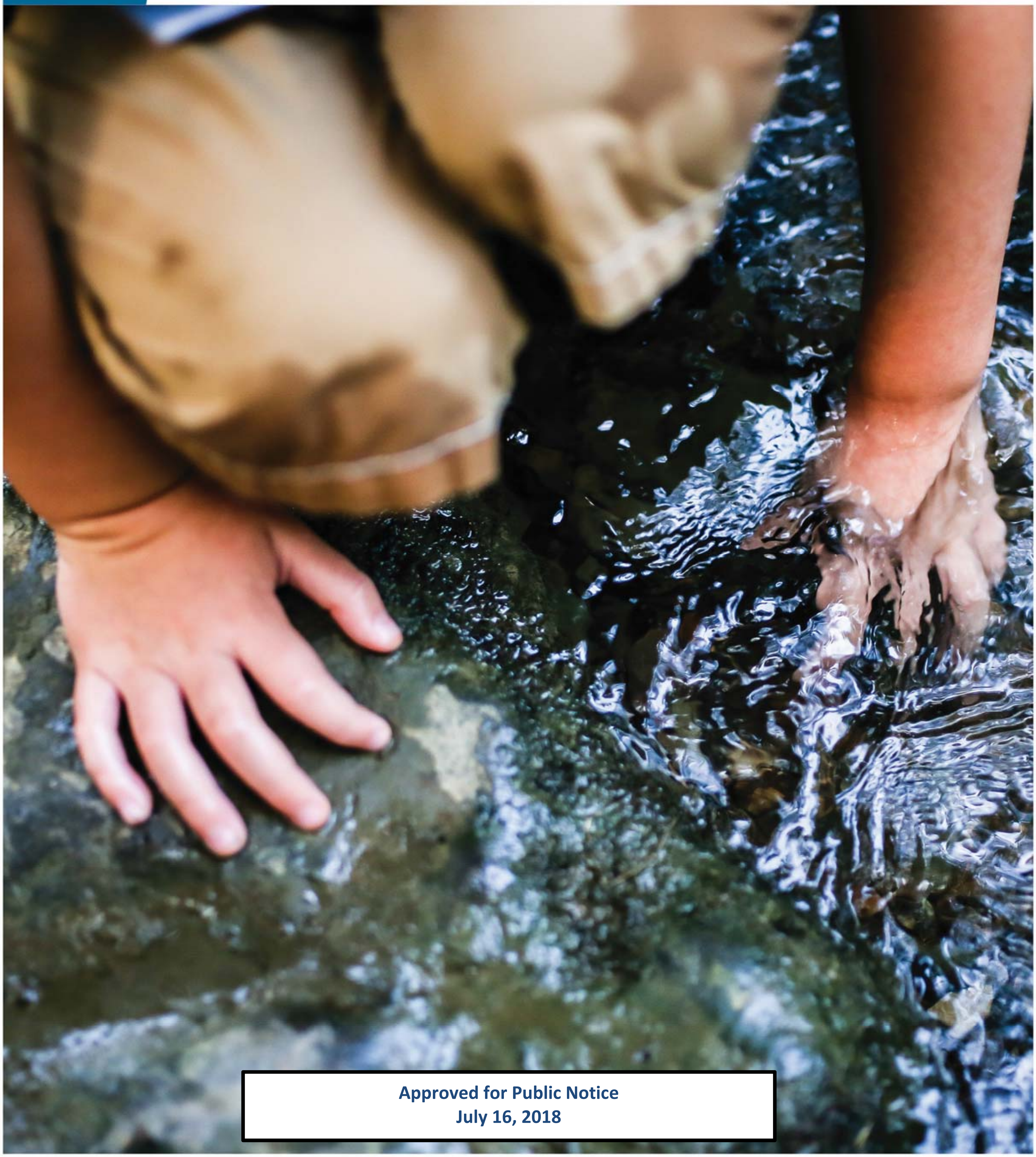
FY19 Fiscal Year Operating and Capital Budget
Alexandria Renew Enterprises
October 1, 2018 – September 30, 2019



Approved for Public Notice
July 16, 2018

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Appendix A - Financial Policy

Alexandria Renew Enterprises
Board of Directors

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Fairfax County Representative to the Board

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Karen L. Pallansch, Chief Executive Officer
Charles L. Logue, Chief of Production
Stephen J. Schemmel, Chief of Finance and Administration
Liliana Maldonado – Director, Wet Weather Program

Chief Executive Officer's Message

To the Board of Directors, Alexandria Renew Enterprises:

In Alexandria, working together to manage our water resources ensures our community's well-being and economic growth, and sustains future generations. With a population of approximately 155,000, our city is the sixth largest in the Commonwealth of Virginia and is experiencing substantial redevelopment and business growth due to high market demand for urban living in a quality environment. The average household size in Alexandria is 2.2 with a median household income of $89,200, and an average family size of 3.04 with a median family income of $111,347.

To support Alexandria's current population and anticipated growth, we must have clean water and a well-functioning wastewater system. The Alexandria Renew Enterprises (AlexRenew) Fiscal Year 2019 budget ensures our water infrastructure keeps pace with our community's needs for the next 20 years. We have invested almost $1 billion in wastewater cleaning infrastructure on our 35-acre campus and through FY 2028 (our 10-year projection and planning cycle), we have a bright water future planned for Alexandria, due, in part, to an effective City partnership and extensive stakeholder outreach. To achieve this outcome, we have assumed complete ownership of the City's four combined sewer outfalls (CSOs) and implementation of a wet weather program that will improve sewer infrastructure to meet Virginia CSO remediation requirements. The CSOs currently allow stormwater mixed with sewage to overflow into our waterways during rain events. Our program to address this issue will enable us to play a direct role in improving Alexandria's water quality for decades to come.

We are proposing an Operating Fund budget of $27.8 million and a Capital Improvement Program (CIP) budget of $34.7 million for FY 19. The proposed budget also funds 118 full-time equivalent (FTE) permanent positions, and an organizational competency budget of $14.3 million for those positions. As always, we will manage the FY 19 budget effectively and efficiently, adhering to our budget and internal controls to ensure we meet our Board of Directors and Indenture financial policy requirements.

Our investments will support our clean water mission and our 2040 vision, plus six supporting strategic outcomes, which guide our daily work at AlexRenew. It will provide our children with safe water for swimming and enable our citizens and visitors to further enjoy fishing and boating in our waterways. In 2018, the Potomac River received a grade of B from the Potomac Conservancy, its best grade yet for water quality, and the wastewater sector recently met landmark nutrient limits for protecting the Chesapeake Bay, 10 years ahead of schedule. While this is good news, we still have a lot of work to do. Our FY 19 budget sets the stage for a "One Water" approach to water stewardship for our City and region.

Thank you, as always, for your enthusiasm and support for our essential water transformation work to protect public health and help our city and its citizens thrive.

Regards,

Karen Pallansch

Karen Pallansch, Chief Executive Officer
Alexandria Renew Enterprises

2040 Vision

By 2040, we have served as a catalyst and are effectively partnered with all watershed stakeholders to:

- Enable local citizens the opportunity to **establish a personal connection with local waterways** so that we can eat local fish and swim in local streams.
- Support a **healthy and resilient local economy** through stable rates, supported by diversifying revenue and maximizing resource recovery.
- Create an informed citizenry regarding the importance of water so that **water stewardship is achieved** through personal and organizational actions.

Strategic Outcomes

1. Operational Excellence
Enhance operational excellence to meet or surpass environmental requirements under all conditions.

2. Community Engagement
Engage the communities we serve to increase understanding and commitment to water quality so that every person and organization demonstrates the important role they contribute to this effort.

3. Watershed Partnerships that Enhance Collective Management
Create structural processes that enable partnerships to manage this resource as "one water."

4. Organizational Competency and Structure
Improve and maintain the institutional competency of AlexRenew to achieve its long-range strategic objectives by enabling all levels of the organization to learn, adapt, and innovate.

5. Diversified Revenue
Maximize revenues to ensure financial stability and community economic viability while seeking revenue diversity.

6. Incubator of New Ideas and Innovations
Develop and implement innovative ideas and technologies to enhance resiliency and sustainability.

What is AlexRenew's Budget?

AlexRenew's budget is a financial instrument, crafted within a financial, legal, policy, regulatory and capital investment framework to ensure financial sustainability, support public health and provide a clean, healthy water environment for our community. Our budget is developed in a manner that ensures AlexRenew has the financial resources to efficiently construct, operate, and maintain a water resource recovery facility, intercepting system, and pump stations that comply with state and federal law.

Current expenses and capital outlays are estimates based on experience and judgment related to cost trends in labor, materials, and services required to operate and maintain our facilities. AlexRenew has no discretion with respect to the level of service it must provide to meet its regulatory requirements, and no discretionary programs within its assigned scope of activity. The primary purpose of our budget is to ensure AlexRenew maintains its mandated level of service, satisfies the requirements of our Master Indenture of Trust ("Indenture") and achieves the objectives of our Financial Policies.

AlexRenew has two major sources of revenue: wastewater treatment charges paid by Alexandria customers and the reimbursement of a portion of our expenses paid by Fairfax County. Fairfax County makes payment to AlexRenew under an amended and restated Service Agreement dated October 1, 1998 ("Fairfax County Agreement"). In accordance with the Fairfax County Agreement, Fairfax County pays a percentage of our operations and maintenance expenses based upon sewer flow volume. Fairfax County also contributes to our Improvement, Renewal and Replacement Fund (IRR) and Capital Improvement Program (CIP), at predetermined levels, to allow for the upgrade and replacement of capital assets as they depreciate and the acquisition of new assets associated with regulatory compliance.

What is AlexRenew's Strategic Plan?

The AlexRenew Strategic Plan drives the organization's budget. It is grounded in the Strategic Outcomes of our AlexRenew 2040 Vision ("2040 Vision"), created in 2012 by our citizen-led Board. There are three (3) focus areas that support both our 2040 Vision and long-term outcomes for our community.

Focus Area: Effectively Managed AlexRenew
Long Term Outcome: Alexandria has abundant clean waterways
Strategic Outcome Linkage: Operational Excellence, Fiscal Sustainability

Focus Area: Smart and Resilient AlexRenew
Long Term Outcome: Alexandria is a clean, sustainable community and center for innovation
Strategic Outcome Linkage: New Ideas and Innovation, Enhancing Organizational Competency and Structure

Focus Area: Community Celebrated AlexRenew
Long Term Outcome: Alexandrians eat local fish and swim in local waterways
Supports: Watershed Partnerships, Community Engagement

How is the Alexandria Renew Budget Organized?

AlexRenew builds its budget from a group of documents that provide either legal or internal policy direction. These documents include a Master Indenture of Trust (Indenture), the Fairfax County Agreement, a Service Agreement between AlexRenew and Arlington County (Arlington County Agreement), and Financial Policies adopted by the AlexRenew Board of Directors (Financial Policies).

The Indenture is a legal agreement that mandates how AlexRenew will collect and use its revenues for operations, maintenance and capital expenses. This document requires that all wastewater treatment charges collected from City of Alexandria sewer system customers be deposited in a Revenue Fund. This document also requires that operating expense payments made by Fairfax County to AlexRenew, for access to our sewer system, also be deposited in the Revenue Fund. The amount due to AlexRenew from Fairfax County is established in the Fairfax County Agreement, also a legal document.

The Fairfax County Agreement further directs the amount and timing for additional monies to be paid by the County to AlexRenew for improvements and repairs to our sewer system infrastructure and for investments in major capital projects.

The Arlington County Agreement is much like the Fairfax County Agreement. However, this legal document establishes the amount and timing for monies paid by AlexRenew to Arlington County for access to the Arlington County sewer system.

Lastly, AlexRenew builds its budget based on requirements levied by our Board of Directors to maintain a combined 120 days of reserves in our Operating Fund and General Reserve sub-Fund and to insure that revenues available to pay debt service are at least equal to 1.50 times the amount of debt service due in any year.

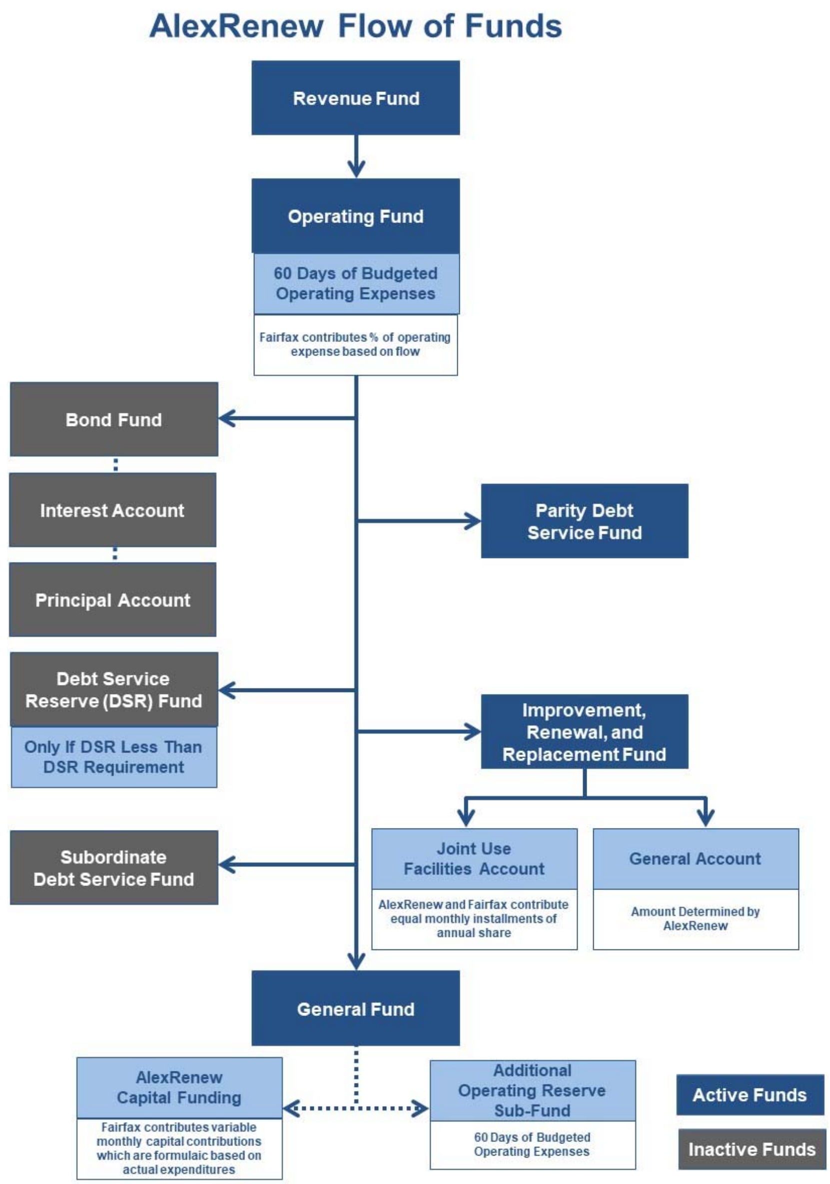
In the pages that follow, we present a Consolidated Enterprise Budget Statement that includes graphics to more fully represent the workings of our budget process and the building of our budget document.

Budget Timeline

Month	*Customer*	*Board of Directors*	*Staff*
November - March			***Proposed Budget Development*** Departments prepare budget proposals; CEO develops a balanced proposed budget.
May			The CEO presents the proposed budget to the Board of Directors.
June		***Budget Review (June-July)*** Board of Directors requests additional information on specific budget issues from staff.	
July	Customers are informed of proposed budget via public notice and may provide written comments, if any.	Board authorizes staff to public notice proposed AlexRenew budget.	Public Notice (staff advertises via newspaper)
August	Customers are informed of proposed budget via public notice and may provide written comments, if any.		Public Notice (staff advertises via newspaper)
September	Customers have an opportunity to comment in person during a public hearing.	***Public Hearing & Final Adoption*** Board of Directors makes final decisions and adopts the AlexRenew budget for the upcoming fiscal year.	Execute adopted FY2019 Budget starting 10/1/2018.

AlexRenew begins its annual budget presentation by preparing a Consolidated Enterprise Budget Statement (Statement) that combines all of our estimated sources and uses of funds for the upcoming fiscal year. We organize this Statement in accordance with the terms mandated in Article VII of our Indenture. The primary purpose for this Statement is to demonstrate that our overall FY19 operating and capital budgets are in "structural" balance – which means all of our revenues and expenses are consistent with our historical financial performance, all balances that remain in our prescribed funds and accounts meet stated requirements, and if total revenues exceed total expenses, any potential excess funds are deposited in our General Fund to serve as reserves.

The graphic below provides a visual presentation of the flow of monies through the financial structure established in our Indenture. A definition for each fund and account is provided on the following page. In general, customer payments and Fairfax County operating expense charges are deposited in the Revenue Fund and are subsequently transferred to other Funds and Accounts in the order of priority (per below) and the amounts prescribed in the Indenture.



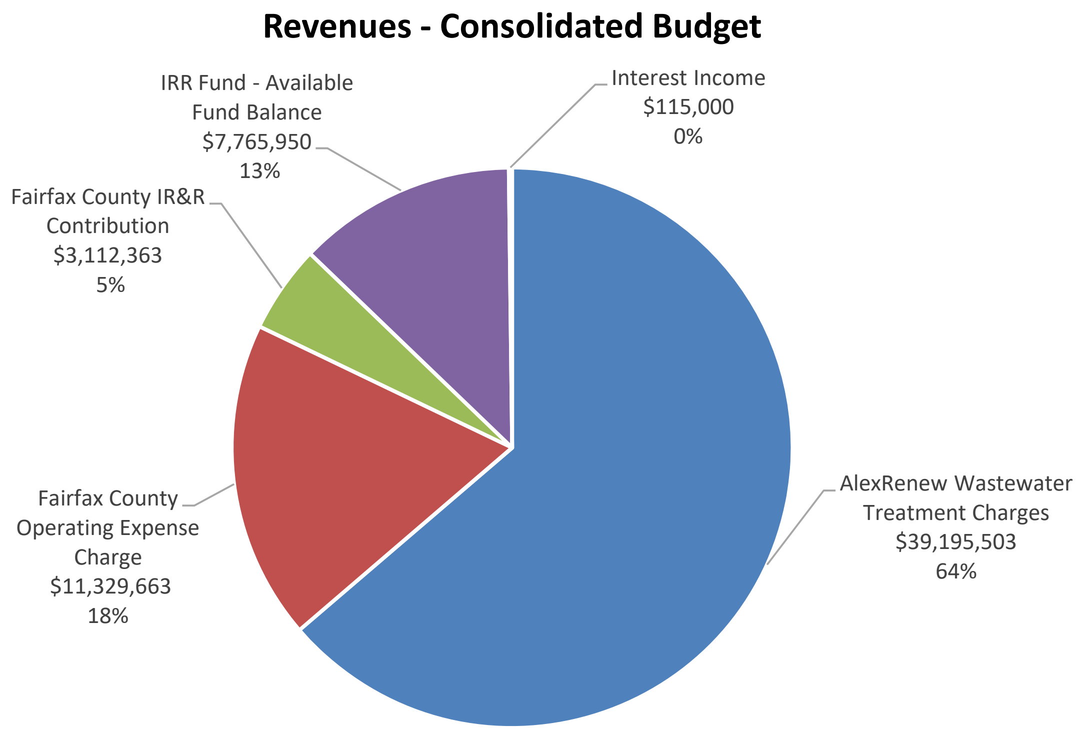
The chart below serves as a glossary that can be used to better understand the purpose, order of priority and funding method for each of the Funds and Accounts established in the Indenture.

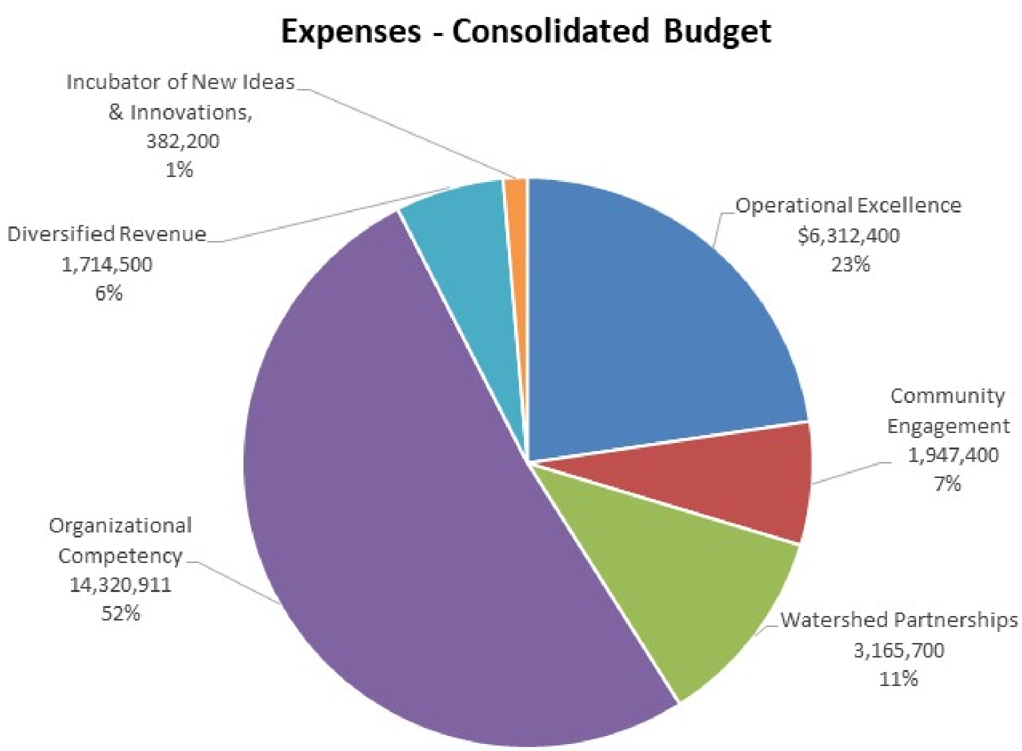
Master Indenture of Trust – *Flow of Funds*	
Revenues	Revenues means all revenues, receipts and other income derived or received by AlexRenew from owning and operating the utility system. This primarily includes AlexRenew Wastewater Treatment Charges and Fairfax County Operating Expense Charges.
Revenue Fund	Revenues are initially deposited into the Revenue Fund and then transferred to other Funds and Accounts in the following order of priority.
Operating Fund	To the Operating Fund to pay Operating Expenses. At the end of each month, AlexRenew must ensure at least 1/6th (or 60 days) of annual budgeted operating expenses are deposited into the Operating Fund.
Parity Debt Service Fund	To the Parity Debt Service Fund to make debt service payments. AlexRenew must make equal monthly deposits into the Parity Debt Service Fund such that debt service payments can be paid when due.
Improvement, Renewal and Replacement (IRR) Fund – Joint Use Facilities Account	To the Joint-Use Facilities Account of the IRR Fund in an amount equal to 1/12th of AlexRenew's annual share of the amount due to this Fund.
Improvement, Renewal and Replacement (IRR) Fund – General Account	To the General Account of the IRR Fund at times and in amounts predetermined by AlexRenew.
General Fund	To the General Fund, any revenues remaining.

The Statement on the following page presents a consolidated profile of AlexRenew's overall operating and capital budgets for FY19. This schedule directly follows the flow of funds mandated in our Indenture.

In addition, we note that ***rates and charges for FY19 will initially be set at the same levels established for FY18***. Consistent with our historical strategy, we will conduct a mid-year review of our financial performance relative to our FY19 budget, which may or may not require rate and charge adjustments to maintain a structurally balanced budget. We also note that our operating expense budget will increase by approximately 2% (below the current rate of inflation) and we will continue to invest prudently in plant infrastructure and equipment to meet our clean water and community health mandates.

Consolidated Enterprise Budget Statement	Adopted FY2018	Proposed FY2019
REVENUE FUND (Per Master Indenture)		
AlexRenew Wastewater Treatment Charges	$ 39,000,500	$ 39,195,503
Fairfax County Operating Expense Charge	11,074,212	11,329,663
Interest Income	30,000	-
Total Revenues	**50,104,712**	**50,525,165**
OPERATING FUND		
Beginning Balance	7,283,820	4,538,320
Revenue Fund Transfer	27,229,910	27,935,311
Interest Income	10,000	10,000
Transfer to General Fund	(2,755,500)	-
Operating Expenses	(27,229,910)	(27,843,111)
Excess Retained to meet FY19 Operating Reserve Requirement		102,200
Ending Balance (Operating Fund Reserve)	**4,538,320**	**4,640,520**
REVENUE FUND BALANCE	22,874,802	22,589,854
PARITY DEBT SERVICE FUND		
Beginning Balance	2,686,491	1,131,581
Revenue Fund Transfer	12,322,456	15,155,561
Interest Income	90,000	90,000
Parity Debt Service Payment	(13,967,366)	(15,245,561)
Ending Balance	**1,131,581**	**1,131,581**
REVENUE FUND BALANCE	10,552,346	7,434,294
IMPROVEMENT, RENEWAL AND REPLACEMENT FUND		
Joint Use Facilities Account		
Beginning Balance	6,474,086	7,765,590
Revenue Fund Transfer	2,146,648	2,157,469
Fairfax County Annual Required Contribution	3,084,856	3,112,363
Interest Income	60,000	-
IR&R Joint Use Facilities Expenses	(4,000,000)	(5,625,000)
Ending Balance	**7,765,590**	**7,410,422**
General Account (Alex-only)		
Beginning Balance	314,075	156,052
Revenue Fund Transfer	191,977	446,948
Interest Income	-	-
IR&R Alex-Only Expenses	(350,000)	(603,000)
Ending Balance	**156,052**	**(0)**
REVENUE FUND BALANCE	8,213,721	4,829,876
GENERAL FUND		
Beginning Balance	35,039,161	43,587,382
Revenue Fund Transfer	8,213,721	4,829,876
Project Fund Transfer	-	-
Operating Fund Transfer	2,755,500	-
Interest Income	100,000	15,000
Alex-Only Capital Costs	(1,554,000)	(8,169,000)
Other Alex-only Expenses	(506,000)	-
Transfer to CIP - Joint Use Facilities	(461,000)	(514,579)
Ending Balance	**43,587,382**	**39,748,679**
General Reserve sub-Fund	**(4,538,320)**	**(4,640,520)**
Available Balance	**39,049,062**	**35,108,159**
REVENUE FUND BALANCE	(0)	(0)
PROJECT FUND		
Beginning Balance	-	3,573,000
Parity Debt / Prior Issue Bond Proceeds	13,573,000	-
Parity Debt / New Bond Proceeds	-	8,706,021
Transfer to General Fund / Alex-only Capital Costs	-	-
Transfer to CIP - Joint Use Facilities	(10,000,000)	(12,279,021)
Ending Balance	**3,573,000**	-
CAPITAL IMPROVEMENT PROGRAM - JOINT USE FACILITIES		
Beginning Balance	-	-
General Fund Transfer	461,000	514,579
Project Fund Transfer	10,000,000	12,279,021
Fairfax County Contribution	11,775,000	13,805,400
Capital Costs	(22,236,000)	(26,599,000)
Ending Balance	-	-


Revenues - Consolidated Budget
IRR Fund - Available Fund Balance $7,765,950 13%
Interest Income $115,000 0%
Fairfax County IR&R Contribution $3,112,363 5%
Fairfax County Operating Expense Charge $11,329,663 18%
AlexRenew Wastewater Treatment Charges $39,195,503 64%


Expenses - Consolidated Budget
Incubator of New Ideas & Innovations, 382,200 1%
Diversified Revenue 1,714,500 6%
Operational Excellence $6,312,400 23%
Community Engagement 1,947,400 7%
Organizational Competency 14,320,911 52%
Watershed Partnerships 3,165,700 11%

For more than a decade, beginning in 2006, AlexRenew has employed rate modeling to analyze, evaluate and implement an annual and long-term fee structure to support the financial obligations of our enterprise. We have engaged an independent, third-party consultant to develop and monitor a rate model designed specifically for AlexRenew. We use this model to manage our revenue performance in the current year and to forecast revenue requirements, based on anticipated operating and capital costs, each year over a 10-year time horizon.

In addition to rate modeling, the AlexRenew Board of Directors ("Board") has adopted a body of financial policies (see Appendix A) to guide our approach to setting rates and maintaining a strong, stable and sustainable financial position. These policies target key financial metrics, represent industry best practices, and ensure AlexRenew maintains cost-efficient operations while delivering superior services for our customers and community.

The Rate Modeling Process

Annually, upon completion and acceptance of our audited financial statements, and more frequently as necessary, our rate consultants review and update the AlexRenew rate model. This process, and the model, is heavily data-driven and uses historical and projected data comprised of billing statistics, historical financial data, our current budget, and capital plan forecasts. Our rate consultants perform comprehensive due diligence exercises to validate all information provided by AlexRenew and obtained from other relevant sources. Once validation is complete, the rate consultants review their findings with AlexRenew leadership to discuss observed historical trends, how they compare to prior forecasts, what the current projections are, and whether the consultants should make adjustments for known conditions, as a contingency.

The resultant revenues, and assumptions of additional debt and capital funding, are evaluated relative to AlexRenew's annual cash flow requirements and likely financial position at year-end. This iterative process for each fiscal year over the forecast period allows AlexRenew and its rate consultants to examine how subtle changes to rates or assumptions today have the potential to materially influence financial position across the forecast. It also allows for sensitivity analysis and the ability to examine our financial profile under various hypothetical scenarios, which is instructive to management and provides a stronger basis for recommending the timing and magnitude of potential rate adjustments.

As a single, dominant revenue source that accounts for nearly 65% of our operating revenues, our Wastewater Treatment Charges are critical to the funding of our current operations and long-term financial viability. As a result, it is imperative that we combine a thorough understanding of our rate modeling process, strict adherence to the terms of our Indenture, faithfulness to our financial policies and the needs of our community when establishing our rates and charges.

Revenue Growth Assumptions

AlexRenew has historically modeled growth in Wastewater Treatment Charges of approximately 0.50% - 2.00% and Fairfax County Operating Expense Charges of approximately 1.00% - 3.00% when determining rates and revenues over our forecast period.

Expenditure Growth Assumptions

AlexRenew has historically used CPI to evaluate costs over our forecast period and has commonly assumed an inflation range of 2.4% to 3.6%.

20-Year Financial Plan

AlexRenew has developed a 20-year financial sustainability plan to identify future needs and revenue challenges and develop mitigating strategies. AlexRenew is a capital-intensive utility, driven by federal, state and local water-related regulations.

Determining Rates, Charges and Revenues

The following schedule details the monthly rates and charges for all individually metered residential customers and commercial customers discharging sewage to and/or requiring wastewater treatment service from AlexRenew.

Commercial wastewater customers include all commercial, industrial, government and other public agencies, master-metered residential, and all other accounts or customers not otherwise classified as individually metered residential customers.

A wastewater customer's monthly bill for wastewater interception, treatment and discharge services is based on the sum of their: (1) base charge and (2) wastewater treatment charge, as determined by water meter readings conducted by Virginia American Water, at the customer premise. The base charge serves as the minimum monthly bill for sewer service for all customers served by AlexRenew.

The fees detailed below do not account for the recovery of the costs associated with the remediation of the City's combined sewer outfalls. The capital investment program for constructing the infrastructure required to meet the City's 2025 CSO legislative mandate is currently under development; rates necessary to support this program will be analyzed and implemented at a future date.

Base Charge. Charge per account based on meter size at the customer premise.

Description	Meter Size	October 1, 2018 Monthly	October 1, 2019 Monthly
Residential Base Charge	All Meters	$9.61	$9.61
Commercial Base Charge	5/8”	$28.83	$28.83
	¾”	$28.83	$28.83
	1”	$72.07	$72.07
	1-1/2”	$144.16	$144.16
	2”	$230.65	$230.65
	3”	$432.47	$432.47
	4”	$720.77	$720.77
	6”	$1,441.56	$1,441.56
	8”	$2,306.50	$2,306.50
Residential Customer Activation Fee		$15.00	$15.00

Treatment Charge. Charge per account based on water consumption as measured by Virginia American Water from meter at customer premise.

Description	Meter Size	October 1, 2018 Per 1,000 Gallons	Current October 1, 2019 Per 1,000 Gallons
Individual Meter Residential Wastewater Charge	All Meters	$6.77	$6.77
Commercial Wastewater Treatment Charge	All Meters	$6.77	$6.77

Revenue Fund Statement

AlexRenew's Indenture establishes nine (9) Funds into which monies may be deposited to manage our operating and maintenance, non-operating and capital obligations. The collection and deposit of monies typically occurs monthly at specified times and in specified amounts, and in a prescribed order of priority.

AlexRenew is required to collect and deposit ***Revenues***, as defined in the Indenture, in the Revenue Fund and make monthly transfers to each of its actively managed Funds. Deposits to the Revenue Fund do not include Fairfax County Improvement, Renewal and Replacement (IRR) payments or Capital Contributions. These dollars are deposited by Fairfax County directly into the Joint Use Facilities Account of the IRR Fund or the General Fund for capital outlay reimbursements, as appropriate.

The schedule below presents adopted, proposed and estimated Revenues expected to be received by AlexRenew for the period FY18 - FY22, respectively. In addition, proposed Revenue transfers to various operating and non-operating Funds are provided to highlight the use or purpose of the funds.

Revenue Fund	Adopted FY2018	Proposed FY2019	Var %	Estimated FY2020	Estimated FY2021	Estimated FY2022
REVENUES						
AlexRenew Wastewater Treatment Charges	$ 39,000,500	$ 39,195,503	0.50%	$ 39,391,480	$ 39,588,437	$ 39,786,380
AlexRenew Wastewater CSO Charges	-	-		-	-	-
Fairfax County Operating Expense Charge	11,074,212	11,329,663	2.31%	11,420,175	11,511,134	11,602,533
Interest Income	30,000	-	-100.00%	-	-	-
Total Revenues	**50,104,712**	**50,525,165**	**0.84%**	**50,811,655**	**51,099,571**	**51,388,913**
TRANSFERS						
Transfer to Operating Fund [1]	$ 27,229,910	$ 27,935,311	2.59%	$ 28,121,542	$ 28,402,758	$ 28,686,785
Transfer to Parity Debt Service Fund	12,322,456	15,155,561	22.99%	15,217,675	15,178,662	16,398,184
Transfer to IRR Fund - Joint Use Facilities Account	2,146,648	2,157,469	0.50%	2,271,171	2,362,018	2,480,119
Transfer to IRR Fund - General Account	191,977	446,948	132.81%	500,000	500,000	500,000
Transfer to General Fund	8,213,721	4,829,876	-41.20%	4,836,267	4,791,134	3,458,825
Total Transfers	**$ 50,104,712**	**$ 50,525,165**	**0.84%**	**$ 50,946,655**	**$ 51,234,571**	**$ 51,523,913**
Excess (Deficiency)	$ -	$ -		$ -	$ -	$ -

[1] Includes entire Fairfax County Operating Expense Charge

Fairfax County Contributions

The following schedule demonstrates the method by which Fairfax County annual payments and contributions are determined based on the capacity rights Fairfax County currently receives under the Agreement. The County currently makes equal monthly Operating Expense Charge installments into the Operating Fund, equal monthly contributions into the Joint Use Facilities Account of the IRR Fund, and variable monthly capital contributions (formulaic reimbursements based actual capital expenditures) into the General Fund.

Fairfax County Contributions	Adopted FY2018	Proposed FY2019	Var %	Estimated FY2020	Estimated FY2021	Estimated FY2022
Operating Expense Charge:						
Total Estimated Operating Expenses	$ 27,229,910	$ 27,843,111	2%	$ 28,121,542	$ 28,402,758	$ 28,686,785
Less Estimated "Alexandria Only" Expenses	(4,593,709)	(4,685,583)	2%	(4,779,295)	(4,874,881)	(4,972,378)
Net Estimated Joint Operating Expenses	$ 22,636,201	$ 23,157,528	2%	$ 23,342,247	$ 23,527,877	$ 23,714,407
Estimated Fairfax County Net Flow	49.0%	49.0%		49.0%	49.0%	49.0%
Estimated Fairfaix County Operating Expense Charge	11,091,738	11,347,189	2%	11,437,701	11,528,660	11,620,059
Less Alexandria Only Flow Charge	(17,526)	(17,526)	0%	(17,526)	(17,526)	(17,526)
Fairfax County Operating Expense Charge	**$ 11,074,212**	**$ 11,329,663**	2%	**$ 11,420,175**	**$ 11,511,134**	**$ 11,602,533**
IRR Fund - Joint Account Contribution:						
Estimated Joint Use Plant Investment	$ 747,357,705	$ 752,833,105	1%	$ 782,946,429	$ 814,264,286	$ 854,977,501
Estimated Joint Use IRR Funding Percentage	0.7%	0.7%		0.7%	0.7%	0.7%
Estimated Joint Use IRR Investment	$ 5,231,504	$ 5,269,832	1%	$ 5,480,625	$ 5,699,850	$ 5,984,843
Investment Allocation at 60%	4,838,901	4,900,944	1%	4,932,563	5,129,865	5,386,358
Investment Allocation at 36%	328,715	316,190	-4%	438,450	455,988	478,787
Investment Allocation at 32%	63,887	52,698	-18%	109,613	113,997	119,697
Total IRR - Joint Account Investment	$ 5,231,504	$ 5,269,832	1%	$ 5,480,625	$ 5,699,850	$ 5,984,843
Fairfax County Allocation at 60%	2,903,341	2,940,566	1%	2,959,538	3,077,919	3,231,815
Fairfax County Allocation at 36%	161,071	154,933	-4%	214,841	223,434	234,606
Fairfax County Allocation at 32%	20,444	16,863	-18%	35,076	36,479	38,303
Total Fairfax County IRR - Joint Account Contribution	**3,084,856**	**3,112,363**	1%	**3,209,454**	**3,337,832**	**3,504,724**
Alex Renew Joint IRR Contribution	2,146,648	2,157,469	1%	2,271,171	2,362,018	2,480,119
Capital Project Contribution - Joint Use Facilities:						
Estimated Joint Capital Improvements at 60%/40%	$ 15,785,000	$ 19,149,000	21%	$ 22,000,000	$ 9,000,000	$ 7,250,000
Fairfax County Allocation at 60%	9,471,000	11,489,400	21%	13,200,000	5,400,000	4,350,000
Estimated Joint Capital Improvements at 49%/51%	-	400,000	-	-	-	-
Fairfax County Allocation at 49%	-	196,000	-	-	-	-
Estimated Joint Capital Improvements at 30%/70% [1]	6,000,000	6,800,000	13%	4,400,000	19,200,000	34,600,000
Fairfax County Allocation at 30%	2,160,000	2,040,000	-6%	1,584,000	6,912,000	12,456,000
Estimated Joint Capital Improvements at 32%/68%	450,000	250,000	-44%	-	-	-
Fairfax County Allocation at 32%	144,000	80,000	-44%	-	-	-
Total Fairfax County Capital Contribution	11,775,000	**13,805,400**	17%	**14,784,000**	**12,312,000**	**16,806,000**
Total Fairfax County Contributions	**$ 25,934,068**	**$ 28,247,425**	9%	**$ 29,413,629**	**$ 27,160,966**	**$ 31,913,257**

[1] Wet Weather Program - costs are conceptual level estimates

Condensed Expense Summary

The schedule below combines all of the expenses associated with AlexRenew's FY19 budget, listing them in Fund format. At approximately 40%, capital outlay represents the largest share of the budget. Together with the Parity Debt Service Fund at 19%, these combined expenses are nearly 60% of the FY19 budget demonstrating the capital-intensive nature of the water utility business.

In addition, it is notable that growth in the operating budget has increased at a rate lower than current inflation. This reflects an effort to balance increased costs, achieve cost efficiencies and keep costs and rates relatively stable.

We also note a relatively significant increase in funding for improvement, repair and replacement projects reflecting our effort to ensure timely upgrades of our infrastructure to maintain efficient operations.

In the schedules that follow on the accompanying pages, each expense-related Fund is presented and reviewed in greater detail.

Condensed Expense Summary	Adopted FY2018	Proposed FY2019	Var %
OPERATING EXPENSES			
Operating Fund	$ 27,229,910	$ 27,843,111	2%
Operating Reserve Contribution	-	102,200	
Total	27,229,910	27,945,311	
NON-OPERATING EXPENSES			
Parity Debt Service Fund	13,967,366	15,245,561	9%
IR&R Fund	4,000,000	6,228,000	56%
General Fund	506,000	-	
Total Expenses	45,703,276	49,418,872	
CAPITAL OUTLAY			
Wet Weather Program	$ 5,900,000	$ 12,000,000	
General CIP	18,270,000	22,768,000	
Total Capital Outlay	24,170,000	34,768,000	44%
TOTAL EXPENSES AND CAPITAL OUTLAY	**$ 69,873,276**	**$ 84,186,872**	20%

Operating Fund Statement

AlexRenew manages its Operating Fund by department and strategic outcome. This allows the enterprise to understand the impact of each department on the overall budget and how monies are being spent to achieve key business objectives.

Operational Excellence. This element of the operating budget primarily includes utilities and chemicals required to meet all regulatory compliance obligations for our cleaned water product.

Community Engagement. This operating budget category includes community education and outreach, and customer collection and billing services.

Watershed Partnerships. This operating budget item encompasses the costs for our legal, financial, and engineering partners. It also includes the cost of supporting the operations and maintenance associated with the City's capacity rights at the Arlington County Water Pollution Control Plant.

Organizational Competency. This operating budget category covers personnel services including all compensation related costs, required safety materials, training and professional development, and licensing and dues.

Revenue Stewardship. This component of the operating budget covers all preventative and corrective maintenance for infrastructure assets, technology investments, general back office support, and annual asset renewal needs.

Ideas and Innovation. This operating budget item contains the ancillary services required to ensure clean, safe water for our community and environment including laboratory testing, bio-solids reuse, solids disposal and research support.

Operating Fund	Adopted FY 2018	Proposed FY 2019	Var %	Adopted FY 2018	Adopted FY 2018	Adopted FY 2018
REVENUES						
Transfer from Revenue Fund	$ 27,229,910	$ 27,935,311		$ 28,214,664	$ 28,496,811	$ 28,781,779
Interest Income	10,000	10,000		10,000	10,000	10,000
Total	**$ 27,239,910**	**$ 27,945,311**	**2.59%**	**$ 28,224,664**	**$ 28,506,811**	**$ 28,791,779**
EXPENSES						
Operational Excellence	$ 5,435,700	$ 6,312,400		$ 6,375,524	$ 6,439,279	$ 6,503,672
Community Engagement	1,785,000	1,947,400		1,966,874	1,986,543	2,006,408
Watershed Partnerships	3,158,000	3,165,700		3,197,357	3,229,331	3,261,624
Organizational Competency	14,219,660	14,320,911		14,464,120	14,608,761	14,754,849
Revenue Stewardship	1,994,050	1,714,500		1,731,645	1,748,961	1,766,451
Ideas & Innovations	637,500	382,200		386,022	389,882	393,781
Total	**$ 27,229,910**	**$ 27,843,111**	**2.25%**	**$ 28,121,542**	**$ 28,402,758**	**$ 28,686,785**
Excess (Deficiency) [1]	**$ 10,000**	**$ 102,200**	**922.00%**	**$ 103,122**	**$ 104,053**	**$ 104,994**
Transfer to General Fund	**$ (2,755,500)**	**$ -**		**$ -**	**$ -**	**$ -**
FUND BALANCE - Beginning	**$ 7,283,820**	**$ 4,538,320**		**$ 4,640,520**	**$ 4,743,642**	**$ 4,847,695**
FUND BALANCE - Ending [2]	**$ 4,538,320**	**$ 4,640,520**	**2.25%**	**$ 4,743,642**	**$ 4,847,695**	**$ 4,952,689**

[1] Balance required to fully fund mandated Operating Reserve per Master Trust Indenture

[2] FY19 Operating Reserve Requirement

Organizational Competency Highlights

AlexRenew continues to invest in its workforce to recruit and retain the best talent. Salaries are provided for full-time employees and part-time employees. Healthcare benefits, including medical, dental, and vision, are also provided. Other benefits for employees include retirement, social security, short and long term disability, life insurance, workers compensation, unemployment tax, long term care insurance, legal services. Paid time off is provided at a rate based on years of service.

Retirement Benefit

Budgeted funds for staff retirement is the contribution AlexRenew pays into the Virginia Retirement System (VRS). VRS administers pension plans and other benefits for Virginia's covered public sector employees. AlexRenew's contribution to VRS will decrease for FY19 to 7.27%, down from 8.95% in FY18. The VRS employer contribution is updated every other even calendar year. This reduction will result in cost savings of approximately $137,000 in FY19 for AlexRenew.

Full-time, regular employees hired since January 1, 2014 have been placed into the VRS Hybrid plan unless they are already participating in VRS from previous employment. The VRS Hybrid plan does not offer disability benefits as part of its core provisions. VRS has offered the VLDP (Virginia Local Disability Plan) for jurisdictions who do not elect to opt out. AlexRenew has opted out of the VLDP Plan and provides a comparable disability plan.

AlexRenew currently has 42 employees in the VRS Plan 1 retirement plan, which allowed enrollment before July 1, 2010. AlexRenew has 10 employees in the VRS 2 retirement plan, which was available between July 1 2010 and December 31, 2013. The VRS Hybrid plan, which started on January 1, 2014 and is still in effect, is the plan in which 41 of our employees are enrolled.

Other Post-Employment Benefits (OPEB)

OPEB funding supports retiree healthcare benefits. The FY 19 budget provides for approximately $185,000 in OPEB funding. We currently have 11 retirees receiving this benefit.

Healthcare Benefit

Budgeted healthcare costs represent the share that AlexRenew pays for employee healthcare benefits. Currently the cost share for the AlexRenew healthcare benefit is 83% employer and 17% employee.

To mitigate the effect of rising healthcare costs, AlexRenew continues to evaluate the cost share between employer and employee, with a strategy of gradually moving to an 80% employer and 20% employee cost share, which is in line with other utilities across the United States.

In addition, AlexRenew is now offering a high deductible healthcare plan. In 2018, 31 employees enrolled in the high deductible plan, shifting from the managed health plan (HMO) option. The high deductible healthcare plan is a lower cost plan and has had lower rate increases than traditional healthcare plan offerings.

Workforce by Full Time Equivalent (FTE)

As shown below, the FY 19 budget includes a net increase of two full time equivalent positions from the FY 2018 approved budget.

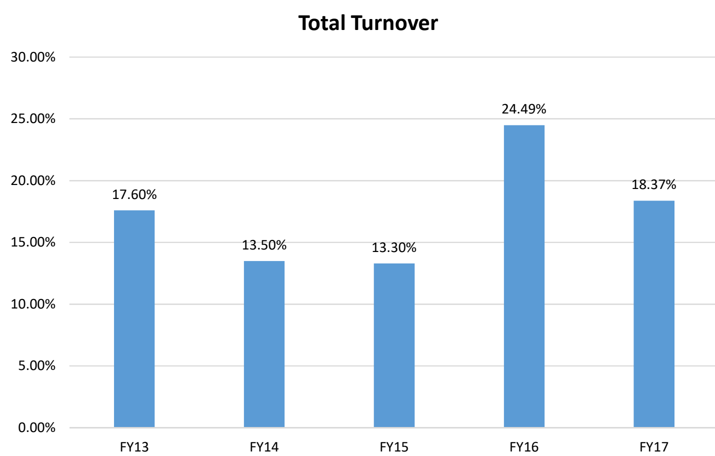
Department	Approved FY 2018	Proposed FY 2019	FTE Impact
Executive	2	6	4
Engineering & Planning / Wet Weathers Program Staff	42	8	-34*
Communications	7	6	-1
Finance	10	10	0
Sustainability	2	0	-2
Production	44	80	+36
Human Resources	2	2	0
Information Systems	7	6	-1
TOTAL	**116**	**118**	**+2**

*Adjustment made to organizational structure; maintenance staff moved to production

Calendar Year 2017 Turnover

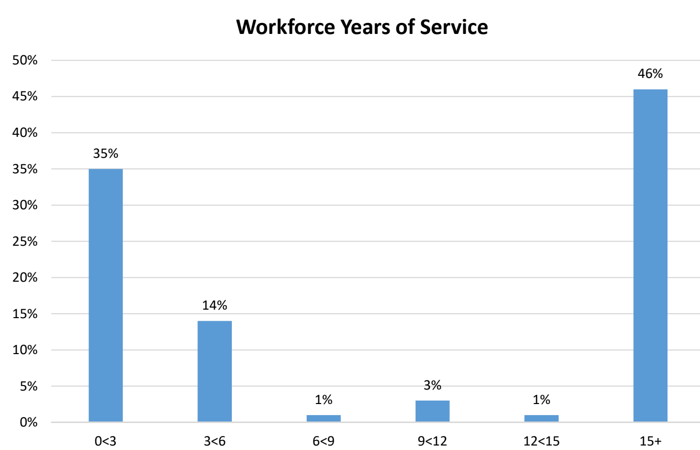
In Calendar Year (CY) 2017, overall employee turnover decreased by 6 staff; from 24 in CY 16 to 18 in CY 17. Of the 18 employees, 2 retired in CY 17, which is a decrease of 6 from CY 16. The remaining turnover included employees who relocated with their families, left their position for personal reasons, or received job opportunities that built upon their training and experience at AlexRenew. Our total employment for the year held constant at 98.

Many members of our workforce are nearing retirement, so we are seeing retirement numbers increase. We have planned for this eventuality, and are using our apprentice program for succession development.



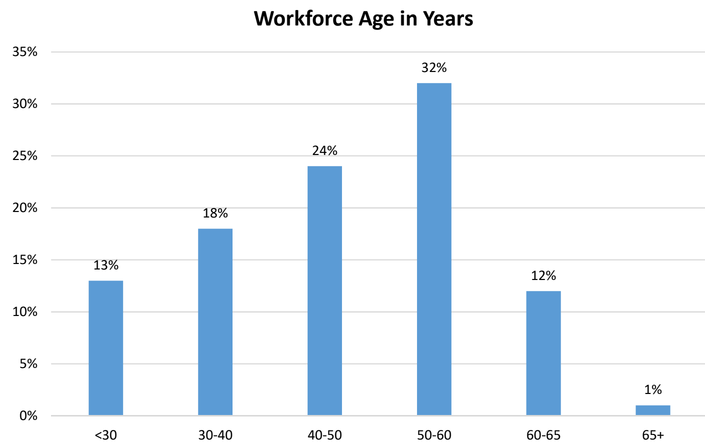
Years of Service

More than half of the current workforce (53%) has been employed with AlexRenew for 12 years or fewer. 47% have worked for AlexRenew for over 15 years or more.



Employee Demographics

Almost three quarters (74%) of AlexRenew's workforce fall within the ages of 30 and 60 years old.



Parity Debt Service Fund Statement

The Parity Debt Service Fund includes the amounts due in FY19 to pay principal and interest on outstanding AlexRenew debt. To date, AlexRenew has borrowed from the Virginia Revolving Loan Fund (VRLF) and Virginia Pooled Financing Program (VPFP) through the Virginia Resources Authority (VRA). Within the context of our Indenture, capital funding in this manner is deemed parity debt.

Parity Debt Service Fund	Adopted FY2018	Proposed FY2019	Estimated FY2020	Estimated FY2021	Estimated FY2022
REVENUES					
Beginning Balance	$ 2,686,491	$ 1,131,581	$ 1,131,581	$ 1,131,581	$ 1,131,581
Transfer from Revene Fund	$ 12,322,456	$ 15,155,561	$ 16,259,256	$ 16,220,243	$ 17,439,765
Interest Income	90,000	90,000	90,000	90,000	90,000
Total Revenue	**$ 15,098,947**	**16,377,142**	**16,349,256**	**16,310,243**	**17,529,765**
EXPENDITURES					
VRA BD SERIES 98A INTEREST	18,224	3,679	-	-	-
VRA BD SERIES 98A PRINCIPAL	615,329	313,098	-	-	-
VRA BD SERIES 00A INTEREST	133,592	75,474	15,305	-	-
VRA BD SERIES 00A PRINCIPAL	1,646,107	1,704,225	874,575	-	-
VRA BD SERIES 00B INTEREST	998,084	859,011	695,762	470,222	218,975
VRA BD SERIES 00B PRINCIPAL	3,576,985	4,040,116	5,379,375	6,462,100	7,351,195
VRA BOND SERIES 04 INTEREST	278,268	240,593	201,741	161,675	120,357
VRA BOND SERIES 04 PRINCIPAL	1,205,983	1,243,658	1,282,510	1,322,576	1,363,894
VRA BD SERIES 06 INTEREST	191,560	171,314	150,550	129,253	107,410
VRA BD SERIES 06 PRINCIPAL	801,558	821,804	842,568	863,865	885,708
VRA BOND SERIES 2008B INTEREST	9,144	-	-	-	-
VRA BOND SERIES 2008B PRINCIPAL	215,000	-	-	-	-
VRA BOND SERIES 2009 INTEREST	270,380	250,239	229,545	208,286	186,444
VRA BOND SERIES 2009 PRINCIPAL	735,497	755,639	776,332	797,592	819,434
VRA BOND SERIES 2011 INTEREST	160,338	151,808	143,076	134,138	124,988
VRA BOND SERIES 2011 PRINCIPAL	360,871	369,402	378,134	387,072	396,222
VRA BOND SERIES 2014A Interest	243,055	231,625	219,953	208,035	195,865
VRA BOND SERIES 2014A PRINCIPAL	541,467	552,897	564,569	576,487	588,657
VRA BOND Reclaimed SERIES 2014B Interest	47,474	45,164	42,805	40,396	37,937
VRA BOND Reclaimed SERIES 2014B PRINCIPAL	109,430	111,740	114,099	116,508	118,968
VRA BOND SERIES 2014 C Interest	886,513	885,744	873,444	862,125	848,800
VRA BOND SERIES 2014 C PRINCIPAL	15,000	240,000	255,000	260,000	280,000
VRA BOND SERIES 17A Interest	907,506	907,506	907,506	907,506	907,506
VRA BOND SERIES 17A Principal	-	-	-	-	575,000
VRA Bonds 18 Interest		1,270,826	1,270,826	1,270,826	1,270,826
TOTAL EXPENSES	**$ 13,967,366**	**$ 15,245,561**	**$ 15,217,675**	**$ 15,178,662**	**$ 16,398,184**
Total Interest	4,144,138	5,092,982	4,750,513	4,392,462	4,019,107
Total Principal	9,823,228	10,152,579	10,467,162	10,786,200	12,379,077
	$ 13,967,366	**$ 15,245,561**	**$ 15,217,675**	**$ 15,178,662**	**$ 16,398,184**
Fund Balance - Beginning	**$ 2,686,491**	**$ 1,131,581**	**$ 1,131,581**	**$ 1,131,581**	**$ 1,131,581**
Fund Balance - Ending	**$ 1,131,581**	**$ 1,131,581**	**$ 1,131,581**	**$ 1,131,581**	**$ 1,131,581**

IRR Fund Statement - Joint Use Facilities Account

The Improvement, Renewal & Replacement (IRR) Fund – Joint Use Facilities Account funds the project costs associated with the upgrade of infrastructure and equipment for the portions of our facility used jointly by the City and Fairfax County.

As noted in the accompanying schedule, contributions to the Joint Use Facilities Account are made annually by both AlexRenew and Fairfax County in a combined amount equal to 0.7% of AlexRenew's estimated capital asset value for FY19. Fairfax County's portion of the total contribution is also based on the allocation percentages detailed on page 14 and affirmed in the Agreement.

IRR Fund - Joint Use Facilities Account	Adopted FY2018	Proposed FY2019	Var (%)	Estimated FY2020	Estimated FY2021	Estimated FY2022
REVENUES						
Revenue Fund Transfer	$ 2,146,648	$ 2,157,469		$ 3,209,454	$ 2,362,018	$ 3,504,724
Fairfax County Contribution	3,084,856	3,112,363		2,271,171	3,337,832	2,480,119
Interest Income	60,000	-		-	-	-
Total Revenues	**$ 5,291,504**	**$ 5,269,832**	0%	**$ 5,480,625**	**$ 5,699,850**	**$ 5,984,843**
EXPENSES						
Preliminary / Primary Infrastructure	$ 615,000	$ 1,670,000		$ 1,000,000	$ 1,000,000	$ 1,000,000
Secondary / Tertiary Infrastructure	590,000	500,000		$ 550,000	$ 550,000	$ 550,000
Solids Projects	1,110,000	1,145,000		$ 1,100,000	$ 1,100,000	$ 1,100,000
Process Improvements	150,000	615,000		$ 500,000	$ 500,000	$ 500,000
Campus Infrastructure Projects	650,000	755,000		$ 800,000	$ 800,000	$ 800,000
Information Technology Projects	855,000	290,000		$ 500,000	$ 500,000	$ 500,000
Communications Projects	30,000	250,000		$ 200,000	$ 200,000	$ 200,000
Contingency (7%)	-	400,000		$ 400,000	$ 400,000	$ 400,000
	4,000,000	5,625,000	41%	5,050,000	5,050,000	5,050,000
Excess (Deficiency)	$ 1,291,504	$ (355,168)	-128%	$ 430,625	$ 649,850	$ 934,843
FUND BALANCE - Beginning	**$ 6,355,086**	**$ 7,646,590**		**$ 7,291,422**	**$ 7,722,047**	**$ 8,371,897**
FUND BALANCE - Ending	**$ 7,646,590**	**$ 7,291,422**	**-5%**	**$ 7,722,047**	**$ 8,371,897**	**$ 9,306,739**

IRR Fund Statement - General Account

The Improvement, Renewal & Replacement (IRR) Fund – General Account funds the project costs associated with the upgrade of infrastructure and equipment for the portions of our facility used for the benefit of the City only.

Contributions to the General Account are made annually for projects AlexRenew determines are necessary to maintain the safe and effective operation of our facility.

IRR Fund - General Account	Adopted FY2018	Proposed FY2019	Var (%)
Revenues			
Revenue Fund Transfer	$ 191,977	$ 446,948	
Total Revenue	**$ 191,977**	**$ 446,948**	
Expenses			
Potomac Yards Trunk Sewer Inspect & Clean	$ -	$ 175,000	
Pumpover Evaluation	-	25,000	
Arc Flash Boundary Delineation	-	8,000	
FOG Database Program	-	50,000	
Urban Wildlife Habitat Expansion	-	30,000	
WRRF Mobile Experience	-	250,000	
Interceptor Assessments/CCTV	50,000	50,000	
Flow Monitoring/GIS	200,000	15,000	
Pump Station Telemetry	75,000	-	
Website Upgrade	25,000	-	
Total Expenses	**$ 350,000**	**$ 603,000**	**72.29%**
Excess (Deficiency)	$ (158,023)	$ (156,052)	
Fund Balance - Beginning	**$ 314,075**	**$ -**	
Fund Balance - Ending	**$ 156,052**	**$ (156,052)**	

General Fund Statement

The General Fund is the repository of all funds remaining after required deposits to all other actively managed Funds have been satisfied, and may be used for any lawful purpose of AlexRenew. AlexRenew principally uses the General Fund to finance City only capital improvements, provide sufficient reserves to maintain strong credit worthiness, manage unanticipated expenditures experienced during operation, and maintain sufficient additional reserves to insure ongoing financial strength.

General Fund	Adopted FY2018	Proposed FY2019	Var %	Estimated FY2020	Estimated FY2021	Estimated FY2022
REVENUES						
Revenue Fund Transfer	$ 8,213,721	$ 4,829,876		$ 4,836,267	$ 4,791,134	$ 3,458,825
Interest Income	100,000	15,000		-	-	-
Operating Fund Transfer	2,755,500	-				
Project Fund Transfer		$ -		20,000,000	20,000,000	93,000,000
Total Revenues	**$ 11,069,221**	**$ 4,844,876**	**-56%**	**$ 24,836,267**	**$ 24,791,134**	**$ 96,458,825**
EXPENSES						
Alex-Only Capital Outlay						
Wet Weather Program [1]	$ -	$ 5,200,000		$ 15,400,000	$ 18,700,000	$ 85,800,000
Potomac Interceptor Rehabilitation	300,000	1,000,000		1,500,000	1,500,000	$ 3,000,000
Service Chamber / Pump Station Upgrade	50,000	50,000		500,000	-	$ -
Environmental Center - Lobby Enhancement	150,000	-		-	-	$ -
Capital Financing Fees	-	400,000		500,000	500,000	$ 500,000
Arlington County Capital Contribution	1,054,000	969,000		1,000,000	1,000,000	$ 1,000,000
Holland Lane re-alignment (Engineering)		300,000				
EC and Plant Electrical and Data Upgrades		250,000				
Alex-Only Capital Expenses	**$ 1,554,000**	**$ 8,169,000**	**426%**	**$ 18,900,000**	**$ 21,700,000**	**$ 90,300,000**
Other Alex-only Expenses						
Meters	$ 50,000	$ -		$ -	$ -	-
Website Upgrade	25,000	-		-	-	-
Communication Equipment	15,000	-		-	-	-
Professional Studies	6,000	-		-	-	-
Line of Credit Interest	-	-		-	-	-
Bank Fees	10,000	-		-	-	-
Finance Fees	400,000	-		-	-	-
Total	**$ 506,000**	**$ -**	**-100%**	**$ -**	**$ -**	**$ -**
Total Alex Only Expenses	**$ 2,060,000**	**$ 8,169,000**	**297%**	**$ 18,900,000**	**$ 21,700,000**	**$ 90,300,000**
Transfer to Joint Project Fund	$ 461,000	$ 514,579		$ 4,920,000	$ 5,130,000	6,802,500
Total General Fund Expenses	**$ 2,521,000**	**$ 8,683,579**	**244%**	**$ 23,820,000**	**$ 26,830,000**	**97,102,500**
Excess (Deficiency)	$ 8,548,221	$ (3,838,703)		$ 1,016,267	$ (2,038,866)	$ (643,675)
Beginning Fund Balance	**$ 35,039,161**	**$ 43,587,382**		**$ 39,748,679**	**$ 40,764,946**	**38,726,080**
Ending Fund Balance	**$ 43,587,382**	**$ 39,748,679**	**-9%**	**$ 40,764,946**	**$ 38,726,080**	**38,082,405**
General Reserve sub-Fund [2]	**$ (4,538,320)**	**$ (4,640,520)**		**$ (4,686,924)**	**$ (4,733,793)**	**(4,781,131)**
Available Balance	**$ 39,049,062**	**$ 35,108,159**	**-10%**	**$ 36,078,022**	**$ 33,992,287**	**33,301,274**

[1] Program costs are conceptual level estimates

[2] Additional Operating Reserve Requirement per Board approved Financial Policy

Capital Improvement Program

AlexRenew manages its capital outlay for both Joint Use and City only infrastructure and equipment through its Capital Improvement Program (CIP). Our CIP is summarized in our 10-year plan and is a key element in planning for and managing to future regulatory compliance through large-scale capital investments.

The 10-year plan is an important tool used to formulate future project financing plans, maximize federal and state grant opportunities, proactively plan for the replacement or reconstruction of essential assets nearing the end of their service life, and schedule and coordinate the execution of multiple projects to minimize operational impact. The FY19 – FY28 CIP includes project cost assumptions for AlexRenew's anticipated ownership, construction, operation and maintenance of the City's combined sewer outfall program.

Definition of Capital Projects

A capital project involves expenditures to construct or acquire assets of a relatively permanent nature such as property, plant, and equipment with a useful life that exceeds approximately two years.

CIP Funding

Funding sources for CIP projects include loans from the Virginia Department of Environmental Quality (VA DEQ), Wastewater Revolving Loan Fund (WRLF), Virginia Pooled Financing Program (VPFP), Virginia Water Quality Improvement Fund (VA WQIF) Point Source Grant, United States Environmental Protection Agency (US EPA) Special Appropriations Grant, Municipal Bond issues, bank loans and lines of credit, and AlexRenew discretionary funds.

Alex-Only CIP

Capital projects that are the responsibility of AlexRenew only are funded pay-as-you-go from General Fund resources and/or through the use of various financing instruments. Costs associated with the Alex-only CIP are detailed on page 25 and specific project information is provided on pages 28-31.

Joint Use Facilities CIP

Capital projects for which AlexRenew and Fairfax County share joint responsibility are funded pay-as-you-go from General Fund resources and/or through the use of various financing instruments. Costs associated with the Joint Use Facilities CIP are detailed on page 27 and specific project information is provided on pages 32 – 43.

Joint Use Facilities CIP

Joint CIP	Adopted FY2018	Proposed FY2019	Var %	Estimated FY2020	Estimated FY2021	Estimated FY2022
REVENUES						
Fairfax County Contribution	$ 11,775,000	$ 13,805,400		$ 14,784,000	$ 12,312,000	$ 16,806,000
General Fund Transfer	461,000	514,579		-	-	-
Net Debt Proceeds	10,000,000	12,279,021		$ 13,407,000	$ 23,023,000	$ 16,336,000
Total Revenues	**$ 22,236,000**	**$ 26,599,000**	20%	**$ 28,191,000**	**$ 35,335,000**	**$ 33,142,000**
EXPENSES						
Wet Weather Program [1]	**$ 5,900,000**	**$ 6,800,000**	**15%**	**$ 12,800,000**	**$ 24,900,000**	**$ 38,200,000**
General CIP						
WRRF Improvements Program						
Mainstream Anammox	200,000	500,000		1,200,000	-	-
PAC Blower Replacement	500,000	3,000,000		1,000,000	-	-
UV Disinfection System Upgrade	500,000	$ -		-	-	-
Process Automation Improvements	120,000	430,000		-	-	-
Odor Control System Upgrades	100,000	650,000		-	-	-
Campus-wide Electrical Upgrade	800,000	1,600,000		1,200,000	1,200,000	1,200,000
NMF Improvements	-	-		-	500,000	-
Total Expenses	**$ 2,220,000**	**$ 6,180,000**	178%	**$ 3,400,000**	**$ 1,700,000**	**$ 1,200,000**
Preliminary/Primary Improvements						
Influent Screening System Upgrade	$ -	$ 500,000		$ 2,000,000	-	-
Raw Sewage Pump Station Upgrade	$ -	$ 500,000		$ 3,000,000	$ -	$ -
Total Expenses	**$ -**	**$ 1,000,000**		**$ 5,000,000**	**$ -**	**$ -**
CMOM Program						
Upper Holmes Run Trunk Sewer Rehab	$ -	100,000		$ 1,000,000	$ 1,800,000	$ 900,000
FFX Holmes Run Trunk Sewer Rehab	-	500,000		4,000,000	4,000,000	4,000,000
Reclaimed Water Program	-	250,000		-	-	-
Environmental Center Improvements	800,000	400,000		-	-	-
Deck Connector	$ 450,000	$ 250,000		$ -	$ -	$ -
Total Expenses	**$ 1,250,000**	**$ 1,500,000**	20%	**$ 5,000,000**	**$ 5,800,000**	**$ 4,900,000**
Solids Improvement Program						
Solids/Carbon Management	$ -	$ 150,000		$ -	$ -	$ 150,000
Total Expenses	**$ -**	**$ 150,000**		**$ -**	**$ -**	**$ 150,000**
Process Control System						
Fiber Optic Cable Audit & Repair	$ 1,190,000	$ 800,000		$ 1,200,000	$ -	$ -
HMI Upgrade	500,000	2,800,000		1,500,000	-	-
PLC Equipment and Network Upgrade	$ 355,000	$ 800,000		$ 800,000	$ 500,000	$ 500,000
Total Expenses	**$ 2,045,000**	**$ 4,400,000**	115%	**$ 3,500,000**	**$ 500,000**	**$ 500,000**
Resiliency Program						
Campus Fire Alarm Upgrade	$ -	$ 1,500,000		$ 250,000	$ -	$ -
Emergency Notification System	-	450,000		-	-	-
Perimeter Fencing & Site Improvements	-	-		500,000	-	-
Total Expenses	**$ -**	**$ 1,950,000**		**$ 750,000**	**$ -**	**$ -**
Information Technology						
Data Center & Network Improvements	$ 50,000	$ -		$ -	$ -	$ -
Campus/EC/PS Telecom & Connectivity	50,000	200,000		200,000	200,000	-
Virtual Desktop Infrastructure	-	250,000		150,000	-	-
Network, Security, Server Improvements	195,000	250,000		-	-	-
HR & Payroll System Upgrade	55,000	19,000		-	-	-
Total Expenses	**$ 350,000**	**$ 719,000**	105%	**$ 350,000**	**$ 200,000**	**$ -**
Non-Process Facility Master Plan						
Campus Lighting	28,000	-		-	-	-
Roof, Building Enclosure, Interior Repairs	-	300,000		-	300,000	-
Replace Campus Electrical Chillers	-	2,200,000		-	-	-
Upgrade HVAC Automation System	-	500,000		500,000	-	-
Network Ops Center (G Bldg Server Room)	-	-		500,000	-	-
Total Expenses	**$ 28,000**	**$ 3,000,000**	10614%	**$ 1,000,000**	**$ 300,000**	**$ -**
Main Plant Commonwealth Int Pile Intrusion						
Main Plant Tunnel Improvements	**$ 200,000**	**$ 500,000**		**$ 500,000**	**$ 300,000**	**$ -**
Security During Construction	**$ 370,000**	**$ 400,000**		**$ 500,000**	**$ 500,000**	**$ 400,000**
TOTAL EXPENSES	**$ 12,363,000**	**$ 26,599,000**		**$ 32,800,000**	**$ 34,200,000**	**$ 45,350,000**

[1] Program costs are conceptual level estimates

The following pages contain Alex Only CIP Project detail sheets for each of the FY 19 projects. These detail sheets include a project description and summary of sources and uses of funds.

FY 2019 Capital Improvement Program – Alexandria Only

Projects	Diversified Revenue	Operational Excellence	Organizational Competency	Community Engagement	Watershed Partnerships	Incubator of New Ideas & Innovations
Wet Weather Program					●	
Potomac Interceptor Rehabilitation Project		●				
Service Chamber and Pump Station Upgrade		●				

Wet Weather Program (CSO's 001 and 002)

Managing Department	Project Location	Project Category	Estimated Useful Life
Engineering	Main Plant and Combined Sewer Outfalls 001 & 002	☒ Alexandria Only CIP ☐ Joint Use CIP	Tunnels: 100 years Mechanical Equipment: 20 years

Expenditure	Prior Year	FY 2019	FY 2022	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Total [1]	0	5,200,000	15,400,000	18,700,000	85,800,000	56,800,000	24,500,000	7,500,000	0	0	0
Financing											
AlexRenew	0	5,200,000	15,400,000	18,700,000	85,800,000	56,800,000	24,500,000	7,500,000	0	0	0
Fairfax											
VRLF											
Grant											
Line of Credit											

Project Description and Justification

On April 26, 2017, new Virginia legislation was enacted requiring an accelerated schedule to implement a Long Term Control Plan Update (LTCPU) and additional combined sewer overflow (CSO) control requirements. Under the law, the City must have a retrofitted system in place by July 1, 2025, to capture and treat the majority of CSOs from four permitted outfalls in the City. AlexRenew has partnered with the City to leverage the WRRF to achieve CSO remediation requirements and to meet the legislative deadline imposed by the new CSO Law enacted by Virginia in 2017.

The solution presented in the LTCPU recommends the use of two tunnels that extend from the WRRF and are unified, but hydraulically separate. The proposed CSO 001 and 002 system includes a deep storage/conveyance tunnel to control overflows from CSOs 001 and 002, coupled with a tunnel dewatering pumping station located at the WRRF. Captured flows will be pumped from the tunnel system and receive full treatment at the WRRF.

Strategic Outcome Area

This project supports the Board of Directors' strategic outcomes for:

Watershed Partnerships

Impact on Operations

We have assumed that ownership and operation of the entire wet weather program, including CSO 001, 002, 003 and 004, may result in additional staffing requirements after completion of the program in 2025 and will likely require planning to ensure no interruptions in service.

[1] Program costs are conceptual level estimates and assumed to be Alexandria-Only based on the current draft jurisdictional cost share agreement.

Potomac Interceptor Rehabilitation Project

Managing Department	Project Location	Project Category	Estimated Useful Life
Engineering	Old Town, Jones Point Park	☒ Alexandria Only CIP ☐ Joint Use CIP	25 years

Expenditure	Prior Year	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Total	100,000	1,000,000	1,500,000	1,500,000	3,000,000	3,000,000	3,000,000	0	0	0	0
Financing											
AlexRenew	100,000	1,000,000	1,500,000	1,500,000	3,000,000	3,000,000	3,000,000	0	0	0	0
Fairfax											
VRLF											
Grant											
Line of Credit											

Project Description and Justification

The Potomac Interceptor was constructed in the early 1950s. An inspection and condition assessment of the Potomac Interceptor completed in FY 2016 identified defects in the sewer. Rehabilitation is necessary to address these defects.

The scope of this project includes:

- Rehabilitation of approximately 30 manholes
- Replacement of 1,450 LF of sewer
- Lining west of the Route 1/Route 495 interchange and north of Jones Point Park, excluding portions reconstructed in 2007.

The work planned for FY 19 will focus on the manhole rehabilitation and coordination with implementation of the City of Alexandria Long Term Control Plan.

Strategic Outcome Area

This project supports the Board of Directors' strategic outcomes for:

Operational Excellence

Impact on Operations

The operating and maintenance costs associated with this project will remain the same.

Service Chamber and Pump Station Upgrades

Managing Department	Project Location	Project Category	Estimated Useful Life
Engineering	City of Alexandria	☒ Alexandria Only CIP ☐ Joint Use CIP	10 years

Expenditure	Prior Year	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Total	0	50,000	500,000	0	0	0	0	0	150,000	1,150,000	1,000,000
Financing											
AlexRenew	0	50,000	500,000	0	0	0	0	0	150,000	1,150,000	1,000,000
Fairfax											
VRLF											
Grant											
Line of Credit											

Project Description and Justification

This project involves upgrades to the Slater's Lane Pump Station, the Potomac Yard Pump Station, the Mark Center Pump Station and the Bush Hill Service Chamber.

The Slaters Lane Pump Station was constructed in 1997 to discharge sanitary sewage flows from future residential development in the Potomac Yards area into the AlexRenew-operated Potomac Yard Trunk Sewer.

The Potomac Yard Pump Station was constructed in 2007 to pump sanitary flows to the Potomac Yard Trunk Sewer from future residential development in the Potomac Yards Development.

The Mark Center Pump Station receives sanitary flows from the Washington Headquarter Services which is approximately 14 million square feet of office buildings and government facilities. The 0.814 MGD capacity pump station is a combined wet well and dry well facility built in 2011.

The Bush Hill Service Chamber was constructed in November 2002 to service the Holiday Inn located at 2460 Eisenhower Avenue. Sanitary flows from the Holiday Inn are feed into the service chamber by a 10" diameter gravity sewer line expanded from an 8" inch diameter line extended from the hotel. The Holiday Inn previously experienced sewer back-ups resulting from the surcharged Holmes Run Trunk Sewer, so the service was constructed to prevent these backups from occurring on the property.

A condition assessment was conducted and recommendations were prepared in FY 2017. This project entails implementing the recommendations that were made.

Strategic Outcome Area

This project supports the Board of Directors' strategic outcomes for:

Operational Excellence

Impact on Operations

The operating and maintenance costs associated with this facility will remain the same.

The following pages contain Capital Improvement Program (CIP) detail sheets for each FY 19 project.

FY 2019 Capital Improvement Program – Joint Use

Projects	Diversified Revenue	Operational Excellence	Organizational Competency & Structure	Community Engagement	Watershed Partnerships	Incubator of New Ideas & Innovations
Wet Weather Program					●	
WRRF Improvements Program		●				
Preliminary/Primary Improvements					●	
CMOM Program		●				
Solids Improvement Program						●
Process Control System Upgrade		●				
Resiliency Program			●			
Information Technology		●				
Non-Process Facility Master Plan		●				
Main Plant Tunnel Improvements		●				
Security During Construction		●				

Wet Weather Program (CSO's 003 and 004 + WRRF Upgrades + Pumping Station)

Managing Department	Project Location	Project Category	Estimated Useful Life
Engineering	Main Plant and Combined Sewer Outfalls 003 & 004	☐ Alexandria Only CIP ☒ Joint Use CIP	Tunnels: 100 years Mechanical Equipment: 20 years

Expenditure	Prior Year	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Total [1]	5,900,000	6,800,000	12,800,000	24,900,000	38,200,000	26,100,000	21,500,000	6,700,000	0	0	0
Financing											
AlexRenew	4,130,000	4,760,000	8,960,000	17,430,000	26,740,000	18,270,000	15,050,000	4,690,000	0	0	0
Fairfax	1,700,000	2,040,000	3,840,000	7,470,000	11,460,000	7,830,000	6,450,000	2,010,000	0	0	0
VRLF											
Grant											
Line of Credit											

Project Description and Justification[1]

On April 26, 2017, new Virginia legislation was enacted requiring an accelerated schedule to implement a Long Term Control Plan Update (LTCPU) and additional combined sewer overflow (CSO) control requirements. Under the law, the City must have a retrofitted system in place by July 1, 2025, to capture and treat the majority of CSOs from four permitted outfalls in the City. AlexRenew has partnered with the City to leverage the WRRF to achieve CSO remediation requirements and to meet the legislative deadline imposed by the new CSO Law enacted by Virginia in 2017.

The solution presented in the LTCPU recommends the use of two tunnels that extend from the WRRF and are unified, but hydraulically separate. The tunnel recommended to control CSOs 003 and 004 is proposed to be a conveyance tunnel, coupled with wet weather improvements at the WRRF. The wet weather improvements include upgrades to the primary peak capacity at the WRRF from 108 MGD to 116 MGD, conversion of primary settling tankage for dual use so they can provide settling and disinfection during wet weather, and installation of a wet weather pumping station below the NMF.
The CSO 003 and 004 system and WRRF upgrades will also serve to eliminate the Hooffs Run Junction Chamber SSO and control the hydraulic grade line in the Holmes Run Trunk Sewer and Commonwealth Interceptor. This follows on the work completed to address the SSO and sewer surcharging.

Strategic Outcome Area

This project supports the Board of Directors' strategic outcomes for:

Watershed Partnerships

Impact on Operations

We have assumed that ownership and operation of the entire wet weather program, including CSO 001, 002, 003 and 004, may result in additional staffing requirements after completion of the program in 2025 and will likely require planning to ensure no interruptions in service.

[1] Program costs are conceptual level estimates and assumed to be Joint Use based on the current draft jurisdictional cost share agreement. For purposes of budget estimating, the cost share between AlexRenew and Fairfax County is assumed to be 30% Fairfax County and 70% AlexRenew.

WRRF Improvements Program

Managing Department	Project Location	Project Category	Estimated Useful Life
Engineering	Old Town Alexandria / Main Plant	☐ Alexandria Only CIP ☒ Joint Use CIP	30 years

Expenditure	Prior Year	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Total	2,370,000	6,180,000	3,400,000	1,700,000	1,200,000	0	0	1,750,000	1,500,000	3,000,000	3,000,000
Financing											
AlexRenew	948,000	2,472,000	1,360,000	680,000	480,000	0	0	700,000	600,000	1,200,000	1,200,000
Fairfax	1,422,000	3,708,000	2,040,000	1,020,000	720,000	0	0	1,050,000	900,000	1,800,000	1,800,000
VRLF											
Grant											
Line of Credit											

Project Description and Justification

As with any complex treatment facility, the AlexRenew Water Resource Recovery Facility (WRRF) requires continual investment in the processes and equipment which transform the water for residents.

This project includes efforts which target treatment process improvements as well as changes to existing industrial equipment for enhanced performance and reliability. The Mainstream Anammox process will continue to be nurtured to maturity, the Process Aeration Control (PAC) Blowers will be replaced with more efficient models, process automation will be improved, as will odor controls.

This project also includes recommended improvements to the main plant electrical system as a result of a 2016 study on electrical reliability.

Strategic Outcome Area

This project supports the Board of Directors' strategic outcomes for:

Operational Excellence

Community Benefit

Impact on Operations

Anticipated future O&M costs would be decreased. In addition, these projects would improve reliability, thereby reducing the risk of failure to critical systems.

Preliminary and Primary Improvements

Managing Department	Project Location	Project Category	Estimated Useful Life
Engineering	Main Plant (primarily Buildings A and K)	☐ Alexandria Only CIP ☒ Joint Use CIP	Structure: 30 years

Expenditure	Prior Year	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Total		1,000,000	5,000,000	0	0	0	0	0	0	0	0
Financing											
AlexRenew		400,000	2,000,000								
Fairfax		600,000	3,000,000								
VRLF											
Grant											
Line of Credit											

Project Description and Justification

During wet weather events, flows in the collection system increase as a result of rainfall-derived inflows and infiltration into the combined and separate sewers located in AlexRenew's service area. These flows have the potential to result in sewer backups and flooding of basements along select interceptors. Sanitary sewer overflows (SSOs) may also occur under these conditions.

In 2010, AlexRenew, the City of Alexandria, and Fairfax County commissioned a study to develop feasible alternatives that could minimize SSOs and combined sewer overflows (CSOs), reduce basement backups, and provide conveyance and treatment capacity for future growth. That study recommended the design and construction of a wet weather pump station and storage tunnel, the elimination of the Hooff's Run Junction Chamber SSO, and the relocation of the City of Alexandria's CSO 004 from Duke Street to just outside AlexRenew's treatment facility.

To support the jurisdictional solution, AlexRenew needs to update and expand its influent, preliminary and primary processes and pumping.

Strategic Outcome Area

This project supports the Board of Directors' strategic outcomes for:

Watershed Partnerships

Impact on Operations

Influent screen upgrades will benefit operation efficiencies by further limiting migration of debris beyond screening.

Scum system upgrades will improve the reliability of the system and minimize labor costs.

CMOM Program

Managing Department	Project Location	Project Category	Estimated Useful Life
Engineering	Main Plant	☐ Alexandria Only CIP ☒ Joint Use CIP	Structures: 30 years

Expenditure	Prior Year	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Total	1,250,000	1,500,000	5,000,000	5,800,000	4,900,000	4,000,000	0	0	0	0	0
Financing											
AlexRenew	500,000	714,000	2,000,000	2,320,000	1,960,000	1,600,000					
Fairfax	750,000	786,000	3,000,000	3,480,000	2,940,000	2,400,000					
VRLF											
Grant											
Line of Credit											

Project Description and Justification

Maintaining the Capacity, Management, Operation and Maintenance (CMOM) of the infrastructure within AlexRenew's care is a critical aspect of responsible system ownership.

Interceptors which flow to AlexRenew's WRRF in need of rehabilitation efforts are the upper reaches of the Upper Holmes Run Trunk Sewer in the approximate amount of $180,000 [1], as well as the Fairfax Holmes Run Sewer in the amount of approximately $500,000.

The CMOM Program includes upgrades to the Environmental Center in the estimated amount of $400,000, Deck Connector in the estimated amount of $250,000 and our reclaimed water program in the estimated amount of $250,000.

Strategic Outcome Area

This project supports the Board of Directors' strategic outcomes for:

Operational Excellence

Impact on Operations

This program will help staff continue to manage risk, while prioritizing projects.

[1] For budgeting purposes, costs associated with rehabilitation of the Upper Holmes Run and Fairfax Holmes Run Trunk Sewers are assumed to be shared at 60% Fairfax County and 40% AlexRenew.

Solids Improvement Program

Managing Department	Project Location	Project Category	Estimated Useful Life
Production	Main Plant	☐ Alexandria Only CIP ☒ Joint Use CIP	Will be determined as specific projects are defined

Expenditure	Prior Year	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Total	0	150,000	0	0	150,000	0	2,500,000	5,000,000	5,000,000	5,000,000	5,000,000
Financing											
AlexRenew		60,000			60,000		1,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Fairfax		90,000			90,000		1,500,000	3,000,000	3,000,000	3,000,000	3,000,000
VRLF											
Grant											
Line of Credit											

Project Description and Justification

Currently, AlexRenew adds supplemental carbon (methanol) to enhance biological waste treatment.

This program involves evaluating opportunities and technologies to reduce or eliminate the addition of supplemental carbon.

In FY 19, AlexRenew will move forward on evaluating how space in the main plant could best be utilized to maximize the carbon-water-energy nexus and increase operating efficiencies, while adjusting to additional solids needs due to the wet weather program.

Strategic Outcome Area

This project supports the Board of Directors' strategic outcomes for:

Incubator of New Ideas and Innovations

Impact on Operations

This program will help AlexRenew prioritize and execute projects.

Process Control System Upgrade

Managing Department	Project Location	Project Category	Estimated Useful Life
Production	Main Plant	☐ Alexandria Only CIP ☒ Joint Use CIP	10-20 years

Expenditure	Prior Year	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Total	2,045,000	4,400,000	3,500,000	500,000	500,000	0	0	0	0	500,000	500,000
Financing											
AlexRenew	818,000	1,760,000	1,400,000	200,000	200,000					200,000	200,000
Fairfax	1,277,000	2,640,000	2,100,000	300,000	300,000					300,000	300,000
VRLF											
Grant											
Line of Credit											

Project Description and Justification

AlexRenew completed the development of a SCADA Master Plan to guide future improvements in network infrastructure, applications, and hardware. The Process Control System Upgrade reflects recommendations in the Master Plan and is comprised of multiple projects including: fiber audit and repair, Supervisory Control and Data Acquisition (SCADA) network separation, human-machine interface (HMI) improvements, PLC and network equipment upgrades, and installation of power distribution monitors.

Strategic Outcome Area

This project supports the Board of Directors' strategic outcomes for:

Operational Excellence

Impact on Operations

Operations will be enhanced with a more reliable and robust process control system.

Resiliency Program

Managing Department	Project Location	Project Category	Estimated Useful Life
Production	Main Campus and Remote Facilities	☐ Alexandria Only CIP ☒ Joint Use CIP	Hardware/software: 10 yrs Bridge / Fencing: 20 yrs

Expenditure	Prior Year	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Total	0	1,950,000	750,000	0	0	0	0	300,000	350,000	0	0
Financing											
AlexRenew		780,000	300,000					120,000	140,000		
Fairfax		1,170,000	450,000					180,000	210,000		
VRLF											
Grant											
Line of Credit											

Project Description and Justification

The Resiliency Program is comprised of multiple projects to support physical and information security.

Physical security will be enhanced with the expansion of the Emergency Notification System (ENS), which is required by OSHA 1910.165.

Information security will be enhanced through the implementation of a disaster recovery plan. Continuity of business is dependent on availability of both SCADA and business IT infrastructures.

Strategic Outcome Area

This project supports the Board of Directors' strategic outcomes for:

Organizational Competency

Impact on Operations

This program will help staff continue to manage risk.

Information Technology

Managing Department	Project Location	Project Category	Estimated Useful Life
Information Systems	Main Plant	☐ Alexandria Only CIP ☒ Joint Use CIP	10 years

Expenditure	Prior Year	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Total	350,000	719,000	350,000	200,000	0	500,000	0	1,250,000	1,250,000	1,250,000	0
Financing											
AlexRenew	140,000	287,600	140,000	80,000	0	200,000	0	500,000	500,000	500,000	0
Fairfax	210,000	431,400	210,000	120,000	0	300,000	0	750,000	750,000	750,000	0
VRLF											
Grant											
Line of Credit											

Project Description and Justification

Network replacement, security enhancements, and application upgrades are a continuing need for AlexRenew. Funds associated with the Information Technology category support these combined improvements to enhance our information technology infrastructure.

Strategic Outcome Area

This project supports the Board of Directors' strategic outcomes for:

Operational Excellence

Impact on Operations

Operations will be enhanced with more reliable, scalable and available IT Systems.

Non-Process Facility Master Plan and Associated Projects

Managing Department	Project Location	Project Category	Estimated Useful Life
Engineering	Main Plant	☐ Alexandria Only CIP ☒ Joint Use CIP	10-20 years

Expenditure	Prior Year	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Total	28,000	3,000,000	1,000,000	300,000	0	0	500,000	1,000,000	1,000,000	0	0
Financing											
AlexRenew	11,200	1,200,000	400,000	120,000	0	0	200,000	400,000	400,000	0	0
Fairfax	16,800	1,800,000	600,000	180,000	0	0	300,000	600,000	600,000	0	0
VRLF											
Grant											
Line of Credit											

Project Description and Justification

The Non-Process Facilities Master Plan includes projects which focus on enhancing operational efficiencies of those facilities which are not intricately linked to the treatment process.

Non-process improvements such as roof, building enclosure and other major repairs are included in this effort, as is replacement of the campus' electrical chillers.

The network operations center on the Main Plant will also be upgraded. This site serves as a required backup site.

Strategic Outcome Area

This project supports the Board of Directors' strategic outcomes for:

Operational Excellence

Impact on Operations

This planning effort will help AlexRenew prioritize projects that have the potential to improve energy efficiency, implement sustainable design features throughout our campus, and reduce operations and maintenance costs.

Main Plant Tunnel Improvements

Managing Department	Project Location	Project Category	Estimated Useful Life
Engineering	Main Plant	☐ Alexandria Only CIP ☒ Joint Use CIP	20 years

Expenditure	Prior Year	FY 2019	FY 2020	FY 2021	FY 2021	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2027
Total	200,000	500,000	500,000	300,000	0	0	0	0	0	0	0
Financing											
AlexRenew	80,000	200,000	200,000	120,000	0	0	0	0	0	0	0
Fairfax	120,000	300,000	300,000	180,000	0	0	0	0	0	0	0
VRLF											
Grant											
Line of Credit											

Project Description and Justification

AlexRenew's walkable tunnel system, some of which was constructed as early as the 1950s, houses mechanical and electrical utilities and piping. The structural integrity of the tunnels needs to be assessed.

This project involves rehabilitation tasks recommended after conducting an assessment of the tunnels and utility piping, during the process of creating of a unified and comprehensive map of utilities within the tunnel system.

Strategic Outcome Area

This project supports the Board of Directors' strategic outcomes for:

Operational Excellence

Impact on Operations

This project will reduce future maintenance costs and renew existing assets, preventing unforeseen failure.

Security During Construction

Managing Department	Project Location	Project Category	Estimated Useful Life
Engineering	Main and West Campus	☐ Alexandria Only CIP ☒ Joint Use CIP	

Expenditure	Prior Year	FY 2019	FY 2020	FY 2021	FY 2021	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2027
Total	370,000	400,000	500,000	500,000	500,000	500,000	500,000	500,000	400,000	400,000	400,000
Financing											
AlexRenew	148,000	160,000	200,000	200,000	200,000	200,000	200,000	200,000	160,000	160,000	160,000
Fairfax	222,000	240,000	300,000	300,000	300,000	300,000	300,000	300,000	240,000	240,000	240,000
VRLF											
Grant											
Line of Credit											

Project Description and Justification

This project involves security services for ongoing capital projects. As construction activities disrupt normal physical and procedural safeguards, or expose construction areas to the public, this effort provides essential support.

Strategic Outcome Area

This project supports the Board of Directors' strategic outcomes for:

Operational Excellence

Impact on Operations

Security during construction creates operational efficiencies such that staff may focus on operations rather than temporary security vulnerabilities.

Ten-Year Capital Improvement Program

AlexRenew 10-Year CIP	Adopted FY2018	Proposed FY2019	Estimated FY2020	Estimated FY2021	Estimated FY2022	Estimated FY2023	Estimated FY2024	Estimated FY2025	Estimated FY2026	Estimated FY2027	Estimated FY2028	Project Totals
Alex-Only Capital Projects												
Wet Weather Program [1]	$ 5,900,000	$ 5,200,000	$ 15,400,000	$ 18,700,000	$ 85,800,000	$ 56,800,000	$ 24,500,000	$ 7,500,000	$ -	$ -	$ -	$ 219,800,000
General CIP Projects												
Four Mile Run Pump Station Upgrade	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Potomac Interceptor Rehabilitation	300,000	1,000,000	1,500,000	1,500,000	3,000,000	3,000,000	3,000,000	-	-	-	-	$ 13,300,000
Commonwealth Interceptor Rehabilitation	-	-	1,000,000	1,000,000	-	-	-	-	-	-	-	$ 2,000,000
Potomac Yards Trunk Sewer Rehabilitation	-	-	-	-	-	-	-	960,000	1,000,000	-	-	$ 1,960,000
Service Chamber and Pump Station Upgrade												$ -
Slater's Lane Pump Station	50,000	50,000	500,000	-	-	-	-	-	-	-	-	$ 600,000
Potomac Yards Pump Station	-	-	-	-	-	-	-		150,000	1,000,000	-	$ 1,150,000
Mark Center	-	-	-	-	-	-	-	-	-	150,000	1,000,000	$ 1,150,000
Carlyle Mill	-	-	-	-	-	-	-	-	-	-	-	$ -
Bush Hill	-	-	-	-	-	-	-	-	-	-	-	$ -
Nutrient Management Facility - Athletic Field	-	-	-	-	-	-	-	-	-	-	-	$ -
Customer Service Center	81,000	-	-	-	-	-	-	-	-	-	-	$ 81,000
Environmental Center - Lobby Expansion	150,000	-	-	-	-	-	-	-	-	-	-	$ 150,000
Holland Lane re-alignment (Engineering)		300,000										
EC and Plant Electrical and Data Upgrades		250,000										
Arlington County Capital Contribution	1,054,000	969,000	876,000	683,000	775,000	1,900,000	2,031,000	3,606,000	3,606,000	3,606,000	2,000,000	$ 21,106,000
Capital Funding Fees	400,000	400,000	400,000	600,000	750,000	750,000	750,000	600,000	400,000	400,000	400,000	$ 5,850,000
Total	2,035,000	2,969,000	4,276,000	3,783,000	4,525,000	5,650,000	5,781,000	5,166,000	5,156,000	5,156,000	3,400,000	47,347,000
Alex-Only Capital Projects Subtotal	**$ 7,935,000**	**$ 8,169,000**	**$ 3,876,000**	**$ 3,183,000**	**$ 3,775,000**	**$ 4,900,000**	**$ 5,031,000**	**$ 4,566,000**	**$ 4,756,000**	**$ 4,756,000**	**$ 3,000,000**	**53,947,000**
Joint-Use Capital Projects												
Wet Weather Program [1]	$ -	$ 6,800,000	$ 12,800,000	$ 24,900,000	$ 38,200,000	$ 26,100,000	$ 21,500,000	$ 6,700,000	$ -	$ -	$ -	$ 137,000,000
General CIP Projects												
SANUP Package B - Centrate Pretreatment Facility	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SANUP Package C - Nutrient Management Facility	-	-	-	-	-	-	-	-	-	-	-	$ -
WRRF Improvements	-	3,500,000	2,200,000	-	-	-	-	1,750,000	1,500,000	3,000,000	3,000,000	$ 14,950,000
Upper Fairfax Holmes Run Trunk Sewer Rehab	-	600,000	5,000,000	5,800,000	4,900,000	4,000,000	-	-	-	-	-	$ 20,300,000
Reclaimed Water Program	-	250,000	-	-	-	-	-	-	-	-	-	$ 250,000
Environmental Center [2]	-	400,000	-	-	-	-	-	-	-	-	-	$ 400,000
Deck Connector [3]	450,000	250,000	-	-	-	-	-	-	-	-	-	$ 700,000
Intermediate Pump Station Upgrade	-	-	-	-	-	-	-			-	-	$ -
Preliminary and Primary Improvements	4,400,000	1,000,000	5,000,000	-	-	-	-	-	-	-	-	$ 10,400,000
Pre-pasteurization System Improvements	500,000	-	-	-	-	-	-	-	-	-	-	$ 500,000
Process Optimization Program	1,400,000	430,000	-	-	-	-	-	-	-		-	$ 1,830,000
Solids / Carbon Management Program	250,000	150,000	-		150,000	-	2,500,000	5,000,000	5,000,000	5,000,000	5,000,000	$ 23,050,000
Odor Control System Upgrade	250,000	650,000	-		-	-	-	-	-	-	-	$ 900,000
Plant Effluent (W3) System Improvements	-	-	-	-	-	-	-	-	-	-	-	$ -
Campus-wide Electrical Upgrade Program	1,450,000	1,600,000	1,200,000	1,200,000	1,200,000	-	-	-	-	-	-	$ 6,650,000
Process Control System Upgrade	3,190,000	4,400,000	3,500,000	500,000	500,000	-	-	-	-	500,000	500,000	$ 13,090,000
Resiliency Program	1,200,000	1,950,000	750,000	-	-	-	-	300,000	350,000	-	-	$ 4,550,000
Information Technology	350,000	719,000	350,000	200,000	-	500,000	500,000	1,250,000	1,250,000	1,250,000	-	$ 6,369,000
Facility Master Plan and Associated Projects	1,250,000	3,000,000	1,000,000	300,000	-		-	1,000,000	1,000,000	-	-	$ 7,550,000
Main Plant Stormwater System Rehabilitation Program	675,000	-	-	-	-	-	-	-	850,000	850,000	-	$ 2,375,000
Main Plant Commonwealth Interceptor Pile Intrusion Repair	-	-	-	-	-	-	-	-	-	-	-	$ -
Main Plant Tunnel Improvements	500,000	500,000	500,000	300,000	-	-	-	-	500,000	3,000,000	2,850,000	$ 8,150,000
Security during Construction	370,000	400,000	500,000	500,000	500,000	500,000	500,000	500,000	400,000	400,000	400,000	$ 4,970,000
Total	**$ 16,235,000**	**$ 19,799,000**	**$ 20,000,000**	**$ 8,800,000**	**$ 7,250,000**	**$ 5,000,000**	**$ 3,500,000**	**$ 9,800,000**	**$ 10,850,000**	**$ 14,000,000**	**$ 11,750,000**	**$ 126,984,000**
Joint Capital Projects Subtotal	**$ 16,235,000**	**$ 26,599,000**	**$ 32,800,000**	**$ 33,700,000**	**$ 45,450,000**	**$ 31,100,000**	**$ 25,000,000**	**$ 16,500,000**	**$ 10,850,000**	**$ 14,000,000**	**$ 11,750,000**	**$ 263,984,000**
Total	**$ 24,170,000**	**$ 34,768,000**	**$ 36,676,000**	**$ 36,883,000**	**$ 49,225,000**	**$ 36,000,000**	**$ 30,031,000**	**$ 21,066,000**	**$ 15,606,000**	**$ 18,756,000**	**$ 14,750,000**	**$ 317,931,000**

[1] Program costs are conceptual level estimates with assumed cost split 70% AlexRenew and 30% Fairfax County

[2] Cost split 51% AlexRenew and 49% Fairfax County

[3] Cost split 68% AlexRenew and 32% Fairfax County

Indenture and Financial Policy Compliance

The schedule below demonstrates AlexRenew's financial profile as it relates to two (2) conditions established by our Indenture and Board-approved financial policies. As indicated below, AlexRenew's FY19 budget has been developed to meet our (1) liquidity requirement to maintain at least 60 days-cash-on-hand in the Operating Fund and 60 days cash-on-hand in the General Reserve sub-Fund and (2) debt service coverage requirement of at least 1.10x and 1.50x of total annual debt service per our Indenture and Financial Policy, respectively.

Indenture and Financial Policy Compliance	Adopted FY2018	Proposed FY2019
Reserve Requirement		
Operating Fund		
60 Days Current Year Budgeted Expenses	$ 4,538,320	4,640,520
Projected Ending Balance	4,538,320	4,640,520
Excess (Deficiency)	-	-
General Reserve sub-Fund		
60 Days Current Year Budgeted Expenses	$ 4,538,320	4,640,520
Projected Ending Balance	4,538,320	4,640,520
Excess (Deficiency)	-	-
Total Reserve Requirement - 120 Days	**9,076,640**	**9,281,040**
Debt Service Coverage (DSC) Requirement		
Wastewater Treatment Charges	$ 39,000,500	$ 39,195,503
Fairfax County Operating Expense Charge	11,074,212	11,329,663
Interest Income	30,000	90,000
Gross Revenue Available for Debt Service:	$ 50,104,712	$ 50,615,165
Operating Expenses	$ (27,229,910)	$ (27,843,111)
Net Revenues Available for Debt Service	$ 22,874,802	$ 22,772,054
Total Annual Debt Service	$ 13,967,366	$ 15,245,561
All-in Debt Service Coverage	**1.64x**	**1.50x**
Financial Policy Target	**1.50x**	**1.50x**
Indenture Target	**1.10x**	**1.10x**

Appendix A – Financial Policy

Alexandria Sanitation Authority

Financial Policies

The Alexandria Sanitation Authority (ASA or Authority) is a special purpose governmental unit created by the City Council of Alexandria, Virginia (City Council) in 1952 for the purpose of constructing, operating and maintaining a wastewater treatment system (System) for the City of Alexandria, Virginia (City). ASA is governed and administered by a Board of Directors (Board) with five members who serve staggered terms and are appointed by the City Council. The General Manager oversees ASA's operations and plans for the construction, maintenance, repair and financing of the System. ASA operates as an enterprise fund, has no taxing power and receives no financial assistance from the City.

ASA recognizes that one of the keys to sound financial management is the development of a formal financial policy. This view is confirmed by bond rating agencies, investors and the Government Finance Officers Association. Establishing formal financial policies is also a common practice among comparable water and wastewater authorities throughout the Commonwealth and the United States.

The financial policy is designed to help protect ASA's financial resources by:

1. Promoting sound financial management;
2. Guiding ASA and its managers in policy and debt issuance decisions;
3. Establishing appropriate levels of operating cash reserves;
4. Developing a system to efficiently finance necessary capital improvements;
5. Ensuring the legal and prudent use of ASA's debt issuance authority;
6. Providing a framework for ASA to achieve a strong credit rating, and
7. Maintaining reasonable and well justified levels of rates and fees in accordance with the financial policy.

In general, these financial policies are more restrictive and require higher standards than the legal requirements contained in the Master Indenture of Trust (Bond Indenture), which is the agreement between ASA and debt holders. These financial policies will be reviewed periodically and updated as appropriate.

The following are the financial policies that will guide ASA's financial management, capital planning and debt financing.

1. **Debt Service Coverage**
   a. For FY2011 through and including FY2013, ASA will adopt budgets that it projects will enable ASA to maintain annual debt service coverage (Coverage) of 1.40 times Net Revenues, as defined in the Bond Indenture, on all senior and parity debt. Beginning in FY2014 and thereafter, ASA will maintain Coverage of at least 1.50 times on all senior and parity debt.

2. **Reserves**
   a. An important metric of ASA's financial flexibility is its liquidity as measured by available cash and reserves. These reserve policies identify amounts

available for known risks and obligations and set minimum funding goals that may be used in emergency or other unexpected situations as they arise. The reserves represent an earmarking for budgetary and financial policy purposes. These reserves are in addition to existing legal reserves required by the Master Indenture of Trust (Bond Indenture) and any funds earmarked for capital improvements.

b. ASA will maintain a balance equal to at least 120 days of the current years budgeted amount for operating and maintenance expenses. As required by the Bond Indenture, one sixth of the current year's budgeted amount for operating expenses (60 days) will be held in the Operating Fund. The remainder of the reserves will be held in the General Reserve Fund, a subfund of the General Fund. In the event the General Reserve Fund is used to provide funding for unanticipated expenses or otherwise drops below the policy level, the General Manager will submit a plan in writing to the Board that will restore the General Reserve Fund to the policy level over a period not to exceed four years.

c. All other funds will be funded as required by the Bond Indenture, with a summary as follows:
   i. Senior Debt Service Fund: An amount that will cause the balance on deposit to be sufficient to pay the principal and interest on the respective payment dates.
   ii. Improvement, Renewal and Replacement Fund (IRR): An amount equal to the Alexandria portion (40%) of the annual calculation of the required contribution to the IRR Fund.
   iii. General Fund: Any remaining amounts after the required deposits.
   iv. Debt Service Reserve Fund: For senior debt, an amount equal to the Debt Service Reserve Fund Requirement as defined in the Bond Indenture. There is no Debt Service Reserve Fund Requirement for ASA's parity debt.

d. When necessary and prudent, ASA may create additional accounts within the General Fund for specific purposes. These accounts could include accounts for capital projects, risk management and revenue stabilization, among others.

3. Budgetary Principles

a. Annual Operating Budget Proposals
   i. Per Section 9.3 of the Bond Indenture, ASA is required to adopt a budget for the System for the ensuing fiscal year before the beginning of each fiscal year. The annual budget is required to be prepared in such a manner as to show in reasonable detail the estimated revenues, operating expenses, IRR amounts, debt service amounts, other costs and expenses and the amount of Net Revenues available to meet the Revenue Covenant per the Bond Indenture.
   ii. In conjunction with the budget requirements in the Bond Indenture, the Board will strive to adopt an operating budget that:

1. Is structurally balanced whereby current budgetary revenues are sufficient to meet current budgetary expenses (those that are ongoing in nature);
2. Has fees and user charges at levels intended to support the direct and indirect cost of the activity;
3. Sets fees and user charges with the intent to provide the lowest reasonable fees and user charges over time, not necessarily the lowest fees and user charges right now.
4. Is at a level necessary to ensure the adequate maintenance and operations of the wastewater system;
5. Includes amounts necessary to maintain the required reserve balances as defined in these policies;
6. Enables ASA to meet the debt service coverage policy defined herein; and
7. Funds at least 15 percent of its capital improvement program in cash.

iii. Capital Improvement Program (CIP)

1. Each year ASA will adopt a ten-year CIP that identifies projects to be undertaken over next ten years to meet projected needs for infrastructure renewal, expansion, and replacing old or new facilities.
2. The term of any debt financing will not exceed the aggregate useful lives of the related projects.
3. The CIP will identify anticipated capital improvement costs and associated operating costs.

b. Long-Range Financial Forecast

i. Beginning with the planning for the FY2012 budget and in each fiscal year thereafter, the General Manager will submit to the Board at least a three year financial forecast of anticipated revenues and expenses.

4. Debt Management

a. ASA may issue long-term debt per the guidelines in this financial policy. Long-term borrowing will not be used to finance current operations. Long-term debt will be structured such that the term of financial obligations will not exceed the aggregate expected useful lives of the assets financed.

b. Short-term borrowing may be utilized for the temporary funding of operational cash flow deficits or interim construction requirements.

c. Permitted Debt by Type: ASA may issue the debt instruments described below. The most appropriate instrument for a proposed sale of debt shall be determined by financing needs and expected market conditions at the time of sale.

i. Lease Financing – ASA may use lease financing for equipment if (i) it can be demonstrated that this is the most cost effective or appropriate way to secure financing, or (ii) on projects that do not warrant entry into the bond market.

ii. Bond Anticipation Notes (BANs) - which include Commercial Paper, are typically an interim means of financing and, by their very nature, expose ASA to interest rate risk upon renewal. BANS may be used to (i) to finance projects until such time as the project or projects can be incorporated into a long-term bond sale, (ii) during times of high interest rates and when the expectation is that interest rates will stabilize in the future or trending downward, (iii) when market conditions are such that a BAN may be more readily received in the market than long-term debt, or (iv) on an interim basis during the construction period for a project until such time as the project is placed into service.

iii. Long-Term Revenue Bonds - ASA may issue long-term revenue bonds to fund capital projects. These bonds may be issued by ASA in a number of ways, including, but not limited to, those listed below. ASA will evaluate multiple methods for issuing long-term revenue bonds and use the method that is most advantageous to ASA.
   1. ASA may issue the bonds through a public sale under its own name in the capital markets.
   2. ASA may issue the bonds through a private placement under its own name.
   3. ASA may issue the bonds to the Virginia Resources Authority (VRA) under one of VRA's loan programs.

iv. Revenue Anticipation Notes (RANs) - may be issued to meet ASA's operational cash flow needs.

v. Lines of Credit - may be considered as an alternative to other short-term borrowing options.

d. Guidelines on Debt Issuance

i. Bond Indenture – ASA will abide by the covenants contained in the Bond Indenture. ASA considers these covenants to be minimum requirements, and generally expects to exceed the requirements of each covenant.

ii. Authorization – Prior to the issuance of debt, the Board will pass a resolution authorizing the financing arrangements and setting appropriate limits and parameters for the anticipated financing in accordance with applicable laws.

iii. Lowest Cost Financing – ASA intends to pursue the lowest cost of financing within the parameters of these financial policies, the Bond Indenture and ASA's enabling legislation.

iv. Method of Issuance – Prior to each debt issuance, ASA will evaluate the available methods of issuance and pursue the method of issuance that is most advantageous to ASA, whether a stand-alone issue by ASA or use of a third party financing approach such as Revolving Fund Loans or pooled borrowing programs available through the Virginia Resources Authority (VRA). Some considerations for evaluating the method of issuance, particularly when determining whether to issue debt through VRA or under ASA's name, include:
   1. Financing Cost. This analysis should evaluate the overall cost of the financing, including borrowing rates, upfront fees

(such as the cost of obtaining a credit rating), whether a Debt Service Reserve Fund is required, ongoing costs and any other costs of the financing.

2. Permitted Uses of Funds. Some project costs are not eligible to be funded through certain financing programs. For example, land purchase costs are not eligible to be funded through the Department of Environmental Quality's Revolving Loan Fund program that ASA has used in the past.
3. Structural Flexibility. When selecting a financing program, ASA will consider the flexibility of debt features available under each program. For example, ASA will consider how flexible repayment features, call provisions, and borrowing terms are under each program.

v. Project Costs Prior to Debt Issue – If project costs are incurred prior to the issuance of debt, the Board will pass a resolution documenting its intent to be reimbursed from bond proceeds as appropriate.

vi. Variable Rate Debt (VRD) – VRD carries inherent interest rate risk. Such securities historically have interest rates lower than long-term fixed rate securities and offer the potential for lower debt service costs over the term of the bond issue. ASA will consider using VRD when it: (i) Improves matching of assets and liabilities, (ii) potentially lowers debt service costs, (iii) adds flexibility to ASA's capital structure, or (iv) diversifies ASA's investor base.

1. Debt service on VRD will be budgeted at a conservative rate based on historical fluctuations in interest activity and current market assumptions. Before issuing VRD, ASA will determine how potential spikes in the debt service will be funded and consider the impact of various interest rate scenarios on its financial position and on various debt ratios.
2. ASA will not issue VRD in excess of 20 percent of its total debt portfolio. This limitation does not apply to other VRD which ASA has endeavored to offset with an operating investment portfolio intended to act as an economic hedge to interest rate fluctuations associated with the VRD. This limitation also excludes any VRD that may be hedged through an appropriate derivative agreement, if such technique is approved by the ASA Board.

e. Method of Sale

i. ASA will select a method of sale (competitive, negotiated, or private placement) it believes is the most appropriate in light of financial, market, transaction-specific and ASA-related conditions.

f. Term of Debt

i. ASA will not issue debt with a term or final maturity longer than the aggregate useful lives of the projects being financed. ASA does not expect to issue debt with a final maturity more than 40 years from the date of issuance. Factors to be considered when determining the final maturity of debt include: the average life of the assets being financed, relative level of interest rates, and the year-to-year differential in interest rates.

g. Debt Structure

   i. Interest Rate Structure – ASA may use both variable and fixed rate debt in accordance with limitations set forth in this policy.
   ii. Maturity Structure – ASA's long-term debt may include serial and term bonds. Other maturity structures may also be considered when demonstrated to be advantageous to ASA.
   iii. Coupon Structure – Fixed rate debt may include par, discount, premium and capital appreciation bonds.
   iv. Redemption Features – In order to preserve flexibility and refinancing opportunities, ASA debt shall generally be issued with call provisions. ASA may consider call provisions that are shorter than traditional and/or non-callable debt when warranted by market conditions and opportunities. For each transaction, various call option scenarios will be evaluated so that the most beneficial can be utilized.
   v. Credit Enhancement – ASA may use bond insurance and/or line and letters of credit for credit enhancement when it is economically advantageous to do so.
   vi. Debt Service Reserve Fund – ASA will fund a Debt Service Reserve Fund (DSRF) if required by the Bond Indenture.
   vii. Capitalized Interest – By definition, capitalization of interest increases the amount of debt that is issued. ASA will capitalize interest for a period not longer than 12 months after the project being financed is expected to be placed in service.
   viii. Refinancing of Debt – ASA will refinance debt from time to time to achieve debt service savings as market opportunities arise. Since federal regulations limit a tax-exempt issue to one advance refunding (a refinancing more than 90 days prior to a bond's call date), ASA will ensure that the advance refunding results in a significant present value savings. A proposed refinancing must achieve a minimum cumulative, net present value savings of 3 percent of the amount refinanced. An exception to this minimum refinancing savings policy will be if the refinancing is being done for debt restructuring purposes and the Board determines that it is in the best interests of ASA to complete the refinancing without achieving the refinancing savings policy. In addition, ASA will consider the efficiency of a proposed refinancing transaction. The efficiency evaluation will consider the value realized by ASA when exercising its option to redeem its bonds early calculated under a variety of different interest rate environments, versus the savings garnered. In general, ASA will consider refinancing bonds when the aggregate efficiency is equal to or greater than 70 percent.

ix. In any refinancing transaction, ASA maintains a bias to not extend maturities.

h. Escrow Structuring

i. ASA will utilize the least costly securities available in structuring refinancing escrows. Unless state and local government securities (SLGS) are used, a certificate will be provided by a third party agent stating that the securities were procured through an arms-length, competitive bid process (in the case of open market securities), and that the price paid for the securities was reasonable within federal guidelines.

ii. Under no circumstances will an underwriter, agent or financial advisor or ASA affiliates or affiliated accounts of an underwriter or financial advisor to ASA sell escrow securities to ASA from its own account.

i. Hiring of Professionals – All members of the financial advisory team including underwriter, financial advisor, bond counsel, and other professionals will be selected in a manner consistent with ASA's procurement policy for professional services.

i. Underwriter Selection

1. Senior Manager Selection – ASA will select a senior manager for any proposed negotiated sale. The selection criteria will include but not be limited to the following:
   a. The firm's ability and experience in managing transactions similar to that contemplated by ASA.
   b. Prior knowledge and experience with ASA.
   c. The firm's ability and willingness to risk capital and demonstration of the firm's capital availability and underwriting of unsold balances.
   d. Quality and experience of personnel assigned to ASA's engagement.
   e. Financing plan presented.
   f. Cost including underwriting fees and anticipated pricing.
2. Co-Manager Selection – Co-manager may be selected on the same bases as the senior manager with the exception of underwriting fees, which are determined by the senior manager. In addition to their qualifications, co-managers appointed to specific transactions will be a function of transaction size and the necessity to ensure maximum distribution of ASA's bonds.
3. Underwriter's Counsel – In any negotiated sale of ASA debt in which legal counsel is required to represent the underwriter, the appointment will be made by the Senior Manager with final approval from ASA.
4. Underwriter's Discount – ASA will evaluate the proposed underwriter's discount against comparable issues in the

market. If there are multiple underwriters in the transaction, ASA will determine the allocation of underwriting liability and management fees. The allocation of fees will be determined prior to the sale date. A cap on management fees, expenses and underwriter's counsel fee will be established and communicated to all parties by ASA. The senior manager shall submit an itemized list of expenses.

5. Evaluation of Underwriter Performance – ASA will evaluate each bond sale after completion to assess the following: costs of issuance including underwriters' compensation, pricing of the bonds in terms of the overall interest cost and on a maturity-by-maturity basis, and the distribution of bonds.
6. Syndicate Policies – For each negotiated transaction, ASA will establish syndicate policies that will describe the priority of orders and designation policies governing the upcoming sale. ASA shall require the senior manager to:
    a. Fairly allocate bonds to other managers and the selling group.
    b. Comply with the Municipal Securities Rulemaking Board's (MRSB) regulations governing the priority of orders and allocations.
    c. Within 10 working days after the sale date, submit to ASA a detail of orders, allocations and other relevant information pertaining to ASA's sale.

ii. Consultants

1. Financial Advisor – ASA will select a financial advisor to assist in its debt issuance and debt administration processes. Selection of the ASA's financial advisor will be based on, but not limited to, the following criteria:
    a. Experience in providing consulting services to entities similar to ASA.
    b. Knowledge and experience in structuring and analyzing bond issues.
    c. Experience and reputation of assigned personnel.
    d. Fees and expenses.
2. Bond Counsel – ASA will include a written opinion by legal counsel affirming that ASA is authorized to issue the proposed debt, that ASA has met all legal requirements necessary for issuance, and a determination of the proposed debt's federal income tax status. The approving opinion and other documents relating to the issuance of debt will be prepared by counsel with extensive experience in public finance and tax issues. The Bond Counsel will be selected by ASA.
3. Conflicts of Interest – ASA requires that its consultants and advisors provide objective advice and analysis, maintain the

confidentiality of ASA financial plans, and be free from any conflict of interest that has not been fully disclosed to, and waived by, ASA. In no case will ASA's financial advisor be permitted to underwrite any portion of ASA's bond issues, whether sold competitively or negotiated.

4. Disclosure by Financing Team Members – All financing team members will be required to provide full and complete disclosure, relative to agreements with other financing team members and outside parties. The extent of disclosure may vary depending on the nature of the transaction. However, in general terms, no agreements will be permitted which could compromise the firm's ability to provide independent advice which is solely in ASA's best interests or which could reasonably be perceived as a conflict of interest.

j. Communication and Disclosure
   i. Continuing Disclosure – ASA recognizes that accurate and complete disclosure is imperative. ASA will comply with all state and federal disclosure obligations and will meet its disclosure requirements in a timely and thorough manner.

k. Arbitrage Compliance
   i. ASA will maintain a system of record keeping and reporting in order to comply with the Arbitrage Rebate Compliance Requirements of the Internal Revenue Code of 1986, as amended.

5. Derivatives

a. Derivatives such as interest rate swaps and options are financial tools that can help ASA meet important financial objectives, however they introduce multiple risks which must be understood and managed. Properly used, these instruments may increase ASA's financial flexibility, provide opportunities for interest rate savings or enhanced investment yields, and help ASA manage its balance sheet through matching of assets and liabilities.

b. ASA will <u>not</u> enter into any financial derivative or swap until the following have occurred:
   i. The Board has adopted a comprehensive derivatives/swaps policy outlining the following related to the use of derivatives/swaps:
      1. Approach and Objectives
         a. Specific objectives for utilizing swaps
         b. Prohibited swap features
      2. Legal Authority
      3. Permitted Instruments
      4. Procedure for Submission and Execution
      5. Swap Analysis and Participant Requirements
         a. Swap risks
         b. Counterparty risk assessment
         c. Benefit expectation
      6. Legal and Contractual Requirements
         a. Legal terms of swaps

   b. Notional amount
   c. Final maturity
   d. Termination provisions
   e. Collateral
7. Ongoing Management
8. Ongoing Reporting Requirements
9. Acceptable Collateral

ii. The Board has approved the execution of the specific financial derivative or swap transaction.

Appendix A – Definitions

Bond Anticipation Note (*BANs*): Notes which are paid from the proceeds of the issuance of long-term bonds. Typically issued for capital projects.

Call Provisions: The terms of the bond giving the issuer the right to redeem all or a portion of a bond prior to its stated date of maturity at a specific price, usually at or above par.

Capital Improvement Program (*CIP*): Plan for major non-recurring facility, infrastructure, or acquisition expenditures that expand or improve the system and/or community assets. Projects included in the CIP include physical descriptions, implementation schedules, year of expenditure cost and funding source estimates, and an indication of priorities and community benefits.

Capitalized Interest: A portion of the proceeds of a bond issue which is set aside to pay interest on the same bond issue for a specific period of time. Interest is commonly capitalized for the construction period of the project.

Commercial Paper: Short-term, unsecured promissory notes issued by corporations to finance receivables for a maturity specified by the purchaser that ranges from three days to 270 days. Notes are generally sold at a discount, and carry credit ratings issued by an NRSRO.

Competitive Sale: A sale/auction of securities by an issuer in which underwriters or syndicates of underwriters submit sealed bids to purchase the securities. Contrast to a negotiated sale.

Continuing Disclosure: The principle that accurate and complete information material to the transaction which potential investors would be likely to consider material in making investment decisions with respect to the securities be made available on an ongoing basis.

Credit Enhancement: Credit support purchased by the issuer to raise the credit rating of a debt issue. The most common credit enhancements consist of bond insurance, direct or standby letters of credit, and lines of credit.

Debt Service Reserve Fund: The fund in which moneys are placed which may be used to pay debt service if pledged revenues are insufficient to satisfy the debt service requirements.

Derivatives: A financial product whose value is derived from some underlying asset value.

Designation Policies: Outline how an investor's order is filled when a maturity is oversubscribed when there is an underwriting syndicate. The senior managing underwriter and issuer decide how the bonds will be allocated among the syndicate. There are three primary classifications of orders which form the designation policy: Group Net Orders; Net Designated orders and Member orders.

Escrow: A fund established to hold moneys pledged and to be used to pay debt service on an outstanding issue.

Expenses: Compensates senior managers for out-of-pocket expenses including: underwriters counsel; DTC charges, travel, syndicate expenses, dealer fees, overtime expenses, communication expenses, computer time and postage.

Letters of Credit: A bank credit facility wherein the bank agrees to lend a specified amount of funds for a limited term.

LIBOR: The London InterBank Offered Rate is the rate on U.S. dollar denominated deposits with maturities from 1 day to 12 months transacted between banks in London. LIBOR is the benchmark swap floating index in the taxable or corporate swap market.

Liquidity: The ability of ease with which an asset can be converted into cash without a substantial loss of value.

Management Fee: The fixed percentage of the gross spread which is paid to the managing underwriter for the structuring phase of a transaction

Maturity: The date upon which the principal or stated value of an investment becomes due and payable.

Members: Underwriters in a syndicate other than the senior underwriter.

Nationally Recognized Statistical Rating Organization (*NRSRO*): A credit rating agency which issues credit ratings that the U.S. Securities and Exchange Commission (*the "SEC")* permits other financial firms to use for certain regulatory purposes. Examples include Moody's Investor Service, Standard & Poor's and Fitch Ratings.

Negotiated Sale: A method of sale in which the issuer chooses an underwriter to negotiate terms pursuant to which such underwriter will purchase and market the bonds.

Original Issue Discount: The amount by which the original par amount of an issue exceeds its public offering price at the time it is originally offered to an investor.

Portfolio: Collection of securities held by an investor.

Present Value: The current value of a future cash flow.

Private Placement: The original placement of an issue with one or more investors versus being publicly offered or sold.

Revenue Bonds: Bonds secured by a specific revenue pledge of rates, rents or fees.

Securities and Exchange Commission *("SEC")*: Agency created by Congress to protect investors in securities transactions by administering securities legislation.

Selling Groups: The group of securities dealers who participate in an offering not as underwriters but rather who receive securities less the selling concession from the managing underwriter for distribution at the public offering price.

SIFMA: The Securities Industry and Financial Markets Association is a high grade market index of 7-day variable rate demand notes that is produced by Municipal Market Data. SIFMA is the benchmark swap floating index in the tax-exempt swap market.

Syndicate Policies: The contractual obligations placed on the underwriting group relating to distribution, price limitations and market transactions.

Underwriter: A dealer that purchases new issues of municipal securities from the Issuer and resells them to investors.

Underwriter's Discount: The difference between the price at which bonds are bought by the Underwriter from the Issuer and the price at which they are offered to investors, representing the compensation earned by the Underwriter for placing the bonds with investors.

Variable Rate Debt: An interest rate on a security which changes at intervals according to an index or a formula or other standard of measurement as stated in the bond contract.

Yield: The rate of annual income return on an investment, expressed as a percentage.

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