

**CONSULTING ENGINEER'S
ANNUAL REPORT**

**2015 OPERATING YEAR
(and through October 31, 2016)**

FOR

**THE MUNICIPAL WATER
AUTHORITY OF ALIQUIPPA**

**160 HOPEWELL AVENUE
ALIQUIPPA, PENNSYLVANIA 15001**

DECEMBER 2016



**Lennon, Smith, Souleret
Engineering, Inc.**

Civil Engineers and Surveyors

846 Fourth Avenue, Coraopolis, PA 15108
(412) 264-4400 • (412) 264-1200 Fax
info@lsse.com • www.lsse.com

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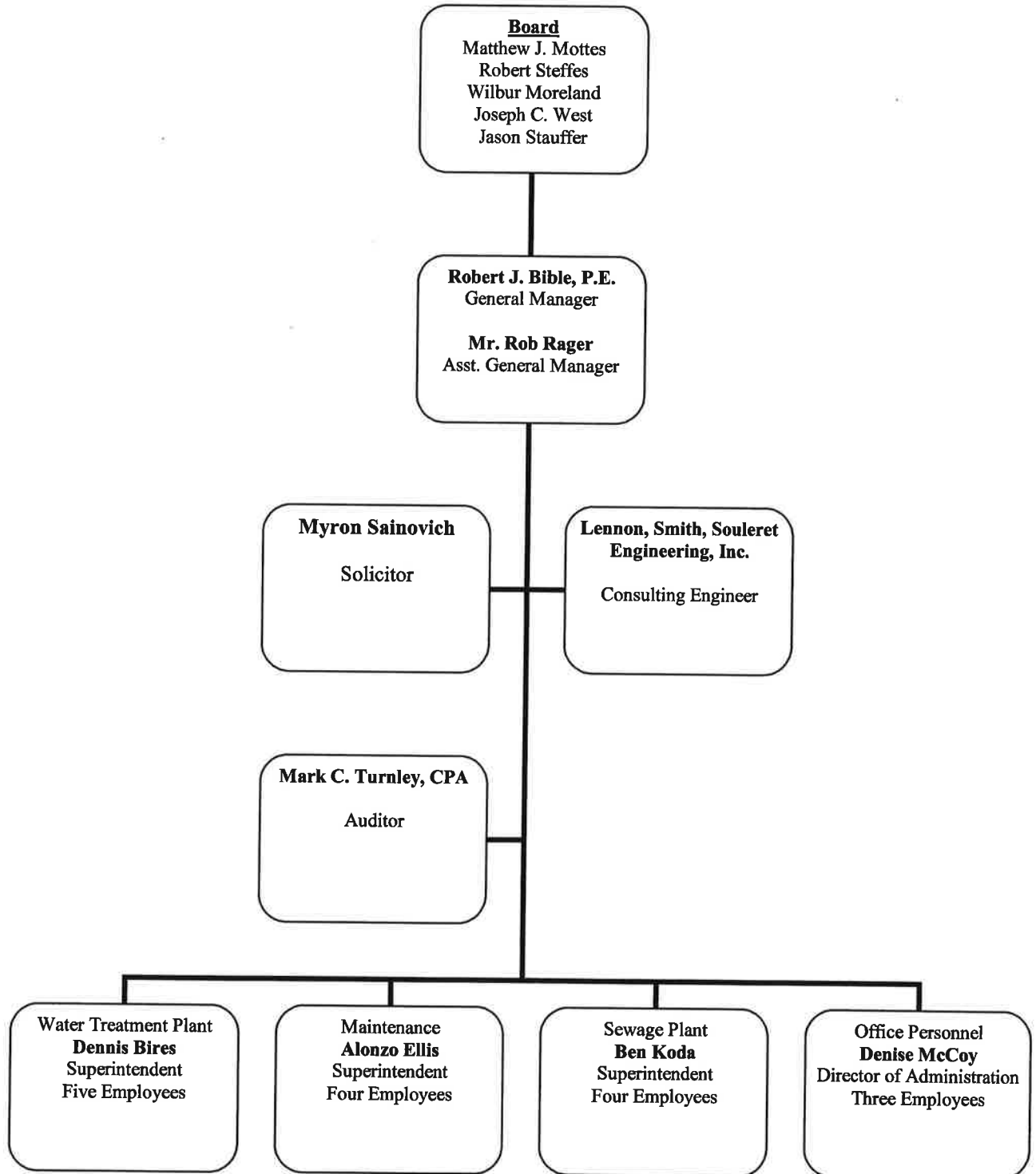
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MUNICIPAL WATER AUTHORITY OF ALIQUIPPA
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DECEMBER 2016

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**ORGANIZATIONAL CHART
MUNICIPAL WATER AUTHORITY OF ALIQUIPPA
AS OF OCTOBER 31, 2016**



MUNICIPAL WATER AUTHORITY OF ALIQUIPPA

Aliquippa, Beaver County, Pennsylvania

724-375-5525

Identification No. 25-6007701

AUTHORITY BOARD MEMBER AS OF OCTOBER 31, 2016

Matthew J. Mottes.....Chairman
Robert Steffes.....Vice Chairman
Wilbur Moreland.....Secretary
Joseph C. West.....Treasurer
Jason Stauffer.....Assistant Secretary/Treasurer

PROFESSIONAL APPOINTMENTS

Myron Sainovich.....Solicitor
Bank of New York, Mellon Trust No. N.A.....Trustee
Mark C. Turnley, CPA.....Auditor
WesBanco.....Depository
Lennon, Smith, Souleret Engineering, Inc.....Consulting Engineer

MANAGEMENT

Robert J. Bible, P.E.....General Manager
Denise McCoy..... Director of Administration

MUNICIPAL WATER AUTHORITY OF ALIQUIPPA

CONSULTING ENGINEER'S ANNUAL REPORT

INTRODUCTION

We are pleased to submit the Consulting Engineer's Report of Operations for Fiscal Year 2015 through October 31, 2016 for the Municipal Water Authority of Aliquippa (MWAA).

DRINKING WATER SYSTEM

DESCRIPTION OF SYSTEM

The water system serves a population of approximately 10,300 within the City of Aliquippa, Hopewell Township, Potter Township, Shippingport Borough and Raccoon Township.

MWAA is located in Aliquippa, Pennsylvania. The primary source of water consists of five vertical wells, one Ranney Well, and one Collector Well, each located along the Ohio River. The Ranney Well and the Collector Well combined can pump approximately 4.0 MGD to the treatment plant. The treatment plant has a rated capacity of 4.0 MGD. The vertical wells were previously considered "backup" wells to provide additional capacity as needed. In 2014, the Pennsylvania Department of Environmental Protection (PaDEP) advised this was no longer allowed. The wells now need to be used for supply and sampled/permitted accordingly. In addition to the wells, there is a ready interconnect with the Center Township Water Authority system.

In 2016, Well 18 was repaired. Lennon, Smith, Souleret Engineering, Inc. is currently preparing bid documents for the replacement of Well 14 and the repair of Well 26 and Well 27.

The treatment plant process includes iron and manganese removal, softening, and disinfection. The total amount of treated water storage is 9,678,000 gallons of water via six storage tanks. Lennon, Smith, Souleret Engineering, Inc. is currently designing new altitude valve for the West Tank as well as the rebuild of the pressure reducing valve (PRV) tank on the site. It is anticipated this will stop overflows and reduce leaking currently experienced at the site.

Customer water meters were replaced in the 2014 and funded with a bond issue. Flow meters at the treatment plant and each of the wells were replaced in 2015 and 2016.

The Water Allocation Permit was renewed in 2014 for the next 50 years. Rules and Regulations were prepared and adopted in 2014.

The Raccoon Tank is the only tank supplying the Raccoon Township service area and provides less than 1 day's supply of potable water. MWAA staff installed meters and repaired valves in the system in 2014.

The distribution system is aging and the condition of the waterlines is commensurate with age. Waterlines are repaired as required to maintain service and stop leaks. Several other projects have been completed or are underway to replace aging waterlines.

- Approximately 3,000 linear feet of waterline was replaced on Edgewood Avenue in Hopewell in 2016.
- Approximately 850 linear feet of waterline will be replaced on Adams Street in late 2016/early 2017.
- A waterline on Golf Course Road was exposed and was replaced in July 2016.

The Pennsylvania Department of Environmental Protection (PaDEP) identified that violations exist in the MWAA system. An Inspection Report from PaDEP included a list of deficiencies. MWAA is continuing to work on rectifying these deficiencies in 2015 and 2016.

Due to the age of the system, valves are often inoperable or do not properly seat when operated. When valves cannot be operated properly, the distribution system cannot be isolated into small areas to facilitate repair. The result is the temporary shut-down of service to large portions of the system to repair isolated waterline breaks or leaks causing a disruption of service to a large number of customers. Large scale disruptions of service could be more effectively mitigated if the valves were operable and the system could be properly isolated. In October 2016, the Authority made application to the Commonwealth Financing Authority to seek funding through the PA Small Water and Sewer Program to replace many of these inoperable valves. These valve replacements are to increase system isolation capabilities and reduce water service outages for customers. Additionally, eliminating leaks and making repairs to the system will decrease the amount of unaccounted for water within the system.

WATER RATES

Table 1 indicates the current and previous water user rates charged by the MWAA to their customers. Rates were increased effective January 1, 2016 to account for increased costs and to provide for necessary capital improvements. Assuming an average water use of 11,000 gallons per quarter, the increased water rate is approximately 1.6% of the mean household income.

TABLE 1
SCHEDULE OF RATES – QUARTERLY RESIDENTIAL CHARGES

Current Rate Structure – January 1, 2016	
	Water
First 6,000 gallons	\$75.00 minimum
Over 6,000 gallons	12.50/1,000
Current Rate Structure – January 1, 2007	
	Water
First 6,000 gallons	\$46.27 minimum
Next 12,000 gallons	6.25/1,000
Next 42,000 gallons	5.41/1,000
Over 60,000 gallons	4.66/1,000
Previous Rate Structure – January 1, 2005	
	Water
First 6,000 gallons	\$38.56 minimum
Next 12,000 gallons	5.21/1,000
Next 42,000 gallons	4.51/1,000
Over 60,000 gallons	3.88/1,000
Previous Rate Structure – January 1, 2001	
	Water
First 6,000 gallons	\$34.43 minimum
Next 12,000 gallons	4.652/1,000
Next 42,000 gallons	4.03/1,000
Over 60,000 gallons	3.46/1,000

WATER WITHDRAWAL AND SALES

The data gathered for this section of the report was taken from official reports of MWAA.

The Daily Water Withdrawal/Instream Flow Requirement Report is a report prepared monthly and indicates the total amount of water pumped from the wells to the treatment plant on a daily basis. Of the wells producing water, only the Ranney well has an individual meter. The Collector Well and Wells 25, 26, 27 and 28 have a common meter that has been out of service for several years. For all wells, an estimate is made of the amount of water pumped based upon the pump capacity and the length of running time. The total combined well output for 2015 was 1,386,161,051 gallons of water based on flow estimated. A table has been included in the Water System Appendix using MWAA data which details the monthly water withdrawal from each well.

The Report of Operations records the amount of water coming into the treatment plant and the amount of finished water pumped into the distribution system for sale. In comparison, the raw water that entered the plant measured 1,334,572,000 gallons of water according to the report. The data from the Report of Operations will be used rather than the well withdrawal values in this report because the raw water data is measured and not merely estimated. The finished water leaving the plant was 1,080,185,000 gallons of water and is measured with a calibrated venturi meter installed in 1998.

The Metered Sales of 381,442,885 gallons plus the estimated 83,467,915 gallons for maintenance and plant use compared to the finished water of 1,137,982,100 gallons pumped to the system indicated that about 59% of the water leaving the plant is not accounted for. This water loss is significant and is suspected to include undetected leaks, fires, and unreported hydrant usage. The Water System Appendix includes tables and charts which detail the above referenced data.

In early 2016, a "Distribution and Storage Control and Leak Repair Plan" was prepared by the Authority. Implementation of the plan is ongoing.

SEWER SYSTEM

DESCRIPTION OF SYSTEM

The MWAA Wastewater Treatment Plant (WWTP) serves both the City of Aliquippa and Hopewell Township. The wastewater treatment plant has a design hydraulic capacity of 3.4 MGD. The maximum wet weather hydraulic capacity is 7.0 MGD. The plant discharges treated effluent to the Ohio River under NPDES Permit (PA0025968) parameters. The WWTP was not hydraulically or organically overloaded during the 2015 operating year. The Report projects the 3-month maximum average will exceed the average annual design capacity in 2016. The 2015 Annual Wasteload Management Report was completed by MWAA. The hydraulic and organic loading charts from this report are provided in the Sewer Appendix.

The primary clarifier was replaced in 2016.

The NPDES Permit for the system was renewed for another 5 years in 2014. The new permit included a more stringent limit for total residual chlorine (TRC) which was evaluated by the Authority in a feasibility study. The Authority is currently in the design phase to install a dechlorination facility. The project will also include rebuild of the plants existing bar screen. The Part II permit is expected to be submitted in November 2016 with bidding and construction commencing in spring 2017.

Rules and Regulations were prepared and under review in 2014 and adopted in 2015.

There are seven sewage pump stations that contribute flow to the WWTP.

1. The Wye Lift Station serves Aliquippa and portions of Hopewell Township. It is equipped with four 3,000 gpm pumps powered by 75 HP motors.
2. The West Aliquippa Lift Station serves West Aliquippa and portions of Hopewell Township. It is equipped with two 500 gpm pumps powered by 10 HP motors.
3. The Golf Course Road Lift Station serves the Hospital Drive area. It is equipped with two 160 gpm pumps powered by 15 HP motors.
4. The Jail Pump Station serves the new Beaver County Jail. It is equipped with two 300 gpm pumps powered by 5 HP motors.
5. The Steel Street Lift Station is equipped with two 200 gpm pumps powered by 5 HP motors.
6. The pump station at the Woodlawn Park Area in Hopewell services 11 residential units. The assumed flow at this pump station is 11 gpm, and was designed to handle 85 gpm. (This pump station is owned and operated by Hopewell Township.)
7. The Woodlawn Pump Station is equipped with two 122 gpm pumps powered by 4 HP motors. Projected average future flows are only 6,000 gpd (30,000 gpd peak). The pumps are not installed at this time, but are stored for future use. There is no electrical power to the pump station presently. It has never been reported to operate.

The collection system is considered a separate sewer system and is relatively old. Its condition is commensurate with age. The system primarily consists of vitrified clay pipe and is subject to inflow and infiltration.

Replacement of the sewer main through the J&L Tunnel was bid in 2014. Construction has not yet been scheduled. A Part II Permit was submitted to the Pennsylvania Department of Environmental Protection in July 2016 as necessary to document the change in proposed sewer diameter. The permit is expected to be issued in November 2016 with bidding and construction to proceed shortly thereafter. Funding has been received through Beaver County Community Development.

SEWER RATES

Table 2 indicates the current and previous sewer user rates charged by the MWAA to their customers. The last rate increase was in January 2012. Assuming an average water use of 11,000 gallons per quarter, the sewer rate is approximately 0.8% of the mean household income.

TABLE 2
SCHEDULE OF RATES – QUARTERLY RESIDENTIAL CHARGES

Current Rate Structure – January 1, 2012	
First 6,000 gallons	\$39.08 minimum
Next 12,000 gallons	5.24/1,000
Next 42,000 gallons	4.53/1,000
Over 60,000 gallons	3.62/1,000
Previous Rate Structure – January 1, 2007	
First 6,000 gallons	\$31.26 minimum
Next 12,000 gallons	4.19/1,000
Next 42,000 gallons	3.62/1,000
Over 60,000 gallons	2.89/1,000
Previous Rate Structure – January 1, 2005	
First 6,000 gallons	\$26.05 minimum
Next 12,000 gallons	3.49/1,000
Next 42,000 gallons	3.02/1,000
Over 60,000 gallons	2.41/1,000

Previous Rate Structure – January 1, 2001	
First 6,000 gallons	\$23.26 minimum
Next 12,000 gallons	3.11/1,000
Next 42,000 gallons	2.70/1,000
Over 60,000 gallons	2.15/1,000

FINANCIAL MANAGEMENT

The Financial Management Appendix provides a summary of significant historical data regarding expenses and revenues. The budget format was changed significantly in 2015 to updated budget line items to match the current operations of the Authority. The budgets also provide the required Debt Service Ratio calculation in accordance with the Trust Indenture. A ratio of 1.46 was reported for the 2015 Operating Year. A ratio of 1.15 is projected for the 2016 Operating Year compared to the required ratio of 1.10.

In 2016, a delinquency policy was put in place by the Authority to address outstanding accounts receivable.

MWAA maintains various insurance policies, a listing of which is included in the Financial Management Appendix. As an “appropriate” level of insurance is not an engineering matter, we can only rely on the recommendation of the Authority’s insurance broker regarding the “adequacy” of the insurance coverage.

SUMMARY AND RECOMMENDATIONS

WATER SYSTEM

- The supply of water appears to be adequate to accommodate current demand and modest expansions of the service area.
- Increasing the source water flow by improving the collector well pumping capacity may enhance water filtration plant operations and reduce reliance on aging vertical wells.

- If future demands require treated water in excess of 4.0 MGD, system updates will be required. The recently permitted vertical wells, should be included in this consideration.
- Development and implementation of a replacement program for both lines and valves is recommended.
- Storage capacity appears to be adequate for the Aliquippa service area with a total of six (6) tanks in service.
- The following additional capital improvements are recommended:
 - Map Distribution System
 - Inspect interiors of Water Storage Tanks
 - Collector Well Pump Cleaning
 - Conversion of media in the filters to facilitate iron and manganese removal
 - Implement very aggressive leak detection program
 - Raise water rates to cover operating costs and provide capital for system improvements
 - Integrated SCADA system for wells, water treatment plant, booster stations, and storage facilities
 - Paint the Raccoon Tank
 - Install an additional 500,000 gallon tank in the western end of the Raccoon service area.
 - Paint the West Aliquippa Tank as recommended in an inspection report from DEP.

SEWER SYSTEM

- There appears to be adequate annual average hydraulic and organic capacity for the coming 5-year period at the WWTP. Efforts to reduce infiltration and inflow should be continued to maintain (and increase) this available capacity at the treatment plant and the collection and conveyance system as well.

- Infiltration/Inflow with past rehabilitation of sewer lines within many areas of the City is reported as successful. Continuing efforts to televise, clean and rehabilitate lines should continue. A more aggressive I/I program should be implemented to reduce flow storm response.
- The following additional capital improvements are recommended:
 - Map Collection Systems
 - Upsize Golf Course Road Sewage Pumps
 - Digester Concrete Repairs
 - Replace primary clarifier at sewage treatment plant
 - Integrated SCADA system for sewage pump stations and sewage treatment plant
 - Replace Golf Course Lift Station pumps with new pumps of higher capacity.
 - Slipline the segment of gravity sewer along Golf Course Road.

FINANCIAL MANAGEMENT

- Monitor 2016 expenses to ensure debt service factor of 1.10 is provided.
- Continued implementation of the delinquency policy.

WATER SYSTEM APPENDIX

MUNICIPAL WATER AUTHORITY OF ALIQUIPPA CONSULTING ENGINEER'S ANNUAL REPORT

ANNUAL WATER WITHDRAWAL REPORT - 2015

	Runney Wells	Well 23	Collector Well	Well 25	Well 26	Well 27	Well 28	Total Well Production	TOTAL MGD
				(GALLONS)					
January	65,057,050	0	48,311,160	0	0	0	0	113,368,210	3.657
February	64,271,840	0	46,907,260	0	0	0	0	111,179,100	3.971
March	77,923,220	0	54,717,680	0	0	0	0	132,640,900	4.279
April	66,379,000	0	49,793,730	0	0	0	0	116,172,730	3.872
May	71,756,480	0	51,105,550	0	0	0	0	122,862,030	3.963
June	67,687,300	72,000	47,649,950	72,000	0	0	76,500	115,557,750	3.852
July	68,559,600	30,000	48,790,860	45,000	0	0	45,000	117,470,460	3.789
August	68,809,300	30,000	47,217,240	45,000	0	0	45,000	116,146,540	3.747
September	69,664,000	0	41,281,400	0	0	0	0	110,945,400	3.698
October	72,540,670	48,000	47,854,520	42,000	0	0	42,000	120,527,190	3.888
November	64,522,601	0	40,135,880	0	0	0	0	104,658,481	3.489
December	65,239,300	36,000	39,291,560	33,000	0	0	32,400	104,632,260	3.375
DAILY AVE.	2,253,179	592	1,542,621	649	0	0	660	3,797,702	3.798
TOTAL	822,410,361	216,000	563,056,790	237,000	0	0	240,900	1,386,161,051	

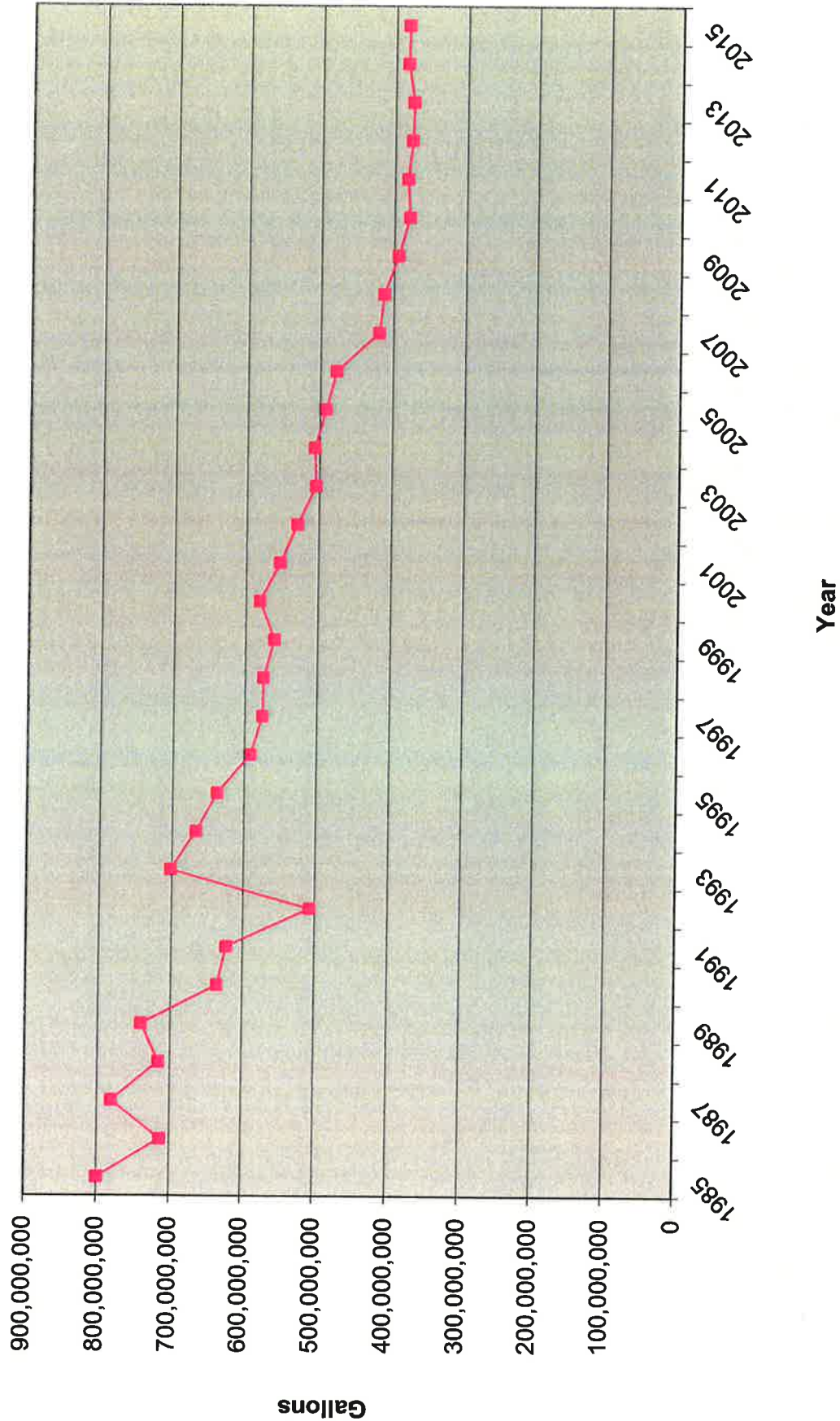
**MUNICIPAL WATER AUTHORITY OF ALIQUIPPA
CONSULTING ENGINEER'S ANNUAL REPORT**

**WATER WITHDRAWAL AND SALES
(GALLONS)**

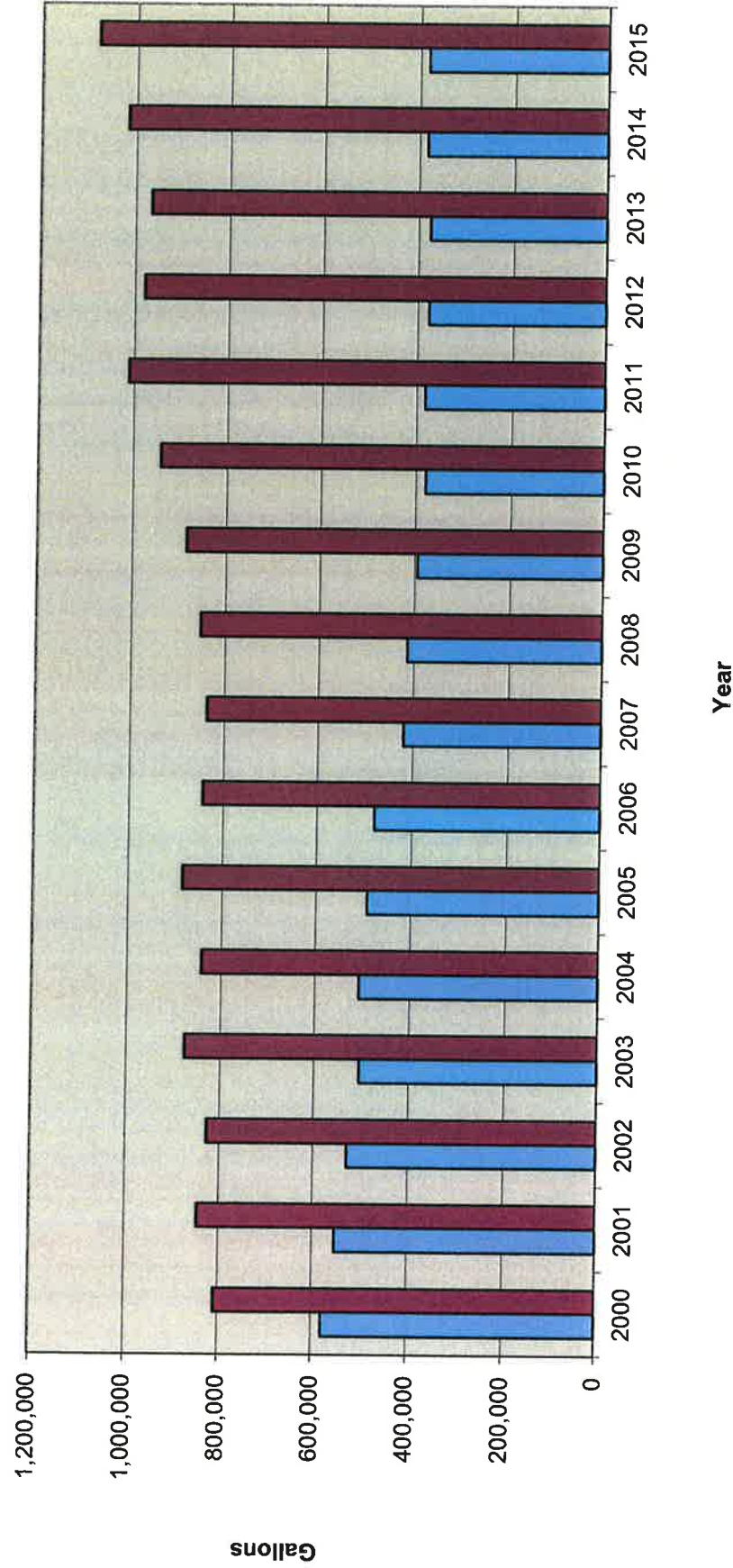
Month	WATER WITHDRAWAL Combined Well Output	REPORT OF OPERATIONS					Line Breaks and Flushing ⁽¹⁾	Metered Sales
		Raw Water Input	Finished Output			Total		
			Finished	Rinse/Wash				
Jan	113,368,210	107,634,000	87,268,000	4,338,300		91,606,300	2,180,261	
Feb	111,179,100	108,769,000	86,669,000	4,537,400		91,206,400	1,969,268	
Mar	132,640,900	134,263,000	105,913,000	5,491,800		111,404,800	2,180,261	
Apr	116,172,730	116,530,000	91,644,000	4,383,600		96,027,600	2,109,930	
May	122,862,030	111,377,000	89,086,000	4,458,600		93,544,600	2,180,261	
Jun	115,557,750	108,051,000	85,245,000	4,402,400		89,647,400	2,109,930	
Jul	117,470,460	109,515,000	86,540,000	4,494,400		91,034,400	2,180,261	
Aug	116,146,540	109,447,000	86,260,000	4,776,200		91,036,200	2,180,261	
Sept	110,945,400	109,199,000	88,652,000	5,269,900		93,921,900	2,109,930	
Oct	120,527,190	115,862,000	99,913,000	5,493,600		105,406,600	2,180,261	
Nov	104,658,481	102,209,000	86,178,000	4,757,300		90,935,300	2,109,930	
Dec	104,632,260	101,716,000	86,817,000	5,393,600		92,210,600	2,180,261	
TOTAL	1,386,161,051	1,334,572,000	1,080,185,000	57,797,100		1,137,982,100	25,670,815	381,442,885
DAILY AVG.	3,797,702	3,656,362	2,959,411	158,348		3,117,759	70,331	1,045,049

(1) Maintenance data includes water used to flush lines after line break repair operations and bi-annual line flushing water. These numbers are estimates only.

Municipal Water Authority of Aliquippa Annual Metered Water Sales



Municipal Water Authority of Aliquippa Historic Water Sales and Finished Water Produced



Thousand Gallons of Water Billed
 Thousand Gallons of Finished Water Produced

SEWER SYSTEM APPENDIX

FIGURE 1
HYDRAULIC LOADING GRAPH
MWAA WASTEWATER TREATMENT PLANT

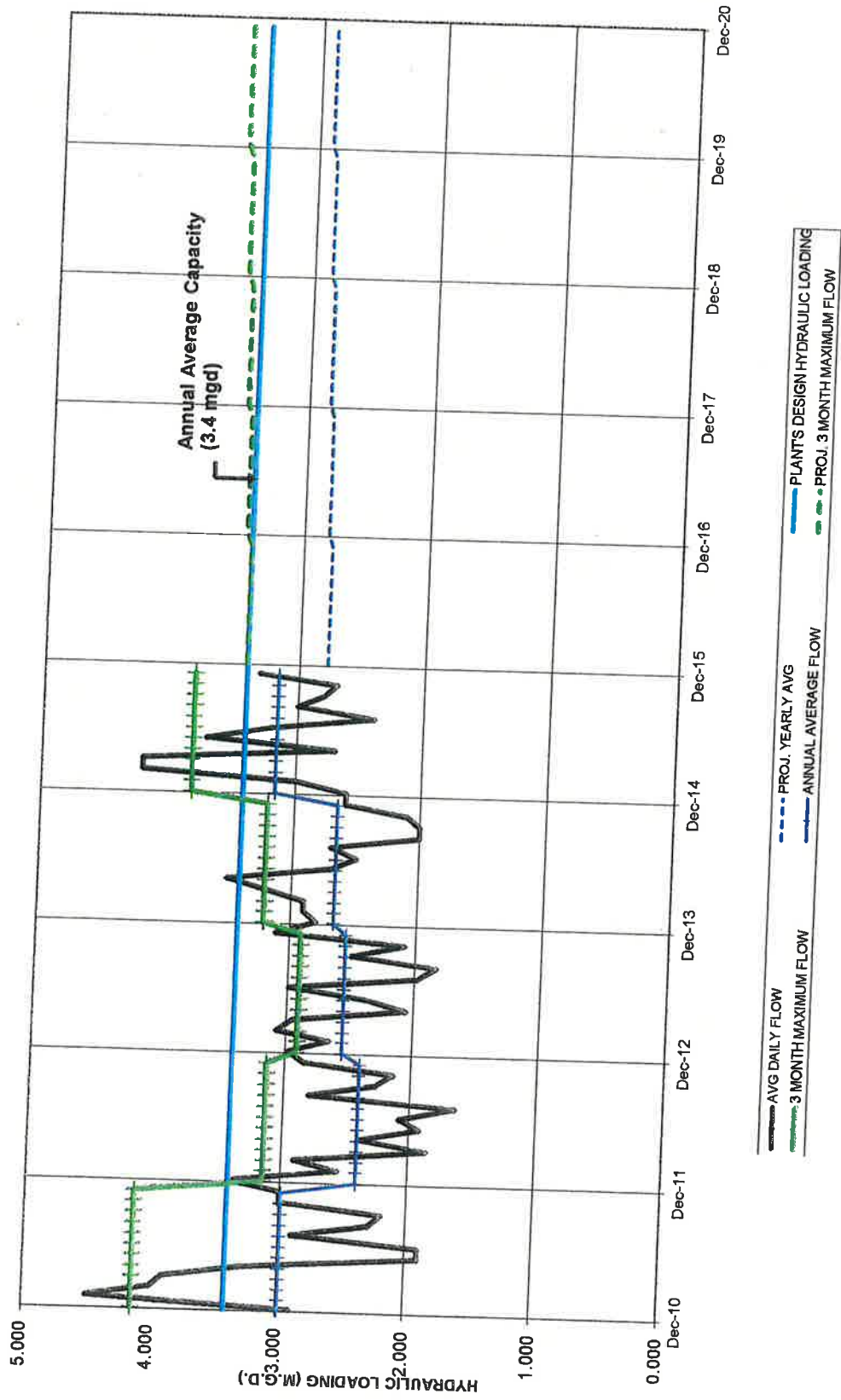
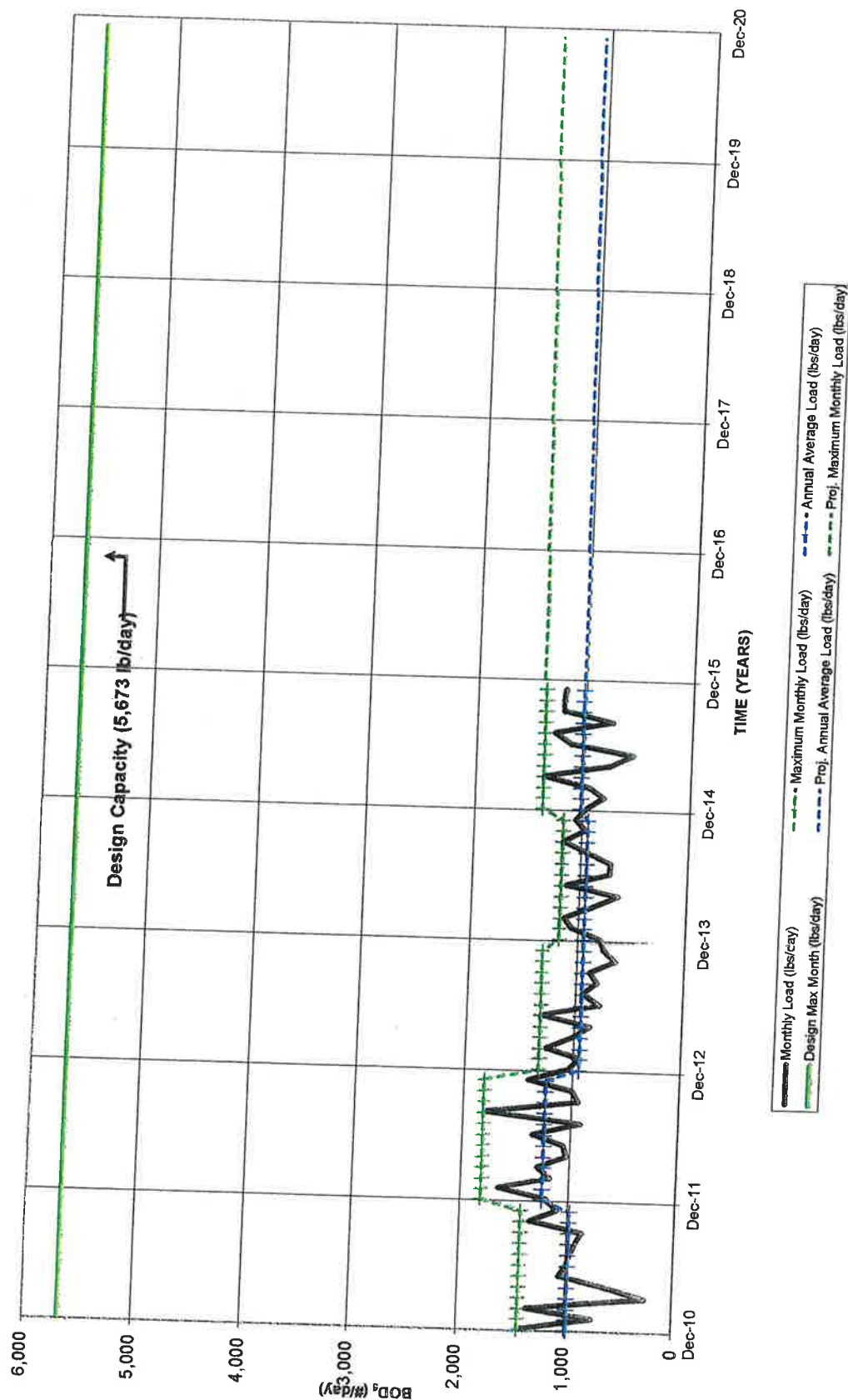


FIGURE 2
ORGANIC LOADING GRAPH
MWAA WASTEWATER TREATMENT PLANT



FINANCIAL MANAGEMENT APPENDIX

**MUNICIPAL WATER AUTHORITY OF ALIQUIPPA
CONSULTING ENGINEER'S ANNUAL REPORT
WATER FUND
BUDGET VS ACTUAL**

		2015 Budget	2015 Actual	2016 Budget	YTD As Of 10-31-2016
Revenue					
<u>Metered Sales</u>					
01.01. 430110	Metered Sales - Domestic	\$1,750,000.00	\$1,770,932.76	\$2,818,035.00	\$2,491,191.20
01.01. 430120	Metered Sales - Commercial	\$323,400.00	\$348,970.85	\$713,890.00	\$475,117.72
01.01. 430130	Metered Sales - Industrial	\$324,505.00	\$334,538.39	\$682,301.00	\$457,308.26
	Subtotal	\$2,397,905.00	\$2,454,442.00	\$4,214,226.00	\$3,423,617.18
<u>Fire Protection</u>					
01.01. 430410	Private Fire Protection	\$17,000.00	\$16,434.89	\$17,000.00	\$21,167.94
01.01. 430420	Public Fire Protection	\$200,000.00	\$254,048.94	\$300,000.00	\$238,655.23
	Subtotal	\$217,000.00	\$270,483.83	\$317,000.00	\$259,823.17
<u>Other Water Sales</u>					
01.01. 430610	Sales to Public Authority	\$40,000.00	\$33,916.82	\$30,000.00	\$60,198.57
	Subtotal	\$40,000.00	\$33,916.82	\$30,000.00	\$60,198.57
<u>Miscellaneous Revenue</u>					
01.01. 431210	Customer Penalties	\$55,000.00	\$60,202.61	\$55,000.00	\$74,077.70
01.01. 412520	Miscellaneous Water Revenue	\$0.00	-\$397.89	\$0.00	\$7,059.60
01.01. 431230	Water Tap Fees	\$0.00	\$21,170.82	\$0.00	\$6,412.42
01.01. 431240	Turn on Charges & NSF Charge	\$6,000.00	\$5,044.00	\$5,000.00	\$5,559.96
	Subtotal	\$61,000.00	\$86,019.54	\$60,000.00	\$93,109.68
<u>Misc Non-Operating Revenue</u>					
01.01. 432010	Revenue from Frozen Meters	\$1,000.00	\$2,800.00	\$1,000.00	-\$5,401.71
01.01. 432610	Misc Non-Operating Revenue	\$9,000.00	\$18,324.96	\$10,000.00	\$13,556.20
01.01. 432630	Employee Contribution	\$41,600.00	\$40,900.00	\$45,760.00	\$36,780.00
	Subtotal	\$51,600.00	\$62,024.96	\$56,760.00	\$44,934.49
	Total Revenue	\$2,767,505.00	\$2,906,887.15	\$4,677,986.00	\$3,881,683.09
Expenses					
<u>Power and Pumping</u>					
01.01. 542210	Non-Salary Compensation / Meals	\$10,000.00	\$24,617.60	\$15,000.00	\$7,795.72
01.01. 542410	Supplies and Expenses	\$10,000.00	\$9,710.37	\$10,000.00	\$7,583.08
01.01. 542610	Maintenance of Structures and Improvements	\$25,000.00	\$11,055.40	\$25,000.00	\$5,067.81
01.01. 542710	Maintenance of Power and Pumping Equip	\$0.00	\$0.00	\$25,000.00	\$10,317.25
01.01. 542910	Utility - Power - Wells	\$1,000.00	\$684.53	\$1,000.00	\$4,950.39
01.01. 542930	Utility - Power - Collector Well	\$40,000.00	\$41,835.42	\$42,000.00	\$31,450.28
01.01. 542950	Utility - Power - Ranney Well	\$60,000.00	\$62,695.15	\$63,000.00	\$51,727.90
01.01. 542960	Utility - Power - Booster Station	\$16,000.00	\$12,057.34	\$15,000.00	\$9,775.90
01.01. 542970	Utility - Power - Raccoon Township	\$21,000.00	\$19,049.33	\$20,000.00	\$17,711.17
01.01. 542980	Utility - Power - West Reservoir / Jail	\$0.00	\$240.45	\$250.00	\$197.50
	Subtotal	\$183,000.00	\$181,945.59	\$216,250.00	\$146,577.00
			\$422,155.95		\$350,690.71
<u>Purification and Lab</u>					
01.01. 544210	Operations Salaries	\$415,000.00	\$364,952.44	\$146,900.00	\$110,169.52
01.01. 544220	Water Testing	\$15,000.00	\$11,105.00	\$15,000.00	\$7,336.45
01.01. 544310	Supplies - Salt	\$0.00	\$0.00	\$220,000.00	\$110,839.92
01.01. 544320	Supplies - Chlorine	\$20,500.00	\$9,371.28	\$8,000.00	\$6,324.00
01.01. 544410	Outside Services	\$2,500.00	\$10,050.73	\$15,000.00	\$6,587.42
01.01. 544510	Maintenance of Structures and Improvements	\$30,000.00	\$21,392.12	\$28,700.00	\$10,617.13
01.01. 544710	Maintenance of Backwash	\$2,500.00	\$16,905.60	\$2,500.00	\$926.20
01.01. 544610	Maintenance of Equipment	\$30,000.00	\$102,058.31	\$105,900.00	\$68,626.03
01.01. 542920	Utility - Power	\$245,000.00	\$233,201.64	\$230,000.00	\$199,973.90
01.01. 544910	Utility - Gas	\$1,200.00	\$7,008.72	\$8,600.00	\$4,139.81
	Subtotal	\$761,700.00	\$776,045.84	\$780,600.00	\$525,540.38
			\$535,835.48		\$321,426.67
<u>Transmission and Distribution</u>					
01.01. 545210	Operations Salaries	\$365,000.00	\$125,789.98	\$365,700.00	\$169,752.02
01.01. 545215	Outside Services	\$5,000.00	\$4,395.84	\$10,000.00	\$52,424.51
01.01. 545310	Maintenance of Lines	\$100,000.00	\$212,771.08	\$150,000.00	\$356,760.33

		2015 Budget	2015 Actual	2016 Budget	YTD As Of 10-31-2016
01.01. 545920	Maintenance of Meters	\$10,000.00	\$37,029.21	\$10,000.00	\$60,707.52
01.01. 545930	Maintenance of Hydrants	\$10,000.00	\$18,308.50	\$10,000.00	\$19,477.35
01.01. 545710	Maintenance of Structures and Improvements	\$30,000.00	\$1,559.80	\$25,000.00	\$0.00
	Subtotal	\$520,000.00	\$399,854.41	\$570,700.00	\$659,121.73
	<u>Vehicles and Equipment</u>				
01.01. 546010	Rentals	\$2,000.00	\$100.00	\$2,000.00	\$100.00
01.01. 546110	Purchase	\$25,000.00	\$16,595.25	\$25,000.00	\$17,932.06
01.01. 546145	Maintenance	\$37,000.00	\$16,532.32	\$20,000.00	\$35,742.15
01.01. 546155	Fuel	\$15,000.00	\$15,985.77	\$15,000.00	\$16,165.96
	Subtotal	\$79,000.00	\$49,213.34	\$62,000.00	\$69,940.17
	<u>General Administration</u>				
01.01. 549010	Board Salaries	\$1,500.00	\$2,081.60	\$1,500.00	\$0.00
01.01. 549110	Office Salaries	\$135,000.00	\$173,461.12	\$100,000.00	\$66,839.11
01.01. 549020	Manager's Salary	\$31,400.00	\$38,220.34	\$40,000.00	\$69,444.71
01.01. 549310	Office Supplies and Expenses			\$30,000.00	\$25,459.12
01.01. 549410	Real Estate Taxes / Sohn Road	\$225.00	\$161.80	\$225.00	\$165.72
01.01. 549510	Auditor	\$6,000.00	\$3,150.00	\$3,500.00	\$3,317.00
01.01. 549890	Solicitor - Retainer	\$3,600.00	\$15,343.81	\$3,600.00	\$5,195.25
01.01. 549870	Solicitor - Expenses	\$9,000.00	\$0.00	\$9,000.00	\$0.00
01.01. 549610	Engineer - Retainer	\$1,200.00	\$2,081.04	\$1,200.00	\$1,000.00
01.01. 549620	Engineer - Expenses	\$30,000.00	\$55,074.22	\$70,000.00	\$12,802.07
01.01. 549710	Insurance - PIRMA - Auto	\$6,000.00	\$0.00	\$5,900.00	\$0.00
01.01. 549720	Insurance - PIRMA - General Liability	\$27,000.00	\$43,095.60	\$36,000.00	\$0.00
01.01. 549730	Insurance - Workmen's Compensation	\$12,000.00	\$29,214.00	\$32,900.00	\$24,638.40
01.01. 549740	Insurance - Multi Peril	\$9,000.00	\$17,416.00	\$7,500.00	\$10,814.00
01.01. 549750	Insurance - Boiler	\$3,600.00	\$12,365.60	\$3,000.00	\$7,540.80
01.01. 549760	Insurance - PIRMA - Public Officials	\$4,200.00	\$6,681.00	\$3,400.00	\$0.00
01.01. 549770	Insurance - Property / Equipment	\$12,000.00	\$0.00	\$10,000.00	\$154.50
01.01. 549810	Insurance - Bonds	\$1,000.00	\$3,006.50	\$0.00	\$400.50
01.01. 549820	Insurance Retirement	\$35,000.00	\$7,000.00	\$0.00	\$874.72
01.01. 549830	Hospitalization / Health Insurance	\$360,000.00	\$496,352.58	\$420,000.00	\$309,612.65
01.01. 549840	Employees Pension	\$0.00	\$0.00	\$20,000.00	\$76,752.14
01.01. 549841	Utilities - Telephone	\$3,600.00	\$6,346.12	\$6,300.00	\$4,456.57
01.01. 549845	Utilities - Power	\$2,880.00	\$4,185.11	\$4,300.00	\$4,073.81
01.01. 549855	Utilities - Gas	\$2,160.00	\$5,705.86	\$3,400.00	\$3,749.11
01.01. 549865	Utilities - Cellular	\$2,160.00	\$2,116.83	\$2,160.00	\$1,962.51
01.01. 549880	Postage	\$4,200.00	\$8,069.06	\$8,100.00	\$8,903.67
01.01. 549885	Uniforms / Clothing Allowance	\$1,200.00	\$0.00	\$1,200.00	\$3,727.10
01.01. 549895	Dues, Memberships, Subscriptions	\$900.00	\$642.00	\$900.00	\$1,298.50
01.01. 549905	Software	\$7,200.00	\$600.00	\$6,000.00	\$600.00
01.01. 549925	Office Equipment	\$3,000.00	\$2,097.50	\$2,500.00	\$0.00
01.01. 549920	Travel and Education	\$1,500.00	\$16,075.45	\$1,500.00	\$545.50
01.01. 549850	Miscellaneous General Expenses	\$10,000.00	\$29,598.79	\$38,000.00	\$18,618.29
01.01. 549860	Maintenance - Property	\$6,000.00	\$22,269.80	\$7,000.00	\$2,954.99
	Subtotal	\$732,525.00	\$1,002,411.73	\$879,085.00	\$665,900.74
	<u>Capital Improvements</u>				
01.01. 545970	Capital Improvements	\$0.00	\$0.00	\$950,238.69	\$166,948.31
01.01.	Capital Improvements - Raccoon	\$0.00	\$0.00	\$0.00	
	Subtotal	\$0.00	\$0.00	\$950,238.69	\$166,948.31
	<u>Debt Service</u>				
01.01. 549955	2013 Bond Issue	\$194,323.50	\$194,323.50	\$153,655.00	\$92,173.20
01.01. 549960	2003 / 1998 Bond Issue	\$688,743.00	\$413,049.00	\$684,000.00	\$307,748.24
01.01. 549915	Debt Service Coverage	\$88,306.65	\$0.00	\$83,765.50	\$0.00
01.01. 549970	2001 Pennvest Loan No. 88002	\$284,302.00	\$284,302.44	\$284,302.00	\$236,918.70
01.01. 546130	ESB 2011 Chevy Truck Loan (#36)	\$6,504.47	\$6,504.47	\$6,504.47	\$6,033.43
01.01. 546140	ESB 2011 Ford Truck Loan (#34)	\$4,606.90	\$4,606.90	\$4,606.90	\$4,146.76
01.01. 546150	ESB 2013 Ford Truck Loan (#35)	\$2,278.44	\$2,278.44	\$2,278.44	\$1,898.70
	Subtotal	\$1,269,064.96	\$905,064.75	\$1,219,112.31	\$648,919.03
	Total Expenses	\$3,545,289.96	\$3,314,535.66	\$4,677,986.00	\$2,882,947.36
	Net Income	-\$777,784.96	-\$407,648.51	\$0.00	\$998,735.73

**MUNICIPAL WATER AUTHORITY OF ALIQUIPPA
CONSULTING ENGINEER'S ANNUAL REPORT
SEWER FUND
BUDGET VS ACTUAL**

	2015 Budget	2015 Actual	2016 Budget	YTD As Of 10-31-2016
Revenue				
<u>Metered Sales</u>				
01.02. 430110 Metered Sales - Domestic	\$800,000.00	\$891,306.60	\$890,000.00	\$754,547.61
01.02. 430120 Metered Sales - Commercial	\$190,000.00	\$200,793.49	\$200,000.00	\$171,718.01
01.02. 430130 Metered Sales - Industrial	\$30,000.00	\$37,187.12	\$35,000.00	\$24,371.40
01.02. 430140 Sales to Public Agencies	\$150,000.00	\$166,917.51	\$150,000.00	\$137,765.19
Subtotal	\$1,170,000.00	\$1,296,204.72	\$1,275,000.00	\$1,088,402.21
<u>Public Authorities</u>				
01.02. 430610 Sales to Public Authorities (Hopewell)	\$470,000.00	\$469,784.97	\$470,000.00	\$351,777.90
Subtotal	\$470,000.00	\$469,784.97	\$470,000.00	\$351,777.90
<u>Miscellaneous Revenue</u>				
01.02. 431110 Customer Penalties	\$35,000.00	\$38,495.79	\$35,000.00	\$29,563.60
01.02. 431620 Sewer Tap Fees	\$0.00	\$4,069.08	\$0.00	\$2,000.00
01.02. 431630 Employee Contribution	\$13,000.00	\$8,700.00	\$11,440.00	\$9,520.00
Subtotal	\$48,000.00	\$51,264.87	\$46,440.00	\$41,083.60
Total Revenue	\$1,688,000.00	\$1,817,254.56	\$1,791,440.00	\$1,481,263.71
Expenses				
<u>Collection System</u>				
01.02. 540510 Maintenance of Collection System	\$45,000.00	\$52,531.99	\$55,000.00	\$29,420.50
01.02. 540610 Capital improvements	\$0.00	\$166.50	\$0.00	-\$745.00
01.02. 544515 Outside Services	\$50,000.00	\$31,719.05	\$50,000.00	\$19,107.78
Subtotal	\$95,000.00	\$84,417.54	\$105,000.00	\$47,783.28
<u>Treatment Plant and Pump Stations</u>				
01.02. 542410 Utilities - Power - Treatment Plant	\$41,000.00	\$37,974.80	\$41,000.00	\$28,570.56
01.02. 542420 Utilities - Power - West LS	\$1,500.00	\$1,676.22	\$1,700.00	\$1,323.97
01.02. 542430 Utilities - Power - Wye LS	\$40,000.00	\$39,942.52	\$42,000.00	\$31,305.92
01.02. 542440 Utilities - Power - Golf Course LS	\$2,500.00	\$2,479.62	\$2,700.00	\$2,365.35
01.02. 545710 Utility - Gas - Treatment Plant	\$18,000.00	\$16,305.20	\$18,000.00	\$9,559.83
01.02. 542450 Utilities - Power - Steel Street LS	\$1,000.00	\$84.85	\$150.00	\$0.00
01.02. 542460 Utilities - Power - Jail LS	\$1,500.00	\$817.17	\$1,000.00	\$970.67
01.02. 542510 SUPPLIES	\$10,000.00	\$33,792.23	\$0.00	\$6,709.65
01.02. 542710 Non-Salary Compensation / Meals	\$25,000.00	\$26,573.87	\$0.00	\$591.42
01.02. 542810 Maintenance of Pump Stations	\$15,000.00	\$3,826.36	\$15,000.00	\$12,810.15
01.02. 544210 Operations Salaries	\$100,000.00	\$169,618.16	\$215,000.00	\$160,702.48
01.02. 544220 Testing / Sampling	\$10,000.00	\$11,807.00	\$13,000.00	\$13,738.50
01.02. 544310 Supplies	\$15,000.00	\$18,109.93	\$20,000.00	\$7,026.11
01.02. 544320 Chlorine	\$12,000.00	\$3,840.00	\$12,000.00	\$3,910.00
01.02. 545215 Outside Services	\$0.00	\$0.00	\$5,000.00	\$0.00
01.02. 544510 Maintenance of Structures	\$1,000.00	\$485.69	\$1,000.00	\$0.00
01.02. 544610 Maintenance of Plant Equipment	\$25,000.00	\$25,102.50	\$25,000.00	\$0.00
01.02. 544710 Sludge Processing and Disposal	\$15,000.00	\$0.00	\$17,500.00	\$699.99
Subtotal	\$333,500.00	\$392,436.12	\$430,050.00	\$280,284.60
<u>Vehicles and Equipment</u>				

	2015 Budget	2015 Actual	2016 Budget	YTD As Of 10-31-2016
01.02. 546110 Outside Services	\$8,000.00	\$5,894.52	\$1,000.00	\$12,553.09
01.02. 546010 Rentals	\$500.00	\$0.00	\$500.00	\$0.00
01.02. 546145 Maintenance	\$7,000.00	\$6,457.69	\$7,500.00	\$2,222.56
01.02. 546155 Fuel	\$10,000.00	\$2,304.35	\$3,000.00	\$1,583.03
Subtotal	\$25,500.00	\$14,656.56	\$12,000.00	\$16,358.68
<u>General Administration</u>				
01.02. 549010 Board Salaries	\$1,500.00	\$0.00	\$1,500.00	\$0.00
01.02. 549110 Office Salaries	\$93,650.00	\$105,308.44	\$100,000.00	\$64,779.46
01.02. 549120 Manager's Salary	\$0.00	\$0.00	\$40,000.00	\$69,444.56
01.02. 549310 Office Supplies and Expenses	\$40,000.00	\$28,213.03	\$30,000.00	\$14,636.40
01.02. 549510 Auditor	\$4,000.00	\$3,150.00	\$3,500.00	\$3,317.00
01.02. 549610 Engineer - Retainer	\$1,200.00	\$1,300.00	\$1,200.00	\$1,000.00
01.02. 549620 Engineer - Expenses	\$10,000.00	\$42,244.95	\$50,000.00	\$28,702.11
01.02. 549710 Insurance - PIRMA - Auto	\$4,000.00	\$0.00	\$650.00	\$0.00
01.02. 549720 Insurance - PIRMA - General Liability	\$18,000.00	\$28,730.40	\$36,000.00	\$0.00
01.02. 549730 Insurance - Workmen's Compensation	\$8,000.00	\$19,476.00	\$14,100.00	\$16,425.60
01.02. 549740 Insurance - Multi Peril	\$6,000.00	\$3,605.50	\$7,500.00	\$1,411.00
01.02. 549750 Insurance - Boiler	\$2,400.00	\$3,091.40	\$3,000.00	\$1,885.20
01.02. 549760 Insurance - PIRMA - Public Officials	\$2,800.00	\$0.00	\$3,400.00	\$0.00
01.02. 549770 Insurance - Property / Equipment	\$8,000.00	\$0.00	\$10,000.00	\$5,428.00
01.02. 549810 Insurance	\$20,000.00	\$16,492.00	\$0.00	\$2,820.00
01.02. 549820 Insurance Retirement	\$11,250.00	\$3,000.00	\$0.00	\$374.88
01.02. 549830 Hospitalization / Health Insurance	\$200,000.00	\$87,848.95	\$180,000.00	\$85,555.19
01.02. 549840 Employees Pension	\$20,000.00	\$18,459.97	\$4,000.00	\$20,470.82
01.02. 549841 Utilities - Telephone	\$4,320.00	\$12,689.36	\$12,000.00	\$12,292.95
01.02. 549850 Miscellaneous General Expenses	\$2,500.00	\$7,448.63	\$7,000.00	\$6,076.94
01.02. 549855 Utilities - Gas	\$1,440.00	\$0.00	\$3,400.00	\$0.00
01.02. 549865 Utilities - Cellular	\$1,440.00	\$1,872.35	\$1,600.00	\$1,926.48
01.02. 549885 Uniforms / Clothing Allowance	\$800.00	\$0.00	\$800.00	\$1,048.11
01.02. 549860 Maintenance - Property	\$4,000.00	\$9,484.25	\$9,000.00	\$20,910.71
01.02. 549880 Postage	\$2,800.00	\$7,668.02	\$8,100.00	\$6,612.68
01.02. 549895 Dues, Memberships, Subscriptions	\$600.00	\$612.00	\$900.00	\$229.50
01.02. 549905 Software	\$4,800.00	\$600.00	\$6,000.00	\$600.00
01.02. 549920 Travel and Education	\$1,000.00	\$1,596.78	\$1,000.00	\$282.50
01.02. 549925 Office Equipment	\$2,000.00	\$2,097.50	\$2,500.00	\$0.00
01.02. 549420 Solicitor - Expenses	\$6,000.00	\$0.00	\$6,000.00	\$750.00
01.02. 549890 Solicitor - Retainer	\$3,600.00	\$10,091.33	\$3,600.00	\$6,010.75
Subtotal	\$486,100.00	\$415,080.86	\$546,750.00	\$372,990.84
<u>Capital Improvements</u>				
01.02. 540620 Capital Improvements	\$0.00	\$0.00	\$526,341.06	\$143,542.59
Subtotal	\$0.00	\$0.00	\$526,341.06	\$143,542.59
<u>Debt Service</u>				
01.02. 549955 2013 Bond Issue	\$129,549.00	\$129,549.00	\$153,655.00	\$61,448.80
01.02. 549915 Debt Service Coverage	\$12,954.90	\$0.00	\$15,365.50	\$0.00
01.02. 549970 ESB 2013 Ford Truck Loan	\$2,278.44	\$2,278.44	\$2,278.44	\$1,898.70
Subtotal	\$144,782.34	\$131,827.44	\$171,298.94	\$63,347.50
Total Expenses	\$1,084,882.34	\$1,038,418.52	\$1,791,440.00	\$924,307.49
Net Income	\$603,117.66	\$778,836.04	\$0.00	\$556,956.22

**MUNICIPAL WATER AUTHORITY OF ALIQUIPPA
CONSULTING ENGINEER'S ANNUAL REPORT
DEBT SERVICE COVERAGE FACTOR CALCULATION
2015 ACTUAL BUDGET**

	<u>REVENUES</u>	<u>EXPENSES</u> ⁽¹⁾	<u>NET INCOME / (LOSS)</u>
WATER	\$ 2,906,887	\$ 2,409,471	\$ 497,416
SEWER	\$ 1,817,255	\$ 906,591	\$ 910,663
	<u>\$ 4,724,142</u>	<u>\$ 3,316,062</u>	<u>\$ 1,408,080</u>

DEBT SERVICES:

2015 Debt Service Payments

2015 Payments

\$ 1,036,892

TOTAL ANNUAL DEBT SERVICE PAYMENT

\$ 1,036,892

TOTAL ANNUAL DEBT SERVICE COVERAGE ⁽²⁾

\$ 101,262

NET REVENUE ⁽³⁾

\$ 1,509,341

2015 BUDGETED COVERAGE FACTOR

1.46

REQUIRED COVERAGE FACTOR

1.10

⁽¹⁾ Excludes Depreciation and Debt Service

⁽²⁾ Debt Service Coverage for Bond Issue based on 2016 budget

⁽³⁾ Includes Net Income/(Loss) plus Debt Service Coverage

**MUNICIPAL WATER AUTHORITY OF ALIQUIPPA
CONSULTING ENGINEER'S ANNUAL REPORT
DEBT SERVICE COVERAGE FACTOR CALCULATION
2016 APPROVED BUDGET**

	<u>REVENUES</u>	<u>EXPENSES</u> ⁽¹⁾	<u>NET INCOME / (LOSS)</u>
WATER	\$ 4,677,986	\$ 3,458,874	\$ 1,219,112
SEWER	\$ 1,791,440	\$ 1,620,141	\$ 171,299
	\$ 6,469,426	\$ 5,079,015	\$ 1,390,411

DEBT SERVICES:

2016 Debt Service Payments

2016 Payments

\$ 1,291,280

TOTAL ANNUAL DEBT SERVICE PAYMENT

\$ 1,291,280

TOTAL ANNUAL DEBT SERVICE COVERAGE ⁽²⁾

\$ 99,131

NET REVENUE ⁽³⁾

\$ 1,489,542

2016 BUDGETED COVERAGE FACTOR

1.15

REQUIRED COVERAGE FACTOR

1.10

⁽¹⁾ Excludes Depreciation and Debt Service

⁽²⁾ Debt Service Coverage for Bond Issue based on 2016 budget

⁽³⁾ Includes Net Income/(Loss) plus Debt Service Coverage

MUNICIPAL WATER AUTHORITY OF ALIQUIPPA

Year 2016/2017 – Schedule of Insurance

POLICY	% WATER	% SEWER	PREMIUM AMOUNT	DATE
Selective Insurance Company – Commercial Property Policy No. 2242201	50	50	\$29,730.00	07/05/16 – 07/05/17
Selective Insurance Company – Inland Marine Policy No. 2242201	50	50	\$1,636.00	07/05/16 – 07/05/17
Selective Insurance Company – Crime Policy No. 2242201	50	50	\$710.00	07/05/16 – 07/05/17
State National Insurance – Auto Policy No. BPF-AU-101194-01	50	50	\$5,922.00	10/19/16 – 10/19/17
Selective Insurance Company – Workers Compensation Policy No. WC 9036360	50	50	\$42,661.00	08/01/16 – 08/01/17
State National Insurance - Property Policy No. BPF-PK-101194-01	50	50	\$41,364.00	10/19/16 – 10/19/17
BCS Insurance Company – Cyber Policy No. RPS-P-0285408	50	50	\$1,824.00	10/19/16 – 10/19/17

