY2018.

Headquarters General and Administrative Expenses

Budgeted Headquarters General and Administrative Expenses in FY2019 total \$810,843 of which \$698,565 is charged to the Manasquan Reservoir System and \$112,278 is charged to the Manasquan Water Treatment Plant (Schedule 13, page 32). Because actual audited Headquarters Expenses were lower than the budget for FY2017 by \$32,900 that difference must be credited in FY2019 resulting in an adjusted charge to the Reservoir System of \$666,000. Headquarters charges are driven primarily by salary and fringe.

Interest Income and Miscellaneous Revenue

The projected interest earnings on reserve funds for FY2019 are \$17,300. This reflects an increase of \$4,100 relative to FY2018 and is based upon an interest rate of .25 percent for short-term investments and a rate of 1.30 percent on long-term investments (See Schedule 16, page 37).

Reserve Contributions

Consistent with FY2018, there will be no FY2019 contribution to the Depreciation Reserve account, the Insurance Reserve or the Pumping Reserve. There will be a \$10,000 contribution to the Sediment Reserve. There will be a regular \$120,000 contribution to the Renewal and Replacement Fund, a \$5,000 contribution to the Reserve for Formal Dam Inspections and a \$15,000 contribution to the Reserve for High Voltage Testing. Formal Dam Inspections and High Voltage Testing are performed every three years and rather than raising the entire amount every third year, budget stability is created by raising one third of the cost every year. There were two new reserve fund contributions in FY2017 which will not be funded in FY2019. There was a supplemental contribution of \$350,000 to the Renewal and Replacement Fund in FY2017 that is not required in FY2019. The Authority requires a minimum balance of \$2 million in the fund to cover dam emergencies, and pipeline and pump emergent repairs. Because the system is aging, there are normal maintenance expenditures included in the five year plan that would have drawn the fund down below the \$2 million requirement without the supplemental deposit. Finally, the Authority funded a reserve for other post-employment benefits (accrued sick leave) in FY2017 in order to assure that sufficient funds are available to pay out sick benefits as this number is not regularly budgeted in salary and fringe.

Review of Reserve Accounts

Depreciation Reserve Account

This reserve is intended to provide for the replacement of Authority machinery and equipment with a value of \$1,000 or more and a useful life in a range from three to ten years and to cushion the impact of replacement equipment purchases in order to provide more stable rates. Depreciation Reserve should equal accumulated depreciation for this class of assets. At August 31, 2017, the balance in Depreciation Reserve of \$579,163 is equal to accumulated depreciation. Therefore, no contribution is required in FY2019.

Self Insurance Reserve

The Self Insurance Fund (\$233,382 balance at August 31, 2017) was established for the System to allow the Authority to make choices between underwritten risk and self-insurance risk in the face of increased prices in the insurance market. No contribution is being made to the fund in FY2019.

Reserve for Operations and Maintenance

A working cash reserve must be maintained at a level, which reflects the amount of the regular annual operating costs plus an allowance for possible extraordinary requirements. The level of this reserve must equal 25 percent of the Annual O&M Budget. An initial contribution of \$125,000 was budgeted in FY1991. A contribution of \$125,000 was budgeted in FY1992. The contribution for FY1993 was \$50,000 because of the availability of additional revenue from FY1991.

An additional \$100,000 was added during FY1993 from the receipt of delinquent revenue and resulted in full funding of this reserve. The Reserve for Operations and Maintenance Fund is fully funded as of June 30, 2016 and as a result, no contribution will be needed in FY2019.

Renewal & Replacement Reserve

The Renewal & Replacement Reserve is to be used for costs of capital improvements including repairs to facilities not covered by insurance and payment of extraordinary O&M costs. As per the terms of the project financing, this Reserve is to be funded by the excess debt service coverage revenue after the Debt Service Reserve requirement has been accumulated. An initial deposit of \$24,287 had been made into this account from overdue revenue received during FY1993. Excess annual debt service coverage amounts were later transferred into this fund. The balance in the Fund as of August 31, 2017 is \$3,827,720. Excess interest earnings on the Debt Service Reserve and Debt Service Funds and excess debt service coverage revenue as well as a direct deposit of \$120,000 provide the source of funds for this reserve account.

Source Water Protection Fund Rate Component

The Authority established its Watershed Protection Unit in 1999 to implement a watershed management program for the Raritan River Basin pursuant to a Memorandum of Agreement with the New Jersey Department of Environmental Protection. Primary functions of the Unit are planning for watershed protection, development and implementation of projects that improve protection of water supply.

As an extension of that program during the period of FY2004, the Authority began the Manasquan Watershed Protection Initiative, and established the Source Water Protection Fund for the purpose of protecting the quality and quantity of water in the Manasquan Reservoir Water Supply System. The fund is used for three purposes in cooperation with State, local and nonprofit partners: (1) administrative assistance in the preservation of those properties in the Manasquan River Basin that are critical to the long-term protection of water quality and quantity in the Manasquan Reservoir Water Supply System as they may affect Authority customers; (2) improved management of land development by municipal, county, and State government to protect both water quality and flow to and within Authority facilities; and (3) remedial projects to improve water quality from existing conditions.

Whenever possible, the Authority will seek to obtain funding from other sources to augment

or match its expenditures from the Source Water Protection Fund. The balance in the Source Water Protection Fund at August 31, 2017 is \$1,511,666. Because of overall rate considerations in prior years, the Authority reduced the Source Water Protection Fund Component from \$15.00 per million gallons to \$10.00 per million gallons in FY2016 and FY2017 and reinstated the rate to \$15.00 per million gallons in FY2018 to ensure adequate funding for these initiatives. The Authority proposes no change to the rate in FY2019.

Optional Water Use Schedule

The Authority continues allowing the use of an Optional Water Use Schedule. When the total of all uninterruptible supply contract diversions is equal to or less than 25mgd, the Purchaser may operate pursuant to an optional water use schedule wherein the Purchaser may divert up to 20 percent in excess of the total contracted amount for any given month.

Overdraft Service

The Authority continues to charge an Overdraft Service Rate by recognizing that daily overdraft service rates apply to all uninterruptible service contract customers, and by recognizing that the daily overdraft service rate is a multiple of the initial water purchase rate.

Other Rule Amendments

There are no other rule amendments for FY2019.

PART II – DETAILED SUPPORTING INFORMATION

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Table 1 - Summary Of Proposed Fiscal Year 2019 Adjustments

BASED ON PRESENT USAGE

The rates, charges and debt service assessments listed below shall be paid for raw water allocated by contract from the Manasquan Reservoir System for the **base contracts effective as of July 1, 2015 (14.980mgd), and Shorelands (.028mgd) delayed water contract effective July 1, 2006:**

I. July 1, 2018 to June 30, 2019

Rate Component	Current	Original Proposal 12/05/17	Difference	Percentage Increase (Decrease)
Operations & Maintenance Expense Component	\$432.87	\$432.87	⇒ \$0.00	0.00%
Source Water Protection Fund Component	\$15.00	\$15.00	⇒ \$0.00	0.00%
Debt Service Cost Component	\$570.55	\$570.55	⇒ \$0.00	0.00%
NJEIFP Debt Component	\$24.93	\$24.93	⇒ \$0.00	0.00%
Total Rate	\$1,043.35/mg	\$1,043.35/mg	⇒ \$0.00	0.00%

The rates, charges and debt service assessments listed below shall be paid for raw water allocated by contract from the Manasquan Reservoir System for all **New Jersey American Water delayed water purchase contracts effective: July 1, 2001 (1mgd), October 1, 2002 (1.935mgd), January 1, 2005 (1.500mgd):**

II. July 1, 2018 to June 30, 2019

Rate Component	Current	Original Proposal 12/05/17	Difference	Percentage Increase (Decrease)
Operations & Maintenance Expense Component	\$432.87	\$432.87	⇒ \$0.00	0.00%
Source Water Protection Fund Component	\$15.00	\$15.00	⇒ \$0.00	0.00%
Debt Service Cost Component	\$664.96	\$664.96	⇓ \$0.00	0.00%
NJEIFP Debt Component	\$24.93	\$24.93	⇒ \$0.00	0.00%
Total Rate	\$1,137.76/mg	\$1,137.76/mg	⇓ \$0.00	0.00%

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Table 2 - Rate History of Water Charges per Million Gallons of Raw Water - Initial
FY1998-FY2019

Initial Water Purchaser 14.980 mgd July 1, 2015
Shorelands .028 mgd July 1, 2006

<u>Effective Date</u>	<u>O&M Charge</u>	<u>Source Water Protection</u>	<u>Debt Repayment 2/1/91-8/01/20</u>	<u>NJEIFP Debt Component</u>	<u>Total Charge per MG</u>	<u>Percent Increase (Decrease)</u>
July 1, 1997	284.09		654.83		\$938.92	-11.85%
July 1, 1998	263.56		569.36		\$832.92	-11.29%
July 1, 1999	114.13		581.18		\$695.31	-16.52%
July 1, 2000	145.81		583		\$728.81	4.82%
July 1, 2001	212.29		585.63		\$797.92	9.48%
July 1, 2002	212.35		582.62		\$794.97	-0.37%
July 1, 2003	201.14	15	578.83		\$794.97	0.00%
July 1, 2004	321.69	15	584.95		\$921.64	15.93%
July 1, 2005	295.41	15	584.6		\$895.01	-2.89%
July 1, 2006	295.41	15	522.86		\$833.27	-6.90%
July 1, 2007	302.52	15	528.54		\$846.06	1.53%
July 1, 2008	302.52	15	566.59		\$884.11	4.50%
July 1, 2009	396.79	15	568.26		\$980.05	10.85%
July 1, 2010	396.79	15	568.69		\$980.48	0.04%
July 1, 2011	347.39	15	618.09	35.42	\$1,015.90	3.61%
July 1, 2012	345.95	15	619.53	35.42	\$1,015.90	0.00%
July 1, 2013	356.61	15	619.87	24.42	\$1,015.90	0.00%
July 1, 2014	356.61	15	619.87	24.42	\$1,015.90	0.00%
July 1, 2015	386.00	10.00	636.61	24.79	\$1,057.40	4.09%
July 1, 2016	432.87	10.00	636.61	25.10	\$1,104.58	4.46%
July 1, 2017	432.87	15.00	570.55	24.93	\$1,043.35	-5.54%
July 1, 2018	432.87	15.00	570.55	24.93	\$1,043.35	0.00%

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Table 3 - Rate History of Water Charges per Million Gallons of Raw Water - Delayed
FY2003-FY2019

Delayed Water Purchaser NJ-American 1 mgd July 1, 2001
1.935 mgd October 1, 2002
1.500 mgd January 1, 2005

Effective Date	O&M Charge	Source Water Protection	Debt Repayment <u>2/1/02-8/01/31</u>	NJEIFP Debt Component	Total Charge per MG	Percent Increase (Decrease)
July 1, 2002	212.35		835.61		\$1,047.96	1.20%
July 1, 2003	201.14	15.00	849.31		\$1,065.45	1.67%
July 1, 2004	321.69	15.00	849.31		\$1,186.00	11.31%
July 1, 2005	295.41	15.00	853.85		\$1,164.26	-1.83%
July 1, 2006	295.41	15.00	763.61		\$1,074.02	-7.75%
July 1, 2007	302.52	15.00	764.44		\$1,081.96	0.74%
July 1, 2008	302.52	15.00	762.28		\$1,079.80	-0.20%
July 1, 2009	396.79	15.00	763.24		\$1,175.03	8.82%
July 1, 2010	396.79	15.00	756.19		\$1,167.98	-0.60%
July 1, 2011	347.39	15.00	770.90	35.42	\$1,168.71	0.06%
July 1, 2012	345.95	15.00	772.12	35.42	\$1,168.49	-0.02%
July 1, 2013	356.61	15.00	772.46	24.42	\$1,168.49	0.00%
July 1, 2014	356.61	15.00	772.46	24.42	\$1,168.49	0.00%
July 1, 2015	386.00	10.00	770.07	24.79	\$1,190.86	1.91%
July 1, 2016	432.87	10.00	770.07	25.10	\$1,238.04	3.96%
July 1, 2017	432.87	15.00	664.96	24.93	\$1,137.76	-8.10%
July 1, 2018	432.87	15.00	664.96	24.93	\$1,137.76	0.00%

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule of Events

(N.J.A.C. 7:11-4.1 et.seq.)
To become effective July 1, 2017

2017

- SEPTEMBER 28 Advise Water Users of informal meeting.
- NOVEMBER 2 Informal meeting with Water Users – 11:00 AM.
- DECEMBER 4 Board reviews and approves proposed Rates.
- 22 Mail Official Notice to water customers, Rate Payer Advocate, interested parties and advertise in newspapers.

2018

- JANUARY 2 Publication in the New Jersey Register.
- 11 Pre-Public Hearing – 11:00 AM (within 45 days of Official Notice).
Deadline for responses to inquires received prior to pre-public hearing.
- FEBRUARY 2 Deadline for receipt of comments to be addressed at Public Hearing
(15 days after pre-public hearing).
- 8 Public Hearing Meeting. (Manasquan Administration Building) – 11:00
AM Deadline for responses to inquires received between pre-public and
public hearing.
- 26 Written responses to questions raised at Hearing (within 10
business days of the public hearing).
- MARCH 3 NJ Register Comment Period Ends.
- 19 Public Hearing record closes (25 business days after
Public Hearing).
- JUNE 4 Board approval of FY 2019 Rates and Budgets.
- JULY 1 Effective date.

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Proposed Fiscal Year 2019 Budget Summary

(07/01/18-06/30/19)

	ADOPTED F/Y2018 <u>Reservoir Budget</u>	PROPOSED F/Y2019 <u>Reservoir Budget</u>
Proposed Operating Expense Budget (Schedule 1)	\$ 2,687,830	\$ 2,551,580
Allocation of Headquarters General & Administrative Expenses to the Manasquan Reservoir System (Schedule 13)	<u>\$ 652,000</u>	<u>\$ 666,000</u>
Proposed Total Expense Budget	\$ 3,339,830	\$ 3,217,580
Proposed Capital Equipment Budget (Schedule 14)	\$ 17,600	\$ 22,800
Contribution to Reserve Funds		
- Sediment Reserve	\$ 10,000	\$ 10,000
- Formal Dam Inspection Reserve	\$ 5,000	\$ 5,000
- Renewal & Replacement Fund	\$ 120,000	\$ 120,000
- High Voltage Testing Reserve	\$ 15,000	\$ 15,000
- Other Post Employment Benefits Reserve	\$ -	\$ -
- Supplemental Renewal & Replacement	\$ -	\$ -
Adjustment for F/Y17 Salary and Fringe Expenses to be paid (from)/to WTP/TS Account (Schedule 15)		\$ (114,905)
Adjustment for F/Y16 Salary and Fringe Expenses to be paid (from)/to WTP/TS Account	<u>\$ 30,181</u>	
Total Budget Requirements	<u>\$ 3,537,611</u>	<u>\$ 3,275,475</u>
Interest Earnings on Funds (Except Renewal and Replacement and Depreciation Reserve Fund) (Schedule 16)	\$ (13,200)	\$ (17,300)
Unanticipated Revenue (Schedule 17)	<u>\$ (454,600)</u>	<u>\$ (188,350)</u>
Total Miscellaneous Revenue & Interest Income	<u>\$ (467,800)</u>	<u>\$ (205,650)</u>
Net Amount to be paid for O & M Component	<u>\$ 3,069,811</u>	<u>\$ 3,069,825</u>

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 1 - Total Operations & Maintenance Budget

Fiscal Year 2019

	<u>F/Y2017 Reservoir Actual</u>	<u>F/Y2018 Reservoir Adopted</u>	<u>F/Y2019 Reservoir Proposed</u>
Salaries & Fringe Benefits (Schedule 2)*	\$1,430,754	\$1,512,000	\$1,423,000
O & M Direct Expense (Schedule 3)	820,162	1,049,600	1,019,652
G&A Expenses (Schedule 5)	<u>70,909</u>	<u>126,227</u>	<u>108,929</u>
Total Operations & Maintenance Budget	<u>\$2,321,825</u>	<u>\$2,687,827</u>	<u>\$2,551,581</u>
Estimate	<u>\$2,677,270</u>	<u>\$2,687,830</u>	<u>\$2,551,580</u>

Summary of O & M Expenses for Reservoir and Treatment Plant/Transmission System

	F/Y2017 Actual		F/Y2018 Adopted		F/Y2019 Proposed	
	Reservoir	WTP/TS	Reservoir	WTP/TS	Reservoir	WTP/TS
Salaries/Fringe*	\$1,430,754	\$1,538,564	\$1,512,000	\$1,578,050	\$1,423,000	\$1,695,614
O & M Direct Expense	820,162	759,677	1,049,600	941,860	1,019,652	929,660
G & A Expense	<u>70,909</u>	<u>58,323</u>	<u>126,227</u>	<u>98,198</u>	<u>108,929</u>	<u>108,071</u>
Total	\$2,321,825	\$2,356,564	\$2,687,827	\$2,618,108	\$2,551,581	\$2,733,345

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 2 - Labor Projection
Fiscal Year 2019 (7/01/18-6/30/19)

TITLES	RANGE	SALARY	FRINGE BENEFITS	OVERTIME	CLOTHING ALLOWANCE	SHIFT DIFFERENTIAL	TOTAL	ALLOCATION		ALLOCATION	
								RESERVOIR %	AMOUNT RESERVOIR	WTP/TS %	AMOUNT WTP/TS
Director	36	117,000	74,794	-	-	-	191,794	43%	82,500	57%	109,294
Project Engineer II	26	81,100	51,844	-	-	-	132,944	37%	49,200	63%	83,744
Water Supply Tech.	17	59,200	38,196	-	550	-	97,946	35%	34,300	65%	63,646
Administrative Assistant	18	65,600	41,936	-	-	-	107,536	53%	56,700	47%	50,836
Supervisor Technical Facilities Maint	23	82,600	59,304	9,619	550	-	152,073	35%	53,300	65%	98,773
Sr. Water Supply Tech.	20	71,900	46,476	253	550	-	119,179	35%	41,800	65%	77,379
Maintenance Worker I	10	45,200	29,246	-	550	-	74,996	94%	70,400	6%	4,596
Supervisor Operations	29	95,600	61,113	-	-	-	156,713	24%	38,000	76%	118,713
Equipment Operator	12	41,000	26,561	-	550	-	68,111	94%	63,800	6%	4,311
Foreman Bldg & Grounds Maint	19	71,900	46,545	360	550	-	119,355	92%	109,900	8%	9,455
Foreman Facilities Maintenance	20	69,600	45,750	1,417	550	-	117,317	46%	54,100	54%	63,217
Facilities Mechanic (3 Positions)	18	180,900	117,503	1,260	1,650	-	301,313	46%	140,000	54%	161,313
Supervisor Plant Operator	22	78,900	52,129	2,088	550	8	133,675	36%	48,200	64%	85,475
Maintenance Worker I Operations	10	45,200	29,246	-	550	-	74,996	92%	69,200	8%	5,796
Reservoir System Operator (3 Positions)	15	169,800	123,729	20,207	1,650	1,892	317,278	97%	307,700	3%	9,578
Asst. Reservoir System Operator (2 Positions)	13	89,400	64,158	9,863	1,100	-	164,521	97%	159,600	3%	4,921
Plant Operator (3 Positions)	20	213,300	157,512	31,447	1,650	-	403,909	6%	24,300	94%	379,609
Plant Operator (3 Positions)	19	203,700	150,122	29,486	1,650	-	384,958	5%	20,000	95%	364,958
TOTAL:		1,781,900	1,216,164	106,000	12,650	1,900	3,118,614		1,423,000		1,695,614

TOTAL = 27 Positions

NOTE: A. PERCENTAGES ARE FROM THE AVERAGE OF FISCAL YEARS 2014 THROUGH 2017 BASED ON ACTUAL TIME RECORDS.
B. PLANT OPERATOR TIME STUDY PERCENTAGES WERE ADJUSTED TO ACCOUNT FOR THE VALUE OF THE SHIFT DIFFERENTIAL PROVIDED TO THE RESERVOIR

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 3 - Reservoir System Operations and Maintenance Direct Expense Budget

Proposed F/Y 2019, Adopted F/Y 2018, and Actual F/Y 2015-2017

Cost Center: Reservoir Direct
(40)

MANASQUAN WATER SUPPLY SYSTEM
RESERVOIR SYSTEM
O & M DIRECT EXPENSE BUDGET

CODE	ACCOUNT	FY '15 ACTUAL	FY '16 ACTUAL	FY '17 ACTUAL	FY '18 ADOPTED	FY '19 PROPOSED
5110	Regular Salaries & Wages					
5120	Overtime-Salaries & Wages					
5130	New positions-Salaries & Wages					
5140	Seasonal Help-Salaries & Wages					
5150	Fringe Benefits					
5160	Retiree Health Benefits					
	Total Salary, Wages & Fringe					
5200	Residences					
5210	Heating Fuel		1,422			648
5220	Utilities -Electrical Service	113,344	89,648	87,640	90,500	90,500
5230	-Gas Service	6,629	3,382	6,799	8,000	8,000
5240	-Propane					
5250	Electricity for Pumping Station	258,651	245,856	278,032	301,000	333,000
5260	Fuel - Vehicular					
5270	Oil & Grease					
5280	Tires					
5290	Maintenance Supplies	1,750	4,563	3,511	2,000	2,000
5300	Maint. Supplies - Vehicular					
5310	Major Vehicle Service & Repair					
5320	Agricultural Supplies					
5330	Maintenance Equipment	43,693	45,509	46,318	51,500	51,500
5340	Serv. & Maintenance Contracts	49,225	13,073	17,303	42,450	42,450
5350	Equipment Rental	5,700	1,575	4,477	6,500	6,500
5360	Household - Safety Supplies	692	1,670	523	500	1,000
5370	Uniforms					
5380	Special & Professional Services	84,861	192,376	66,612	120,850	110,186
5390	Protective Services	257,277	242,108	228,411	279,000	283,868
5400	Telephone	6,571	7,792	6,810	7,500	8,700
5410	Postage & Freight Out					
5420	Data Processing					
5430	Printing & Office Supplies	1,662	1,194	1,704	1,500	1,500
5440	Scientific & Photographic	1,615	2,975	3,350	5,000	5,500
5450	Dues & Subscriptions					
5460	Advertising & Promotional	1,330	257	487	2,000	2,000
5480	Staff Training & Tuition Aid					
5490	Fees & Permits	32,618	31,180	31,430	35,500	35,500
5500	In - Lieu Taxes	36,756	36,756	36,756	36,800	36,800
5510	Sediment Removal	375	33,184		59,000	
5520	Chemicals					
5525	Carbon Filter Replacement					
	Total Other Expenses	\$902,749	\$954,521	\$820,162	\$1,049,600	\$1,019,652
	Total Operating Expenses	\$902,749	\$954,521	\$820,162	\$1,049,600	\$1,019,652
	ANNUAL BUDGET	\$963,900	\$1,072,500	\$1,018,478	\$1,049,600	\$1,019,652

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 4 - Treatment Plant/Transmission System Operations and Maintenance Direct

Expense Budget

Proposed F/Y 2019, Adopted F/Y 2018, and Actual F/Y 2015-2017

Cost Center: Treat/Trans Direct
(50)

MANASQUAN WATER SUPPLY SYSTEM
WATER TREATMENT PLANT/TRANSMISSION SYSTEM
O & M DIRECT EXPENSE BUDGET

CODE	ACCOUNT	FY '15 ACTUAL	FY '16 ACTUAL	FY '17 ACTUAL	FY '18 ADOPTED	FY '19 PROPOSED
5110	Regular Salaries & Wages					
5120	Overtime-Salaries & Wages					
5130	New positions-Salaries & Wages					
5140	Seasonal Help-Salaries & Wages					
5150	Fringe Benefits					
5160	Retiree Health Benefits					
	Total Salary, Wages & Fringe					
5200	Residences					
5210	Heating Fuel	3,971	5,862	1,403	8,460	6,000
5220	Utilities -Electrical Service	369,880	328,035	317,968	329,500	329,500
5230	-Gas Service	31,655	21,465	29,683	60,000	60,000
5240	-Propane					
5250	Electricity for Pumping Station					
5260	Fuel - Vehicular					
5270	Oil & Grease		3,634		4,000	4,000
5280	Tires					
5290	Maintenance Supplies	4,696	2,491	2,062	6,000	6,000
5300	Maint. Supplies - Vehicular					
5310	Major Vehicle Service & Repair					
5320	Agricultural Supplies					
5330	Maintenance Equipment	80,783	69,270	65,951	112,500	112,500
5340	Serv. & Maintenance Contracts	34,602	30,861	14,919	36,000	37,000
5350	Equipment Rental	1,389	3,077	76,515	4,800	4,800
5360	Household - Safety Supplies	794	1,782	5,900	2,000	2,000
5370	Uniforms					
5380	Special & Professional Services	28,409	25,705	18,158	34,600	34,600
5390	Protective Services	84,013	79,204	78,902	92,000	94,260
5400	Telephone	405	416	435	2,000	
5410	Postage & Freight Out					
5420	Data Processing					
5430	Printing & Office Supplies	2,654	3,949	2,153	6,800	6,800
5440	Scientific & Photographic	13,930	11,882	8,839	15,000	15,000
5450	Dues & Subscriptions					
5460	Advertising & Promotional	1,675	407	494	1,500	1,500
5470	Travel & Subsistence		17	27		
5480	Staff Training & Tuition Aid	0	0	1,400	5,200	5,200
5490	Fees & Permits	11,220	8,103	7,117	8,600	8,600
5500	In - Lieu Taxes	140	140	140	400	400
5510	Residual Removal	19,205	4,400	10,478	33,000	22,000
5520	Water Treatment Chemicals	112,523	99,829	116,894	129,500	129,500
5525	GAC Replacement	50,621	48,702	238	50,000	50,000
5528	Reimb of O&M Capital Expenditures	26,226	28,113			
	Total Other Expenses	\$878,791	\$777,344	\$759,677	\$941,860	\$929,660
	Total Operating Expenses	\$878,791	\$777,344	\$759,677	\$941,860	\$929,660
	ANNUAL BUDGET	\$1,086,600	\$1,094,200	\$1,059,546	\$941,860	\$929,660

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 5 - Reservoir System General and Administrative Operations and Maintenance

Direct Expense Budget

Proposed F/Y 2019, Adopted F/Y 2018, and Actual F/Y 2015-2017

Cost Center: G & A

(60)

MANASQUAN WATER SUPPLY SYSTEM
GENERAL & ADMINISTRATIVE
EXPENSE BUDGET

CODE	ACCOUNT	FY '15 ACTUAL	FY '16 ACTUAL	FY '17 ACTUAL	FY '18 ADOPTED	FY '19 PROPOSED
5110	Regular Salaries & Wages	\$1,611,361	\$1,626,536	\$1,665,410	\$1,777,950	\$1,796,450
5120	Overtime-Salaries & Wages	78,338	91,116	81,085	106,000	106,000
5130	New positions-Salaries & Wages					
5140	Seasonal Help-Salaries & Wages					
5150	Fringe Benefits	798,599	1,090,482	1,835,551	1,036,100	1,006,864
5160	Retiree Health Benefits	105,824	102,036	110,587	165,000	204,300
5168	Workers Comp. (Self-Insured)	1,015	1,172	483	5,000	5,000
	Total Salary, Wages & Fringe	\$2,595,137	\$2,911,342	\$3,693,116	\$3,090,050	\$3,118,614
	Budget - salary and fringe					
5200	Residences					
5210	Heating Fuel					
5220	Utilities -Electrical Service					
5230	-Gas Service					
5240	-Propane					
5250	Electricity for Pumping Station					
5260	Fuel - Vehicular	23,159	15,127	14,726	33,225	20,450
5270	Oil & Grease	6,965	466	4,764	7,900	8,200
5280	Tires	4,490	4,147	2,485	6,500	7,000
5290	Maintenance Supplies	34,978	18,501	9,551	27,300	27,300
5300	Maint. Supplies - Vehicular	6,598	5,809	6,751	9,600	10,600
5310	Major Vehicle Service & Repair	45,077	31,394	20,241	42,600	44,500
5320	Agricultural Supplies	5,002	2,355	2,250	7,600	7,600
5330	Maintenance Equipment	5,441	10,981	4,468	10,450	9,800
5340	Serv. & Maintenance Contracts	8,787	13,676	12,610	19,150	20,750
5350	Equipment Rental	2,087	2,312	2,124	3,400	3,700
5360	Household - Safety Supplies	7,592	6,912	11,592	8,200	7,500
5370	Uniforms					0
5380	Special & Professional Services	1,928	2,228	7,318	3,600	4,000
5390	Protective Services					0
5400	Telephone	5,775	5,587	5,649	7,000	7,000
5410	Postage & Freight Out	449	884	789	500	500
5420	Data Processing	8,363	4,105	4,000	5,000	5,000
5430	Printing & Office Supplies	12,382	3,217	4,530	7,800	7,800
5440	Scientific & Photographic	0	531	180	300	300
5450	Dues & Subscriptions	83	440	840	3,000	3,000
5460	Advertising & Promotional	3,091	971	631	1,500	1,500
5470	Travel & Subsistence	240	291	324	700	900
5480	Staff Training & Tuition Aid	3,435	5,847	12,246	11,400	11,900
5490	Fees & Permits	3,354	3,601	2,961	7,700	7,700
5500	In - Lieu Taxes					
5510	Residual Removal					
5520	Water Treatment Chemicals					
5525	GAC Replacement					
	Total Other Expenses	\$189,275	\$139,381	\$131,030	\$224,425	\$217,000
	Total Operating Expenses	\$2,784,412	\$3,050,723	\$3,824,146	\$3,314,475	\$3,335,614
	Budget- other expenses					
	TOTAL ANNUAL BUDGET					
	Reservoir System	\$109,267	\$81,058	\$70,909	\$126,227	\$108,929
	Treatment/Transmission System	\$80,008	\$58,323	\$60,121	\$98,198	\$108,071

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 6 - List Of Category 5340 Items Recommended Service & Maintenance Contracts

For Reservoir (40)

Fiscal Year 2019

		Adopted F/Y18	Proposed F/Y19
		<u> </u>	<u> </u>
1	HVAC/Dehumidifier Service	\$ 500	\$ 500
2	Instrumentation & Control System Service/Upgrade	3,000	3,000
3	Electrical Upgrade & Repair	14,000	14,000
4	Overhead Crane Service & Inspection	3,000	3,000
5	Fire & Intrusion Alarm Service	1,500	1,500
6	Potable Well/Septic Service	1,500	1,500
7	Fertilization-Dam Dike	3,750	3,750
8	Roadway Crack Sealing	2,000	2,000
9	Wood Debris Removal	2,500	2,500
10	Access Roadway Repairs	2,500	2,500
11	Roofing System Maintenance & Repair	4,000	4,000
12	Reservoir Transmission Line Clearing	3,000	3,000
13	Fios Fiber Optic for Security Cameras	1,200	1,200
		<u> </u>	<u> </u>
	Total Service & Maintenance Contracts	<u>\$ 42,450</u>	<u>\$ 42,450</u>

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 7 - List Of Category 5340 Items Recommended Service & Maintenance Contracts

For WTP/TS (50)

Fiscal Year 2019

		Adopted F/Y18	Proposed F/Y19
1	HVAC Service	\$ 2,000	\$ 2,000
2	Electrical Service Contract	1,000	1,000
3	Instrumentation & Control System Service & Upgrade	4,000	5,000
4	Electrical Upgrade & Repair	2,000	2,000
5	Overhead Crane Service	1,500	1,500
6	UST Monitors Service and Upgrade	1,000	1,000
7	Fire & Intrusion Alarm Service	1,200	1,200
8	Air Compressor Service	1,200	1,200
9	Boiler Service	2,500	2,500
10	Auxiliary Generator Service	3,500	3,500
11	Lab Equipment Service	2,500	2,500
12	Backflow Preventor Service	500	500
13	Gas-Fired Hot Water Heater Service	700	700
14	Instrumentation & Control System Service & Upgrade (Transmission System)	5,000	5,000
15	Electrical Upgrade & Repair (Transmission System)	2,000	2,000
16	Meter Vault Internet Service (Transmission System)	5,400	5,400
Total Service & Maintenance Contracts		<u>\$ 36,000</u>	<u>\$ 37,000</u>

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 8 - List Of Category 5340 Items Recommended Service & Maintenance Contracts

For G & A (60)

Fiscal Year 2019

		<u>Adopted</u> F/Y18	<u>Proposed</u> F/Y19
1	Refuse & Waste Disposal	\$ 2,000	\$ 2,000
2	Office Equipment/Computers	1,800	1,800
3	Waste Oil Disposal	200	200
4	Fire Extinguisher Service	1,100	1,100
5	UST Monitor Service	1,000	-
6	Building Maintenance	750	1,750
7	Internet Service	2,000	2,000
8	Janitorial Service	7,800	8,200
9	Vehicle Lift Inspection	500	500
10	Generator Service & Maintenance	2,000	2,000
11	Forklift Service & Maintenance	-	1,200
	Total Service & Maintenance Contracts	<u>\$ 19,150</u>	<u>\$ 20,750</u>

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 9 - List Of Category 5380 Items Recommended Special & Professional Service

For Reservoir (40)

Fiscal Year 2019

		Adopted F/Y18	Proposed F/Y19
1	Laboratory Services - Water Quality Sampling	\$ 2,000	\$ 2,000
2	Consultant Services	15,000	-
3	Services-USGS Cooperative Agreement	34,000	34,000
4	Annual Trustee Fund	9,500	9,500
5	Dam Management-Surveying	2,500	2,500
6	Wetland Monitoring Management	4,000	4,000
7	Lake Management Consultants	19,500	20,000
8	Engineering Services	2,500	2,500
9	Financial Advisory Services	4,850	4,850
11	USGS Gaging Station Squankum	27,000	30,836
	Total Special & Professional Services	\$ 120,850	\$ 110,186

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 10 - List Of Category 5380 Items Recommended Special & Professional Services

For WTP/TS (50)

Fiscal Year 2019

		Adopted F/Y18	Proposed F/Y19
1	Water Quality Sampling	\$ 17,200	\$ 17,200
2	Residual Quality Analysis	800	800
3	Consultant Services	4,000	4,000
4	USGA Allenwood Gage-Parameters	11,000	11,000
5	Underground Markout Service (Transmission System)	1,600	1,600
6	Water Quality Sampling and Analysis for LT2	-	-
	Total Special & Professional Services	\$ 34,600	\$ 34,600

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 11 - List Of Category 5380 Items Recommended Special & Professional Services

For G & A (60)

Fiscal Year 2019

	<u>Adopted</u> <u>F/Y18</u>	<u>Proposed</u> <u>F/Y19</u>
1 Pulmonary Testing	\$ 1,500	\$ 1,500
2 CDL Medical Testing	500	500
3 EAS Service	1,200	1,200
4 Pre-Employment Physicals	<u>400</u>	<u>800</u>
Total Special & Professional Services	<u>\$ 3,600</u>	<u>\$ 4,000</u>

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 12 - Projected FY 2019 New Jersey Water Supply Authority Insurance Program

<u>Policy</u>	<u>Raritan Basin System</u>	<u>Manasquan Reservoir System</u>	<u>Manasquan Water Treatment Plant and Transmission System</u>	<u>Total Premium</u>
Property Limit \$150 million, Limit \$25m BI Deduct: \$100k all perils \$250k Deduct dams, dikes / \$1m Deduct Canal flood	\$618,526	\$207,930	\$50,886	\$877,342
General/Products Liability Limit \$1 million Deduct: \$150k	\$107,826	\$10,081	\$2,093	\$120,000
Environmental Impairment Liability Limit \$10 million Deduct: \$100k	\$22,464	\$2,100	\$436	\$25,000
Workers' Compensation Limit \$1 million	\$217,692	\$27,986	\$29,323	\$275,000
Employer Liability Limit \$1 million	Included in Workers' Comp	Included in Workers' Comp	Included in Workers' Comp	Included in Workers' Comp
Umbrella Liability Limit \$23 million	\$283,672	\$26,521	\$5,507	\$315,700
Business Automobile Limit: \$1 million G/L, \$0 pd Deduct: \$50k, G/L	\$25,213	\$4,476	\$1,025	\$30,714
Management Liability Public Officials Liability Cyber Risk Fidelity & Crime Limit \$5 million/\$1million/\$1 million Deduct: \$100k/\$10k/\$50k	\$44,961 \$5,212 \$50,173	\$4,204 \$487 \$4,691	\$873 \$101 \$4,000 \$4,974	\$50,038 \$5,800 \$4,000 \$59,838
Travel Accident Limit \$2 million	\$876	\$82	\$17	\$975
TOTAL:	\$1,326,442	\$283,867	\$94,261	\$1,704,569

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

**Schedule 13 - Recap Of Allocation Of Headquarters General And Administrative Expenses
Charged To The Manasquan Reservoir Water Supply System**

Fiscal Year 2019 (7/1/18-6/30/19)

	<u>Total Headquarters Charge</u>	<u>Manasquan Reservoir System</u>	<u>Manasquan WTP/TS</u>
Budgeted- Appendix I, amount to be charged to Manasquan System for F/Y19 (7/1/18-6/30/19)	\$810,843	\$698,565	\$112,278
F/Y17 Adjustment as per audited expenditures:			
Budgeted as per rate schedule for F/Y17 (7/1/16-6/30/17). Amounts paid during F/Y17 to Raritan Basin System.	\$744,000	\$640,000	\$104,000
Actual allocation based upon audited expenditures F/Y17 (7/1/16-6/30/17) - Appendix II	<u>\$704,676</u>	<u>\$607,100</u>	<u>\$97,576</u>
Adjustments F/Y17	<u>(\$39,324)</u>	<u>(\$32,900)</u>	<u>(\$6,424)</u>
Net Allocation for F/Y2019 Budget	<u><u>\$771,519</u></u>	<u><u>\$665,665</u></u>	<u><u>\$105,854</u></u>
Estimate	<u>\$772,000</u>	<u>\$666,000</u>	<u>\$106,000</u>

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 14 - Proposed Capital Equipment Budget
Fiscal Year 2019

Description	(A)Addition (R)Replacement	Year of Purchase Vehicle/Equipment	Dollar Value	%	Manasquan Reservoir	Manasquan WTP/TS	Reservoir Depreciation Reserve	WTP/TS Depreciation Reserve
(I) UTV POLLARIS GATOR	(A)		15,000	60/40	9,000	6,000		
(I) NJWA06 - RSO VEHICLE	(R) TR387	2002	32,000	69/31	22,080	9,920	10,527	2,969
(I) HOT WATER PRESSURE WASHER	(A)		4,500	50/50	2,250	2,250		
TOTAL			51,500		33,330	18,170	10,527	2,969
*Per Resolution #861, dated 7/12/93 Asset Definition minimum is \$1,000.					0			
Less Amount charged to Reservoir Depreciation Reserve					10,527			
Less Amount charged to WTP/TS Depreciation Reserve						2,969		
Total					22,803	15,201		
Additional Depreciation Reserve						0		
Estimate					\$22,800	\$15,201		

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 15 - July, 2016 – June, 2017 Fiscal Year 2017 G&A Expenses Split

EMPLOYEE NUMBER	TOTAL	BUDGETED %		ACTUAL % (Timesheets)		VARIANCE UNDER (OVER)			
		(40)	(50)	(40)	(50)	(40)	(50)		
		RESERVOIR	WTP/TS	RESERVOIR	WTP/TS	RESERVOIR	WTP/TS		
4	6738 PLANT OPERATOR	TIME SPLIT	5%	95%	1%	99%			
		REGULAR	65,776.80	3,288.84	62,487.96	657.77	65,119.03	2,631.07	(2,631.07)
		CLOTH.	1100.00	55.00	1045.00	11.00	1089.00	44.00	(44.00)
		O.T.	6,242.38	312.13	5,930.25	62.42	6,179.96	249.71	(249.71)
		FRINGE	51,160.16	2,558.03	48,602.13	511.60	50,648.56	2,046.43	(2,046.43)
7	7330 ASST. RESERVOIR SYSTEM OPERATOR	TIME SPLIT	97%	3%	97%	3%			
		REGULAR	36,983.20	35,873.71	1,109.49	35,873.70	1,109.50	0.01	(0.01)
		CLOTH.	275.00	266.75	8.25	266.75	8.25	0.00	0.00
		O.T.	4,936.58	4,788.48	148.10	4,788.48	148.10	0.00	0.00
		FRINGE	29,579.19	28,691.81	887.38	28,691.81	887.38	0.00	0.00
21	7335 RESERVOIR SYSTEM OPERATOR	TIME SPLIT	97%	3%	100%	0%			
		REGULAR	54,901.68	53,254.63	1,647.05	54,901.68	-	(1,647.05)	1,647.05
		CLOTH.	1,100.00	1,067.00	33.00	1,100.00	0.00	(33.00)	33.00
		O.T.	4,798.90	4,654.93	143.97	4,798.90	0.00	(143.97)	143.97
		FRINGE	42,260.58	40,992.76	1,267.82	42,260.58	0.00	(1,267.82)	1,267.82
20	7933 PLANT OPERATOR	TIME SPLIT	5%	95%	5%	95%			
		REGULAR	68,947.81	3,447.39	65,500.42	3,447.39	65,500.42	0.00	0.00
		CLOTH.	1,100.00	55.00	1,045.00	55.00	1,045.00	0.00	0.00
		O.T.	8,454.45	422.71	8,031.74	422.72	8,031.73	(0.01)	0.01
		FRINGE	55,706.43	2,785.32	52,921.11	2,785.32	52,921.11	0.00	0.00
7	8172 FAC. MECHANIC II	TIME SPLIT	47%	53%	40%	60%			
		REGULAR	58,898.00	27,682.06	31,215.94	23,559.20	35,338.80	4,122.86	(4,122.86)
		CLOTH.	1,100.00	517.00	583.00	440.00	660.00	77.00	(77.00)
		O.T.	354.01	166.38	187.63	141.60	212.41	24.78	(24.78)
		FRINGE	41,980.39	19,730.80	22,249.59	16,792.16	25,188.23	2,938.64	(2,938.64)
9	12976 FAC MECHANIC II	TIME SPLIT	47%	53%	39%	61%			
		REGULAR	63,096.56	29,655.38	33,441.18	24,607.66	38,488.90	5,047.72	(5,047.72)
		CLOTH.	1,100.00	517.00	583.00	429.00	671.00	88.00	(88.00)
		O.T.	347.04	163.12	183.92	135.35	211.69	27.77	(27.77)
		FRINGE	44,849.13	21,079.08	23,770.05	17,491.16	27,357.97	3,587.92	(3,587.92)
16	16220 FOREMAN BUILDING & GROUNDS MAINT. - WSA	TIME SPLIT	89%	11%	93%	7%			
		REGULAR	69,660.88	61,998.17	7,662.71	64,784.62	4,876.26	(2,786.45)	2,786.45
		CLOTH.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		O.T.	275.22	244.95	30.27	255.95	19.27	(11.00)	11.00
		FRINGE	48,895.61	43,517.08	5,378.53	45,472.92	3,422.69	(1,955.84)	1,955.84
14	23959 FOREMAN FACILITIES MAINT.	TIME SPLIT	47%	53%	42%	58%			
		REGULAR	62,874.08	29,550.82	33,323.26	26,407.11	36,466.97	3,143.71	(3,143.71)
		CLOTH.	550.00	258.50	291.50	231.00	319.00	27.50	(27.50)
		O.T.	1,083.98	509.49	574.49	455.27	628.71	54.22	(54.22)
		FRINGE	44,791.72	21,052.12	23,739.60	18,812.52	25,979.20	2,239.60	(2,239.60)
8	23970 RESERVOIR SYS OPERATOR	TIME SPLIT	97%	3%	90%	10%			
		REGULAR	54,484.96	52,850.41	1,634.55	49,036.46	5,448.50	3,813.95	(3,813.95)
		CLOTH.	1,100.00	1,067.00	33.00	990.00	110.00	77.00	(77.00)
		O.T.	7,139.59	6,925.41	214.18	6,425.63	713.96	499.78	(499.78)
		FRINGE	43,576.12	42,268.83	1,307.29	39,218.51	4,357.61	3,050.32	(3,050.32)

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 15 (Continued) July, 2016 – June, 2017 Fiscal Year 2017 G&A Expenses Split

EMPLOYEE NUMBER	TOTAL	BUDGETED %		ACTUAL % (Timesheets)		VARIANCE UNDER (OVER)	
		(40)	(50)	(40)	(50)	(40)	(50)
		RESERVOIR	WTP/TS	RESERVOIR	WTP/TS	RESERVOIR	WTP/TS
13 26529 SR. WATER SUPPLY TECH - WSA		48%	52%	8%	92%		
REGULAR	67,405.44	32,354.60	35,050.84	5,392.44	62,013.00	26,962.16	(26,962.16)
CLOTH.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O.T.	193.68	92.96	100.72	15.49	178.19	77.47	(77.47)
FRINGE	47,236.77	22,673.66	24,563.11	3,778.94	43,457.83	18,894.72	(18,894.72)
5 36810 MAINT. WORKER I		94%	6%	97%	3%		
REGULAR	37,205.92	34,973.56	2,232.36	36,089.74	1,116.18	(1,116.18)	1,116.18
CLOTH.	1,100.00	1,034.00	66.00	1,067.00	33.00	(33.00)	33.00
O.T.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FRINGE	28,135.61	26,447.49	1,688.12	27,291.54	844.07	(844.05)	844.05
17 41950 PLANT OPERATOR		5%	95%	2%	98%		
REGULAR	68,624.40	3,431.22	65,193.18	1,372.49	67,251.91	2,058.73	(2,058.73)
CLOTH.	1,100.00	55.00	1,045.00	22.00	1,078.00	33.00	(33.00)
O.T.	8,544.96	427.24	8,117.72	170.90	8,374.06	256.34	(256.34)
FRINGE	54,362.08	2,718.09	51,643.99	1,087.24	53,274.84	1,630.85	(1,630.85)
18 47397 SUPERVISOR TECH. ASST. & FAC. MAINT		42%	58%	45%	55%		
REGULAR	80,018.16	33,607.61	46,410.55	36,008.17	44,009.99	(2,400.56)	2,400.56
CLOTH.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O.T.	7,358.34	3,090.50	4,267.84	3,311.25	4,047.09	(220.75)	220.75
FRINGE	60,801.93	25,536.82	35,265.11	27,360.87	33,441.06	(1,824.05)	1,824.05
3 50121 SUPERVISOR OPERATION MWSS- WSA		25%	75%	24%	76%		
REGULAR	93,146.82	23,286.71	69,860.11	22,355.24	70,791.58	931.47	(931.47)
CLOTH.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O.T.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FRINGE	65,447.72	16,361.94	49,085.78	15,707.45	49,740.27	654.49	(654.49)
1 50461 DIR. MWSS/D&R CANAL OPERATIONS		60%	40%		59%		
REGULAR	110,499.97	66,299.98	44,199.99	45,304.99	65,194.98	20,994.99	(20,994.99)
CLOTH.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O.T.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FRINGE	77,634.07	46,580.43	31,053.64	31,829.97	45,804.10	14,750.46	(14,750.46)
2 50802 ADMIN. ASSISTANT		60%	40%	41%	59%		
REGULAR	62,994.90	37,796.94	25,197.96	25,827.91	37,166.99	11,969.03	(11,969.03)
CLOTH.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O.T.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FRINGE	43,796.52	26,277.92	17,518.60	17,956.57	25,839.95	8,321.35	(8,321.35)
19 63738 PLANT OPERATOR		5%	95%	5%	95%		
REGULAR	68,888.32	3,444.42	65,443.90	3,444.42	65,443.90	0.00	0.00
CLOTH.	1,100.00	55.00	1,045.00	55.00	1,045.00	0.00	0.00
O.T.	7,055.74	352.77	6,702.97	352.79	6,702.95	(0.02)	0.02
FRINGE	53,398.60	2,669.92	50,728.68	2,669.93	50,728.67	(0.01)	0.01
6 69555 MAINT WORKER I		94%	6%	98%	2%		
REGULAR	43,809.44	41,180.87	2,628.57	42,933.25	876.19	(1,752.38)	1,752.38
CLOTH.	1,100.00	1,034.00	66.00	1,078.00	22.00	(44.00)	44.00
O.T.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FRINGE	31,296.25	29,418.48	1,877.77	30,670.33	625.92	(1,251.85)	1,251.85

**NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM**

Schedule 15 (Continued) July, 2016 – June, 2017 Fiscal Year 2017 G&A Expenses Split

EMPLOYEE NUMBER	TOTAL	BUDGETED %		ACTUAL % (Timesheets)		VARIANCE		
		(40)	(50)	(40)	(50)	(40)	(50)	
		RESERVOIR	WIP/TS	RESERVOIR	WIP/TS	RESERVOIR	WIP/TS	
22 91500 FAC MECHANIC -WSA	TIME SPLIT		47%	53%	40%	60%		
	REGULAR	53,395.93	25,096.08	28,299.85	21,358.37	32,037.56	3,737.71	(3,737.71)
	CLOTH.	1,100.00	517.00	583.00	440.00	660.00	77.00	(77.00)
	O.T.	262.69	123.47	139.22	105.08	157.61	18.39	(18.39)
	FRINGE	41,215.45	19,371.27	21,844.18	16,486.18	24,729.27	2,885.09	(2,885.09)
28 81185 ASST. RESERVOIR SYSTEM OPER-WSA	TIME SPLIT		97%	3%	96%	4%		
	REGULAR	43,435.76	42,132.69	1,303.07	41,698.33	1,737.43	434.36	(434.36)
	CLOTH.	1,100.00	1,067.00	33.00	1,056.00	44.00	11.00	(11.00)
	O.T.	2,607.81	2,529.57	78.24	2,503.50	104.31	26.07	(26.07)
	FRINGE	32,931.44	31,943.50	987.94	31,614.18	1,317.26	329.32	(329.32)
23 87000 PLANT OPERATOR	TIME SPLIT		5%	95%	5%	95%		
	REGULAR	66,157.96	3,307.90	62,850.06	3,307.90	62,850.06	0.00	0.00
	CLOTH.	1,100.00	55.00	1,045.00	55.00	1,045.00	0.00	0.00
	O.T.	9,061.40	453.07	8,608.33	453.07	8,608.33	0.00	0.00
	FRINGE	52,960.55	2,648.04	50,312.51	2,648.03	50,312.52	0.01	(0.01)
24 87750 RESERVOIR SYSTEM OPERATOR	TIME SPLIT		97%	3%	96%	4%		
	REGULAR	55,129.50	53,475.62	1,653.88	52,924.32	2,205.18	551.30	(551.30)
	CLOTH.	1,100.00	1,067.00	33.00	1,056.00	44.00	11.00	(11.00)
	O.T.	3,518.75	3,413.19	105.56	3,378.00	140.75	35.19	(35.19)
	FRINGE	41,608.17	40,359.92	1,248.25	39,943.84	1,664.33	416.08	(416.08)
15 88875 WATER SUPPLY TECH-WSA	TIME SPLIT		58%	42%	80%	20%		
	REGULAR	50,930.32	29,539.59	21,390.73	40,744.26	10,186.06	(11,204.67)	11,204.67
	CLOTH.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	O.T.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	FRINGE	35,623.43	20,661.57	14,961.86	28,498.74	7,124.69	(7,837.17)	7,837.17
11 90000 SUPERVISING PLANT OPERATOR	TIME SPLIT		36%	64%	36%	64%		
	REGULAR	76,405.52	27,505.98	48,899.54	27,505.99	48,899.53	(0.01)	0.01
	CLOTH.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	O.T.	1,597.54	575.12	1,022.42	575.11	1,022.43	0.01	(0.01)
	FRINGE	54,445.73	19,600.49	34,845.24	19,600.46	34,845.27	0.03	(0.03)
26 93000 RESERVOIR SYSTEM OPERATOR	TIME SPLIT		5%	95%	4%	96%		
	REGULAR	67,667.84	3,383.39	64,284.45	2,706.71	64,961.13	676.68	(676.68)
	CLOTH.	1,100.00	55.00	1,045.00	44.00	1,056.00	11.00	(11.00)
	O.T.	7,251.46	362.59	6,888.87	290.06	6,961.40	72.53	(72.53)
	FRINGE	52,311.74	2,615.57	49,696.17	209,247%	502,1927%	523.10	(523.10)
10 87005 MAINT. WORKER 1	TIME SPLIT		94%	6%	92%	8%		
	REGULAR	24,614.16	23,137.31	1,476.85	22,645.03	1,969.13	492.28	(492.28)
	CLOTH.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	O.T.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	FRINGE	17,755.85	16,690.52	1,065.33	16,335.38	1,420.47	355.14	(355.14)
27 10574 PROJECT ENGINEER II	TIME SPLIT		50%	50%	51%	49%		
	REGULAR	42,130.88	21,065.44	21,065.44	21,486.75	20,644.13	(421.31)	421.31
	CLOTH.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	O.T.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	FRINGE	29,062.28	14,531.16	14,531.12	14,821.76	14,240.52	(290.60)	290.60
		(60)	(40)	(50)	(40)	(50)	(40)	(50)
	REGULAR	1,648,085.21	802,621.32	845,463.89	736,381.90	911,703.31	66,239.42	(66,239.42)
	CLOTH.	17,325.00	8,742.25	8,582.75	8,395.75	8,929.25	346.50	(346.50)
	O.T.	81,084.52	29,608.08	51,476.44	28,641.57	52,442.95	966.51	(966.51)
	FRINGE	1,222,823.52	589,782.62	633,040.90	542,430.46	680,393.06	47,352.16	(47,352.16)
	GRAND TOTAL	<u>2,969,318.25</u>	<u>1,430,754.27</u>	<u>1,538,563.98</u>	<u>1,315,849.68</u>	<u>1,653,468.57</u>	<u>114,904.59</u>	<u>(114,904.59)</u>

*PLANT OPERATORS ADJUSTED TO ACTUAL %'S OF 5%/95% ORIGINAL %'S AS FOLLOWS:
C. BENNETT 2%/98%
R. KARECKY 4%/96%
J. O'NIELL 2%/98%

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 16 - Estimate Of Interest Income

Fiscal Year 2019 Budget

Fund/Reserve	TD Bank Funds	Long-Term Investments
Operating	\$2,000,000	\$0
Reserve for O & M	1,240,000	400,000
General Reserve (Rate Stabilization Fund)	40,000	0
Pumping Reserve	125,000	35,000
Self-Insurance Reserve	35,000	200,000
Sediment Reserve	190,000	0
Estimated Total	\$3,630,000	\$635,000
	\$3,630,000 x .25% =	\$9,075
	\$635,000 x 1.30% =	\$8,255
	Total	\$17,330
	Estimate	\$17,300

Short-Investments

TD Bank
Managed Rate of .25%
95% of the 30 Day Libor After the
Compensating Balance Has Been Satisfied

Long-Term Investments

J.P. Morgan Securities
New Jersey State G/O Bonds
Due 07/15/2016 Yield to Maturity 1.30%
Expect Similar Returns After Maturity

NEW JERSEY WATER SUPPLY AUTHORITY
 MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 17 - Unanticipated Revenue

Funds to be Appropriated into Rate Stabilization fund for Fiscal Year 2019

	Amount																																				
F/Y2017 Net Year-End Balance	\$ -																																				
Excess D/S Coverage FY2018	\$ -																																				
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Overdraft</th> <th style="text-align: left; border-bottom: 1px solid black;">Invoice No.</th> <th style="text-align: left; border-bottom: 1px solid black;">Inv. Date</th> <th style="text-align: right; border-bottom: 1px solid black;">Amount</th> </tr> </thead> <tbody> <tr> <td>NJ American</td> <td>M712</td> <td>Nov-16</td> <td style="text-align: right;">\$ 23,087.43</td> </tr> <tr> <td></td> <td>M713</td> <td>Nov-16</td> <td style="text-align: right;">152,823.31</td> </tr> <tr> <td></td> <td>M714</td> <td>Nov-16</td> <td style="text-align: right;">35,743.87</td> </tr> <tr> <td></td> <td>M715</td> <td>Jan-17</td> <td style="text-align: right;">36,822.46</td> </tr> <tr> <td></td> <td>M742</td> <td>May-17</td> <td style="text-align: right;">2,187.07</td> </tr> <tr> <td>Township of Wall</td> <td>M756</td> <td>Jul-17</td> <td style="text-align: right;">955.48</td> </tr> <tr> <td>Used in FY18</td> <td></td> <td></td> <td style="text-align: right;">-</td> </tr> <tr> <td>Available for use in FY19</td> <td></td> <td></td> <td style="text-align: right;">\$ 251,619.62</td> </tr> </tbody> </table>	Overdraft	Invoice No.	Inv. Date	Amount	NJ American	M712	Nov-16	\$ 23,087.43		M713	Nov-16	152,823.31		M714	Nov-16	35,743.87		M715	Jan-17	36,822.46		M742	May-17	2,187.07	Township of Wall	M756	Jul-17	955.48	Used in FY18			-	Available for use in FY19			\$ 251,619.62	
Overdraft	Invoice No.	Inv. Date	Amount																																		
NJ American	M712	Nov-16	\$ 23,087.43																																		
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Township of Wall	M756	Jul-17	955.48																																		
Used in FY18			-																																		
Available for use in FY19			\$ 251,619.62																																		

Additional Sources

NJ American Overdrafts Summer 2017	Aug-17	\$ 13,547.00
Total Available		\$ 265,166.62
Estimate for FY/19		\$ 188,350.00
Available for Future Years		\$76,816.62

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 18 - Fund Balances as of 6/30/17

Final

	REVENUE FUND	OPERATING ACCOUNT	OPERATING FUND	O & M RESERVE	LONG TERM INVESTMENTS O & M RESERVE	TOTAL
BALANCE 6/30/17 (Does not include Debt Service payment)	\$ 126,243	\$ 484,343	\$ 4,177,004	\$ 1,244,939	\$ 392,644	\$ 6,425,173
Add: Adjustment for uncollected water revenues at 6/30/17			-			-
Add: NJ-American, JCP&L expenses for June 2017			27,776			27,776
Deduct: Accrued expenses to be paid as of 6/30/17			(155,555)			(155,555)
Deduct: June 10th billing, received			(557,238)			(557,238)
Adjusted Balances 6/30/17	\$ 126,243	\$ 484,343	\$ 3,491,987	\$ 1,244,939	\$ 392,644	\$ 5,740,156
 INCOME						
Operating Transfer	(125,000)		125,000			-
Receipt of WTP/TS G&A expenses for the month of June 2017, 7/31/17 billing			182,986			182,986
 EXPENSES						
O & M Expenses - (A/P-6/30/17) includes accrued payroll and pension thru 6/30/17			(168,283)			(168,283)
Capital items to be purchased by 6/30/17			(39,055)			(39,055)
Payment of Headquarters overhead expenses - to be paid 7/01			(160,000)			(160,000)
Contributions to Various Reserves- 7/17			(37,500)			(37,500)
ADJUSTED BALANCE AT 6/30/17	\$ 1,243	\$ 484,343	\$ 3,395,135	\$ 1,244,939	\$ 392,644	\$ 5,518,304
 Less: O & M Reserve Balance (Goal is 3 months O & M Expenses as dictated by Bond Resolution)						(839,358)
 Balance of projected funds available						\$ 4,678,947
 Use of Available Funds						
Unanticipated revenues (overdrafts in FY17 to be available to the General Fund for FY19) NJ American Water						\$ (250,664)
Appropriate FY18 net fund balance into the General Fund (Rate Stabilization) to be used for rate stabilization						(285,930)
 Balance of funds to be used for future years						\$ 4,142,352

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 19 - Operations & Maintenance Expense Component and Debt Service Cost

Component Sales Base

Projected Fiscal Year 2019

USER	ALLOCATION (mgd)
Avon, Borough of	0.126
Belmar, Borough of	0.288
Brielle, Borough of	0.450
Keyport, Borough of	0.356
Matawan, Borough of	0.332
New Jersey American Water	12.500
Red Bank, Borough of	0.548
Sea Girt, Borough of	0.040
Shorelands Water Company	2.007
Lake Como, Borough of	0.100
Spring Lake, Borough of	0.310
Spring Lake Heights, Borough of	0.386
Wall Township	2.000
OPERATIONS & MAINTENANCE/DEBT SERVICE SALES BASE	19.443 mgd

NEW JERSEY WATER SUPPLY AUTHORITY
 MANASQUAN RESERVOIR WATER SUPPLY AUTHORITY

Schedule 20 - Operations And Maintenance Rate Component (19.443mgd)

Fiscal Year 2019

Funds Required for F/Y2019 Budget

Total Budget Requirements	\$	3,275,475
Miscellaneous Revenues	\$	(205,650)
Net Budget Requirement	\$	3,069,825
Less - Quarterly O&M payment on July 10, 2018 (cash received in July for water used in April, May and June of 2018 based on \$432.87/mg)	\$	(765,883)
Additional Revenue required from last three (3) Quarterly payments in F/Y2019 to cover Operations & Maintenance expenses through 6/30/19	\$	2,303,943

Computation of Operations & Maintenance Rate for Fiscal Year 2019

Required Operations & Maintenance Rate F/Y2019	$\frac{\$2,303,943}{5,322.52^*}$	=	\$	432.87/mg
--	----------------------------------	---	----	-----------

* Four (4) Quarters Sales =

	19.443 mgd x 365	=	7,096.70mg/yr	
--	------------------	---	---------------	--

Rate Calculation for Required revenues due for payment on
10/10/18, 1/10/19 and 4/10/19:

Sales Base =	7,096.70 x 3/4	=	5,322.52/mg	
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The same rate will apply to the payment due 7/10/19 and this
payment will be reflected in the calculation of the F/Y2020 rate.

NEW JERSEY WATER SUPPLY AUTHORITY
 MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 21 - Computation Of Base Debt Service Rates

Initial Water Purchasers (14.980MGD) – 7/01/15
 Shorelands Delayed Purchase Contract (.028MGD) – 7/01/06

Debt Service for Fiscal Year 2019	\$ 2,618,801	
Debt Service Fund Interest Income and Other Available Resources	<u>\$ (14,275)</u>	
Net Debt Service Obligation	\$ 2,604,526	
Coverage Requirement = Net Debt Service Obligation x 20%	<u>\$ 520,905</u>	
Total to be Recovered by Rates	\$ 3,125,431	
Debt Service Rate Effective 7/01/17 $365 \times 15.008/\text{mgd} = 5,477.92\text{mg}$	<u>\$ 3,125,431</u> 5,477.92mg	= \$ 570.55mg

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 22 - Computation Of Delayed Water Purchase Debt Service Rates

NJAW – 1.000MGD CONTRACT - 07/01/01
1.935MGD CONTRACT – 10/01/02
1.500MGD CONTRACT – 01/01/05

Delayed Debt Service

Debt Service for Fiscal Year 2019 \$ 902,537

Debt Service Fund Interest Income and Other
Available Resources \$ (5,525)

Net Debt Service Obligation \$ 897,012

Coverage Requirement = Net Debt Service
Obligation x 20% \$ 179,402

Total to be Recovered by Rates \$ 1,076,414

Debt Service Rate Effective 7/01/18 \$ 1,076,414 = \$ 664.96mg
365 x 4.435/mgd = 1,618.78mg 1,618.78mg

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

Schedule 23 - Computation Of Base Debt Service Rates

INTAKE PUMP STATION BUILDING

Initial Water Purchasers (14.980 MGD) – 7/01/15
Shorelands Delayed Purchase Contract (.028MGD) – 7/01/06
NJ American Delayed Purchase Contract (4.435MGD)*

NJEIFP Debt Service for Fiscal Year 2019 \$ 176,917

Debt Service Rate Effective 7/01/18 $\frac{\$ 176,917}{7,096.70\text{mg}} = \$ 24.93/\text{mg}$
365 x 19.443/mgd =7,096.70mg

*Delayed Water Purchase Contracts

NJ American 1.000mgd 07/01/01
1.935mgd 10/01/02
1.500mgd 01/01/05

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR SYSTEM

Schedule 24 - 2016 Bond Debt Service Coverage

Fiscal Year 2019
(7/1/18-6/30/19)

	<u>Budgeted F/Y2019</u>
<u>Revenues</u>	
Uninterruptible Water Sales	\$ 7,557,136
Interest Income	<u>\$ 17,300</u>
Total Revenues	<u><u>\$ 7,574,436</u></u>
 <u>Expenses</u>	
O&M Costs	\$ 2,551,580
Overhead Allocation	<u>\$ 666,000</u>
Total O&M	<u><u>\$ 3,217,580</u></u>
Cash Available for Debt Service - A	\$ 4,356,856
Net Debt Service Expense	\$ 3,501,537
Debt Service Coverage Calculation - A/B	1.24
Cash After Debt Service A-B	\$ 855,319

NEW JERSEY WATER SUPPLY AUTHORITY
MANASQUAN RESERVOIR SYSTEM

Schedule 25 - Rehabilitation Reserve and Capital Improvement Program

Manasquan Reservoir Project Description	Renewal & Repl. Reserve	FY2018	FY2019	FY2020	FY2021	FY2022+
Dam Emergency Contingency	\$400,000					
Pipeline Replacement Under I-195	\$950,000					
Pumping Equipment Replacement	\$650,000					
Replace 2400 Volt Variable Frequency Drive at the Intake		\$200,000				
Resize Intake - Motor/Pump, VFD# 3		\$50,000		\$250,000		
Rehabilitation Pump and Motors at Reservoir & Intake Pumping Stations					\$50,000	
Security System Upgrades at Reservoir		\$120,000			\$50,000	
Replace Control Panel at Reservoir IO building			\$70,000			
Replace Adas Embankment Monitoring computer and software at Reservoir		\$20,000				
Renovation of Traveling Water Screens			\$50,000			
Replace balance of metal roof on Admin portion of RPS building		\$80,000				
Replace Valve Operator on 36" Reservoir Return Guardian Valve						
Variable Frequency Drive Control Conversion at RPS			\$40,000			
Total	2,000,000.00*	\$470,000	\$160,000	\$250,000	\$100,000	\$0
Renewal and Replacement Balance June 30, 2017	\$1,580,171					
Projected Balance End of Fiscal Year with annual regular deposit		\$1,230,171	\$3,440,171	\$3,310,171	\$3,330,171	\$3,450,171
*Minimum Balance Requirement		\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000
Revised Balance		-\$769,829	\$1,440,171	\$1,310,171	\$1,330,171	\$1,450,171
Additional Deposit Requirements		\$2,250,000	\$0	\$0	\$0	\$0

**New Jersey Water Supply Authority
Manasquan Water Supply System**

Update of the Renewal and Replacement Reserve and Capital Improvement Program

Prepared by

Paul McKeon, P.E., Manasquan System Manager

**MANASQUAN WATER SUPPLY SYSTEM
RENEWAL/REPLACEMENT RESERVE & CAPITAL IMPROVEMENT PROGRAM
Fiscal Years 2018-2022
Updated July 2017**

Introduction

The New Jersey Water Supply Authority (Authority) operates and maintains the Manasquan Water Supply System including the Intake Facilities located in Wall Township, the Manasquan Reservoir located in Howell Township and 5-1/4 miles of 66-inch diameter pipeline which connects the Intake Facilities to the Reservoir. The Manasquan Water Supply System was constructed between 1987-1990 and commenced operation on July 1, 1990.

Construction of this system was financed by the issuance of Bonds under the authorization of Authority Bond Resolution No. 295 dated April 16, 1987. The Bond Resolution provides for rates for water use to include an excess payment of 20% (effective February 1, 1994) of the annual debt service, identified as 120% debt service coverage. During the initial years, this excess payment flowed into the debt service reserve account until an amount equal to 50% of the annual debt service had been accumulated. Thereafter, the 20% excess debt service is to be used to establish a Renewal & Replacement Reserve and to fund a Capital Improvement Program (CIP) for the facilities.

A Capital Improvement Program funded by the Renewal and Replacement Reserve was first recommended in September 1996. This is an update of the CIP.

The Renewal and Replacement Reserve for Extraordinary Operations and Maintenance Costs is fully funded as recommended.

Renewal and Replacement Reserve for Extraordinary Operations and Maintenance Costs

Problems with the Earthen Dam Embankments

The Manasquan Reservoir dam and dikes are inspected by the Authority's operations and engineering staff to provide early detection of situations which, if uncorrected, could lead to serious problems. There are no indications of problems with any of the embankments at the present time. It is unlikely that a major catastrophic dam failure will occur as a result of the weather. A more common occurrence would be surface erosion especially in areas where good turf is not established. The periodic inspection of the embankments shows good establishment of turf. On-site maintenance staff has implemented various measures to improve the grass cover on the dams. Continued long-term success of these measures is dependent on continued maintenance and weather.

The Reserve includes funds that can be used to repair any surface erosion that cannot be repaired by Authority maintenance forces.

Replacement of Pipe under Interstate Route 195

The Manasquan Reservoir pipeline is a 5-1/4 mile long, 66-inch diameter prestressed concrete cylinder pipeline (PCCP) constructed in the 1980s. A 380-foot long section of 72-inch

diameter PCCP was installed beneath Interstate Route 195 during its construction for use in connection with the pipeline between the reservoir pumping station and the reservoir. This section of pipe was manufactured by Interpace in the late 1970's. This vintage PCCP is suspect because of the type of prestressing wire used in its manufacture and the “inadequate” quality control used in the application of the mortar coating.

A rupture of this section of pipe could be catastrophic and result in major disruptions to Route 195. Repair costs could easily amount to several million dollars. Therefore, the section of pipe under Route 195 is dewatered and inspected bi-annually to monitor its condition.

The entire length of the pipeline was inspected in March of 2016. The interior concrete lining was sounded with a 57-inch piece of black iron pipe with caps welded to the ends. The lining was continuously sounded for hollow regions that may be indicative of a loss of prestress and therefore exterior pipe distress. Sounding was carried out on both sides of the pipe approximately in the 2-4 o'clock range and the 8-10 o'clock range at approximately 6 to 12-inch intervals. Other features such as spalled concrete linings were noted throughout the inspection. The Manasquan Reservoir 66-inch pipeline is in good condition. The items noted during the internal inspection were minor in nature and are not indicative of pipeline distress.

\$950,000 is included in the Renewal and Replacement Reserve to insert a 66” diameter steel pipe into the PCCP under Route 195 or to replace other sections of pipe as needed

Replacement of Pumps or Equipment

Five (5) 600-horsepower pumps are used at the Intake Pumping Station to pump water from the Manasquan River to the presedimentation pond at the Reservoir Pumping Station. Five (5) 900-horsepower pumps are used at the Reservoir Pumping Station to pump water from the presedimentation pond to the Reservoir. The estimated replacement cost for each unit, including a variable frequency drive, is \$650,000. Replacement costs for the units would be dependent on the problem but would be limited to the cost of replacement.

All pumps and motors have been physically inspected, vibration tested and pump efficiency tested in 2013 with retesting of some units in 2016. The reservoir pumps typically operate only 100 hours per year and at an average speed of only 630 rpm. Therefore wear on these units is minimal. Additionally, only one of the 5 river intake pumps gets significant hours of use each year. However, it is appropriate to include funds in a Renewal & Replacement Reserve to rehabilitate or replace a single unit in case of an unforeseen failure or damage from lightning.

Furthermore, these funds could be used to rehabilitate or replace other major equipment such as a large 500 KVA electrical transformer or cables as well. The combined construction cost for the Intake Pumping Station and the Reservoir Pumping Station was approximately \$30,000,000 (1990 dollars). The recommended reserve of \$650,000 represents 2% of the total construction cost.

Planned Capital Improvements - Fiscal Years 2018 – 2022

Replace Variable Frequency Drive at the Intake

The existing pump #1 has a pump curve suited to using a Variable Frequency Drive (VFD.) Replacing one of the VFDs at the intake for use with pump #1 will allow for capturing the exact amount of water that is needed to meet system demand in the winter when the reservoir is full.

Resize Intake - Motor/Pump #3 VFD

A 2014 safe yield review has determined that replacing one of the 600-hp motor and pump at the intake with a 300 hp motor, a pump that can deliver up to 15 MGD and a new variable frequency drive will improve the reliable safe yield of the system. This project was programmed to be designed in calendar year 2017 and constructed in 2020. Design has been pushed forward to FY2018. This project will allow a closer match between the anticipated average customer sales from the intake pool and the intake pump capacities. The project is planned for 2020 to spread out the capital funds and because Pump #3 is in acceptable condition currently.

Fueling System Upgrade

This project was completed in FY2017.

Rehabilitation of Pumps and Motors at the Intake Pumping Station and Reservoir Pumping Station

There are five main vertical turbine pumps with 600-hp motors at the Intake Pumping Station (IPS). There are five main vertical turbine pumps with 900-hp motors at the Reservoir Pumping Station (RPS).

The Authority has undertaken a multi-faceted, multi-year program to service all ten pumps and motors. The first phase, which began in 2003, includes the servicing of a pump at the RPS and a motor at the IPS each year. All pumps and motors were physically inspected; vibration tested and pump efficiency tested once per year. In 2016, all but one were within acceptable performance tolerances. In FY2017, Pump #1 at the intake was fully rehabilitated at a cost of \$40,000.00.

Security System Upgrades at the Reservoir

In response to the Public Health Security and Bioterrorism Response Act of 2002 and an Executive Order issued on July 18, 2002 by the State of New Jersey identifying critical facilities that require vulnerability assessments, the Authority contracted with a consultant to develop a comprehensive security vulnerability assessment (VA) and implement recommendations of the VA. Recommendations were provided for changes in security policies and procedures,

minimum and additional upgrades to the physical protection systems (PPS) and processes. Estimates of probable capital costs were developed for the minimum and additional PPS for system facilities.

The schematic design report for implementing the recommendations was and continues to be evaluated and improvements are being phased in. A web-based seven camera system and DVR was designed for the reservoir embankment and IO tower area and was installed in FY2017 at a cost of \$75,000.00. An additional mile of chain link fence is planned as the security upgrade for FY2018.

Replace Control Panel at Reservoir IO Building

The control panel at the reservoir IO tower is 25 years old and only the reservoir dam indicators report automatically. The system should be upgraded to maintain reliability of control from the central location at the top level of the I/O tower. Also, by replacing the panel with a PLC we will be able to combine all of the valve position information and operations into one LCD display and relay this information back to the office in Wall using the FIOS service that we now have in the building. Presently only one of the 8 electric valves can be controlled from the office in Wall Township.

Replace Automatic Data Acquisition System (ADAS) Embankment Monitoring computer and software at Reservoir

This system is original to the reservoir construction. The computer that collects and records information from the sensors will be replaced as well as the software and reporting system at the receiver end in the Administration office. We have requested that the existing system be reviewed by an outside consultant with the expectation that recommendations will be made to upgrade the existing system to a state of the art system.

Renovation of Traveling Water Screens

The eight traveling water screens at the Intake Pumping Station are in need of service over time. A 2015 inspection found all units to be in good condition except one which was refurbished in 2016. Funding is included to install new reducers, drive sprockets, screen sections, and chain guard assemblies on any of the remaining seven units. This also includes funding to rebuild the wash water pumps and motors if needed.

Variable Frequency Drive Replacement at the RPS

The VFD that controls the speed of the Motor for Pump #3 at the Reservoir pump station is being replaced in FY2017 with a new VFD. The cost is \$220,000 and the Robicon VFD will be replaced by a more efficient 900 HP VFD manufactured by Eaton Corporation. The replaced unit will be used as spare parts for the other three ASI Robicon brand VFDs. This should extend their life expectancy. The new unit will be speed adjusted from the existing Robicon sequencer /controller. As of July 2017 this project is 90% complete.

Replace balance of metal roof on Admin portion of RPS building

Two thirds of the metal roof is original to the building in 1990. This portion of the roof needs to be replaced as there are several leaks during driving rains.

Valve Operator Replacement on 36" Reservoir Return Line Guardian Valve

This project was successfully completed in FY2017 and the total cost with engineering was \$40,000.

Variable Frequency Drive Control Conversion at the RPS

The existing ASI Robicon Corporation VFDs are controlled by an antiquated computer system for the operation and speed control of the variable frequency drives based on clearwell level. The conversion package would consist of replacing the computer sequencer at the Reservoir Pumping Stations from the current card rack computerized system to a programmable logic controller. With the current logic system, the Authority has been experiencing logic card failures along with expensive computer board repairs.

PART III – PROPOSED RULE AMENDMENTS

NEW JERSEY WATER SUPPLY AUTHORITY

AMENDMENTS TO THE SCHEDULE OF RATES, CHARGES AND
DEBT SERVICE ASSESSMENTS FOR THE SALE OF WATER FROM THE
MANASQUAN RESERVOIR WATER SUPPLY SYSTEM

To Become Effective July 1, 2018

The following rules and regulations can be found in the New Jersey Administrative Code under N.J.A.C. 7:11-4.1, et seq. Full text of the proposal follows (additions indicated in boldface **thus**; deletions indicated in brackets [thus]):

7:11-4.3 Operations and Maintenance Expense Component

(a) – (b) (No change.)

(c) Operations and Maintenance Expense Component:

<u>Effective Date</u>	<u>Rate/Million Gallons</u> (based upon a 19.443 per day sales base)
July 1, [2017] 2018	\$432.87

7:11-4.4 Debt Service Cost Component

(a) (No change.)

(b) The following Debt Service rates based on a sales base of 15.008 million gallons per day, apply to all initial water purchase contract customers, and all delayed water purchase contract customers, who fully satisfied their contractual delayed water purchase surcharge obligations at the commencement of their contract terms:

<u>Period</u>	<u>Rate/Million Gallons</u>
7/1/[2017] 2018 to 6/30/[2018] 2019	(Coverage 120%) \$570.55

(c) Delayed Water Purchase Surcharge will be assessed to all water purchasers who entered into a Water Purchase Contract for an uninterruptible service commencing subsequent to the System Operation Date (Delayed Water Purchase Contract). This includes a purchaser under an Initial Water Purchase Contract, which provides for an increase in the amount of uninterruptible service effective subsequent to the System Operation Date.

1. The following Debt Service rate based on a sales base of 4.435 million gallons per day, applies to the Delayed Water Purchase Contracts commencing July 1, 2001, October 1, 2002, and January 1, 2005 in lieu of the Debt Service rate set forth in (b) above.

<u>Period</u>	<u>Rate/Million Gallons</u>
7/1/[2017] 2018 to 6/30/[2017] 2019	(Coverage 120%) \$664.96

(d) (No change.)

7:11-4.5 Source water protection fund component

(a) (No change.)

(b) The source water protection fund component is as follows:

<u>Period</u>	<u>Rate/Million Gallons</u>
7/1/[2017] 2018 to 6/30/[2018] 2019	\$15.00

7:11-4.6 NJEIFP debt component

(a) (No change.)

(b) The NJEIFP debt component is as follows:

<u>Period</u>	<u>Rate/Million Gallons</u>
7/1/[2017] 2018 to 6/30/[2018] 2019	\$24.93

Appendix I. Report of CLA PC – Allocation of Headquarters General and Administrative Expenses – FY 2019

**NEW JERSEY WATER SUPPLY AUTHORITY
AGREED-UPON PROCEDURES REPORT
FORECASTED COST ALLOCATION SCHEDULES
YEAR ENDING JUNE 30, 2019**

**NEW JERSEY WATER SUPPLY AUTHORITY
FORECASTED COST ALLOCATION SCHEDULES**

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YEAR ENDING JUNE 30, 2019

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INDEPENDENT ACCOUNTANT'S REPORT ON APPLYING AGREED-UPON PROCEDURES

To the Commissioners of
New Jersey Water Supply Authority

We have performed the procedures enumerated below, which were agreed to by the Commissioners and Authority management, on the forecasted cost allocation schedules of the New Jersey Water Supply Authority (the "Authority"), a component unit of the State of New Jersey for the fiscal year ending June 30, 2019. These procedures were performed solely to assist you in evaluating the forecasted cost allocation schedules in connection with setting of water rates for each of the three operating systems (Raritan, Manasquan Reservoir and Manasquan Treatment Plant/Transmission). The Authority's management is responsible for preparing and presenting the schedules in accordance with the guidelines for the presentation of schedules established by the American Institute of Certified Public Accountants. The sufficiency of these procedures is solely the responsibility of those parties specified in this report. Consequently, we make no representation regarding the sufficiency of the procedures enumerated below either for the purpose for which this report has been requested or for any other purpose.

1. We were provided with the fiscal year 2019 budgeted expenses for each of the three operating systems by the Authority's Director of Finance and Administration, who advised us that the fiscal year 2019 budgeted expenses are based upon preliminary budgets that are subject to approval by the Authority's Commissioners. We performed no procedures in regard to these fiscal year 2019 budgeted expenses.
2. We recalculated the allocated costs on the forecasted cost allocation schedules. We found no exceptions as a result of these procedures.
3. We compared the methodologies used for cost allocation on the forecasted cost allocation schedules to the methodologies used in the Authority's cost allocation schedules for the year ended June 30, 2017, and found them to be consistent.

This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. We were not engaged to and did not conduct an examination or review, the objective of which would be the expression of an opinion or conclusion, respectively, about whether the forecast is presented in accordance with the guidelines for the presentation of a forecast established by the American Institute of Certified Public Accountants or whether the underlying assumptions are suitably supported or provide a reasonable basis for management's forecast. Accordingly, we do not express such an opinion or conclusion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

**INDEPENDENT ACCOUNTANT'S REPORT ON APPLYING AGREED-UPON PROCEDURES
(CONTINUED)**

There will usually be differences between the forecasted and actual results because events and circumstances frequently do not occur as expected, and those differences may be material. We have no responsibility to update this report for events and circumstances occurring after the date of this report.

This report is intended solely for the information and use of the Commissioners and management of the Authority and is not intended to be, and should not be, used by anyone other than these specified parties.

Mercedien, P.C.
Certified Public Accountants

October 5, 2017

NEW JERSEY WATER SUPPLY AUTHORITY
SCHEDULE OF FORECASTED COST CENTER EXPENSE RECLASSIFICATION
YEAR ENDING JUNE 30, 2019

		RECLASSIFICATIONS										
DEPARTMENT NUMBER	DEPT./COST CENTER	COST CENTER COSTS	1	2	3	4	5	6	7	8	9	REVISED COST CENTER COSTS
			HEATING/ELECTRIC	VEHICULAR FUEL	PROFESSIONAL FEES	INSURANCE	TELEPHONE	PERMITS	WORKERS' COMP.	IN LIEU TAXES	CHIEF ENGINEER SALARY & FRINGE	
	BUILDING HQ	\$ -	\$118,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$118,000
	TELEPHONE HQ					83,000						83,000
36	SAFETY	219,400			(5,000)							214,400
37	SECURITY	995,750										995,750
14	HUMAN RESOURCES	343,648			(4,100)				(10,000)			329,548
16	PURCHASING	583,850		(121,875)			(83,000)	(16,000)				362,975
17	INFORMATION SYSTEMS	176,120										176,120
15	CONTRACTS & RISK MGMT.	1,800,900			(43,500)	(1,300,000)		(96,100)		(18,700)		342,600
13	FINANCIAL MGMT.	1,050,354			(2,496)							1,047,858
34	AUTO SHOP	287,700		121,875				16,000				425,575
35	AUTO SHOP-CANAL	221,720										221,720
10	EXEC OFFICE	269,500	4,650									274,150
20 30 31 32 33	WATERSHED, ENGINEERING & O&M (RARITAN SYSTEM)	8,252,697	(122,650)		55,096	1,300,000		96,100	10,000	18,700	(19,923)	9,600,020
		14,211,639	0	0	0	0	0	0	0	0	(19,923)	14,191,716
40-60	MANASQUAN SYSTEM	5,277,798									19,923	5,297,721
		<u>\$19,489,437</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$19,489,437</u>

NEW JERSEY WATER SUPPLY AUTHORITY
 SCHEDULE OF FORECASTED SYSTEM-WIDE ALLOCATED COSTS
 YEAR ENDING JUNE 30, 2019

ALLOCATION BASIS

DEPARTMENT NUMBER	DEPT./COST CENTER	REVISED COST CENTER COSTS	SQ. FT. #	# OF TELEPHONES	# OF EMPLOYEES	100 % RARITAN O&M	# OF EMPLOYEES	# OF P.O.s	# OF COMPUTERS	MGD CONTRACTS	O&M BUDGET	# OF VEHICLES	# OF VEHICLES	TIME ESTIMATE	ALLOCATED COST CENTER COSTS
	BUILDING HQ	\$118,000	(\$118,000)												
	TELEPHONE HQ	\$83,000	0	(\$83,000)											
36	SAFETY	\$214,400	792		922	(\$216,114)									
37	SECURITY	\$995,750	4,462	3,689	17,366	(\$1,021,267)									
14	HUMAN RESOURCES	\$329,548	5,278	2,767	3,859	0	(\$341,452)								
16	PURCHASING	\$362,975	6,584	2,767	3,859	0	6,761	(\$382,916)							
17	INFORMATION SYSTEMS	\$176,120	1,181	922	1,930	0	3,381	11,913	(\$195,447)						
15	CONTRACTS & RISK MGMT.	\$342,600	3,859	1,844	3,859	0	6,761	7,081	6,014	(\$372,018)					
13	FINANCIAL MGMT.	\$1,047,868	11,261	5,533	11,578	0	20,284	9,216	21,048	0	(\$1,126,778)				
34	AUTO SHOP	\$425,575	17,736	922	1,930	0	3,381	18,882	3,007	0	30,313	0	(\$501,746)		
35	AUTO SHOP-CANAL	\$221,720	0	1,844	1,930	0	3,381	13,150	6,014	0	15,793	0	(\$263,832)		
10	EXEC OFFICE	\$274,150	15,584	7,378	1,930	0	3,381	4,383	6,014	0	19,527	0	0	(\$332,347)	
20 30 31 32 33	WATERSHED, ENGINEERING & O&M (RARITAN SYSTEM)	\$9,600,020	51,293	54,412	115,774	1,021,267	202,843	170,272	105,240	336,174	683,796	501,746	263,832	294,127	\$13,400,796
40-60	MANASQUAN SYSTEM	\$5,297,721	0	0	52,099	0	91,279	148,019	48,110	35,844	377,349	0	0	36,220	6,086,641
		\$19,489,437	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,489,437

NEW JERSEY WATER SUPPLY AUTHORITY
 SCHEDULE OF FORECASTED COST ALLOCATION FACTORS
 YEAR ENDING JUNE 30, 2019

DEPARTMENT NUMBER	ALLOCATION OF: ALLOCATION BASIS:	BUILDING HQ SQ. FT. #	TELEPHONES # OF TELEPHONES	SAFETY # OF EMPLOYEES	HUMAN RESOURCES # OF EMPLOYEES	PURCHASING P.O.'S # OF	INFORMATION SYSTEMS # OF COMPUTERS	CONTRACTS & RISK MGMT MGD CONTRACTS	FINANCE O&M FUNCTIONAL COST	AUTO SHOP # OF VEHICLES	AUTO SHOP CANAL # OF VEHICLES	EXEC. OFF TIME ESTIMATE	REQUIRED STATISTICS				
													DEPT./COST CENTER	65	202	\$15,819,186	
	BUILDING HQ																
	TELEPHONE HQ																
36	SAFETY	100	1														
37	SECURITY	563	4	9													
14	HUMAN RESOURCES	666	3	2													
16	PURCHASING	827	3	2	2												
17	INFORMATION SYSTEMS	149	1	1	1	106											
15	CONTRACTS & RISK MGMT.	487	2	2	2	63	2										
13	FINANCIAL MGMT.	1,421	6	6	6	82	7	0									
34	AUTO SHOP	2,238	1	1	1	168	1	0	\$425,575								
35	AUTO SHOP-CANAL	0	2	1	1	117	2	0	221,720								
10	EXEC OFFICE	1,967	8	1	1	39	2	0	274,150	0							
20 30 31 32 33	WATERSHED, ENGINEERING & O&M (RARITAN SYSTEM)	6,473	59	60	60	1,515	35	182	9,600,020	53	53	88.50					
40-60	MANASQUAN SYSTEM			27	27	1,317	16	19	5,297,721			11.50					
		14,890	90	112	101	3,407	65	202	\$15,819,186	53	53	100 %					

NEW JERSEY WATER SUPPLY AUTHORITY
 SCHEDULE OF FORECASTED MANASQUAN SYSTEM ALLOCATED COSTS
 YEAR ENDING JUNE 30, 2019

COSTS	ALLOCATION BASIS					ALLOCATED COSTS
	1 TIME STUDY	2 \$ VALUE OF VEHICLES	3 \$ VALUE OF EQUIPMENT	4 TIME STUDY	5 VALUE OF WATER CONTRACTS	
GENERAL & ADMINISTRATIVE						
SALARIES & FRINGES	\$3,118,614					
		<u>(\$3,118,614)</u>				
VEHICLE RELATED	90,750					
		<u>(\$90,750)</u>				
MAINT. SUPPLIES & RELATED	76,650					
			<u>(\$76,650)</u>			
OFFICE & MISC.	49,600					
			<u>(\$49,600)</u>			
H.Q. OVERHEAD	810,843					
					<u>(\$810,843)</u>	
RESERVOIR (40)	1,014,784			21,331	698,565	\$3,161,001
TREAT./TRANS. (50)	927,400			28,269	112,278	2,927,640
				<u>\$0</u>	<u>\$0</u>	
	<u>\$6,088,641</u>					<u>\$6,088,641</u>

NEW JERSEY WATER SUPPLY AUTHORITY
NOTES TO SCHEDULES
YEAR ENDING JUNE 30, 2019

NOTE 1 GENERAL

The New Jersey Water Supply Authority, as part of its annual budget and rate making process, performs a two-step cost allocation calculation. During the first step, the Authority forecasts its actual expenses by Cost Center. For purposes of this calculation the Authority uses the following Cost Centers:

Raritan System

- Building Headquarters
- Telephone Headquarters
- Safety
- Security
- Human Resources
- Purchasing
- Information Systems
- Contracts & Risk Management
- Financial Management
- Auto Shop
- Auto Shop - Canal
- Executive Office
- Engineering, Watershed Management, Operations and Maintenance (Raritan System)
- Manasquan System

In deriving expenses by Cost Center several expense reclassifications are made on the Schedule of Forecasted Cost Center Expense Reclassification as follows:

1. Heating and electricity expenses related to Building Headquarters ("HQ") and Executive Office are reclassified from Engineering and Operations & Maintenance ("O & M").
2. Vehicular fuel expense related to Auto Shop is reclassified from Purchasing.
3. Professional fees related to O & M are reclassified from the various departments to which they have been charged.
4. Insurance premium expense related to the Raritan System is reclassified from Contracts and Risk Management.
5. Telephone expense is reclassified from Purchasing to a separate Telephone HQ Cost Center.
6. Permit expense related to the Raritan System is reclassified from Contracts and Risk Management and Purchasing.
7. Workers' compensation expense related to the Raritan System is reclassified from Contracts and Risk Management.
8. In-lieu taxes related to the Raritan System are reclassified from Contracts and Risk Management.
9. Chief Engineer Salary & Fringe Expenses related to the Manasquan System are reclassified from the Engineering Department.

NEW JERSEY WATER SUPPLY AUTHORITY
NOTES TO SCHEDULES
YEAR ENDING JUNE 30, 2019

NOTE 1 GENERAL (CONTINUED)

The second step entails a step-down allocation of eleven of the Authority's Cost Centers to the Raritan and Manasquan System Cost Centers. In making this step-down allocation the Authority allocates cost as follows:

1. Building HQ is allocated to each of the Cost Centers based on the amount of space utilized.
2. Telephone HQ is allocated to each of the Cost Centers based on the number of telephones utilized.
3. Safety is allocated to each of the Cost Centers based on the number of employees.
4. Security is allocated entirely to the Raritan System.
5. Human Resources is allocated to each of the Cost Centers based on the number of employees.
6. Purchasing is allocated to each of the respective Cost Centers based on the number of purchase orders issued.
7. Information Systems is allocated to each of the Cost Centers based on the number of computers.
8. Contracts and Risk Management is allocated to each of the Cost Centers based on the number of employees.
9. Financial Management is allocated based on a percentage of the four remaining Cost Centers' budgets.
10. Auto Shop and Auto Shop-Canal are allocated based on the number of vehicles used.
11. Executive Office is allocated based on the amount of executive time utilized in managing each of the Systems.

NEW JERSEY WATER SUPPLY AUTHORITY
NOTES TO SCHEDULES
YEAR ENDING JUNE 30, 2019

NOTE 2 MANASQUAN SYSTEM ALLOCATED COST

The Manasquan Water Supply System's direct and allocated costs are then allocated between the Reservoir System and the Water Treatment Plant/Transmission System. In making this allocation the Authority adds to each System's direct expenses, the indirect costs allocated as follows:

1. Salaries and Fringe Benefits are allocated based on actual time studies performed by each employee throughout Fiscal Year 2017.
2. Vehicle related expenses are allocated based on the dollar value of vehicles held by each System.
3. Maintenance Supplies and related expenses are allocated based on the dollar value of capital equipment held by each System.
4. Office and miscellaneous expenses are allocated based on the time studies performed by each employee throughout Fiscal Year 2017.
5. Headquarters Overhead expenses are allocated based on the value of water contracts for each System.

Appendix II. Report of CLA PC – Allocation of Headquarters General and Administrative Expenses – Audited FY 2017 Expenditures

**NEW JERSEY WATER SUPPLY AUTHORITY
(A Component Unit of the State of New Jersey)**

EXAMINATION REPORT AND FINANCIAL SCHEDULES

June 30, 2017

**NEW JERSEY WATER SUPPLY AUTHORITY
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YEAR ENDED JUNE 30, 2017**

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INDEPENDENT ACCOUNTANTS' REPORT

To the Commissioners of
New Jersey Water Supply Authority

We have examined the conformity of the financial schedules with the cost allocation criteria set forth in Notes 1 and 2, of New Jersey Water Supply Authority (the "Authority"), a component unit of the State of New Jersey, for the year ended June 30, 2017, listed in the foregoing table of contents. The Authority's management is responsible for conformity of the financial schedules in accordance with the criteria set forth in Notes 1 and 2. Our responsibility is to express an opinion on the conformity of the financial schedules with the cost allocation criteria set forth in Notes 1 and 2, based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. Those standards require that we plan and perform the examination to obtain reasonable assurance about whether financial schedules are in conformity with the cost allocation criteria set forth in Notes 1 and 2, in all material respects. An examination involves performing procedures to obtain evidence about the conformity of the financial schedules with the cost allocation criteria set forth in Notes 1 and 2. The nature, timing and extent of the procedures selected depend on our judgment, including an assessment of the risks of material misstatement of the conformity of financial schedules with the cost allocation criteria set forth in Notes 1 and 2, whether due to fraud or error. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

In our opinion, conformity of the financial schedules with the cost allocation criteria set forth in Notes 1 and 2, present the Authority's allocation of costs to the Raritan and Manasquan Systems in conformity with the cost allocation criteria set forth in Notes 1 and 2, in all material respects.

This report is intended for the information and use of the Commissioners and management of the Authority, and is not intended to be, and should not be, used by anyone other than these specified parties.

Mercadien, P.C.
Certified Public Accountants

October 5, 2017

**NEW JERSEY WATER SUPPLY AUTHORITY
SCHEDULE OF COST CENTER EXPENSE RECLASSIFICATION
YEAR ENDED JUNE 30, 2017**

DEPARTMENT NUMBER	DEPARTMENT/COST CENTER	COST CENTER COSTS	RECLASSIFICATIONS									REVISED COST CENTER COSTS	
			1 HEATING/ ELECTRIC	2 VEHICULAR FUEL	3 PROFESSIONAL FEES	4 INSURANCE	5 TELEPHONE	6 PERMITS	7 WORKERS' COMP.	8 IN LIEU OF TAXES	9 CHIEF ENGINEER SALARY & FRINGE		
	BUILDING HQ		\$58,402										\$ 58,402
	TELEPHONE HQ							\$82,167					82,167
36	SAFETY	\$ 197,905											197,905
37	SECURITY	917,581											917,581
14	HUMAN RESOURCES	328,876			(\$2,702)						(\$1,766)		324,408
16	PURCHASING	498,051		(\$95,784)						(\$15,309)			304,791
17	INFORMATION SYSTEMS	147,069											147,069
15	CONTRACTS & RISK MGMT.	1,593,990			(38,536)		(\$1,138,206)			(88,545)			310,013
13	FINANCIAL MGMT	883,227			(2,304)								880,923
34	AUTO SHOP	198,838		95,784						15,309			309,831
35	AUTO SHOP-CANAL	171,895											171,895
10	EXEC OFFICE	282,108	4,133										286,241
20 30 31 32 33	WATERSHED, ENGINEERING & O&M RARITAN SYSTEM	7,468,998	(62,534)		43,543	1,138,206				88,545	1,766	18,689	8,650,426
		12,688,538	0	0	0	0	0	0	0	0	0	0	12,671,752
40-60	MANASQUAN SYSTEM	4,692,913										16,786	4,709,699
		\$17,381,451	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,381,451

**NEW JERSEY WATER SUPPLY AUTHORITY
SCHEDULE OF SYSTEM-WIDE ALLOCATED COSTS
YEAR ENDED JUNE 30, 2017**

		ALLOCATION BASIS													ALLOCATED
DEPARTMENT NUMBER	DEPARTMENT/COST CENTER	REVISED COST CENTER COSTS	SQ. FT. #	# OF TELEPHONES	# OF EMPLOYEES	100 % RARITAN O&M	# OF EMPLOYEES	# OF P.O.s	# OF COMPUTERS	MGD CONTRACTS	O&M BUDGET	# OF VEHICLES	# OF VEHICLES	TIME ESTIMATE	ALLOCATED COST CENTER COSTS
	BUILDING HQ	\$58,402													
	TELEPHONE HQ	82,167	0	(862,167)											
36	SAFETY	197,905	392	913	(\$199,210)										
37	SECURITY	917,581	2,208	3,652	16,008.00	(\$939,449)									
14	HUMAN RESOURCES	324,408	2,612	2,739	3,557	0	(\$333,316)								
16	PURCHASING	304,791	3,244	2,739	3,557	0	6,600	(\$320,931)							
17	INFORMATION SYSTEMS	147,069	584	913	1,779	0	3,300	9,985	(\$163,630)						
15	CONTRACTS & RISK MGMT.	310,013	1,910	1,826	3,557	0	6,600	5,934	5,113	(\$334,953)					
13	FINANCIAL MGMT	880,923	5,573	5,478	10,672	0	19,801	7,724	17,897	0	(\$948,068)				
34	AUTO SHOP	309,931	8,778	913	1,779	0	3,300	15,825	2,557	0	20,754	0	(\$206,445)		
35	AUTO SHOP-CANAL	171,895	0	1,826	1,779	0	3,300	11,021	5,113	0	11,511	0	0	(\$331,735)	
10	EXEC OFFICE	286,241	7,713	7,304	1,779	0	3,300	3,674	2,557	0	19,167	0	0		
20 30 31 32 33	WATERSHED, ENGINEERING & O&M RARITAN SYSTEM	8,680,426	25,388	53,864	106,719	939,449	198,011.00	142,710	89,486	302,678	561,263	363,837	206,445	298,586	\$11,983,863
40-60	MANASQUAN SYSTEM	4,709,699	0	0	48,024	0	89,104	124,058	40,907	32,275	315,373	0	0	38,149	5,397,589
		\$17,381,451	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$17,381,452

**NEW JERSEY WATER SUPPLY AUTHORITY
SCHEDULE OF COST ALLOCATION FACTORS
YEAR ENDED JUNE 30, 2017**

		REQUIRED STATISTICS													
DEPARTMENT NUMBER	ALLOCATION OF: ALLOCATION BASIS:	BUILDING HQ SQ. FT. #	TELEPHONES # OF TELEPHONES	SAFETY # OF EMPLOYEES	HUMAN RESOURCES # OF EMPLOYEES	PURCHASING # OF P.O.'S	INFORMATION SYSTEMS # OF COMPUTERS	RISK MGMT MGD CONTRACTS	FINANCE O&M FUNCTIONAL COST	AUTO SHOP # OF VEHICLES	AUTO SHOP CANAL # OF VEHICLES	EXEC. OFF TIME ESTIMATE	DEPARTMENT/COST CENTER		
													90	100 %	
	BUILDING HQ														
	TELEPHONE HQ														
36	SAFETY	100	1												
37	SECURITY	563	4	9											
14	HUMAN RESOURCES	666	3	2											
16	PURCHASING	827	3	2	2										
17	INFORMATION SYSTEMS	149	1	1	1	106									
15	CONTRACTS & RISK MGMT.	487	2	2	2	63	2								
13	FINANCIAL MGMT	1,421	6	6	6	82	7	0							
34	AUTO SHOP	2,238	1	1	1	168	1	0	\$309,931						
35	AUTO SHOP-CANAL	0	2	1	1	117	2	0	171,895						
10	EXEC OFFICE	1,967	8	1	1	39	1	0	286,241	0					
20 30 31 32 33	WATERSHED, ENGINEERING & O&M (RARI/TAN SYSTEM)	6,473	59	60	60	1,515	35	182	8,680,426	53	53	88.50			
40-60	MANASQUAN SYSTEM			27	27	1,317	16	19	4,709,699			11.50			
		14,890	90	112	101	3,407	64	202	\$14,156,192	53	53	100 %			

NEW JERSEY WATER SUPPLY AUTHORITY
SCHEDULE OF MANASQUAN SYSTEM ALLOCATED COSTS
YEAR ENDED JUNE 30, 2017

	ALLOCATION BASIS					
COSTS	1 TIME STUDY	2 \$ VALUE OF VEHICLES OF VEHICLES	3 \$ VALUE OF EQUIPMENT	4 TIME STUDY	5 \$ VALUE OF WATER CONTRACTS	ALLOCATED COSTS
GENERAL & ADMINISTRATIVE						
SALARIES & FRINGES	\$2,956,018					
		(\$2,956,018)				
VEHICLE RELATED	48,967					
		(\$48,967)				
MAINT. SUPPLIES & RELATED	42,595					
			(\$42,595)			
OFFICE & MISC.	39,469					
				(\$39,469)		
H.Q. OVERHEAD	704,676					
					(\$704,676)	
RESERVOIR	820,162		15,398	19,018	607,100	\$2,807,824
TREAT./TRANS.	785,702	1,640,168	27,197	20,451	97,576	2,589,766
	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$5,397,589</u>

**NEW JERSEY WATER SUPPLY AUTHORITY
NOTES TO FINANCIAL SCHEDULES
YEAR ENDING JUNE 30, 2017**

NOTE 1 GENERAL

The New Jersey Water Supply Authority as part of its annual budget and rate making process performs a two step cost allocation calculation. During the first step, the Authority forecasts its actual expenses by Cost Center. For purposes of this calculation the Authority uses the following Cost Centers:

Raritan System

- Building Headquarters
- Telephone Headquarters
- Safety
- Security
- Human Resources
- Purchasing
- Information Systems
- Contracts & Risk Management
- Financial Management
- Auto Shop
- Auto Shop - Canal
- Executive Office
- Engineering, Watershed Management, Operations and Maintenance (Raritan System)
- Manasquan System

In deriving expenses by Cost Center several expense reclassifications are made on the Schedule of Forecasted Cost Center Expense Reclassification as follows:

1. Heating and electricity expenses related to Building Headquarters ("HQ") and Executive Office are reclassified from Engineering and Operations & Maintenance ("O & M").
2. Vehicular fuel expense related to Auto Shop is reclassified from Purchasing.
3. Professional fees related to O & M are reclassified from the various departments to which they have been charged.
4. Insurance premium expense related to the Raritan System is reclassified from Contracts and Risk Management.
5. Telephone expense is reclassified from Purchasing to a separate Telephone HQ Cost Center.
6. Permit expense related to the Raritan System is reclassified from Contracts and Risk Management and Purchasing.

**NEW JERSEY WATER SUPPLY AUTHORITY
NOTES TO FINANCIAL SCHEDULES
YEAR ENDING JUNE 30, 2017**

NOTE 1 GENERAL (CONTINUED)

7. Workers' compensation expense related to the Raritan System is reclassified from Contracts and Risk Management.
8. In-lieu taxes related to the Raritan System are reclassified from Contracts and Risk Management.
9. Chief Engineer Salary & Fringe Expenses related to the Manasquan System are reclassified from the Engineering Department.

The second step entails a step-down allocation of eleven of the Authority's Cost Centers to the Raritan and Manasquan System Cost Centers. In making this step-down allocation the Authority allocates cost as follows:

1. Building HQ is allocated to each of the Cost Centers based on the amount of space utilized.
2. Telephone HQ is allocated to each of the Cost Centers based on the number of telephones utilized.
3. Safety is allocated to each of the Cost Centers based on the number of employees.
4. Security is allocated entirely to the Raritan System.
5. Human Resources is allocated to each of the Cost Centers based on the number of employees.
6. Purchasing is allocated to each of the respective Cost Centers based on the number of purchase orders issued.
7. Information Systems is allocated to each of the Cost Centers based on the number of computers.
8. Contracts and Risk Management is allocated to each of the Cost Centers based on the number of employees.
9. Financial Management is allocated based on a percentage of the four remaining Cost Centers' budgets.
10. Auto Shop and Auto Shop-Canal are allocated based on the number of vehicles used.
11. Executive Office is allocated based on the amount of executive time utilized in managing each of the Systems.

**NEW JERSEY WATER SUPPLY AUTHORITY
NOTES TO FINANCIAL SCHEDULES
YEAR ENDING JUNE 30, 2017**

NOTE 2 MANASQUAN SYSTEM ALLOCATED COST

The Manasquan Water Supply System's direct and allocated costs are then allocated between the Reservoir System and the Water Treatment Plant/Transmission System. In making this allocation the Authority adds to each System's direct expenses, the indirect costs allocated as follows:

1. Salaries and Fringe Benefits are allocated based on actual time studies performed by each employee throughout Fiscal Year 2017.
2. Vehicle related expenses are allocated based on the dollar value of vehicles held by each System.
3. Maintenance Supplies and related expenses are allocated based on the dollar value of capital equipment held by each System.
4. Office and miscellaneous expenses are allocated based on the time studies performed by each employee throughout Fiscal Year 2017.
5. Headquarters Overhead expenses are allocated based on the value of water contracts for each System.