

“DRAFT”**UW/32/17**

TO: Chair and Members of the Union Water Supply System
Joint Board of Management

FROM: Rodney Bouchard, Union Water Manager

DATE: December 8th, 2017

RE: Proposed 2018 UWSS Operations and Capital Budget Report



RECOMMENDATION

That the Union Water Supply System Joint Board of Management (UWSS Board) adopts the Draft 2018 Operational and Capital Budget for the Union Water Supply System;

And further, that the UWSS Board endorses an increase of \$0.05 per thousand gallons (\$0.0109 per cubic metre) for UWSS wholesale Rate 1 from \$2.72 per thousand gallons (\$0.5978 per cubic metre) to \$2.77 per thousand gallons (\$0.6088 per cubic metre) to be put into effect on April 1, 2018.

REPORT HIGHLIGHTS

- Potable water demand from UWSS is anticipated to be approximately 3,300,000,000 imperial gallons (15,015,000 m³) for 2018. This is roughly based on the average annual demand for the previous 4 years.
- UWSS Revenue for 2018 is estimated at \$9,378,000. This includes estimated wholesale rate revenue of \$9,004,000, investment income of \$350,000 and sundry revenue of \$24,000.
- Operational and Debt Service Expenditures for 2018 are estimated at \$7,452,000. This includes \$5,139,000 for Operational Expenses and \$2,313,000 for Debt Service.
- 2018 Revenue versus Operational and Debt Service Expenditures are anticipated to result in a surplus of approximately \$1,926,000 for 2018 Fiscal Year;
- A Capital Program of \$3,905,000 is proposed for 2018. This includes large expenditures for Essex Water Re-coating (\$1,025,000) and complete upgrade of SCADA system (\$1,220,000) that were initially approved for 2017 UWSS capital budget but were delayed to 2018 for various reasons. The capital budget also includes a proposed \$950,000 budget for construction and implementation of a CO₂ gas based raw water pH adjustment system.
- The proposed Capital Program for 2018 will result in a budgeted net deficit of **\$1,979,000** for 2018 fiscal year. The deficit will be funded using UWSS Reserves.
- An increase of \$0.05 per 1000 gallons (\$0.0109/m³) is proposed for the UWSS Wholesale Rate. The new proposed Rate 1 wholesale Rate would be \$2.77 per 1000 gallons (\$0.6088/m³) to take effect on April 1, 2018.

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Re: Proposed 2018 UWSS Operations and Capital Budget

BACKGROUND:

Since the Transfer Order of January 2001, the Board is responsible for considering and approving an annual budget for the Union Water Supply System. The format of the budget is generally the same as that previously prepared for 2017.

This proposed budget is being presented to the UWSS board for consideration. The proposed 2018 budget is outlined to provide details in regards to the following:

- Anticipated revenue for 2018 from wholesale of water to the partner municipalities;
- Anticipated operating expenditures for 2018 including estimated costs for operation of the system by the Ontario Clean Water Agency (OCWA), under its contract with UWSS;
- Proposed Capital Works program for 2018 for UWSS;
- Forecasted Operational Expenditures and Capital Works program for 2018-2023.

DISCUSSION:

The Proposed 2018 Budget documents have been prepared based on the discussions with the contracted operator, OCWA, in regards to operational budget, major maintenance needs, and existing operational issues that would require implementation of capital works to resolve. The Budget documents reflect the following:

- The operations and maintenance costs associated with the 5-Year Fixed Fee Operations Agreement between UWSS and OCWA that came into effect on January 1, 2014;
- The large proposed capital budget for 2018 that includes projects with large expenditures such as the construction and implementation of a carbon dioxide gas (CO₂) based raw water pH adjustment system, and large projects that were initially approved and planned for 2017 (i.e. Essex Water Tower re-coating project and Upgrades to the SCADA System) but were delayed for various reasons.

Details regarding the budget components are discussed below.

OPERATING EXPENDITURES

Expenditures for the Union Water Supply System (UWSS) consist of a) *Fixed Expenditures*, which includes the OCWA operations contract, UWSS Administration and debt service; and b) *Programs and Studies* that are proposed for 2018. The total projected expenditures for 2018 is budgeted at approximately at \$7,452,000.

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Fixed Expenditures

Fixed expenditures for the budget process include the OCWA Operations Budget, UWSS Administrative Budget, Electricity and Heating costs, Residuals Ponds Maintenance, Carbon Dioxide (for proposed raw water pH adjustment system) and Debt Service. The total estimated fixed expenditures budget for 2018 is \$7,242,491. The fixed expenditures consist of the following components:

OCWA Operations Budget:	\$2,876,500
UWSS Administrative Budget:	\$ 502,250
Electricity and Natural Gas:	\$1,250,000
Residuals Pond Maintenance:	\$ 150,000
Carbon Dioxide (CO ₂):	<u>\$ 150,000</u>
<i>Total Operations, Administrative, Energy:</i>	<i>\$4,928,750</i>
Debt Service:	
Sunlife Debt (MFP Debt):	\$2,313,441
Woodslee Credit Union Loan:	\$0
OSIFA (municipal debentures):	\$0
Leamington Debt Repayment:	<u>\$0</u>
<i>Total Debt Service:</i>	<i>\$2,313,441</i>
Total Fixed Costs:	\$7,242,191

Programs and Studies

A number of Programs and Studies are included in the 2018 Budget. These studies are designed to achieve one of the following goals:

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- Assess and improve operational processes to improve cost efficiencies potentially resulting in decrease of fixed operations costs such as electricity costs and chemical costs;
- Evaluate water demand and water usage by various sectors including residential, commercial, industrial, and food processing/greenhouse industry;
- Evaluate water quality for potential issues such as toxic algae in raw water, nitrification issues in larger distribution systems, etc.

For the 2018 budget year, \$210,000 has been allocated to Programs and Studies. The following studies are proposed or currently in place:

Water Demand/Loss: This work is being conducted with assistance from various partners (OCWA, Universities, Consultants, local municipalities) to evaluate water demand/usage from residential, commercial, industrial and agri-food sectors and to assess water loss throughout the extended distribution system. The data will be used to refine the UWSS' Master Plan and the UWSS hydraulic water model, and to help plan future water transmission/distribution main works.

A budget of \$100,000 is being proposed in the 2018 UWSS Budget for this work.

Water Quality Investigations: This work included a continuation of a partnership with Canadian Water Network for work associated with the assessment and evaluation of source water related impacts to the UWSS drinking water system. It also includes collection and evaluation of water quality data from UWSS to help support research of toxic algae effects on drinking water through studies with University of Toronto and University of Montreal.

A budget of \$35,000 is being proposed in the 2018 UWSS Budget for this work

Operations Contract Assessment For the 2018 Budget year, \$25,000 is being proposed for evaluation of the existing operations contract between UWSS and OCWA that is scheduled to end on December 31st, 2018. The assessment will focus on what works with the existing contract and identify areas of improvement. This assessment would also include a cursory evaluation of alternatives to the existing contracting arrangement for UWSS operations.

Dechlorination System Evaluation and Preliminary Engineering: As part of the UWSS Municipal Drinking Water License (MDWL) and Drinking Water Works Permit (DWWP) renewal that was completed in 2017, the UWSS is required to ensure that all water treatment process water discharged to the environment is free of chlorine. Currently, a manual system that includes dechlorination "pucks" are used to dechlorinate residuals pond water that eventually discharges to Lake Erie

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via discharge pipe. The purpose of this evaluation is to identify a more permanent process to dechlorinate residuals pond discharge water.

A budget of \$50,000 is proposed in the 2018 budget to complete this work.

Operating Expenditure Summary

Fixed Expenditures:	\$7,242,191
Programs and Studies:	<u>\$ 210,000</u>
Total Operating Expenditures for 2017:	\$7,452,191

REVENUE

Revenue for the budget process is mainly based on wholesale billings from the sale of potable water to the 4 municipal owners. A smaller component of revenue is based on miscellaneous revenue such as investment income and sundry income. The total estimated revenue for 2018 is \$9,378,200

Wholesale Water Revenue Summary

Wholesale water revenue is based on annual water usage by the 4 owner municipalities and the wholesale water rates. This also includes wholesale water revenue to Highbury CanCo, which started operations in late June 2014 at the former HJ Heinz Plant facility in Leamington, Ontario.

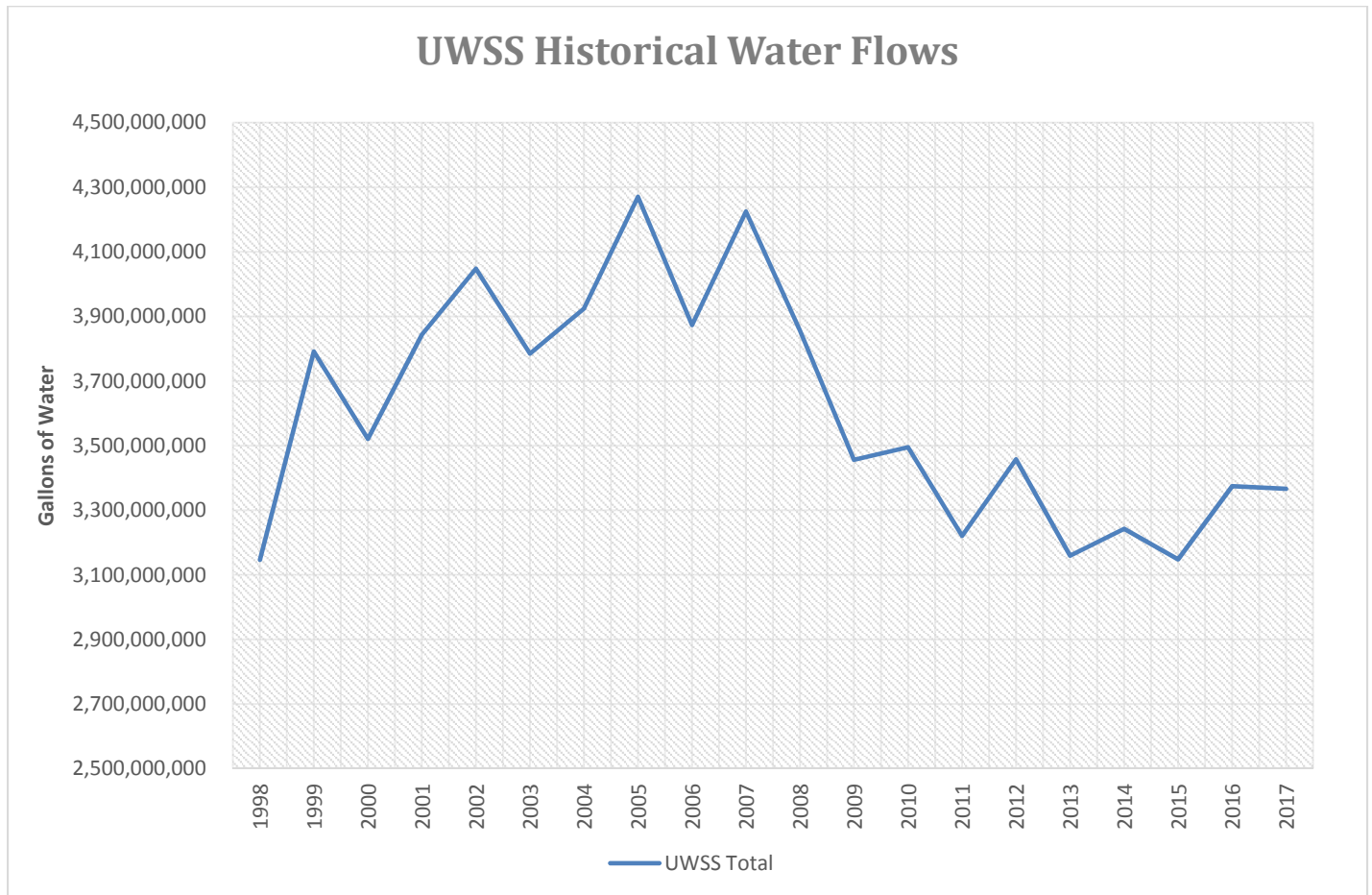
Water Usage

The projected water "usage" by municipal owners for 2018 is 3,300,000,000 imperial gallons (15,015,000 m³) of potable water. This usage estimate is based on the average water demand for the 4 previous years.

Figure 1 depicts the total UWSS water usage trend from 1998-2017.

Figure 2 depicts the water usage trend by each municipal partner from 1998-2017.

Figure 1



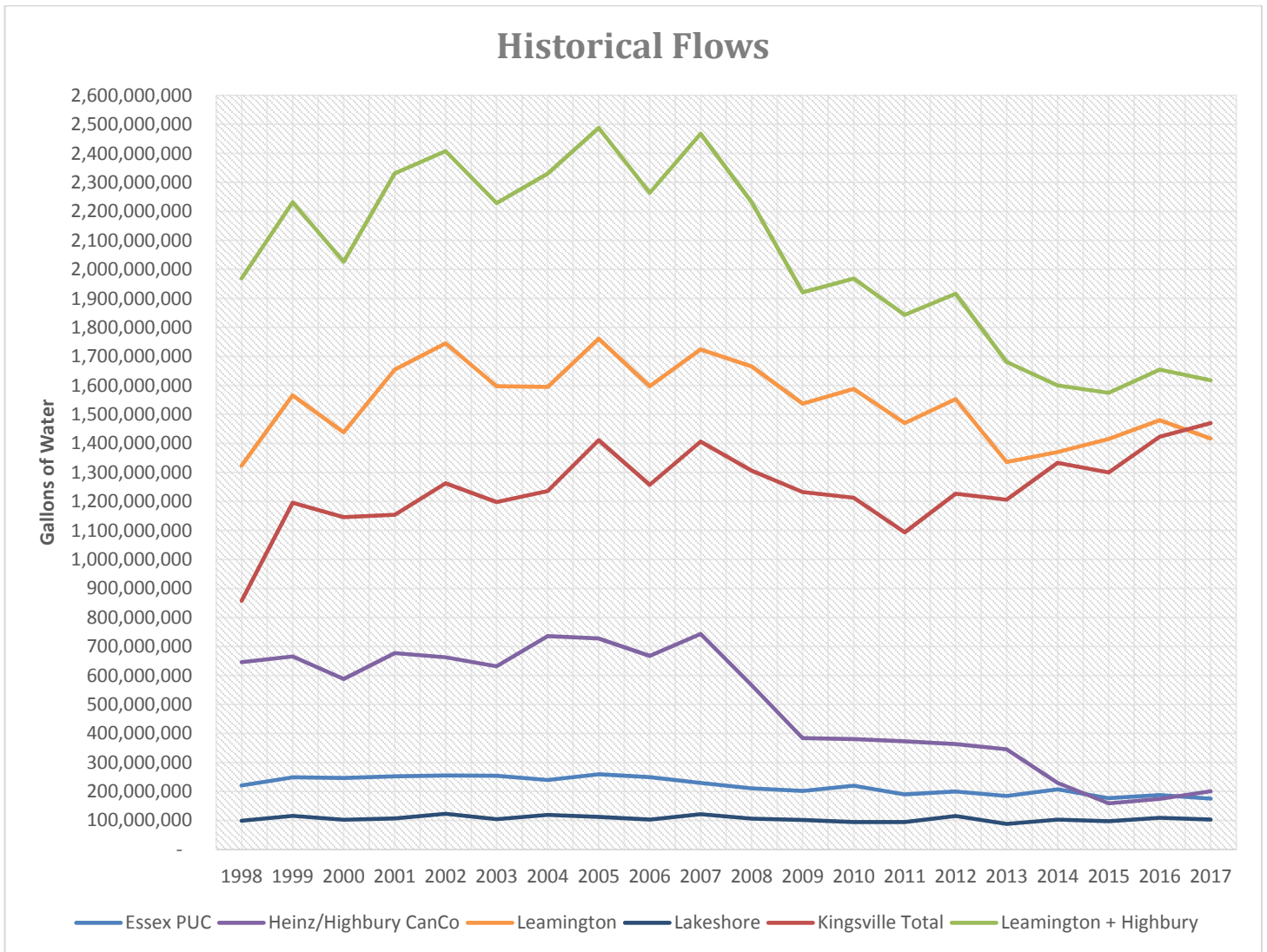
Wholesale Water Rates

For the 2018 budgeting process, it is proposed that an increase of \$0.05 per 1000 gallon (\$0.0109/m³) be applied to the UWSS wholesale rate and to the rate provided to Highbury Canco. This would result in a 2018 UWSS wholesale rate of \$2.77 per 1000 gallons (\$0.6088/m³) and Highbury Canco preferred rate of \$2.05 per 1000 gallons (\$0.4505/m³). It is proposed that the increase for these rates be applied at the start of the 2nd quarter 2018, thus on April 1, 2018.

The following provides 2018 estimates for water rate revenue:

Municipal wholesale:	3,110,000,000 Imp. Gals @ \$2.77/1000 gals =	\$8,617,700
Highbury Canco:	190,000,000 Imp Gals @ \$2.00/1000 gals =	<u>\$389,500</u>
Total Water Rate Revenue Total:		\$9,004,200

Figure 2



Miscellaneous Revenue

Miscellaneous revenue includes income from investments and sundry income.

Investment (interest) income:	\$ 350,000
Sundry revenue:	<u>\$ 24,000</u>
Total Misc. Revenue:	\$ 374,000

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Sundry revenue is revenue received from various sources such as lease of space on water towers for telecommunications equipment. The estimated sundry revenue for 2018 is \$24,000 and is roughly based on 2017 revenue.

Revenue Summary

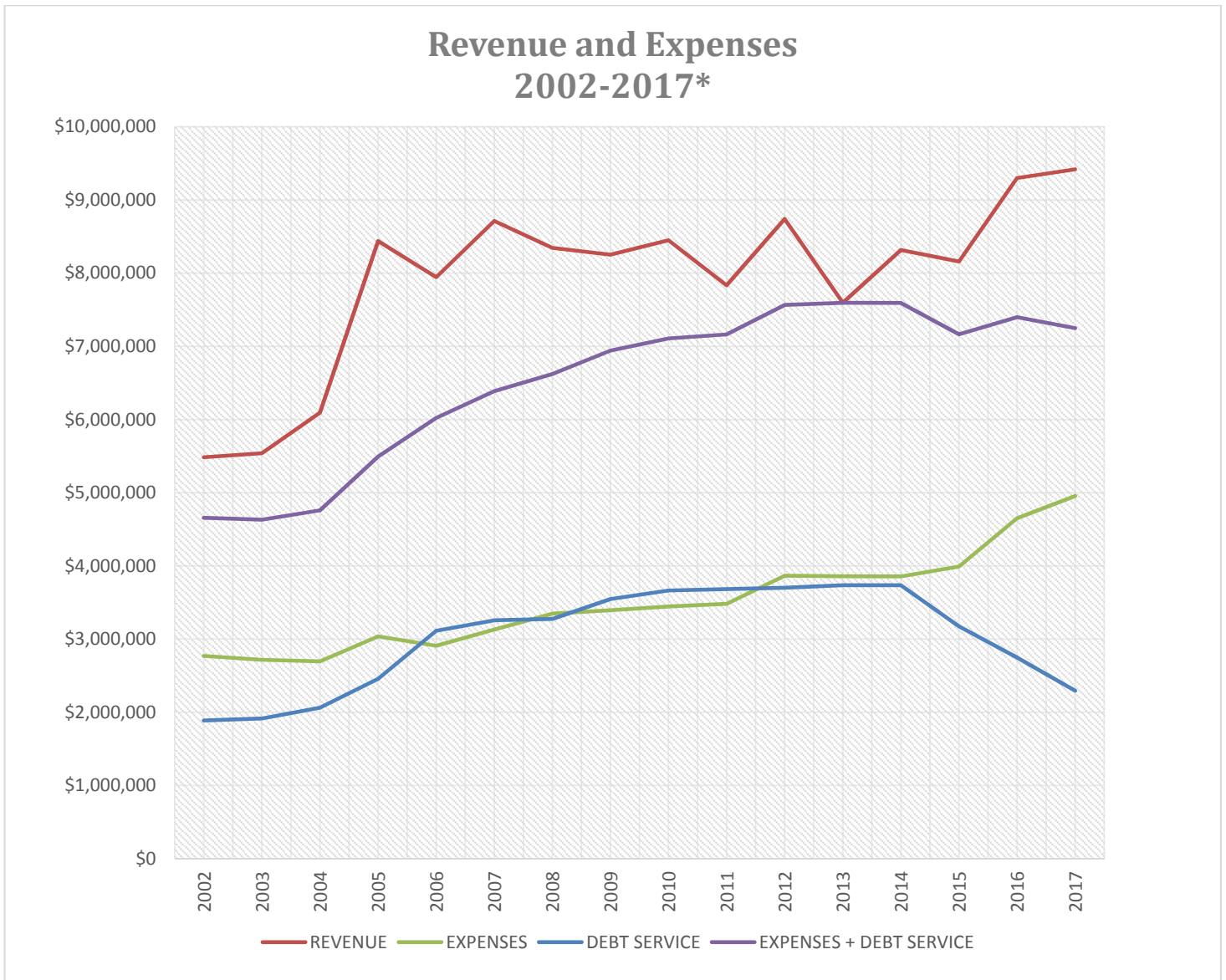
Wholesale Rate Revenue:	\$9,004,200
Miscellaneous Revenue :	<u>\$ 374,000</u>
Total Estimated Revenue for 2018:	\$9,378,200

REVENUE VERSUS OPERATING EXPENDITURES

A comparison of Revenue versus Expenditures for 2018 budget is as follows. It should be noted that the total estimated expenditures also include the proposed budget for operational Programs and Studies of \$210,000.

Total Estimated Revenue:	\$9,378,200
Total Estimated Expenditures:	<u>\$7,452,191</u>
Surplus/(Deficit):	\$1,926,009

Figure 3



CAPITAL PROGRAM

The proposed Capital Program for 2018 is budgeted at \$3,905,000. This includes major Capital Equipment Purchases (e.g. vehicles, heavy equipment) and major Capital Works.

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Capital Works:

The following major capital works projects are proposed for 2018:

SCADA System Upgrade - New SCADA System:	\$1,220,000
Essex Water Tower Re-Coating:	\$1,025,000
CO2 Raw Water pH Adjustment System:	\$ 950,000
Filter Media Replacement - Filters #6 & #8:	\$ 140,000
Distribution System Maintenance:	\$ 100,000
High Lift Pump #7 Install:	\$ 85,000
Master Water Meter Communication System:	\$ 50,000
Laboratory Upgrades:	\$ 50,000
Security System Install:	\$ 45,000
Turbidity Meters for Filter Backwash:	\$ 45,000
Low Lift Pump #1 Major Maintenance:	\$ 35,000
Maintenance Shop Roof:	\$ 30,000
Lighting Upgrades:	\$ 30,000
Microstrainer #2 Floor:	\$ 30,000
Kitchen Upgrades:	\$ 25,000
Blue-Green Algae Chlorophyll Instrument - Low Lift	\$ 25,000
Cathodic Protection System - Leamington Tower:	<u>\$ 20,000</u>
Total Capital Works for 2018:	\$3,905,000

BUDGET SUMMARY

The proposed 2018 budget is summarized as follows:

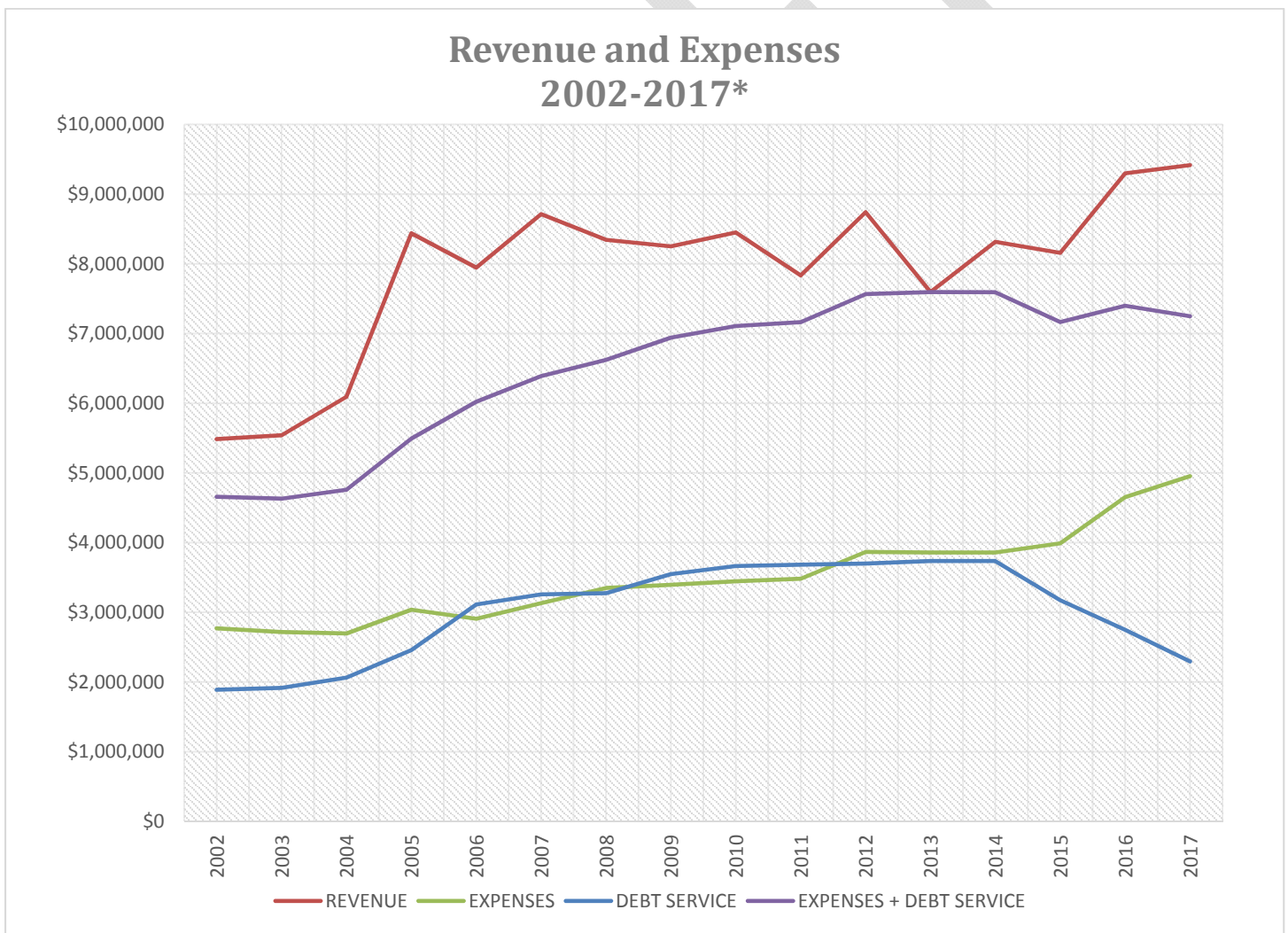
Total Estimated Revenue: (includes wholesale rate revenue and miscellaneous revenue)	\$3,004,200
Total Estimated Operating Expenditures: (includes Operations Contract, UWSS Admin, Programs & Studies)	<u>(\$7,452,191)</u>
Revenue versus Operating Expenditures: Surplus/ (Deficit)	\$1,926,009

Capital Program: (includes Capital Purchases and Capital Works)	<u>(\$3,905,000)</u>
NET SURPLUS/ (DEFICIT): (Operating surplus/deficit less Capital Program)	(\$1,978,991)

Figure 4 below provides a chart that compares historical UWSS Revenue versus Operating and Capital Expenditures.

Appendix A to this report includes worksheets and tables that provide details on the 2018 Operations and Capital Budgets including a Budget Summary worksheet, Operations and Debt Detail worksheet, 2018 Capital Budget Details worksheet, and a Water Flow and Revenue worksheet.

Figure 4



CASH /RESERVES VERSUS DEBT

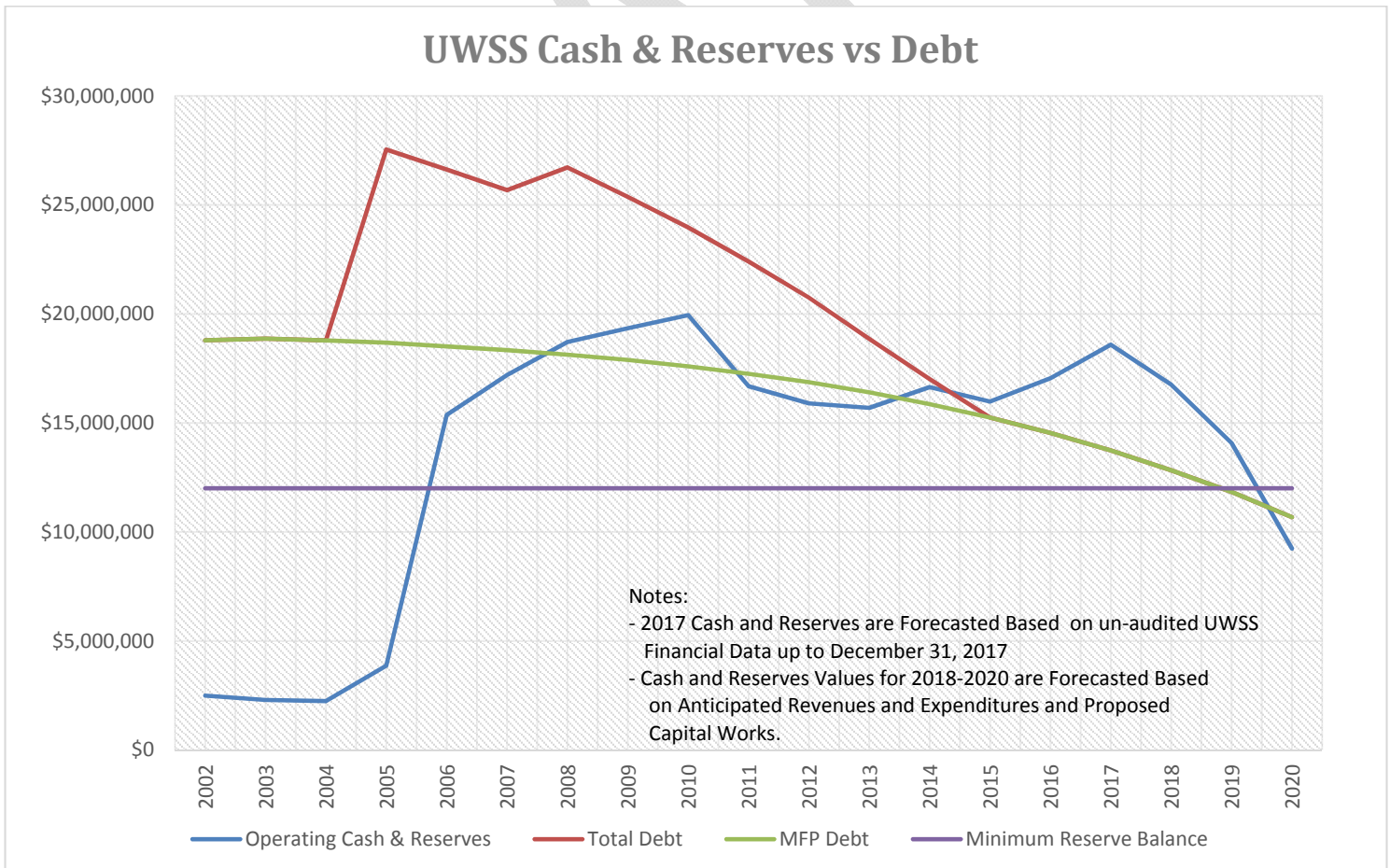
Cash and Reserves for UWSS for fiscal year-end 2017 are forecasted to be approximately \$18,500,000. It should be noted that of the estimated \$18,500,000 in available cash and reserves, \$10,000,000 is currently invested in a GIC until April 2022. Thus, approximately \$8,500,000 in cash and reserves are available for use to fund UWSS operations and capital works.

The 2018 Operating and Capital Budget projects a Net Deficit of (\$1,978,991) for 2018 year end. Thus, it is anticipated that UWSS cash and equivalents at the end of 2018 will decrease to approximately \$6,500,000.

Based on debt repayment schedules, the total UWSS long term debt balance as of January 2018 is \$13,756,544 and consists solely of the Sunlife Debt (MFP Debt).

Figure 5 presents a graph comparing Total Debt and MFP Debt versus Cash Equivalents. It should be noted that “Cash & Reserves” for 2017-2020 are projected based on anticipated Revenues, Expenditures, and proposed Capital Works and are subject to significant changes.

Figure 5



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Re: Proposed 2018 UWSS Operations and Capital Budget

PROPOSED 6-YEAR CAPITAL WORKS PLAN

The UWSS General Manager, with assistance and input from OCWA Operations Staff has developed a proposed 6-year Capital Works Plan (2018-2023) for the UWSS. This Plan reflects the UWSS Manager's intention to undertake upgrades and improvements to the UWSS to address lifecycle replacement/upgrade issues and to improve water treatment, storage and transmission efficiencies.

The following large capital works are included in the 6-Year Capital Plan:

<u>Year</u>	<u>Proposed Capital Works</u>	<u>Estimated Cost</u>
2019	- Clarifier Retrofit to Dissolved Air Flootation (DAF)	\$2,000,000
	- Chlorine Gas System Retrofit with Dry Scrubber	\$1,000,000
	- Kingsville Tower Re-coating	\$1,100,000
2020	- UV Disinfection System in Primary Reservoir	\$5,500,000
2021	- Second Clarifier Retrofit to DAF	\$2,000,000
	- Residuals Management System Upgrades	\$1,750,000
2022	- Replacement of 12-inch watermain to Cottam Booster	\$6,000,000

The large capital items identified in the Table above are currently included as "placeholders" and undertaking of such works would be subject to thorough technical and financial evaluation and approval by the UWSS Board. Costs associated with these future capital works are preliminary and are included for Capital Planning and Finance purposes and are subject to change. The Proposed 6-Year Capital Plan is included as Appendix B to this Report. The Plan identifies the proposed works for each year and the anticipated value of the works.

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Re: Proposed 2018 UWSS Operations and Capital Budget

CONCLUSIONS:

It is the UWSS Manager's opinion that the Budget presented in this report provides a Budget for UWSS that is fiscally prudent while also providing for the major maintenance and lifecycle replacements needed to ensure that UWSS facilities and operations are effective and sustainable for the future.

Respectfully submitted,



Rodney Bouchard, General Manager
Union Water Supply System Joint Board of Management
rb/kmj

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DRAFT

**2018 UWSS DRAFT OPERATIONS AND CAPITAL BUDGET
TABLES AND DETAILS**

**UNION WATER SUPPLY SYSTEM JOINT BOARD OF MANAGEMENT
2018 Draft Budget
Flows and Revenue**

Flow Metering Location	2017 Approved Budget	2017 As of Dec. 5, 2017	2017 Percent of Budgeted Demand	2017 Projected to Dec. 31, 2017	2018 \$0.05/1000 Gallon Rate Increase on Rate 1	2019 \$0.05/1000 Gallon Rate Increase on Rate 1	2020 \$0.05/1000 Gallon Rate Increase on Rate 1
Essex PUC	175,000,000	165,218,900	94.4%	175,461,482	175,000,000	175,000,000	175,000,000
Gosfield N. Twsp	120,000,000	132,344,190	110.3%	138,856,850	135,000,000	135,000,000	135,000,000
Gosfield S. Twsp	1,070,000,000	1,124,382,860	105.1%	1,189,999,300	1,150,000,000	1,150,000,000	1,150,000,000
Highbury CanCo	165,000,000	191,261,580	115.9%	200,591,960	190,000,000	190,000,000	190,000,000
Kingsville PUC	140,000,000	132,888,360	94.9%	141,126,642	140,000,000	140,000,000	140,000,000
Leamington PUC	1,430,000,000	1,346,658,540	94.2%	1,416,895,560	1,410,000,000	1,410,000,000	1,410,000,000
Lakeshore	100,000,000	97,053,550	97.1%	103,070,288	100,000,000	100,000,000	100,000,000
Total Flow:	3,200,000,000	3,189,807,980	99.7%	3,366,002,082	3,300,000,000	3,300,000,000	3,300,000,000
Rate 1 Flow	3,035,000,000	2,998,546,400	98.8%	3,165,410,122	3,110,000,000	3,110,000,000	3,110,000,000
Rate 1	\$2.72	\$2.72		\$2.72	\$2.77	\$2.82	\$2.87
Rate 1 Revenue	\$8,255,200	\$8,156,046	98.8%	\$8,609,916	\$8,614,700	\$8,770,200	\$8,925,700
Rate 2 Flow	0	0		0	0	0	0
Rate 2	\$0.00	\$0.00		\$0.00	\$0.00	\$0.00	\$0.00
Rate 2 Revenue	\$0.00	\$0.00		\$0.00	\$0.00	\$0.00	\$0.00
Rate 3 Flow	0	0		0	0	0	0
Rate 3 Revenue	\$0	\$0		\$0	\$0	\$0	\$0
Highbury CanCo Flow	165,000,000	191,261,580	115.9%	200,591,960	190,000,000	165,000,000	165,000,000
Highbury CanCo Rate	\$2.00	\$2.00		\$2.00	\$2.05	\$2.10	\$2.15
Highbury CanCo Revenue	\$330,000	\$382,523	115.9%	\$401,184	\$389,500	\$346,500	\$354,750
Lifecycle Rate	\$0.24	\$0.24		\$0.24	\$0.24	\$0.24	\$0.24
	\$768,000	\$765,554	99.7%	\$807,840	\$792,000	\$792,000	\$792,000
Total Revenue	\$8,585,200	\$8,538,569	99.5%	\$9,011,099	\$9,004,200	\$9,116,700	\$9,280,450

UNION WATER SUPPLY SYSTEM JOINT BOARD OF MANAGEMENT

2018 Draft Budget
Budget Summary

	2017	2017	2017	2017	2018	2019	2020
	Approved Budget	As of Dec 5, 2017	Percent of Approved Budget	Projected to December 31st, 2017	Rate 1 Increase - \$0.05/1000 gallons	Rate 1 Increase - \$0.05/1000 gallons	Rate 1 Increase - \$0.05/1000 gallons
Water Flows							
REVENUE							
Senior Government Grants	\$0	\$0	-	\$0	\$0	\$0	\$0
Wholesale Rate Billings	\$8,585,200	\$8,538,569	99.5%	\$9,011,099	\$9,004,200	\$9,116,700	\$9,280,450
Investment Income	\$232,000	\$321,700	138.7%	\$382,000	\$350,000	\$290,000	\$290,000
Sundry revenue	\$24,000	\$20,621	85.9%	\$24,500	\$24,000	\$24,480	\$24,970
TOTAL REVENUES	\$8,841,200	\$8,880,890	100.4%	\$9,417,599	\$9,378,200	\$9,431,180	\$9,595,420
OPERATING EXPENDITURE							
General Administration	\$476,946	\$428,120	89.8%	\$458,290	\$482,250	\$491,895	\$501,733
Miscellaneous Legal/Professional fees	\$20,000	\$9,926	49.6%	\$11,000	\$20,000	\$20,000	\$20,000
OCWA Operating Contract	\$2,766,240	\$2,535,720	91.7%	\$2,766,240	\$2,876,500	\$2,934,030	\$2,992,711
Programs and Studies	\$507,575	\$339,349	66.9%	\$507,575	\$210,000	\$175,000	\$285,000
Residuals Ponds Maintenance	\$0	\$0	0.0%	\$0	\$150,000		
Electricity and Natural Gas	\$1,250,000	\$1,018,282	81.5%	\$1,211,000	\$1,250,000	\$1,300,000	\$1,325,000
TOTAL OPERATING EXPENDITURES	\$5,020,762	\$4,331,398	86.3%	\$4,954,105	\$4,988,750	\$4,920,925	\$5,124,444
Debt Service	\$2,294,701	\$2,157,019	94.0%	\$2,294,701	\$2,313,441	\$2,332,441	\$2,379,089
TOTAL DEBT SERVICE EXPENDITURES	\$2,294,701	\$2,157,019	94.0%	\$2,294,701	\$2,313,441	\$2,332,441	\$2,379,090
CAPITAL EXPENDITURE							
Capital Repair, Maintenance & Upgrade Works	\$3,095,000	\$602,119	19.5%	\$631,487	\$2,955,000	\$1,865,000	\$570,000
New Capital Works	\$0	\$0	-	\$0	\$950,000	\$3,000,000	\$6,355,000
Contingency							
TOTAL CAPITAL EXPENDITURES	\$3,095,000	\$602,119	19.5%	\$631,487	\$3,905,000	\$4,865,000	\$6,925,000
NET SURPLUS/(DEFICIT)	-\$1,569,263	\$1,790,354	-	\$1,537,306	-\$1,828,991	-\$2,687,186	-\$4,833,114

**UNION WATER SUPPLY SYSTEM JOINT BOARD OF MANAGEMENT
2018 Draft Budget
Operations and Debt Detail**

<u>Number</u>	<u>Account Description</u>	2017	2017	2017	2017	2018	2019	2020
		Approved Budget	As of Dec 5, 2017	Percent of Approved Budget	Projected to December 31st, 2017	Budget- Rate 1 Increase of \$0.05/1000 Gallons	Budget- Rate 1 Increase of \$0.05/1000 Gallons	Budget- Rate 1 Increase of \$0.05/1000 Gallons
REVENUE ACCOUNTS								
FEES REVENUE								
0700-3700	Wholesale Rate Billings	\$8,585,200	\$8,538,569	99.5%	\$9,011,099	\$9,004,200	\$9,116,700	\$9,280,450
		\$8,585,200	\$8,538,569	99.5%	\$9,011,099	\$9,004,200	\$9,116,700	\$9,280,450
MISCELLANEOUS REVENUES								
0700-4100	Investment Income (Operations)	\$232,000	\$321,700	138.7%	\$382,000	\$350,000	\$25,000	\$25,000
0700-3999	Sundry revenue	\$24,000	\$20,621	85.9%	\$24,500	\$24,000	\$24,000	\$24,000
							\$80,000	\$80,000
		\$256,000	\$342,321	133.7%	\$406,500	\$374,000	\$129,000	\$129,000
	TOTAL REVENUES :	\$8,841,200	\$8,880,890	100.4%	\$9,417,599	\$9,378,200	\$9,245,700	\$9,409,450
EXPENDITURE ACCOUNTS								
WAGES AND BENEFITS								
0700-5000	Salaried	\$166,500	\$149,139	89.6%	\$167,300	\$170,500	\$173,910	\$177,388
	Part time	\$0	\$0	-	\$0	\$0	\$0	\$0
0700-5200 to 5210	Benefits - Full time	\$47,696	\$42,076	88.2%	\$48,336	\$49,500	\$50,490	\$51,500
	Benefits - Part time	\$0	\$0	-	\$0	\$0	\$0	\$0
		\$214,196	\$191,215	89.3%	\$215,636	\$220,000	\$224,400	\$228,888
OFFICE OVERHEAD, RENTS AND SERVICES								
0700-7010	Office supplies	\$2,000	\$868	43.4%	\$1,000	\$2,000	\$2,000	\$2,000
0700-7015	Board expenses	\$1,000	\$0	0.0%	\$0	\$1,500	\$1,500	\$1,500
0700-7020	Dues, Memberships, Subsc	\$3,500	\$5,675	162.1%	\$5,900	\$5,000	\$3,500	\$3,500
0700-7030	Travel & Mileage	\$2,500	\$1,222	48.9%	\$1,500	\$2,000	\$1,500	\$1,500
0700-7040	Training	\$5,000	\$3,100	62.0%	\$4,700	\$6,000	\$6,000	\$6,000
0700-7050	Conferences	\$5,000	\$3,680	73.6%	\$4,900	\$6,000	\$6,000	\$6,000
0700-7052	Meeting Expenses	\$2,000	\$1,905	95.3%	\$2,050	\$2,000	\$2,000	\$2,000
0700-7070	Uniforms/Clothing	\$500	\$153	30.6%	\$153	\$500	\$500	\$500
0700-7950	Legal/Professional fees	\$20,000	\$9,926	49.6%	\$11,000	\$20,000	\$20,000	\$20,000
0700-7959-002070	Audit Fees	\$15,000	\$5,233	34.9%	\$7,000	\$7,000	\$15,000	\$15,000
0700-6750	Property Taxes	\$145,000	\$143,276	98.8%	\$141,819	\$145,000	\$140,000	\$140,000
0700-7080 & 7085	Operational Purchases/Maint.	\$15,000	\$15,621	104.1%	\$15,621	\$20,000	\$15,000	\$15,000
0700-7090	Sundry	\$1,000	\$0	0.0%	\$0	\$250	\$250	\$250
0700-7090	Leamington Assistance	\$30,000	\$30,000	100.0%	\$30,000	\$30,000	\$30,000	\$30,000
0700-7110	Communications	\$1,500	\$830	55.3%	\$1,100	\$1,500	\$1,500	\$1,500
0700-7120	Postage & Courier	\$500	\$132	26.4%	\$200	\$500	\$500	\$500
0700-7130	Advertising & Promotion	\$7,000	\$0	0.0%	\$1,500	\$6,500	\$7,000	\$7,000
0700-7140	Insurance	\$15,000	\$14,603	97.4%	\$14,603	\$15,000	\$15,000	\$15,000
0700-7130	Donations & Grants	\$4,000	\$3,000	75.0%	\$3,000	\$4,000	\$4,000	\$4,000
0700-7230 to 7290	Office equipment Purchases/Maint.	\$7,250	\$7,608	104.9%	\$7,608	\$7,500	\$5,000	\$5,000
		\$282,750	\$246,831	87.3%	\$253,654	\$282,250	\$276,250	\$276,250
0700-6720	OCWA Operating Union	\$2,766,240	\$2,535,720	91.7%	\$2,766,240	\$2,876,500	\$2,934,030	\$2,992,711
0700-7410 & 7420	Electricity and Natural Gas	\$1,250,000	\$1,018,282	81.5%	\$1,211,000	\$1,250,000	\$1,250,000	\$1,250,000
		\$4,016,240	\$3,554,002	88.5%	\$3,977,240	\$4,126,500	\$4,184,030	\$4,242,711
0700-7989-002070	Operational Programs & Studies	\$507,575	\$339,349	66.9%	\$507,575	\$210,000	\$175,000	\$285,000
	Residuals Ponds Maintenance	\$0	\$0	0.0%	\$0	\$150,000	\$175,000	\$120,000
Un-Budgeted Expenditures								
	TOTAL OPERATIONAL EXPENDITURES:	\$5,020,761	\$4,331,397	86.3%	\$4,954,105	\$4,988,750	\$5,034,680	\$5,152,849
	NET OPERATIONAL SURPLUS/(DEFICIT)	\$3,820,439	\$4,549,493	119.1%	\$4,463,494	\$4,389,450	\$4,211,020	\$4,256,601
DEBT SERVICE								
0700-6000 & 6100	Sun Life Debt Obligation	\$2,294,701	\$2,157,019	94.0%	\$2,294,701	\$2,313,441	\$2,332,441	\$2,379,089
0700-6000 & 6100	Woodslee Credit Union							
0700-6000 & 6100	OSIFA							
0700-6010 & 6110	Leamington WM							
	TOTAL DEBT SERVICE:	\$2,294,701	\$2,157,019	94.0%	\$2,294,701	\$2,313,441	\$2,332,441	\$2,379,089
	SURPLUS/(DEFICIT) AFTER DEBT	\$1,525,738	\$2,392,474	-	\$2,168,793	\$2,076,009	\$1,878,579	\$1,877,512

**Union Water Supply System
2018 Draft Budget
Capital Budget Details**

Item Description	CATEGORY							FUNDING SOURCE		
	Studies	Treatment Plant Upgrades & Renewals	Low Lift Upgrades	Cottam Booster Upgrades	SCADA / Communication/ Security System Upgrades	Electrical Systems	Transmission Facilities	TOTAL	Revenue	Reserves
STUDIES/PROGRAMS										
Water Quality (i.e. CWN, Corrosion Monitoring)	\$35,000							\$35,000	\$35,000	\$0
Water Demand/ Loss Study	\$100,000							\$100,000	\$100,000	\$0
UWSS Operations Contract Assessment	\$25,000							\$25,000	\$25,000	\$0
Dechlorination System Evaluation and Preliminary Engineering	\$50,000							\$50,000	\$50,000	\$0
Total Studies/Programs	\$210,000							\$210,000	\$210,000	\$0
CAPITAL WORKS/ MAJOR MAINTENANCE										
Low Lift Pump #1 Major Maintenance			\$35,000					\$35,000	\$35,000	\$0
Blue Green Algae/ Chlorophyll Probe - Low lift well			\$25,000					\$25,000	\$25,000	\$0
Microstrainer Floors - Microstrainer #2		\$30,000						\$30,000	\$30,000	\$0
Filter Media Replacement -Filters 6 and 8		\$140,000						\$140,000	\$140,000	\$0
Turbidity Meters for Filter Backwash (8 new units)		\$45,000						\$45,000	\$45,000	\$0
High Lift Pump #7 New Pump and Motor		\$85,000						\$85,000	\$85,000	\$0
Kitchen Upgrades		\$25,000						\$25,000	\$25,000	\$0
Laboratory Upgrades		\$50,000						\$50,000	\$50,000	\$0
Maintenance Shop Roof		\$30,000						\$30,000	\$30,000	\$0
Lighting Upgrades		\$20,000	\$10,000					\$30,000	\$30,000	\$0
Essex Water Tower Rehabilitation (interior and exterior)							\$1,025,000	\$1,025,000	\$1,025,000	\$0
Distribution System Maintenance							\$100,000	\$100,000	\$100,000	\$0
Cathodic Protection System for Leamington Water Tower							\$20,000	\$20,000	\$20,000	\$0
Master Water Meter Communication System Improvements					\$50,000			\$50,000	\$50,000	\$0
Security System Install					\$45,000			\$45,000	\$45,000	\$0
SCADA System Upgrade - Complete new system					\$1,220,000			\$1,220,000	\$341,000	\$879,000
Total Capital Works/ Major Maintenance		\$425,000	\$70,000	\$0	\$1,315,000	\$0	\$1,145,000	\$2,955,000	\$2,076,000	\$879,000
NEW CAPITAL WORKS										
CO2 pH Adjustment System Detailed Design and Construction		\$950,000						\$950,000	\$0	\$950,000
Total New Capital Works		\$950,000	\$0	\$0	\$0	\$0	\$0	\$950,000	\$0	\$950,000
TOTAL MAJOR MAINTENANCE and CAPITAL		\$1,375,000	\$70,000	\$0	\$1,315,000	\$0	\$1,145,000	\$3,905,000	\$2,076,000	\$1,829,000
TOTAL MAINTENANCE, CAPITAL and STUDIES								\$4,115,000	\$2,286,000	\$1,829,000

December 15, 2016 - UW/34/16

Re: Proposed 2017 UWSS Operations and Capital Budget

**UWSS 6-YEAR CAPITAL PLAN
TABLES AND DETAILS**

UNION WATER SUPPLY SYSTEM Six Year Recommended Capital / Major Maintenance - December 7, 2017								<i>DRAFT</i>	
	2018	2019	2020	2021	2022	2023	Total Capital Expenditures 2017-2022	Comments	
Union Area Water Supply System									
Studies and Programs									
Water Demand/Usage Study							\$ -	Smart Water Study, etc.	
Water Quality Investigations	\$ 35,000	\$ 35,000	\$ 35,000	\$ 35,000	\$ 35,000	\$ 35,000	\$ 210,000	CWN Algae Study, Corrosion Monitoring	
Energy Optimization Study							\$ -	M&T System installation in 2017 for Low Lift	
Residuals Management Studies	\$ -	\$ 40,000					\$ 40,000		
Water Loss/Leak Detection Study	\$ 100,000						\$ 100,000		
Operations Contract Assessment	\$ 25,000						\$ 25,000	Operations Contract Evaluation	
De-Chlorination System Evaluation	\$ 50,000						\$ 50,000		
Cottam 12-inch main replacement- EA & Prelim Eng			\$ 250,000				\$ 250,000	Evaluation of Options and Prelim Engineering for Replacement of 12-inch WM to Cottam	
Master Plan Update		\$ 100,000					\$ 100,000		
Contingency (un-identified future studies)				\$ 150,000	\$ 150,000	\$ 150,000	\$ 450,000		
Subtotal Studies and Programs	\$ 210,000	\$ 175,000	\$ 285,000	\$ 185,000	\$ 185,000	\$ 185,000	\$ 1,225,000		
Low Lift									
Intake #1 & 2* (Note 5)			\$30,000				\$ 30,000	Maintenance	
Intake # 2 (See Item 16 for more detail)					\$30,000		\$ 30,000	Maintenance	
Intake # 3, shoreline intake			\$100,000				\$ 100,000	Improvements needed to make fully functional	
Coarse Bar Screen (2)							\$ -	maintenance not required	
Travelling Screen #1							\$ -	replaced in 2008 \$110,000.	
Travelling Screen #2							\$ -	Replaced in 2012	
Travelling Screen #3			\$120,000				\$ 120,000	installed in 1994; upgrades planned for 2020	
Pump Wells(2)							\$ -	cleaned & inspected annually	
Low Lift Pump 1 *(Note 1)	\$ 35,000			\$ 30,000	\$ 30,000		\$ 95,000	rebuilt in 2005	
Low Lift Pump 2							\$ -	rebuilt in 2017	
Low Lift Pump 3							\$ -	rebuilt in 2016	
Low Lift Pump 4							\$ -	rebuilt in 2007	
Low Lift Pump 5		\$ 35,000					\$ 35,000		
Low Lift Pump 6			\$ 35,000				\$ 35,000	rebuilt in 2008	
Low Lift Pump 7				\$ 35,000			\$ 35,000	rebuilt in 2008	
Zebra Mussel Control System				\$ 50,000			\$ 50,000	Zebra mussel intake upgrades	
Pump discharge line							\$ -		
Low Lift Surge Tanks (2) and Compressor System *(Note 6)			\$20,000				\$ 20,000	General maintenance	
Low Lift Diesel Generator				\$50,000			\$ 50,000	O & M Contracted to Genrep	
Low Lift Electrical Transformer Upgrade		\$50,000					\$ 50,000	Electrical Transformer is old and undersized. Needs to be upgraded	
General Building Maintenance & Equipment									
Roadway upgrades to Maintenance Area -					\$ 75,000		\$ 75,000	upgrade of roadway to rear plant area	
Asphalt Pavement Sealing - Low lift, treatment plant, CBS							\$ -		
New Maintenance Shop Building		\$ 250,000					\$ 250,000	new maintenance/vehicle storage area	
Building/Grounds -			\$ 50,000	\$ 50,000	\$ 100,000		\$ 200,000	General improvements	
Upgrades to Pole Barn - Roof, electric, etc.		\$ 50,000					\$ 50,000		
Elevator for Treatment Plant Building						\$ 150,000	\$ 150,000	Accessibility Requirements	
Clarification System									
Clarifier 1 -							\$ -	To be retrofitted to DAF in 2019	
Clarifier 2 -							\$ -	To be retrofitted to DAF in 2020	
Clarifier 3					\$ 150,000		\$ 150,000	Major Maintenance and Painting	

Clarifier 4						\$ 150,000	\$ 150,000
Chemical System							\$ -
Coagulant Feed System				\$ 30,000			\$ 30,000
Coagulant Storage				\$ 30,000			\$ 30,000
Coagulant Aid System			\$ 20,000				\$ 20,000
Carbon Feed System							\$ -
Carbon Flushing Lines							\$ -
Tank Mixers (3)							\$ -
Recirc. Pump		\$ 20,000					\$ 20,000
Slurry Transfer Pumps (2)		\$ 30,000					\$ 30,000
Carbon Feed Pumps (4)					\$ 50,000		\$ 50,000
Carbon Scrubber System			\$ 50,000				\$ 50,000
Filtration							\$ -
Filter 1							\$ -
Filter 2							\$ -
Filter 3							\$ -
Filter 4							\$ -
Filter 5							\$ -
Filter 6	\$ 70,000						\$ 70,000
Filter 7							\$ -
Filter 8	\$ 70,000						\$ 70,000
Turbidity Meters for Filter Backwash	\$ 45,000						\$ 45,000
Filter Meter Replacements							\$ -
Valves							\$ -
Removal of Microstrainers/ Install of Flooring	\$ 30,000						\$ 30,000
Pumps							\$ -
Backwash Pump 1 - Upgrade with VFD							\$ -
Backwash Pump 2					\$ 100,000		\$ 100,000
High Lift Pump 1 *(Note 2) Diesel Pump							\$ -
High Lift Pump 2							\$ -
High Lift Pump 3							\$ -
High Lift Pump 4							\$ -
High Lift Pump 5		\$ 35,000					\$ 35,000
High Lift Pump 6							\$ -
High Lift Pump 7	\$ 85,000						\$ 85,000
High Lift Pump 8		\$ 125,000					\$ 125,000
High Lift Pump 9					\$ 125,000		\$ 125,000
High Lift Pump No. 10						\$ 400,000	\$ 400,000
High Lift Reservoirs (2)				\$ 50,000		\$ 50,000	\$ 100,000
Wastewater Pumps (2)			\$ 10,000		\$ 10,000		\$ 20,000
Diesel Generator 1 (170 kW)							\$ -
Diesel Generator 2 (750 kW)						\$ 100,000	\$ 100,000
Diesel Generator Upgrades							\$ -
HL Compressor 1							\$ -
HL Compressor 2			\$ 15,000				\$ 15,000
HL Compressor 3				\$ 15,000	\$ 15,000		\$ 30,000
Main Plant Electrical							\$ -
Electrical/Lighting Upgrades	\$ 30,000		\$ -				\$ 30,000
Power Factor Capacitors for Energy Management		\$ 50,000					\$ 50,000
Generator B Transfer Switch Automation							\$ -
Disinfection							\$ -
Dehumidification							\$ -
Chlorine Feed System							\$ -
Ammonia Feed System				\$ 30,000			\$ 30,000
Scrubber System				\$ 30,000			\$ 30,000
SCADA /Communication/Security							\$ -
Security System Install	\$45,000						\$ 45,000
System upgrade and Maintenance	\$1,220,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$ 1,370,000
UWSS Wide Communication System Improvements	\$50,000	\$20,000	\$20,000	\$20,000	\$50,000	\$20,000	\$ 180,000

Major Maintenance and Painting
Upgraded in 2013
System upgraded 2015
New in 2015 requires upgrade
Fully upgraded in 2012
Upgrades in 2014
Fully upgraded in 2013
Upgrades in 2014
New Media in 2017 installed in 1996
New Media in 2017 installed in 1996
New items to optimize backwash process
Completed in 2016-2017
Completed in 2016-2017
Microstrainer No. 2 to be removed
Replaced in 2014 - VFD 2015
new in 1996
rebuild in 2016
Replaced 2013
rebuilt 2006
rebuilt 2007
rebuilt 2008
new pump 2013
requires replacement, on hold until new pump curves are determined
new in 1996, rebuilt 2015
new in 1996
New pump needed in newer high lift bay; with VFD
Upgrades
RSP #2 replacement
Replacement
Replacement
Replacement
Upgrades needed in High Lift bays; external areas
Capacitors are failing. Upgrades needed
Completed
to review once filter repairs completed
Evaluation of Conversion to On-Site Hypo Generation (2016). Upgrades to On-Site Hypo (2017)
installed new in 2002
new acid pump installed in 2009
Keyless entry security system
New SCADA System in 2018; maintenance after improvements to existing communication system

Monitoring Equipment							
Turbidity Meter Replacement -							\$ -
Chlorine Analyzer Replacements							\$ -
Blue Green Algae Monitoring Probe	\$25,000						\$ 25,000
Building Maintenance							
Facility Enhancements - General		\$20,000	\$20,000	\$150,000	\$150,000		\$ 340,000
Maintenance Shop Roof Replacement	\$30,000						
Windows & Doors Replacement							\$ -
Laboratory Upgrade	\$50,000						\$ 50,000
Kitchen Upgrade	\$25,000						\$ 25,000
New Equipment							
Portable Backup Generator for Low Lift, Water Towers, Emergency							\$ -
Cottam Reservoir & Booster PS							
Reservoir - 2 water mixers							\$ -
Booster Pump 1							\$ -
Booster Pump 2							\$ -
Booster Pump 3							\$ -
Booster Pump 4				\$35,000			\$ 35,000
Surge Tanks (2)							\$ -
Compressor				\$15,000			\$ 15,000
Emergency Disinfection System							\$ -
Cottam MCC PLC Upgrade							\$ -
Distribution System							
Leamington Tower	\$20,000						\$ 20,000
Albuna Tower					\$250,000		\$ 250,000
Kingsville Tower		\$1,100,000					\$ 1,100,000
Essex Tower	\$1,025,000						\$ 1,025,000
Distribution System Maintenance	\$100,000	\$50,000	\$50,000	\$50,000	\$50,000		\$ 300,000
Master Water Meter Replacement/Upgrades							\$ -
Wastewater Treatment System							
Wastewater Lagoon Upgrades					\$100,000		\$ 100,000
Residuals Management system (see new capital works)							\$ -
							\$ -
NEW CAPITAL WORKS							
							\$ -
CO2 pH Adjustment System Install	\$950,000						\$ -
UV Disinfection - In-reservoir UV vault			\$5,500,000				\$ 5,500,000
Dry Scrubber - Chlorine Gas system		\$1,000,000					\$ 1,000,000
Pre-Treatment/clarification upgrades (DAF)		\$2,000,000		\$2,000,000			\$ 4,000,000
Residuals management Polymer system waste system upgrades				\$1,750,000			\$ 1,750,000
Replacement of 12-inch Cottam Water Main					\$6,000,000		\$ 6,000,000
<i>Subtotal Capital and Major Maintenance</i>	<i>\$2,955,000</i>	<i>\$1,865,000</i>	<i>\$570,000</i>	<i>\$700,000</i>	<i>\$1,215,000</i>	<i>\$1,000,000</i>	<i>\$ 8,305,000</i>
<i>Total New Capital Works</i>	<i>\$950,000</i>	<i>\$3,000,000</i>	<i>\$5,500,000</i>	<i>\$3,750,000</i>	<i>\$6,000,000</i>	<i>\$0</i>	<i>\$ 19,200,000</i>
TOTAL CAPITAL AND STUDIES	\$3,905,000	\$4,865,000	\$6,070,000	\$4,450,000	\$7,215,000	\$1,000,000	\$ 27,505,000
<i>Subtotal Studies and Programs</i>	<i>\$210,000</i>	<i>\$175,000</i>	<i>\$285,000</i>	<i>\$185,000</i>	<i>\$185,000</i>	<i>\$185,000</i>	<i>\$ 1,225,000</i>
<i>Contingency</i>							
TOTAL CAPITAL, STUDIES AND NEW CAPITAL	\$ 4,115,000	\$ 5,040,000	\$ 6,355,000	\$ 4,635,000	\$ 7,400,000	\$ 1,185,000	\$ 28,730,000

Old equipment. All need to be updated

Old equipment. All need to be updated

Elevator Needed for Access

Roof Leaking and Needs to be Replaced

asbestos like material present in window caulking, portion to be completed each year until finished

Front Foyer entry Roof Structure leaking badly. Structure to be removed and upgraded

Purchased in 2016

repairs to isolation valves, and installation of 2 mixer pumps - Completed 2013

new in 1996

new in 1996

new in 1996

new in 1996

Insurance inspected in 2009, needs internal inspection

Replaced 2012

Completed 2014

Completed 2014

New Cathodic System

New Control Valve on 42inch for Albuna Control

Safety Upgrades and Painting (2017)

Painting (2016)

For water main breaks, etc.

Completed 2017

Clay liner improvements

New UV Disinfection System.

Chlorine Building Expansion and Dry Scrubber Install

Conversion of Clarifiers No 1 and 2 to DAF

Polymer/thickening process for residuals