#### Meeting Book - Board of Directors Meeting and Public Hearing on FY20 Budget

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#### **Board of Directors**

John Hill, Chair Bruce Johnson, Vice Chair William Dickinson, Sec'y-Treas James Beall Patricia Turner

Chief Executive Officer Karen L. Pallansch, P.E., BCEE

> General Counsel McGuireWoods, LLP

#### **INTERNAL MEMORANDUM**

TO: Board of Directors of Alexandria Renew Enterprises

FROM: Secretary-Treasurer

DATE: June 11, 2019

SUBJECT: Public Hearing & Approval of FY 2020 Operating & Capital Budget

Regular Board of Directors Meeting

The regular meeting and a public hearing to receive comments on the FY 2020 Operating and Capital Budget will be held in the Environmental Center, Edward Semonian Boardroom on Tuesday, June 18, at 6:00 p.m.

Attached is the June Monthly Board Meeting information for your review.

The following items of business require Board action:

- Public Hearing and Approval of FY 2020 Operating and Capital Budget
- Review and Approve Contract Award for the Construction of the Process Air Compressor System (PAC) Upgrade Project, Contract No. 19-041 (Joint) Consent Agenda (under separate cover)
- ♠ Review and Approve Task Order for Professional Services & Tech Support Agreement for AlexRenew's Liquids, Solids and Sidestream Treatment Processes, Engineering Services During Construction for Process Air Compressors (PAC) System Upgrade (Joint) – Consent Agenda
- Review and Approve Contract Award for Agreement for Wastewater Services Resident Engineering and Inspection (RE&I) and FY20 Budget Authorization (Joint) New Business
- ♠ Review and Approve Contract Award for Process Air Compressors (PAC) System Upgrade (Joint) New Business
- Review and Approve Amendment 3 to Professional Services Agreement for RiverRenew Owner's Advisor Consulting Services Contract (Joint) – New Business
- Review and Approve Task Order to Professional Services Agreement for Wet-Weather Support Implementation, Engineering Services During Construction for RiverRenew Building J Facilities Relocation and Decommissioning Project (Joint) – New Business
- Review and Approval of VRA Series 2019 Bond Resolution (Alex Only) New Business

1800 Limerick Street, Alexandria, Virginia 22314 • 703-549-3381 • alexrenew.com

Alexandria's Water Transformers



#### Agenda

Alexandria Renew Enterprises Board of Directors Tuesday, June 18, 2019, 2019, 6:00 p.m. 1800 Limerick Street, Ed Semonian Boardroom

No.	Item	Presenter	Action Required
1.	Call Meeting to Order (6:00 p.m.)	Chairman	
2.	Approval of the Agenda (6:02 p.m.)	Chairman	Approval
<i>3</i> .	Public Hearing and Consideration of FY 2020 Operating and Capital Budget (6:45 p.m.)	Chairman	Approval
4.	(Tab 1) Public Comment Period (Items other than budget) (6:50 p.m.)	Chairman	
5.	Consent Calendar (7:15 p.m.)  A. Approval of Minutes (Held May 21, 2019) (Tab 2)  B. Review and Approval of a Contract Award for the Construction of the Process Air Compressor System (PAC) Upgrade Project, Contract No. 19-041 (under separate cover)  C. Review and Approval of Task Order #2019-02 to Professional Services & Tech Support Agreement 14-017-2 for AlexRenew's Liquids, Solids and Sidestream Treatment Processes, Engineering Services During Construction for Process Air Compressors (PAC) System Upgrade (Joint) (Tab 3)		Approval
6.	Unfinished Business (7:17 p.m.)  A. None	Chairman	Approval
7.	<ul> <li>New Business (7:50 p.m.)</li> <li>A. Review and Approve Contract Award for RiverRenew Building J Facilities Relocation and Decommissioning Contract No. 19-064 (Joint) (Tab 4)</li> <li>B. Review and Approve Contract #19-031 for Agreement for Wastewater Service Resident Engineering and Inspection and FY20 Budget Authorization (Joint) (Tab 5)</li> <li>C. Review and Approval of Amendment #3 to Professional Services Agreement for RiverRenew Owners Advisor Consulting Services Contract No. 17-022 (Joint) (Tab 6)</li> <li>D. Review and Approve Task Order # to Professional Services Agreement for Wet Weather Support Implementation, Engineering Services During Construction for RiverRenew Building J Facilities Relocation and Decommissioning Project Contract No. 18-006 (Joint) (Tab 7)</li> <li>E. Review and Approval of VRA Series 2019 Bond Resolution (Alex Only) (Tab 8)</li> </ul>	or	Information
8.	Board Strategic Roundtable – Member & Committee Reports (8:20 p.m.)  A. Council/Board CSO Workgroup (as needed)  i. Next Meeting July 24th, 5:00 p.m. @ AlexRenew  B. General Member Updates  C. Community Meeting Updates – (as needed)  D. Chamber of Commerce update – Ms. Turner - (as needed)  E. Chesapeake Bay Citizens Advisory Group update - Mr. Dickinson (as needed)  F. Finance and Audit Committee update – Mr. Johnson  G. Governance Committee update – Ms. Turner		Information



#### Agenda

Alexandria Renew Enterprises Board of Directors Tuesday, June 18, 2019, 2019, 6:00 p.m. 1800 Limerick Street, Ed Semonian Boardroom

No.	Item	Presenter	Action Required

Chief Executive Officer's Reports and Recommendations (8:30 p.m.) 9.

Ms. Pallansch

Consideration of Monthly Financial Report (May) (Tab 9)

Ms. McIntyre Ms. Pallansch

Accept Information

CEO's Monthly Report (April) (Tab 10)

Jurisdictional Flows to AlexRenew (under separate cover)

ii. RiverRenew Dashboard

> i. Listening Session Dates: Mon. June 24th, Wed. June 26th, Thurs. June 27th, 6:00 p.m.

ii. RiverRenew DSUP Planning Commission Hearing: Tues. June 25th, 7:00 p.m., City Council Chambers

iii. RiverRenew DSUP City Council Public Hearing: Tues. July 9th, 7:00 p.m., City Council Chambers

**HOA Meeting Calendar** iii.

10. Closed Session for Discussion or consideration of real property acquisition for public purposes, or the disposition of publicly held property where discussion in an open meeting would adversely affect the bargaining position of the public body

Chairman

11. Adjourn (9:00 p.m.)

Times shown in parentheses are approximate and serve as guidelines

If you need an interpreter, translator, materials in alternate formats or other accommodations to access this service, activity or program, please call (703) 549-3381 at least three business days prior to the meeting.

> NOTE CHANGE IN DATE The next regular Board meeting is Thursday, July 25, 2019 beginning at 6:00 p.m.

> > Chairman- John Hill • Vice Chairman- Bruce Johnson

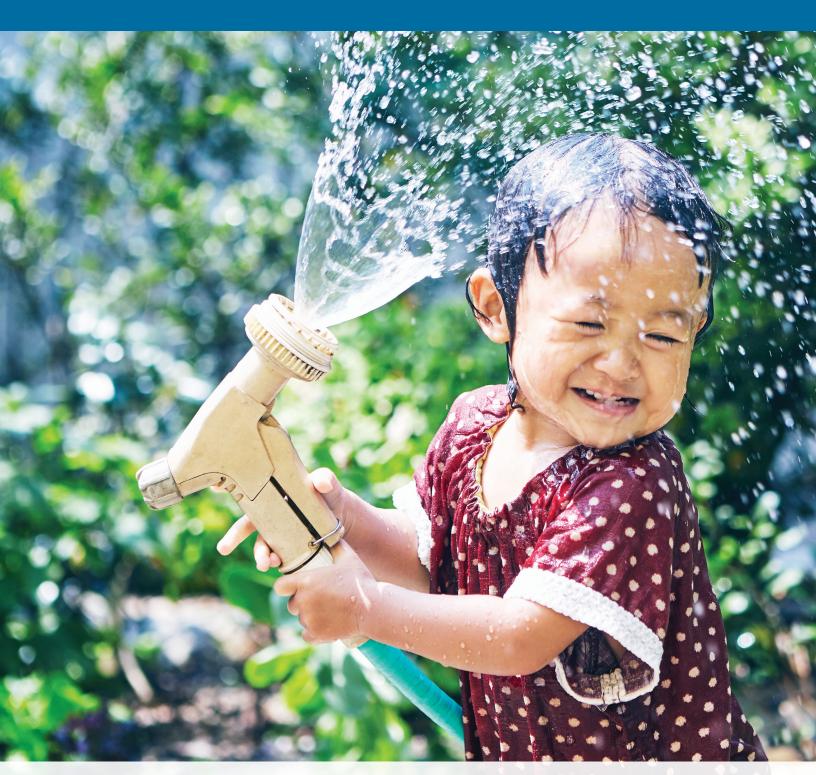
- Secretary-Treasurer-William Dickinson
- Members- James Beall, Patricia Turner



## FY20

# Fiscal Year Operating and Capital Budget

ALEXANDRIA RENEW ENTERPRISES | JULY 1, 2019 – JUNE 30, 2020



DRAFT BUDGET APPROVED FOR PUBLIC NOTICE - APRIL 16, 2019

Transforming Our Community's Waterways for a Brighter Future





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Appendix A - Financial Policy



## Alexandria Renew Enterprises Board of Directors

John B. Hill, Chairman
Bruce Johnson, Vice Chairman
William Dickinson, Secretary-Treasurer
James Beall, Member
Patricia Turner, Member

#### **Fairfax County Representative to the Board**

Shahram Mohsenin, P.E.

#### **Executive Staff**

Karen L. Pallansch, Chief Executive Officer
Liliana Maldonado, Deputy General Manager, Engineering and Planning
Christine McIntyre, Director of Finance
Lisa K. Van Riper, Director of Enterprise Communication

#### Chief Executive Officer's Message



To the Board of Directors, Alexandria Renew Enterprises:

Protecting public health through our water resources is one of the most critical responsibilities of any community. Our city's health and economic vitality depend on clean and safe water now and in our future. Water is our world's most precious resource, and AlexRenew works together with the City of Alexandria and Virginia American Water to manage our water resources holistically, ensuring a thriving community.

Our investments in clean water will continue to create jobs in our city, and will support Alexandria's economic growth as they did in 1956 when we first started transforming the city's used water into clean water and renewable resources. Since that time, AlexRenew has invested almost \$1 billion in wastewater cleaning infrastructure on our 35-acre campus. These investments have supported a cleaner Potomac River and local waterways for our City, and have improved the health of the Chesapeake Bay. In fact, in 2018, the Potomac Conservancy graded the Potomac River a B-, the highest grade ever. However, there is still more work to do to improve water quality and ensure that our community and visitors can continue to enjoy recreational activities on our waterways.

Now, our investments will support an even cleaner Potomac River and a water future for Alexandria that is brighter than ever. As a result of a legislative mandate by the Commonwealth of Virginia, AlexRenew is leading RiverRenew, a significant program to fix four combined sewer outfalls in older parts of Alexandria. During some rainstorms, an excess mixture of rainwater and sewage overflows from combined sewer pipes into Alexandria's waterways. These overflows can have a negative impact on the health of local rivers and streams. By law, RiverRenew must be completed by July 1, 2025. RiverRenew is the backbone of our plan to prepare for Alexandria's future, and it comes with large financial obligations for our organization and community.

We will also be making investments to ensure our city's wastewater infrastructure supports anticipated population growth and increased demands over the next 20 years. These investments help us manage our maintenance needs for our existing used water cleaning equipment and facilities, and to provide our current levels of service every minute of every day with an experienced, well-trained team of used water cleaning experts and the services to support their essential work.

The budget and investments we are planning for 2020 and over the next 20 years will support a sustainable water future for our City. For this fiscal year, we are proposing an Operating Fund budget of \$28.4 million and a capital improvement program budget of \$42.5 million. Our operating budget increase year-over-year is consistent with the current inflation rate of approximately two percent. Our capital improvement program budget has increased relative to last year's budget to accommodate the increased investment needed to implement the RiverRenew program.

We have much work ahead of us. As we continue to improve our waterways and help make the environment a cleaner, healthier place, we look forward to continuing our strong community partnership to help us keep our waterways clean.

Thank you for your passionate support of our clean water mission.

Karen Pallansch, Chief Executive Officer

Alexandria Renew Enterprise



## 2040 Vision

#### By 2040, we have effectively partnered with all watershed stakeholders to:

- Enable local citizens the opportunity to embrace the best use of water resources and establish a personal connection with local waterways.
- Sustainably manage water as a single resource through the entire water cycle.
- Create a healthy environment and improve our quality of life through the exceptional reclamation of used water resources.
- Maximize use of multiple financial options to continue our fiscal stability.

#### **Strategic Outcomes**

#### 1. Operational Excellence

Continually enhance water resource and recovery procedures to provide exceptional quality products.

#### 2. Public Engagement and Trust

Engage our community to help them to become informed consumers and supporters of clean water.

#### 3. Watershed Stewardship

Facilitate collaboration to collectively manage and improve water resources.

#### 4. Adaptive Culture

Establish an organization-wide commitment to exceptional outcomes through an enthusiasm for learning, adapting, and solving problems to achieve clean water.

#### 5. Effective Financial Stewardship

Manage our financial resources to create an efficient and resilient organization that contributes to the health of the local economy.

#### Understanding the Budget



#### 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 only two major sources of revenue to fund all expenditures: 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 and last updated in 2018 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: Well Managed AlexRenew

Long Term Outcome: Alexandria has abundant clean waterways that support a strong economy Strategic Outcome Linkage: Operational Excellence, Effective Financial Stewardship

#### Focus Area: Smart and Resilient AlexRenew

Long Term Outcome: Alexandria is a clean, sustainable community and center for innovation Strategic Outcome Linkage: Public Engagement and Trust, Adaptive Culture

#### Focus Area: Community Celebrated AlexRenew

Long Term Outcome: Alexandrians eat local fish and swim in local waterways

Supports: Watershed Stewardship

#### **Understanding the Budget**



#### How is AlexRenew's 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 Service Agreement, a Service Agreement with the City of Alexandria; 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 agreed upon capacity in the Arlington County sewer system by the Northwestern quadrant of the City of Alexandria.

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 fiscal 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**



While AlexRenew has historically utilized a fiscal year cycle ending each September 30, the FY2020 budget is presented as the first major financial document to reflect a new fiscal year cycle ending each June 30 that was approved by the Board in 2018. As such, the FY2020 budget will encompass the 12-month period from July 1, 2019 – June 30, 2020.

Month	Customer	Board of Directors	Staff
August - February			Proposed Budget Development Departments prepare budget proposals; CEO develops a balanced proposed budget.
March		Budget Review (March-April) Board of Directors request additional information on specific budget issues from staff.	The CEO presents the proposed budget to the Board of Directors.
April	Customers are informed of proposed budget via public notice and may provide written comments, if any.	Board adopts resolution to provide public notice of the proposed AlexRenew budget.	Public Notice of Hearing date and proposed rates (staff advertises via newspaper)
May	Customers have an opportunity to comment in person during a public hearing.		Public Hearing 5/11/19
Late May/Early June		Final Adoption – Board of Directors makes final decisions and adopts the AlexRenew budget for the upcoming fiscal year.	Execute adopted FY2020 Budget starting 7/1/2019.

#### Consolidated Enterprise Budget Statement



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 <u>mandated</u> in Article VII of our Indenture. The primary purpose for this Statement is to demonstrate that our overall FY2020 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.

#### **AlexRenew Flow of Funds** Revenue Fund **Operating Fund** 60 Days of Budgeted **Operating Expenses** Fairfax contributes % of operating expense based on flow Bond Fund **Parity Debt** Interest Account Service Fund Principal Account **Debt Service** Reserve (DSR) Fund Improvement, Renewal, and Only If DSR Less Than Replacement Fund **DSR Requirement** Joint Use Subordinate **General Account Facilities Account Debt Service Fund** AlexRenew and Fairfax contribute Amount Determined by equal monthly installn annual share **General Fund** Additional AlexRenew **Operating Reserve Active Funds** Capital Funding Sub-Fund 60 Days of Budgeted Operating Expenses Inactive Funds

#### Consolidated Enterprise Budget Statement



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 $1/6^{th}$ (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 $1/12^{\text{th}}$ 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 FY2020. This schedule directly follows the flow of funds mandated in our Indenture.

In addition, we note that the revenue projections contained in the exhibits to follow are based on the rates and charges we anticipate will be in effect for FY2020 upon adoption of such rates and charges by the Board. Additional detail regarding the development of rates, charges and revenues can be found on page 13-14 of this document. The Board is expected to adopt these rates and charges to be effective on July 1, 2019 and July 1, 2020. We also note that our operating expense budget will increase by approximately 2% (in line with 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.

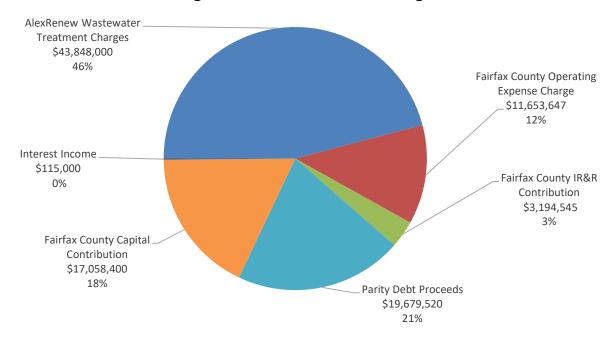
## Consolidated Enterprise Budget Statement



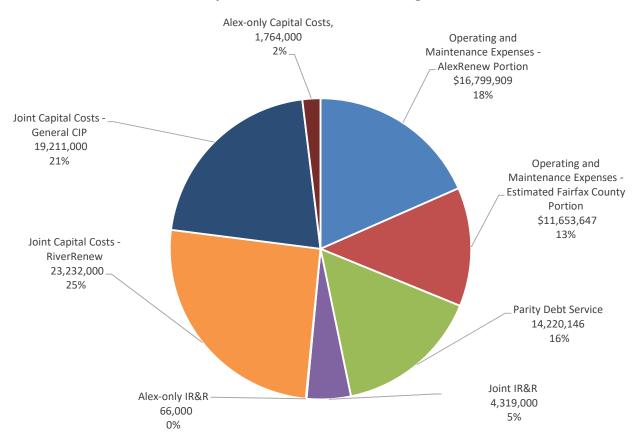
		_		
Consolidated Enterprise Budget Statement	Adopted	FY2019	Proposed	FY2020
REVENUE FUND (Per Master Indenture)				
AlexRenew Wastewater Treatment Charges	\$	39,195,503	\$	43,848,000
Fairfax County Operating Expense Charge		11,329,663		11,653,647
Interest Income		-		-
Total Revenues		50,525,166	]	55,501,647
OPERATING FUND				
Beginning Balance		4,538,320		4,640,520
Revenue Fund Transfer		27,935,311		28,545,266
Interest Income		10,000		10,000
Transfer to General Fund		(27.042.444)		- (20.452.550
Operating Expenses		(27,843,111) 102,200		(28,453,556 101,710
Excess Retained to meet FY20 Operating Reserve Requirement				
Ending Balance (Operating Fund Reserve)		4,640,520		4,742,230
REVENUE FUND BALANCE		22,589,855		26,956,381
PARITY DEBT SERVICE FUND				
Beginning Balance		1,131,581		1,131,581
Revenue Fund Transfer		15,155,561		14,130,146
Interest Income		90,000		90,000
Parity Debt Service Payment		(15,245,561)		(14,220,146
Ending Balance		1,131,581		1,131,581
REVENUE FUND BALANCE		7,434,294		12,826,235
IMPROVEMENT, RENEWAL AND REPLACEMENT FUND				
Joint Use Facilities Account				
Beginning Balance		7,765,590		7,410,422
Revenue Fund Transfer		2,157,469		2,214,437
Fairfax County Annual Required Contribution		3,112,363		3,194,545
Interest Income		-		-
IR&R Joint Use Facilities Expenses		(5,625,000)		(4,319,000)
Ending Balance		7,410,422		8,500,404
General Account (Alex-only)				
Beginning Balance		156,052		_
Revenue Fund Transfer		446,948		66,000
Interest Income				-
IR&R Alex-Only Expenses		(603,000)		(66,000
Ending Balance		-		-
REVENUE FUND BALANCE		4,829,877		10,545,798
		4,023,077		10,545,758
GENERAL FUND				20 742 672
Beginning Balance		43,587,382		39,748,679
Revenue Fund Transfer		4,829,876		10,545,798
Project Fund Transfer		-		-
Operating Fund Transfer Interest Income		- 1E 000		15,000
Alex-Only Capital Costs		15,000 ( <b>8,169,000</b> )		(1,764,000
Transfer to CIP - Joint Use Facilities		(5,103,000)		(5,117,632
Ending Balance		39,748,679		43,427,845
General Reserve sub-Fund				(4,742,230
Available Balance		(4,640,520) 35,108,159		38,685,615
REVENUE FUND BALANCE		(0)		(0
PROJECT FUND				
Beginning Balance		3,573,000		-
Parity Debt / Prior Issue Bond Proceeds		-		3,573,000
Parity Debt / New Bond Proceeds		8,706,021		16,693,968
Transfer to General Fund / Alex-only Capital Costs				
Transfer to CIP - Joint Use Facilities		(12,279,021)		(20,266,968
Ending Balance		-	<u> </u>	-
CAPITAL IMPROVEMENT PROGRAM - JOINT USE FACILITIES				
Beginning Balance		-		-
General Fund Transfer		514,579		5,117,632
Project Fund Transfer		12,279,021		20,266,968
Fairfax County Contribution		13,805,400		17,058,400
Joint Capital Costs		(26,599,000)		(42,443,000
Ending Balance		-		-



#### **Funding Sources - Consolidated Budget**



#### **Expenses - Consolidated Budget**



#### Determining Rates, Charges and Revenues



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 over 70% 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 2.0% to 3.5%.

#### 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 proposed rate adjustments for 2019 and 2020 are designed to fund the operations, maintenance, and capital needs of our existing system in addition to the improvements associated with the RiverRenew program.

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

Description	Meter Size	Existing (Effective October 1, 2017) Monthly	Proposed (Effective July 1, 2019) Monthly	Proposed (Effective July 1, 2020) Monthly
Residential	All	\$9.61	\$10.83	\$12.05
Base Charge	Meters			
Commercial Base Charge	5/8"	\$28.83	\$32.49	\$36.14
	3/4"	\$28.83	\$64.97	\$72.29
	1"	\$72.07	\$81.22	\$90.36
	1-1/2"	\$144.16	\$162.43	\$180.71
	2"	\$230.65	\$259.88	\$289.14
	3"	\$432.47	\$487.28	\$542.14
	4"	\$720.77	\$812.13	\$903.56
	6"	\$1,441.56	\$1,624.26	\$1,807.13
	8"	\$2,306.50	\$2,598.81	\$2,891.40
Residential Customer Activation Fee		\$15.00	\$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	Current (since October 1, 2017) Per 1,000 Gallons	Proposed as of July 1, 2019 Per 1,000 Gallons	Proposed as of July 1, 2020 Per 1,000 Gallons
Individual Meter Residential				
Wastewater Charge	All Meters	\$6.77	\$7.63	\$8.50
Commercial Wastewater				
Treatment Charge	All Meters	\$6.77	\$7.63	\$8.50

#### 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 FY2019 - FY2023, respectively. In addition, proposed Revenue transfers to various operating and non-operating Funds are provided to highlight the use or purpose of the funds.

	Adopted		Proposed			Estimated		Estimated		E	stimated
Revenue Fund	FY2019		FY2020		Var %	FY2021		FY2022		FY2023	
REVENUES											
AlexRenew Wastewater Treatment Charges	\$	39,195,503	\$	43,848,000	11.87%	\$	49,548,240	\$	49,795,981	\$	50,044,961
Fairfax County Operating Expense Charge		11,329,663		11,653,647	2.86%		11,887,070		12,125,162		12,368,016
Total Revenues		50,525,165		55,501,647	9.85%		61,435,310		61,921,143		62,412,977
TRANSFERS											
Transfer to Operating Fund <sup>1</sup>	\$	27,935,311	\$	28,545,266	2.18%	\$	29,022,627	\$	29,603,080	\$	30,195,141
Transfer to Parity Debt Service Fund		15,155,561		14,130,146	-6.77%		15,217,675		15,178,662		16,398,184
Transfer to IRR Fund - Joint Use Facilities Account		2,157,469		2,214,437	2.64%		2,331,141		2,424,387		2,545,606
Transfer to IRR Fund - General Account		446,948		66,000	-85.23%		67,320		68,666		70,040
Transfer to General Fund		4,829,876		10,545,798	118.35%		14,796,547		14,646,349		13,204,006
Total Transfers	\$	50,525,165	\$	55,501,647	9.85%	\$	61,435,310	\$	61,921,144	\$	62,412,977
		_					_				
Excess (Deficiency)		0		0			0		0		0

<sup>&</sup>lt;sup>1</sup> 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 Revenue 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.

	1	Adopted		Proposed			Estimated		Estimated		Estimated
Fairfax County Contributions		FY2019		FY2020	Var %		FY2021	FY2022			FY2023
,											
Operating Expense Charge:											
Total Estimated Operating Expenses	\$	27,843,111	\$	28,453,556	2%	\$	29,022,627	\$	29,603,080	\$	30,195,141
Less Estimated "Alexandria Only" Expenses		(4,685,583)		(4,634,836)	-1%		(4,727,533)		(4,822,083)		(4,918,525)
Net Estimated Joint Operating Expenses	\$	23,157,528	\$	23,818,720	3%	\$	24,295,094	\$	24,780,996	\$	25,276,616
Estimated Fairfax County Net Flow		49.0%		49.0%			49.0%		49.0%		49.0%
Estimated Fairfaix County Operating Expense Charge		11,347,189		11,671,173	3%		11,904,596		12,142,688		12,385,542
Less Alexandria Only Flow Charge		(17,526)		(17,526)	0%		(17,526)		(17,526)		(17,526)
Fairfax County Operating Expense Charge	\$	11,329,663	\$	11,653,647	3%	\$	11,887,070	\$	12,125,162	\$	12,368,016
IRR Fund - Joint Account Contribution:	١.		١,					١.		١.	
Estimated Joint Use Plant Investment	\$	752,833,105	\$	772,711,685	3%	\$	803,620,152	\$	835,764,958	Ş	877,553,206
Estimated Joint Use IRR Funding Percentage		0.7%		0.7%			0.7%		0.7%		0.7%
Estimated Joint Use IRR Investment	\$	5,269,832	\$	5,408,982	3%	\$	5,625,341	\$	5,850,355	\$	6,142,872
Investment Allocation at 60%		4,900,944		5,030,353	3%		5,062,807		5,265,319		5,528,585
Investment Allocation at 36%		316,190		324,539	3%		450,027		468,028		491,430
Investment Allocation at 32%		52,698	ļ.,	54,090	3%		112,507		117,007		122,857
Total IRR - Joint Account Investment	\$	5,269,832	\$	5,408,982	3%	\$	5,625,341	\$	5,850,355	\$	6,142,872
Fairfax County Allocation at 60%		2,940,566		3,018,212	3%		3,037,684		3,159,192		3,317,151
Fairfax County Allocation at 49%		154,933		159,024	3%		220,513		229,334		240,801
Fairfax County Allocation at 32%		16,863	_	17,309	3%		36,002		37,442		39,314
Total Fairfax County IRR - Joint Account Contribution		3,112,363		3,194,545	3%		3,294,200		3,425,968		3,597,266
Alex Renew Joint IRR Contribution		2,157,469		2,214,437	3%		2,331,141		2,424,387		2,545,606
Capital Project Contribution - Joint Use Facilities:											
Estimated Joint Capital Improvements at 60%/40%	\$	19,149,000	\$	18,761,000	-2%	\$	11,525,000	\$	7,849,000	\$	8,320,000
Fairfax County Allocation at 60%	7	11,489,400		11,256,600	-2%	Y	6,915,000	7	4,709,400	7	4,992,000
Turrux country / trocation at 5575		11,405,400		11,230,000	270		0,313,000		4,703,400		4,552,000
Estimated Joint Capital Improvements at 49%/51%		400,000		150,000	_		20,000		_		_
Fairfax County Allocation at 49%		196,000		73,500	_		9,800		_		_
, amak esamy mesamen at 1578		250,000		7.5,555			3,000				
Estimated Joint Capital Improvements RiverRenew		6,800,000		23,232,000	242%		47,528,000		75,500,000		104,700,000
Fairfax County Allocation <sup>1</sup>		2,040,000		5,632,300	176%		5,782,100		7,172,500		9,946,500
Fairrax County Anocation		2,040,000		5,652,500	1/0%		5,762,100		7,172,500		9,940,500
Estimated Joint Capital Improvements at 32%/68%		250,000		300,000	20%		_		_		_
Fairfax County Allocation at 32%		80,000		96,000	20%		_		-		-
,		,		,						l	
Total Fairfax County Capital Contribution		13,805,400		17,058,400	24%		12,706,900		11,881,900	l	14,938,500
Total Fairfax County Contributions	\$	28,247,426	\$	31,906,591	13%	\$	27,888,170	\$	27,433,030	\$	30,903,782

<sup>&</sup>lt;sup>1</sup> Fairfax County allocation based on 30% for FY19 and based on the estimated FY20 project costs and percentages shown below for FY20

Project	FY20 Estimate	Fairfax %	Fairfax \$
RiverRenew 108 to 116 mgd Expansion	2,550,000	60%	1,530,000
RiverRenew Bdg J Fac. Reloc. & Decom.	11,510,000	26%	2,992,600
RiverRenew Site Security and Access	472,000	60%	283,200
RiverRenew Tunnel System	8,700,000	9.5%	826,500
RiverRenew Wet Weather Treatment	-	60%	-
Total	23,232,000		5,632,300



#### **Condensed Expense Summary**

The schedule below combines all of the expenses associated with AlexRenew's FY2020 budget. At approximately 45%, capital outlay represents the largest share of the budget. Together with the Parity Debt Service Fund at 15%, these combined expenses are nearly 60% of the FY2020 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 consistent with the approximate current inflation rate. This reflects an effort to balance increased costs, achieve cost efficiencies, and keep costs and rates relatively stable.

We also note continued funding for improvement, repair and replacement projects reflecting our effort to ensure timely upgrades of our infrastructure to maintain efficient operations and prepare the plant for the RiverRenew program.

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

		Adopted	Proposed	
Condensed Expense Summary		FY2019	FY2020	Var %
OPERATING EXPENSES				
Operating Fund	\$	27,843,111	\$ 28,453,556	
Operating Reserve Contribution		102,200	101,710	
Total		27,945,311	28,555,266	2%
NON-OPERATING EXPENSES				
		15 245 561	14 220 146	70/
Parity Debt Service Fund		15,245,561	14,220,146	-7%
Joint IR&R Fund		5,625,000	4,319,000	-23%
Alex-only IR&R Fund		603,000	66,000	-89%
Total Expenses		21,473,561	18,605,146	-13%
CAPITAL OUTLAY				
RiverRenew Program	\$	12,000,000	\$ 23,232,000	
General CIP		22,768,000	20,975,000	
Total Capital Outlay		34,768,000	44,207,000	27%
TOTAL EXPENSES AND CAPITAL OUTLAY	\$	84,186,872	\$ 91,367,412	9%

#### **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.

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

**Watershed Stewardship.** 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.

**Adaptive Culture.** This operating budget category covers personnel services including all compensation related costs, required safety materials, training and professional development, and licensing and dues. This operating budget item also 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.

**Effective Financial 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 and insurance needs.

		Adopted		Proposed			Adopted		Adopted		Adopted
Operating Fund		FY 2019		FY 2020	Var %		FY 2021		FY 2022		FY 2023
operating rand				2020			71 2022				712020
REVENUES											
Transfer from Revenue Fund	\$	27,935,311	\$	28,545,266		\$	28,830,719	\$	29,119,026	\$	29,410,216
Interest Income		10,000		10,000			10,000		10,000		10,000
Total	\$	27,945,311	\$	28,555,266	2.18%	\$	28,840,719	\$	29,129,026	\$	29,420,216
EXPENSES											
Operational Excellence	\$	6,312,400	Ś	6,580,708		\$	6,646,515	\$	6,712,980	Ś	6,780,110
Public Engagement and Trust		1,947,400	T	2,282,186		T	2,305,007	*	2,328,057	T	2,351,338
Watershed Stewardship		3,165,700		2,933,993			2,963,333		2,992,966		3,022,896
Adaptive Culture		14,703,111		14,713,122		<b>r</b>	14,860,253		15,008,856	r	15,158,944
Effective Financial Stewardship		1,714,500		1,943,548			1,962,983		1,982,613		2,002,439
Total	\$	27,843,111	\$	28,453,556	2.19%	\$	28,738,091	\$	29,025,472	\$	29,315,727
Excess (Deficiency) <sup>1</sup>	\$	102,200	\$	101,710	-0.48%	\$	102,627	\$	103,553	\$	104,489
Transfer to General Fund	\$		\$			\$		ė		ڔ	
Transier to delierar runu		-	,	-		,	_	Ţ	_	,	_
FUND BALANCE - Beginning	\$	4,538,320	\$	4,640,520		\$	4,742,230	\$	4,844,857	\$	4,948,411
FUND BALANCE - Ending <sup>2</sup>	\$	4,640,520	\$	4,742,230	2.19%	\$	4,844,857	\$	4,948,411	\$	5,052,900

<sup>&</sup>lt;sup>1</sup> Balance required to fully fund mandated Operating Reserve per Master Trust Indenture

<sup>&</sup>lt;sup>2</sup>Operating Reserve Requirement



AlexRenew continues to invest in its workforce to recruit and retain the best talent. Salaries are provided for full-time 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, and 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 decreased in FY19 to 7.27%, down from 8.95% in FY18 as directed by VRS. The VRS employer contribution is updated every other even calendar year and will be next updated around March 2020.

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 38 employees in the VRS Plan 1 retirement plan, which allowed enrollment before July 1, 2010. AlexRenew has 9 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 57 of our employees are enrolled.

#### Other Post-Employment Benefits (OPEB)

OPEB funding supports retiree healthcare benefits. The FY2020 budget provides for approximately \$185,000 in OPEB funding to support both current and future retirees. We currently have 7 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 for the High Deductible medical and dental plan, and 80% employer and 20% employee for the HMO medical plan.



#### **Workforce by Full Time Equivalent (FTE)**

As shown below, the FY2020 budget provides for the same number of FTEs as was approved in FY2019.

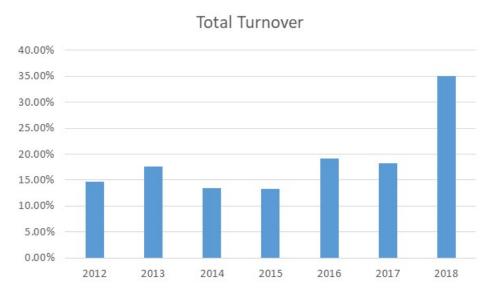
Department	Approved FY 2019	Proposed FY 2020	FTE Impact
Executive	6	3	-3
Engineering & Planning / RiverRenew Program Staff	8	13	+5
Communications	6	5	-1
Finance	10	11	+1
Operations & Maintenance	80	66	-14
Environmental Performance	0	12	+12
Human Resources	2	2	0
Information Systems	6	6	0
TOTAL	118	118	0



#### **Calendar Year 2018 Turnover**

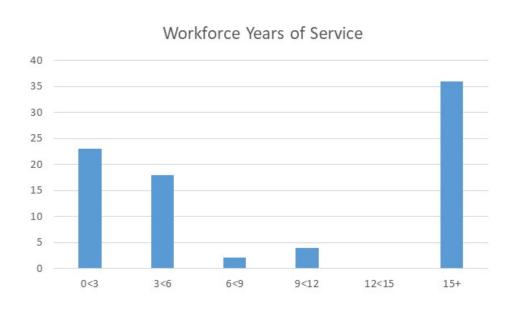
In Calendar Year 2018, overall employee turnover increased by 14 staff; from 18 in CY 2017 to 32 in CY 2018. Of the 32 employees, 6 retired in CY 2018, which is an increase of 4 from CY 2017. The remaining turnover included employees who relocated with their families, left their position for personal reasons, or received job opportunities that built upon their training and experience at AlexRenew. Our total employment for the year averaged 93 employees.

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**

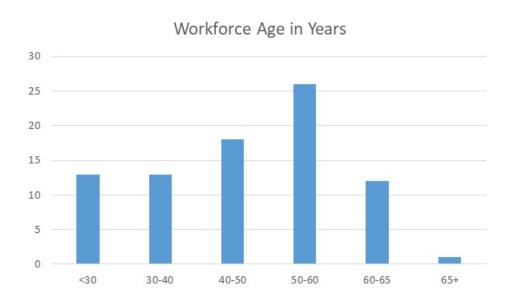
More than half of the current workforce (57%) has been employed with AlexRenew for 12 years or fewer. 43% have worked for AlexRenew for over 15 years or more.



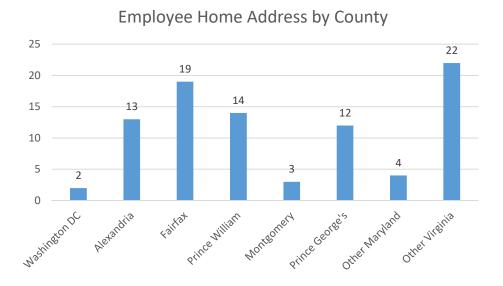


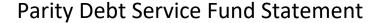
#### **Employee Demographics**

Almost three quarters (69%) of AlexRenew's workforce fall within the ages of 30 and 60 years old.



AlexRenew's employees reside in a variety of locations across the region with 15% living in the City, 21% in Fairfax County, 16% in Prince William County and 21% in Maryland. Just two employees reside in Washington, D.C. and the remainder live in other locations in Virginia.







The Parity Debt Service Fund includes the amounts due in FY2020 to pay principal and interest on outstanding AlexRenew debt. To date, AlexRenew has borrowed from the Virginia Clean Water Revolving Loan Fund (CWRLF) 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.

		Adopted	Р	roposed		Estimated	E	Stimated	E	stimated
Parity Debt Service Fund		FY2019 <sup>1</sup>		FY2020		FY2021		FY2022		FY2023
REVENUES										
Beginning Balance	\$	1,131,581	\$	1,131,581	\$	1,131,581	\$	1,131,581	\$	1,131,581
Transfer from Revenue Fund	\$	7,906,655	\$	14,130,146	\$	14,732,201	\$	14,736,051	\$	12,963,197
Interest Income	Ι΄.	90,000	l	90,000	ļ '	90,000	·	90,000	ľ	90,000
Total Revenue		9,128,236		15,351,727		15,953,782		15,957,632		14,184,778
EXPENDITURES										
VRA BD SERIES 98A INTEREST		3,679		-		-		-		-
VRA BD SERIES 98A PRINCIPAL		313,098		-		-		-		-
VRA BD SERIES 00A INTEREST		45,128		45,650		-		-		-
VRA BD SERIES 00A PRINCIPAL		844,721		1,734,049		-		-		-
VRA BD SERIES 00B INTEREST		447,231		781,238		592,209		345,827		77,464
VRA BD SERIES 00B PRINCIPAL		1,841,650		4,440,351		6,336,945		6,589,727		4,024,113
VRA BOND SERIES 04 INTEREST		125,079		221,316		181,862		141,175		99,217
VRA BOND SERIES 04 PRINCIPAL		617,047		1,262,935		1,302,389		1,343,076		1,385,034
VRA BD SERIES 06 INTEREST		88,220		160,998		139,969		118,401		96,279
VRA BD SERIES 06 PRINCIPAL		408,339		832,120		853,149		874,717		896,839
VRA BOND SERIES 08B INTEREST		4,572		-		-		-		-
VRA BOND SERIES 08B PRINCIPAL		215,000		-		-		_		-
VRA BOND SERIES 09 INTEREST		127,671		239,962		218,987		197,438		175,299
VRA BOND SERIES 09 PRINCIPAL		375,268		765,916		786,890		808,439		830,578
VRA BOND SERIES 11 INTEREST		76,983		147,468		138,633		129,590		120,332
VRA BOND SERIES 11 PRINCIPAL		183,622		373,742		382,577		391,620		400,877
VRA BOND SERIES 14A Interest		117,256		225,819		214,025		201,982		189,684
VRA BOND SERIES 14A PRINCIPAL		275,005		558,702		570,497		582,540		594,838
VRA BOND Reclaimed SERIES 14B Interest		22,874		43,991		41,607		39,173		36,688
VRA BOND Reclaimed SERIES 14B PRINCIPAL		55,578		112,914		115,297		117,731		120,217
VRA BOND SERIES 14C Interest		886,128		879,594		867,784		855,463		841,625
VRA BOND SERIES 14C PRINCIPAL		15,000		240,000		255,000		260,000		280,000
VRA BOND SERIES 17A Interest		907,506		907,506		907,506		907,506		892,772
VRA BOND SERIES 17A Principal		-		-		-		-		575,000
Future Bonds - Series 2019 Interest <sup>2</sup>		-		235,875		235,875		235,875		235,875
Future Bonds - Series 2019 Principal <sup>2</sup>		-		5,000		5,000		5,000		5,000
Future Bonds - Series 2020 Interest <sup>3</sup>		-		, -		671,000		670,771		670,466
Future Bonds - Series 2020 Principal <sup>3</sup>				5,000		5,000		10,000		505,000
TOTAL EXPENSES	\$	7,996,655	\$	14,220,146	\$	14,822,201	\$	14,826,051	\$	13,053,197
Total Interest		2,852,327		3,889,417		4,209,457		3,843,200		3,435,701
Total Principal	L	5,144,328	<u> </u>	10,330,729		10,612,744		10,982,851	L	9,617,496
	\$	7,996,655	\$	14,220,146	\$	14,822,201	\$	14,826,051	\$	13,053,197
Fund Balance - Beginning	\$	1,131,581	¢	1,131,581	\$	1,131,581	٠,	1,131,581	¢	1,131,581
Fund Balance - Beginning Fund Balance - Ending	\$	1,131,581		1,131,581	•	1,131,581		1,131,581		1,131,581
i and balance - Lituing	Ą	1,131,361	Ţ	1,131,301	٠	1,131,361	ب	1,131,361	ب	1,131,361

Adjusted for 9-month Fiscal Year (October 1, 2018 - June 30, 2019); adopted FY19 figure was \$13,967,366, reflecting full 12-month Fiscal Year

 $<sup>^{\</sup>rm 2}$  Assumes \$9.4 million borrowing amortized primarily in 2024-2048 at 2.50%

<sup>&</sup>lt;sup>3</sup> Assumes \$22 million borrowing amortized primarily in 2023-2050 at 3.05%



#### 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 FY2020. Fairfax County's portion of the total contribution is also based on the allocation percentages detailed on page 16 and affirmed in the Agreement.

	Α.	Adopted	ı	Proposed		E	stimated
IRR Fund - Joint Use Facilities Account		FY2019		FY2020	Var (%)		FY2021
REVENUES							
Revenue Fund Transfer	\$	2,157,469	\$	2,214,437		\$	3,294,200
Fairfax County Contribution		3,112,363		3,194,545			2,331,141
Interest Income		-		-			-
Total Revenues	\$	5,269,832	\$	5,408,982	3%	\$	5,625,341
EXPENSES							
	_	4 670 000		222 222			
Preliminary / Primary Infrastructure	\$	1,670,000	\$	333,333			
Secondary Infrastructure		250,000		613,333			
Tertiary Infrastructure		250,000		761,333			
Solids Infrastructure		1,145,000		1,750,500			
Process Improvements		615,000		-			
Campus Wide Projects		755,000		384,500			
Information Technology Projects		290,000		468,000			
Collection System Projects				8,000			
Communications Projects		250,000		-			
Contingency (7%)		400,000		-			
Joint IRR Expenses		5,625,000		4,319,000	-23%		4,405,380
Excess (Deficiency)	\$	(355,168)	\$	1,089,982	-407%	\$	1,219,961
FUND BALANCE - Beginning FUND BALANCE - Ending	\$ \$	7,765,590 7,410,422	\$	7,410,422 8,500,404	15%	\$ \$	8,500,404 9,720,365

#### 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 FY2019	Proposed FY2020	Var (%)
Revenues				
Revenue Fund Transfer	\$	\$ 446,948	\$ 66,000	
Total Revenue	\$		\$ 66,000	
Expenses				
Total Expenses	\$	\$ 603,000	\$ 66,000	-89.05%
Excess (Deficiency)	Ş	\$ (156,052)	\$ -	
Fund Balance - Beginning	\$	\$ 156,052	\$ -	
Fund Balance - Ending	\$	\$ -	\$ -	





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.

	-	Adopted		Proposed			Estimated		Estimated	E	stimated
General Fund		FY2019		FY2020	Var %		FY2021	FY2022			FY2023
REVENUES	l										
Revenue Fund Transfer	\$	4,829,876	\$	10,545,798		\$	14,796,547	\$	14,646,349	\$	13,204,006
Interest Income	l	15,000		15,000			15,000		15,000		15,000
Operating Fund Transfer	l	-		-							
Project Fund Transfer	l	-	\$	-			-		-		-
Total Revenues	\$	4,844,876	\$	10,560,798	118%	\$	14,811,547	\$	14,661,349	\$	13,219,006
EXPENSES	l										
Alex-Only Capital Expenses	\$	8,169,000	\$	1,764,000	-78%	\$	2,223,000	\$	2,969,000	\$	2,345,000
Transfer to Joint Project Fund	\$	514,579	\$	5,117,632		\$	6,971,400	\$	9,978,700		14,959,750
Total General Fund Expenses	\$	8,683,579	_	6,881,632	-21%	_	9,194,400		12,947,700		17,304,750
Total General Fullu Expenses	<del>,</del>	8,083,373	7	0,881,032	-21/6	٠	3,134,400	٠	12,347,700		17,304,730
Excess (Deficiency)	\$	(3,838,703)	\$	3,679,166		\$	5,617,147	\$	1,713,649	\$	(4,085,744)
Beginning Fund Balance	\$	43,587,382	\$	39,748,679		\$	43,427,845	\$	49,044,992		50,758,641
Ending Fund Balance	\$	39,748,679	\$	43,427,845	9%	\$	49,044,992	\$	50,758,641		46,672,897
General Reserve sub-Fund <sup>1</sup>	\$	(4,640,520)	\$	(4,742,230)		\$	(4,789,682)	\$	(4,837,579)		(4,885,955)
Available Balance	\$	35,108,159		38,685,615	10%	\$	44,255,310	\$	45,921,062		41,786,942

<sup>&</sup>lt;sup>1</sup> Additional Operating Reserve Requirement per Board approved Financial Policy

#### 10-year Capital Improvement Program



#### **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 FY20 – FY29 CIP includes project cost assumptions for the RiverRenew program as well as the Improvement, Renewal and Replacement 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), Clean Water Revolving Loan Fund (CWRLF), 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 Alexonly CIP are detailed on page 30 and specific project information is provided on pages 31-38.

#### **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 pages 39-40 and specific project information is provided on pages 41-87.





						_			_		
	Proposed FY2020	Estimated FY2021	Estimated FY2022	Estimated FY2023	Estimated FY2024	Estimated FY2025	Estimated FY2026	Estimated FY2027	Estimated FY2028	Estimated FY2029	Project Totals
Alex-Only Capital Projects											
Interceptor/ Trunk Sewers Rehabilitation Program											
Commonwealth Interceptor Rehabilitation	\$ -	\$ -	\$ -	\$ 18,000	\$ -	\$ -	\$ -	\$ -	\$ 245,000	\$ -	\$ 263,000
Potomac Interceptor Rehabilitation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 414,000	\$ 1,000,000	\$ 1,500,000	\$ 1,500,000	\$ 3,000,000	\$ 7,414,000
Improvement, Renewal, Replacement Program											
	\$ 66,000	\$ -	\$ 37,000	\$ 66,000	\$ 16,000	\$ 37,000	\$ 50,000	\$ 16,000	\$ 53,000	\$ 50,000	\$ 391,000
	, .,,	*	*,	*		1	1	,		,	1
Non-Process Facilities Program	\$ 80,000	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -		s -	s -	\$ 230,000
Mobile Vehicle with Popup/Out Elements				7				, -			\$ 230,000
RiverRenew Program	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service Chambers and Pump Stations Upgrade											
Program											
Bush Hill Service Chamber	\$ 150,000	\$ 300,000	\$ 750,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,200,000
Mark Center Pump Station Study	\$ 350,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 350,000
WRRF Improvements Program	\$ -	\$ -	s -	\$ -	s -	s -	s -	s -	\$ -	s -	s -
		·	l		l ·	'		'	ļ ·	i e	l '
Other Capital	\$ 784,000	\$ 1,173,000	\$ 1,469,000	\$ 1,577,000	\$ 2,465,000	\$ 3,894,000	\$ 3,055,000	\$ 1,029,000	\$ 211,000	\$ 2,000,000	\$ 17,657,000
Arlington County Capital Contribution Capital Financing Fees	\$ 400,000	\$ 1,173,000	\$ 1,469,000	\$ 1,577,000	\$ 2,465,000	\$ 5,894,000	\$ 3,055,000	\$ 1,029,000	\$ 211,000	\$ 2,000,000	\$ 17,657,000
	\$ 1,830,000	\$ 2,223,000	\$ 3,006,000	7,	\$ 3,231,000	\$ 4,945,000	7,	\$ 2,945,000		7,	\$ 32,955,000
Alex-Only Capital Project Subtotal	\$ 1,764,000	\$ 2,223,000	\$ 2,969,000		\$ 3,215,000	\$ 4,908,000		\$ 2,929,000			\$ 32,564,000
Joint-Use Capital Projects	_,,		_,,,,,,,,,		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	7,100,000	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Interceptor/ Trunk Sewers Rehabilitation Program											
Commonwealth Interceptor Pile Intrusion	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 177,000	\$ 587,000	\$ -	\$ -	\$ -	\$ 764,000
Upper Holmes Run Trunk Sewer Rehabilitation	\$ -	\$ -	\$ -	\$ -	\$ 833,000	\$ 351,000	\$ 1,850,000	\$ 1,850,000	\$ 100,000	\$ 55,000	\$ 5,039,000
Improvement, Renewal, Replacement Program											
IRR: Preliminary/Primary Infrastructure	\$ 333,333	\$ 283,333	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 70,000	\$ 70,000	\$ 876,667
	\$ 613,333	\$ 796,333	\$ 533,000	\$ 273,000	\$ 70,000	\$ 70,000		\$ 433,000	\$ 312,000	\$ 70,000	
	\$ 761,333	\$ 391,333	\$ 85,000	\$ 276,000	\$ 65,000					\$ 148,000	
	\$ 1,750,500	\$ 851,500	\$ 1,195,500	\$ 1,374,500	\$ 729,500	\$ 377,500			\$ 1,490,500	\$ 1,121,500	\$ 10,717,000
	\$ 384,500	\$ 267,000	\$ 142,000	\$ 367,000	\$ 437,000						
	\$ 468,000	\$ 350,000	\$ 750,000	\$ 650,000							
IRR: Collection System Projects	\$ 8,000	\$ 51,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 51,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 51,000	\$ 209,000
Non-Process Facilities Program											
Environmental Center: 5th Floor Build Out	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,200,000	\$ -	\$ -	\$ -	\$ 1,200,000
	\$ 150,000	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 170,000
	\$ 300,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 300,000
	\$ 250,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 250,000
WRRF HVAC Automation System Upgrade	\$ -	\$ -	\$ -	\$ 500,000	\$ 500,000	\$ -	\$ -	ş -	\$ -	\$ -	\$ 1,000,000
RiverRenew Program											
RiverRenew 108 to 116 mgd Expansion	\$ 2,550,000	\$ 640,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,190,000
RiverRenew Bdg J Fac. Reloc. & Decom.	\$ 11,510,000	\$ 4,930,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,440,000
RiverRenew Site Security and Access	\$ 472,000	\$ 258,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 730,000
	\$ 8,700,000 \$ -	\$ 41,700,000 \$ -	\$ 75,500,000 \$ -	\$ 104,700,000 \$ 100,000	\$ 51,800,000 \$ 1,700,000	\$ 44,500,000 \$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ 326,900,000
	ş -	\$ -	\$ -	\$ 100,000	\$ 1,700,000	\$ -	, -	, -	, -	\$ -	\$ 1,800,000
Service Chambers and Pump Stations Upgrade											
Program	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
WRRF Improvements Program											
Building 60: NMF Odor Media Study	\$ -	\$ 350,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 350,000
	\$ 136,000	\$ 350,000	\$ -	\$ 10,000	\$ -	\$ -	\$ 10,000	\$ -	\$ -	\$ 10,000	\$ 516,000
	\$ -	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 150,000
, , ,	\$ 40,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 40,000
	\$ -	\$ -	\$ -	\$ -	\$ 781,000	\$ 3,334,000	\$ 3,278,000	\$ 4,301,000	\$ 2,652,000	\$ 646,000	\$ 14,992,000
	\$ 185,000 \$ 1,186,000	\$ 258,000 \$ 334,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ 443,000
	\$ 1,186,000 \$ 2,182,000	\$ 334,000 \$ 1,385,000	\$ - \$ -	\$ - \$ -	\$ -	\$ -	\$ - \$ -	\$ -	s -	\$ -	\$ 1,520,000 \$ 3,567,000
HMI Upgrade Intermediate Pump Station Pump Study	\$ 250,000	\$ 1,363,000	\$ -	\$ -	3 .	\$ .	, .	\$ .	s -	\$ -	\$ 250,000
Long Range Plan	\$ -	s -	s -	s -	s .	s -	\$ 350,000	s -	s -	\$ -	\$ 350,000
PLC Equipment and Network Upgrade	\$ 1,671,000	\$ 697,000	\$ -	\$ -	\$ -	\$ -	s -	s -	s -	\$ -	\$ 2,368,000
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 50,000	\$ 100,000	\$ 100,000	\$ -	\$ 250,000	\$ 500,000
	\$ 890,000	\$ 1,637,000	\$ 6,907,000	\$ 7,097,000	\$ 6,516,000	\$ 2,302,000	\$ -	\$ -	\$ -	\$ -	\$ 25,349,000
	\$ 50,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 50,000
	\$ 11,521,000	\$ 5,964,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17,485,000
	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	
	\$ -	\$ -	\$ 542,000	\$ 213,000	\$ -	\$ 2,865,000					\$ 20,384,000
,	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,134,000		\$ 349,000		
Truck Scale Rehabilitation	> -	\$ -	\$ -	\$ -	> -	\$ -	\$ 86,000	\$ -	,	\$ -	ş 86, <u>0</u> 00
OTHER CAPITAL	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Joint Capital Project Subtotal	\$ 46,762,000	\$ 62,063,500	\$ 86,082,500	\$ 115,988,500	\$ 64,159,500	\$ 55,525,500	\$ 15,632,500	\$ 15,459,500	\$ 11,038,500	\$ 4,628,500	\$ 477,340,500
ALEXRENEW 10-YEAR CIP TOTAL	\$ 48,592,000	\$ 64,286,500	\$ 89,088,500	\$ 118,399,500	\$ 67,390,500	\$ 60,470,500	\$ 20,137,500	\$ 18,404,500	\$ 13,447,500	\$ 10,078,500	\$ 510,295,500

FY 2020 PROPOSED OPERATING AND CAPITAL BUDGET | Draft





		Proposed FY2020	Estimated FY2021	Estimated FY2022	Estimated FY2023	Estimated FY2024	Estimated FY2025	Estimated FY2026	Estimated FY2027	Estimated FY2028	Estimated FY2029	Project Totals
IRR Program												
Alex-only IRR	\$	66,000	\$ -	\$ 37,000	\$ 66,000	\$ 16,000	\$ 37,000	\$ 50,000	\$ 16,000	\$ 53,000	\$ 50,000	\$ 391,000
Joint IRR	\$	4,319,000	\$ 2,990,500	\$ 2,733,500	\$ 2,968,500	\$ 1,629,500	\$ 1,546,500	\$ 1,332,500	\$ 2,267,500	\$ 2,232,500	\$ 2,405,500	\$ 24,425,500
General CIP												
Alex-only Capital Projects	\$	1,764,000	\$ 2,223,000	\$ 2,969,000	\$ 2,345,000	\$ 3,215,000	\$ 4,908,000	\$ 4,455,000	\$ 2,929,000	\$ 2,356,000	\$ 5,400,000	\$ 32,564,000
Joint Capital Projects	\$	19,211,000	\$ 11,545,000	\$ 7,849,000	\$ 8,220,000	\$ 9,030,000	\$ 9,479,000	\$ 14,300,000	\$ 13,192,000	\$ 8,806,000	\$ 2,223,000	\$ 103,855,000
General CIP Sub-Total	\$	25,360,000	\$ 16,758,500	\$ 13,588,500	\$ 13,599,500	\$ 13,890,500	\$ 15,970,500	\$ 20,137,500	\$ 18,404,500	\$ 13,447,500	\$ 10,078,500	\$ 161,235,500
RiverRenew Program												
RiverRenew 108 to 116 mgd Expansion	\$	2,550,000	\$ 640,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,190,000
RiverRenew Bdg J Fac. Reloc. & Decom.	\$	11,510,000	\$ 4,930,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,440,000
RiverRenew Site Security and Access	\$	472,000	\$ 258,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 730,000
RiverRenew Tunnel System	\$	8,700,000	\$ 41,700,000	\$ 75,500,000	\$ 104,700,000	\$ 51,800,000	\$ 44,500,000	\$ -	\$ -	\$ -	\$ -	\$ 326,900,000
RiverRenew Wet Weather Treatment	\$	-	\$ -	\$ -	\$ 100,000	\$ 1,700,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,800,000
RiverRenew Sub-Total	\$	23,232,000	\$ 47,528,000	\$ 75,500,000	\$ 104,800,000	\$ 53,500,000	\$ 44,500,000	\$ -	\$ -	\$ -	\$ -	\$ 349,060,000
												ş -
ALEXRENEW 10-YEAR CIP TOTAL	Ś	48,592,000	\$ 64,286,500	\$ 89,088,500	\$ 118,399,500	\$ 67,390,500	\$ 60,470,500	\$ 20,137,500	\$ 18,404,500	\$ 13,447,500	\$ 10,078,500	\$ 510,295,50





The table below details the FY20 Alexandria-only CIP Projects and the strategic outcome to which they are attached. Following this summary are detailed project sheets for each project that include the project description, benefits, community impacts, lifetime budget, and other relevant details.

FY 2020 Capital Improv	ement Pr	ogram –	Alexan	dria Only		
Projects	Watershed Stewardship	Operational Excellence	Adaptive Culture	Public Engagement & Trust	Effective Financial Stewardship	
Arlington County Capital Contributions	•					
Bush Hill Service Chamber						
Capital Finance Fees						
Commonwealth Interceptor Rehabilitation						
IRR: Collection System Projects (Alex-only)						
Mark Center Pump Station Study						
Mobile Vehicle with Popup/Out Elements						
Potomac Interceptor Rehabilitation						

#### **Arlington County Capital Contributions**

Managing Department and Champion Project Location						Program	and Project	Category	Estim	Lifetime Budget		
	Finance		Various			Arlington C Contributio ⊠ Alexand  □ Joint Us	ria Only	1		Ongoing		
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$0	\$784,000	\$1,173,000	\$1,469,000	\$1,577,000	\$2,465,000	\$3,894,000	\$3,055,000	\$1,029,000	\$211,000	\$2,000,000	\$17,657,000
Financing												
AlexRenew	\$0	\$784,000	\$1,173,000	\$1,469,000	\$1,577,000	\$2,465,000	\$3,894,000	\$3,055,000	\$1,029,000	\$211,000	\$2,000,000	\$17,657,000
Fairfax												
VRLF												
Grant												
Line of Credit												

#### **Project Description and Justification**

AlexRenew maintains 3.0 MGD in capacity rights for the City at the Arlington County Water Pollution Control Plant. Per the service agreement with the County, AlexRenew makes annual contributions to fund allocable portions of various capital improvements at the Arlington plant's facilities. Current capital projects to which AlexRenew has budgeted contributions include: Improvements to the Arlington plant's Eads Street Property (the plant's off-site warehouse which requires work to a retaining wall), Non-Expansion Maintenance Capital (includes HVAC improvements and energy optimization studies), Technology Enhancements (Process Control System projects to protect critical infrastructure), Odor Control, Primary Clarifier Upgrades (work to pumps, motors, and instrumentation), Secondary Clarifiers (necessary rehabilitation to support permit compliance), and Solids Master Plan (both immediate needs such as replacing the motor control center and future phases that support a long-term solution to producing a Class A biosolids project).

Benefits	Strategic Outcome Area
This project ensures the Arlington plant remains in good condition to accommodate AlexRenew's capacity rights	Watershed Stewardship
Key Milestones for FY 20	Impact on Operations or Community
While these milestones are the County's to manage, work is expected to begin on the odor control and solids master plan projects in FY20	Results in other operational efficiencies for the Arlington plant
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• N/A	Modest adjustments to timing of projects

#### **Bush Hill Service Chamber Managing Department and** Lifetime **Project Location Program and Project Category** Estimated Useful Life Champion Budget Service Chambers & PS Upgrades TBD Bush Hill 20 Years \$1,200,000 ☐ Ioint Use FY 2024 10 Yr. Total Expenditure Prior Year FY 2020 FY 2021 FY 2022 FY 2023 FY 2025 FY 2026 FY 2027 FY 2028 FY 2029 \$150,000 \$300,000 \$750,000 \$0 \$1,200,000 Total \$0 \$0 \$0 \$0 \$0 \$0 \$0 Financing \$0 \$150,000 \$300,000 \$750,000 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$1,200,000 AlexRenew Fairfax VRLF Grant Line of Credit **Project Description and Justification** The Bush Hill Service Chamber was constructed in November 2002 to service the Holiday Inn located at 2460 Eisenhower Avenue. The Holiday Inn previously experienced sewer back-ups resulting from the surcharged Holmes Run Trunk Sewer, so the service chamber was constructed to prevent these backups from occurring on the property. This project begins with a condition study and follows up with a thorough equipment rehabilitation or replacement, as needed. This project will also consider the retrofitting of the inflow orifice with a bar screen if the wet weather load is considered significant. **Benefits Strategic Outcome Area** This project maintains the service chamber that eliminates the back-Operational Excellence ups. **Impact on Operations or Community Key Milestones for FY 20** Decreases/increases future O&M costs Start of evaluation Results in other operational efficiencies **External or Internal Adopted Plan or Recommendation Changes from Prior Year CIP** Bar screen portion: August 2017 Greeley & Hansen Condition

None.

**Assessment Summary and Recommendations** 

# **Capital Finance Fees**

Managing Department and Champion			Project Location			Program	and Project	Category	Estin	Life	Lifetime Budget	
Finance				Various		Service Cha ⊠ Alexand □ Joint Us	•	Upgrades		Ongoing		
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$0	\$400,000	\$600,000	\$750,000	\$750,000	\$750,000	\$600,000	\$400,000	\$400,000	\$400,000	\$400,000	\$5,450,000
Financing												
AlexRenew	\$0	\$400,000	\$600,000	\$750,000	\$750,000	\$750,000	\$600,000	\$400,000	\$400,000	\$400,000	\$400,000	\$5,450,000
Fairfax												
VRLF												
Grant												
Line of Credit												

#### **Project Description and Justification**

• AlexRenew has set aside funds in its capital budget to accommodate various fees associated with the financing of the capital program. These fees could include financial advisory fees related to the structuring of debt to fund both the General CIP and the RiverRenew program, legal fees such as Bond Counsel work to review legal documentation, rate consultant work to consider the impact of funding mechanism on rates, and application fees to potential grant or loan programs.

	Benefits		Strategic Outcome Area
•	Investing in capital finance fees helps ensure that capital financing is executed in the most efficient manner	•	Effective Financial Stewardship
	Key Milestones for FY 20		Impact on Operations or Community
•	N/A	•	None
	External or Internal Adopted Plan or Recommendation		Changes from Prior Year CIP
•	N/A	•	None

## **Commonwealth Interceptor Rehabilitation**

Managing Department and Champion			Pr	oject Locati	on	Program	and Project	Category	Estim	Life	Lifetime Budget	
E	Engineering TBD  Commonwealth Avenue  Interceptor/Trunk Sewers Rehab.  Alexandria Only  □ Joint Use  Interceptor/Trunk Sewers Rehab.  □ Joint Use							\$263,000				
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2024 FY 2025 FY 2026		FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$0	\$0	\$0	\$0	\$18,000	\$0	\$0	\$0	\$0	\$245,000	\$0	\$263,000
Financing												
AlexRenew	\$0	\$0	\$0	\$0	\$18,000	\$0	\$0	\$0	\$0	\$245,000	\$0	\$263,000
Fairfax												
VRLF												
Grant												
Line of Credit												

### **Project Description and Justification**

Based upon cleaning and inspection conducted in early 2018, the Commonwealth Interceptor is in good condition, having experienced a variety of rehabilitation projects in 1997, 2001, and 2008. However, there are recommendations based upon inspection:

- Monitor the excess grout detected downstream of MH6974, at the intersection of Wyatt and Commonwealth, for retention of debris.
- Monitor the detached sliplining downstream of MH 9669, at the intersection of Myrtle and Commonwealth, for increased rates of infiltration or degradation.
- Monitor failed slipliner repair downstream of MH 9593, as soon as practical, to determine if immediate action is required.

Benefits		Strategic Outcome Area
<ul> <li>Appropriate minor repairs and maintenance activities maximize asset life.</li> </ul>	•	Effective Financial Stewardship
Key Milestones for FY 20		Impact on Operations or Community
• N/A	•	Any cleaning and/or inspection on the Commonwealth requires coordination with Operations and Maintenance personnel to actively manage the flow downstream of the Four Mile Run Pumping Station. Cleaning activities require City permitting for traffic control, and parking impacts.  Citizens are to be notified if contractor equipment will be in their neighborhood.

# **IRR: Collection System Projects (Alex-Only)**

Managing Department and Champion			Project Location			Program	and Project	Category	Estim	Lifetime Budget		
N	laintenance		Four Mile Run PS			Improve., F	ehab., Replac	cement				
			l M	Iark Center P	rS		ria Only		3 years for	r pumps and	grinders	\$443,000
Steve Hill			Slater's Lane PS			☐ Joint Use						
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$52,000	\$66,000	\$0	\$37,000	\$66,000	\$16,000	\$37,000	\$50,000	\$16,000	\$53,000	\$50,000	\$391,000
Financing												
AlexRenew	\$52,000	\$66,000	\$0	\$37,000	\$66,000	\$16,000	\$37,000	\$50,000	\$16,000	\$53,000	\$50,000	\$391,000
Fairfax												
VRLF												
Grant												
Line of Credit												

### **Project Description and Justification**

• This subprogram covers all improvement, rehabilitation and replacement projects associated with the pump stations, service chambers, and outfalls that are funded solely by AlexRenew.

	Benefits		Strategic Outcome Area
•	Full redundancy and reliability of Four Mile Run Pump Station, Mark Center Pump Station and Slater's Lane Pump Station	•	Effective Financial Stewardship

### **IRR: Solids Infrastructure Continued**

Key Milestones for FY 20	Impact on Operations or Community
<ul> <li>Complete pumps and grinders replacement at Four Mile Run PS</li> <li>Complete rebuilt or replacement of MCPS Pumps</li> <li>Complete 1 pump replacement at Slater's Lane PS</li> </ul>	<ul> <li>Elimination of possible basement backups</li> <li>Increase equipment availability for high flow events</li> <li>Increase equipment availability to process</li> </ul>
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• N/A	Addition of FY 29 funding

# **Mark Center Pump Station Study**

	ng Departmer Champion	nt and	Pı	oject Locati	on	Program	and Project	Category	Estii	mated Usefu	l Life	Lifetime Budget	
Engineering TBD Mark Center Pump Station				Station	Service Cha  Alexand  Joint Us	•	Upgrades.		\$350,000				
Expenditure	Expenditure         Prior Year         FY 2020         FY 2021         FY 2022         FY 2023				FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total		
Total			\$0	\$0	\$0	\$0	\$0	\$0	\$350,000				
Financing AlexRenew Fairfax	AlexRenew \$0 \$350,000 \$0 \$0 \$0 Fairfax			\$0	\$0	\$0	\$0	\$0	\$0	\$350,000			
Grant	VRLF Grant										-		
Line of Credit													
				]	Project Desc	cription and Justification							
The Mark	k Center Pump	Station (M	CPS) needs to	be evaluate	d for potentia	ial upgrades.							
		Bene	efits			Strategic Outcome Area							
Full redu	ındancy and re	eliability of t	the MCPS			Operational Excellence							
	Ke	y Mileston	es for FY 20			Impact on Operations or Community							
• Complet	ion of study					Increase equipment availability to process							
Exte	ernal or Inter	nal Adopte	d Plan or Re	commendat	ion	Changes from Prior Year CIP							
• N/A						Addition of money in FY 2020 to perform a condition assessment.							

## **Mobile Vehicle with Popup/Out Elements**

Managing Department and Champion			Pro	oject Locatio	on	Program	and Project	Category	Esti	Lifetime Budget		
Lisa Van Riner N/A				Non-Process  ⊠ Alexandr  □ Joint Use	ria Only			\$230,000				
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$0	\$80,000	\$150,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$230,000
Financing												
AlexRenew	\$0	\$80,000	\$150,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$230,000
Fairfax												
VRLF												
Grant												
Line of Credit												

### **Project Description and Justification**

• This project will create a mobile experience that can be easily transported and set up at events and venues such as schools, farmers markets, festivals and city holiday celebrations. This will allow AlexRenew to go where the customers and community are and engage with them.

	Benefits	Strategic Outcome Area
•	Allows for more nimble, attractive, and engaging customer/citizen	
•	outreach; i.e. saving tent and table setup. Allows AlexRenew to keep pace with other local jurisdictions that have	
	similar vehicles/customer outreach.	Public Engagement & Trust
•	Increased brand recognition across Alexandria.	
•	Allows for an interactive experience with members of the community	
	who will not experience the EC lobby or 4 MR educational fence.	
	Key Milestones for FY 20	Impact on Operations or Community
	Key Milestones for FY 20	Impact on Operations or Community     Will require driver training
•	Key Milestones for FY 20  Complete vehicle design	· · ·
•	•	Will require driver training
•	•	<ul> <li>Will require driver training</li> <li>Will require changes to vehicle insurance</li> </ul>

### **Potomac Interceptor Rehabilitation**

	g Departmen Champion	nt and	Pr	oject Locati	on	Program	and Project	Category	Estim	l Life	Lifetime Budget	
Engineering TBD East A					Interceptor/Trunk Sewers Re  Alexandria				20-30 years			\$7,414,000
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$414,000	\$1,000,000	\$1,500,000	\$1,500,000	\$3,000,000	\$7,414,000
Financing												
AlexRenew	\$0	\$0	\$0	\$0	\$0	\$0	\$414,000	\$1,000,000	\$1,500,000	\$1,500,000	\$3,000,000	\$7,414,000
Fairfax												
VRLF												
Grant												
Line of Credit												

#### **Project Description and Justification**

Based upon CCTV inspection of the interceptor in 2015/2016, the largest finds were settlement in the area of Jones Point Park. Recommendations include:

- Replace the 1,450 linear feet of 42-inch pipe within Jones Point Park
- Rehabilitate all 26 manholes of Potomac Interceptor
- Reinspect the entire length of the Potomac Interceptor
- Phased lining of the entire length, which is now exhibiting exposed aggregate, and in some segments, staining from reinforcing steel.

Due to RiverRenew, all work prior to FY2025 has been postponed. Work in FY2025 includes CCTV to reconfirm the repairs and some immediate manhole repairs.

	te to revertenew, an work prior to 1 12020 has been postponed. Work in 1	· · · · · · · · · · · · · · · · · · ·
	Benefits	Strategic Outcome Area
•	Maximize asset life.	Effective Financial Stewardship
	Key Milestones for FY 20	Impact on Operations or Community
•	N/A	<ul> <li>Any cleaning and/or inspection on the Potomac Interceptor requires City permitting for traffic control, and parking impacts.</li> <li>Citizens are to be notified if contractor equipment will be in their neighborhood.</li> <li>Permits required for work in the National Park Service jurisdiction.</li> </ul>
	External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
•	2017 Greeley and Hansen Report, "Potomac Interceptor Condition Assessment Summary and Recommendations"	Change in timing.



# Joint Use Facilities CIP Project Details

The table below and on the following page detail the FY20 Joint-use CIP Projects and the strategic outcome to which they are attached. Following this summary are detailed project sheets for each project including the project description, benefits, community impacts, lifetime budget, and other relevant details. Also included are descriptions of the Improvement, Renewal and Replacement Projects that are funded from the Joint IRR Fund.

Projects	Watershed Stewardship	Operational Excellence	Adaptive Culture	Public Engagement and Trust	Financial Stewardship
Building 60: NMF Odor Media Study	, ,,	•			
<b>Building F: Effluent W3 System Improvements</b>					
Building L: Odor Scrubber and Piping Study					
Building L: Polymer System Study					
Campus-wide Electrical Upgrade Sub-Program					
Centrate Pretreatment Facility					
Commonwealth Interceptor Pile Intrusion					
<b>Environmental Center - 5th Floor Build Out</b>					
Environmental Center - Lobby Upgrade					
Fiber Optic Backbone Replacement					
HMI Upgrade					
Intermediate Pump Station Pump Study					
IRR: Preliminary/Primary Infrastructure					
IRR: Secondary Infrastructure					
IRR: Tertiary Infrastructure					
IRR: Solids Infrastructure					
IRR: Campus Wide Projects					
IRR: Collection System Projects					
IRR: Information Technology Projects					
Long Range Plan					
PLC Equipment and Network Upgrade					

(Continued on following page)



# Joint Use Facilities CIP Project Details

(Continued from previous page)

Projects	Watershed Stewardship	<b>Operational</b> <b>Excellence</b>	Adaptive Culture	Public Engagement & Trust	Financial Stewardship
Power Distribution Monitors	-	•		-	-
Preliminary /Primary System Upgrades					
Pre-Pasteurization System Improvements					
Process Air Compressor (PAC) System Upgrade					
RiverRenew 108 to 116 mgd Expansion					
RiverRenew Bdg J Fac. Reloc. & Decom.					
RiverRenew Site Security and Access					
RiverRenew Tunnel System					
RiverRenew Wet Weather Treatment					
Security Services During Construction					
Solids/Resource Recovery Upgrades					
South Carlyle Partnership					
Stormwater System - Struct./Nonstruct. BMPs					
Truck Scale Rehabilitation					
Upper Holmes Run Trunk Sewer Rehabilitation					
WRRF Fire Alarm Upgrade					
WRRF HVAC Automation System Upgrade					

# **Building 60: NMF Facility Odor Media Study**

Managing Department and Project Location					on	Program	and Project	Category	Estim	ated Useful	Life	Lifetime Budget
I	Engineering TBD			Building 60		WRRF Impa □ Alexand ⊠ Joint Us	ria Only			\$350,000		
Expenditure Prior Year FY 2020 FY 2021 FY 2022 FY 202				FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total	
Total	\$0	\$0	\$350,000 \$0 \$0			\$0	\$0	\$0	\$0	\$0	\$0	\$350,000
Financing				Ψ330,000 Ψ0								
AlexRenew	\$0	\$0	\$140,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$140,000
Fairfax	\$0	\$0	\$210,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$210,000
VRLF												
Grant												
Line of Credit												
			-	F	Project Desc	ription and ]	ustification					
This project v	will study the r	eplacemen	t cycle and ty	pes of odor n	nedia at the N	Nutrient Mana	agement Faci	lity.				
		Rene	ofite			Strategic Outcome Area						

Benefits	Strategic Outcome Area
This project will optimize the effectiveness of the odor control system at the Nutrient Management Facility.	Operational Excellence
Key Milestones for FY 20	Impact on Operations or Community
None	• N/A
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
SOP-X-NMF Odor Control System Carbon Replacement (by CH2M 12/30/15)	• N/A

## **Building F: Effluent W3 System Improvements**

	g Departmer Champion	nt and	Pr	oject Locatio	on	Program	and Project	Category	Estii	Lifetime Budget		
H	Process Iari Santha			Building F		☐ Alexand	WRRF Improvements  ☐ Alexandria Only  ☑ Joint Use			15 years for strainers		
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$106,000	\$136,000	\$350,000	\$0	\$10,000	\$0	\$0	\$10,000	\$0	\$0	\$10,000	\$516,000
Financing												
AlexRenew	\$42,400	\$54,400	\$140,000	\$0	\$4,000	\$0	\$0	\$4,000	\$0	\$0	\$4,000	\$206,400
Fairfax	\$63,600	\$81,600	\$210,000	\$0	\$6,000	\$0	\$0	\$6,000	00 \$0 \$0 \$6,000			\$309,600
VRLF												
Grant												
Line of Credit												

- The W3 Pumps are scheduled to be replaced based on 0&M recommended runtime hours. All the five pumps will be replaced in FY2020 and then 2 pumps will be replaced every 3 years.
- The W3 Strainers are scheduled to be replaced based on 0&M recommended runtime hours. One of the two strainers was replaced in FY2019. The other will be replaced in FY2020.
- A review of the entire system via BOA is anticipated in FY 2021.

A review of the entire system via box is anticipated in 11 2021.	
Benefits	Strategic Outcome Area
<ul> <li>Full redundancy and reliability of the W3 Water System that feed water throughout AlexRenew's Wastewater processing</li> <li>Maintain AlexRenew W3 output pressure</li> <li>Maintain the cleanliness of the W3 Water output</li> </ul>	Effective Financial Stewardship
Key Milestones for FY 20	Impact on Operations or Community
<ul> <li>Complete replacement of the five (5) W3 pumps</li> <li>Complete replacement one (1) W3 Strainer</li> </ul>	<ul> <li>Increase equipment availability for high flow events</li> <li>Increase equipment reliability for future RiverRenew Project</li> </ul>
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• N/A	<ul> <li>W3 strainers and W3 pumps we added to this program.</li> <li>Design costs were decreased to only account for future study.</li> </ul>

# **Building L: Odor Scrubber and Piping Study**

_	g Departmer Champion	nt and	Pı	roject Locati	on	Program	and Project	Category	Esti	mated Usefu	l Life	Lifetime Budget
E	Engineering					WRRF Impi						
TBD Building L					☐ Alexand ☑ Joint Us	•			N/A		\$150,000	
Expenditure	enditure Prior Year FY 2020 FY 2021 FY 2022 FY 202				FV 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total						\$0	\$0	\$0	\$0	\$0	\$0	\$150,000
Financing												
AlexRenew	\$0	\$0	\$60,000	\$0	\$0	\$0	\$0	\$0	\$0	\$60,000		
Fairfax	airfax \$0 \$0 \$90,000 \$0 \$0					\$0	\$0	\$0	\$0	\$0	\$0	\$90,000
VRLF												
Grant												
Line of Credit												
				I	Project Desc	ription and <b>J</b>	ustification					
• This is a	study of the o	dor scrubbe	er and piping	to determine	if improvem	ents can be n	nade.					
		Bene	efits					Strate	egic Outcom	e Area		
	ndancy and re AlexRenew's		ıbber System		• Operat	ional Excelle	nce					
	Key Milestones for FY 20							Impact on O	perations o	r Communit	y	
• N/A						• Enviro	nmental Air (	Quality Contr	ol			

**External or Internal Adopted Plan or Recommendation** 

• N/A

**Changes from Prior Year CIP** 

• Re-purposing of funding to evaluate current system.

# **Building L: Polymer System Study**

Managing Department and Champion			Project Location			Program	Program and Project Category			Estimated Useful Life			
Е	Ingineering					WRRF Imp	rovements						
				Building L		☐ Alexand	lria Only			N/A		\$40,000	
TBD													
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total	
Total	\$0	\$40,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$40,000	
Financing													
AlexRenew	\$0	\$16,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,000	
Fairfax	\$0	\$24,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$24,000	
VRLF													
Grant													
Line of Credit													

### **Project Description and Justification**

• In FY20, an engineering analysis of the current system is planned.

Benefits	Strategic Outcome Area
Full Redundancy and reliability of the Polymer feed pumping	Operational Excellence
Key Milestones for FY 20	Impact on Operations or Community
Completion of the engineering analysis.	Increase equipment reliability for future RiverRenew Project
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• N/A	New project

## **Campus-Wide Electrical Upgrade Sub-Program**

_	Managing Department and Champion			Project Location			and Project (	Category	Estim	Lifetime Budget		
E	Engineering TBD  WRRF Improvements  Alexandria Only 20 -30 years							\$14,992,000				
IBD						☑ Joint Use						
Expenditure	Prior Year	FY 2020	FY 2021	FY 2021 FY 2022 FY 2023			FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$0	\$0	\$0	\$0	\$0	\$781,000	\$3,334,000	\$3,278,000	\$4,301,000	\$2,652,000	\$646,000	\$14,992,000
Financing												
AlexRenew	\$0	\$0	\$0	\$0	\$0	\$312,400	\$1,333,600	\$1,311,200	\$1,720,400	\$1,060,800	\$258,400	\$5,996,800
Fairfax	\$0	\$0	\$0 \$0 \$0			\$468,600	\$2,000,400	\$1,966,800	\$2,580,600	\$1,591,200	\$387,600	\$8,995,200
VRLF												
Grant												
Line of Credit												

#### **Project Description and Justification**

In 2011 Greeley and Hanson performed an Energy Master Plan Study. As a result of the study, 9 projects were identified to plant reliability and safety. The UV disinfection upgrades recommended are not included in this project.

Project C-2: Switchgear 1A Upgrades: Switchgear "1A" was installed in 1978 to serve the Carbon Facilities in Building "G" and the Tertiary Sedimentation Tanks. The Carbon Facilities were removed in the early 2000s. The Tertiary Sedimentation Tanks remain in-service along with the building loads (HVAC and lighting). Switchgear "1A" has reached the end of its useful life. The switchgear bus has corrosion and spare parts are difficult to find. The primary feed to Switchgear "1A" should also be replaced as part of the Switchgear "1A" upgrades.

Project C-3: Electrical Boiler Study: This study is to reassess the functionality of the electric boilers within a larger context of energy neutrality, sustainability and cost effectiveness. Since the size of Switchgear "C" and associated transformers are directly related to the outcome of this study, it should be performed before specifying the replacement for Switchgear "C".

Project C-4: Arc Flash Hazard Reduction Project: Switchgears SS-1 and SS-2 and Switchgears "L-1" and "L-2" have very dangerous arc flash ratings. This would retrofit Switchgears SS-1 and SS-2 with remote Trip/Racking devices and Switchgears "L-1" and "L-2 with ARMs devices to lower arc flash hazards for electricians performing routine maintenance.

Project C-5: Emergency Power for Control Room: The power supply to the control room is currently backed up with a single UPS. This UPS is fed from a single plant bus, and there is currently no second feed from the other plant bus to the control room. In the event of the total loss of the bus feeding the UPS, the control room will be out of power when the UPS batteries are exhausted, which will result in a loss of the SCADA system used to monitor and operate the treatment plant. It is recommended that improvements to the control room power supply include an ATS connected to both busses of Switchgear "1A" that will provide a real time

### **Campus-Wide Electrical Upgrade Sub-Program Continued**

emergency power backup system for the plant's SCADA system including UPS power. Step the second source down to 208 volts from 480 volts and connect the two sources to the control room UPS power system through a new ATS. Provide an external manual maintenance bypass switch to remove the UPS from the circuit for maintenance without losing power to the control room. A separate standby generator should also be considered.

Project C-6: Switchgear "C" Upgrades: Switchgear "C" was installed in 1976 to serve the Rotating Biological Contactors (RBCs) and the gravity thickening facilities. As new improvements were incorporated into the plant processes, more loads and MCCs have been added to Switchgear "C". Currently Switchgear "C" supplies power to the following Motor Control Centers (MCCs) and facilities:

- MCC-MC-2: Abandon RBC Equipment and building loads including MCC-MC-1
- MCC-MT-1: Gravity Thickening Facility installed in 1981
- MCC-N-A1B1: UV Disinfection Facility
- MCC-F-1A1B: Post Aeration and Plant Water (W3)
- MCC-55 and 55-C: Pre-Pasteurization
- Electrical Boilers 1 and 2

Switchgear "C" has reached the end of its useful life and is currently overloaded. If one of the electrical feeds is lost and the tie breaker must be closed to restore service, Switchgear "C" cannot support the downstream loads without intentionally disabling the electric boilers. MCCs MT-1, MC-1, and MC-2 have also reached the end of their useful life and each has several buckets/breakers that are abandoned. MCC-MC-1, and MCC-MC-2 should be consolidated into a single double ended MCC. The UV Disinfection Facility upgrades should be separated from Switchgear "C" upgrades. Transformers TC-1 and TC-2 serving Switchgear "C" should be replaced during Switchgear "C" upgrades with transformers sized for the remaining loads on the switchgear less the UV processes. New conductors should be installed from SS-1 to the new TC-1 and TC-2 transformers and from the TC-1 and TC-2 transformers to the transformers servicing MCC-20-1A1B. New conductors will also be required between Switchgear "C" and the downstream MCCs.

Project C-7: Utility Supply Improvements: Analysis of power reliability requirements for this site indicates that the provisions of the Virginia DEQ SCAT Regulations define the mandatory level of electrical reliability. There are two aspects of the current utility delivery system required modification to improve the regulatory compliance and electrical reliability of utility supply, which are described are relocation of one of the two Dominion aerial distribution feeders and addition of a fire block between the Dominion transformers.

Project C-8: Access Building 23 Electrical Upgrades: The switchboard in Access Building 23 provides power to Return Activated Sludge Pumps, Waste Activated Sludge Pumps, and the Secondary Sedimentation Tank Sludge Collection equipment. The two main breakers and the tie breaker in Switchboard 23 are no longer supported. A complete shutdown of the switchboard will be required to replace the tie breaker.

Project C-9: Building "G" Electrical Upgrades: Building "G" was installed in the late 1970s to house the Carbon Facilities and the Tertiary Sedimentation Tanks support facilitates. The Carbon Facilities were removed in the early 2000s. The Tertiary Sedimentation Tanks remain in-service along with miscellaneous Building "G" loads (HVAC and lighting). The major Motor Control Centers (MCCs) that supply power to these facilities are as follows:

• MA-1: Building "G" loads, and Intermediate Pump Valves

## **Campus-Wide Electrical Upgrade Sub-Program Continued**

- MA-2: Building "G" loads, and abandon Carbon Facilities
- MA-3, MCC G1, MCC G2, and PA-1: Building "G" loads
- PA-2 and PA-3: Building "G" loads and Tertiary Sedimentation Tanks

MCCs MA-1, MA-2, MA-3, PA-1, PA-2, and PA-3 have reached the end of their useful life and spare parts are difficult to find. It is recommended that these MCCs be upgraded to improve the electrical reliability of Intermediate Pumping Station and the Tertiary Sedimentation Tanks.

Benefits	Strategic Outcome Area
Ensure aged or intermediate projects have not compromised electrical reliability.	Effective Financial Stewardship
Key Milestones for FY 20	Impact on Operations or Community
• N/A	Remedial efforts may require coordination with operations and/or maintenance teams at AlexRenew.
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
2011 Greeley and Hansen report "Energy Master Plan Study."	Timing of work has changed to more evenly spread funding.

## **Centrate Pre-Treatment Facility Improvements**

_	g Departmer Champion	nt and	Project Location			Program	and Project	Category	Estii	Lifetime Budget		
I	Engineering TBD	Building 69 (CPT Facility) Building L (Basement)  WRRF Improvements  □ Alexandria Only □ Joint Use  20 Years for Eq				ears for Equip	oment	\$516,000				
Expenditure	Prior Year	FY 2020	FY 2021			FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$73,000	\$185,000	\$258,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$443,000
Financing												
AlexRenew	\$29,200	\$74,000	\$103,200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$177,200
Fairfax	\$43,800	\$111,000	\$154,800	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0		\$265,800
VRLF												
Grant												
Line of Credit												

- The centrate pre-treatment facility uses the DEMON™ process to reduce the nitrogen content of the dewatering centrate prior to return to the BRBs. The facility was placed into operation in 2015 and operates well but requires capital improvements for improved performance. Improvements include replacing the existing cyclone feed pumps which are prone to frequent clogging and implementing some modifications to the centrate transfer piping to divert poor quality centrate to gravity thickener 5 or the blended sludge tank.
- The project is proposed to be procured through a Design-Bid-Build method with AlexRenew using one of their on-call contractors. Some of the work will be done by the blower vendor (Neuros) on their equipment.

Benefits	Strategic Outcome Area					
<ul> <li>Increase reliability of the system.</li> <li>Reduce downtime and maintenance needed on the pumps and process upsets caused by poor quality centrate.</li> </ul>	Operational Excellence					

## **Commonwealth Interceptor Pile Intrusion**

Managing Department and Champion			Pr	oject Locati	on	Program	and Project	Category	Estim	Lifetime Budget		
Е	ngineering TBD		88 feet south of Junction Box 34			Interceptor/Trunk Sewers Rehab.  ☐ Alexandria Only			40 years			\$764,000
n u n n n		FY 2021 FY 2022 FY 2023			⊠ Joint Use FY 2024 FY 2025 FY 2026			FY 2027 FY 2028 FY 2029			10 Yr. Total	
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 ff. fotal
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$177,000	\$587,000	\$0	\$0	\$0	\$764,000
Financing												
AlexRenew	\$0	\$0	\$0	\$0	\$0	\$0	\$70,800	\$234,800	\$0	\$0	\$0	\$305,600
Fairfax	\$0	\$0	\$0	\$0	\$0	\$0	\$106,200	\$352,200	\$0	\$0	\$0	\$458,400
VRLF												
Grant												
Line of Credit												

### **Project Description and Justification**

• During a closed circuit television inspection of the 72-inch CI conducted in 2006, an intrusion was discovered approximately 88 feet downstream of Junction Box 34. The intrusion appears to be from the installation of a pile supporting the odorous airline that crosses the Commonwealth Interceptor in this area. This project will eliminate the intrusion.

	Benefits	Strategic Outcome Area
•	More than $80\%$ of the dry weather flow treated at AlexRenew is conveyed by the CI. The pipe continues to be monitored to ensure adequate flow.	Operational Excellence
	Key Milestones for FY 20	Impact on Operations or Community
•	N/A	<ul><li>Decreases future O&amp;M costs</li><li>Reduces risk</li></ul>
	External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
		Budget has been altered to separate this project completely from the

Commonwealth Interceptor Rehabilitation.

2014 Report "72 Inch Commonwealth Interceptor Repair Plan"

## Environmental Center-5th Floor Build-Out

Managing Department and Champion  Engineering			Pro	oject Locatio	n	Program a	and Project (	Category	Estim	Lifetime Budget		
						Non-Process	Facilities					
			Environmental Center Lobby			☐ Alexandri	☐ Alexandria Only			40 years		
TBD						☑ Joint Use						
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,200,000	\$0	\$0	\$0	\$1,200,000
Financing												
AlexRenew	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$612,000	\$0	\$0	\$0	\$612,000
Fairfax \$0 \$0		\$0	\$0	\$0	\$0	\$0	\$0	\$588,000	\$0	\$0	\$0	\$588,000
VRLF												
Grant												
Line of Credit												

### **Project Description and Justification**

• As originally constructed, the Environmental Center was left with a customizable 5th floor. This future buildout is intended to provide full functionality for that space when needed for staff or public.

Benefits	Strategic Outcome Area					
Optimize use of existing infrastructure	Adaptive Culture					
Key Milestones for FY 20	Impact on Operations or Community					
• N/A	Results in other operational efficiencies.					
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP					
• N/A	• None					

								<del></del>				
	Managing Department and Champion			Project Location			Program and Project Category			Estimated Useful Life		
Communications Lisa Van Riper			Environmental Center Lobby			Non-Process Facilities  ☐ Alexandria Only  ☑ Joint Use			8 years			\$170,000
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$0	\$150,000	\$20,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$170,000
Financing												
AlexRenew	\$0	\$76,500	\$10,200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$86,700
Fairfax	\$0	\$73,500	\$9,800	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$83,300
VRLF												
Grant												
Line of Credit												
				F	Project Desci	ription and J	ustification					
• This proje	ect includes th	ree phases	to update the	e lobby and e	nhance the vi	sitor experie	nce					
• Phase 2: 0	Changing disp	lay in Envir	onmental Cei	nter front lob	by and addin	g RiverRene	w elements (	FY20)				
Phase 3:L	Displaying Tl	BM footage	in lobby and	updating pla	nt flow graph	ic						
		Bene	efits					Strate	egic Outcom	e Area		

•	Update display to reflect the RiverRenew elements, enhancing community understanding of the program and AlexRenew's expanded role. Updated display encourages return visitors.	Public Engagement and Trust
	Key Milestones for FY 20	Impact on Operations or Community
•	Change "Renewing Your Connection" display Add TBM signage and model Add tunnel as addition to pipes in PYP area Create two TBM soft sculptures	Will require coordination with RiverRenew on installation, maintenance and output of camera system.
	External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP

Addition of phase 2 and 3

• N/A

Previous plan included upgrade of fish room; this takes the place of that.

# Fiber Optic Backbone Replacement

Managing Department and Champion			Pr	Project Location			Program and Project Category			Estimated Useful Life			
I	Engineering			WRRF Improvements									
Loff I in door			Main Campus			│ □ Alexand	☐ Alexandria Only			10 years			
Jeff Lindsay			_			☑ Joint Use							
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total	
Total	\$300,000	\$1,186,000	\$334,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,520,000	
Financing													
AlexRenew	\$120,000	\$474,400	\$133,600	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$608,000	
Fairfax	\$180,000	\$711,600	\$200,400	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$912,000	
VRLF													
Grant													
Line of Credit													

- This project is for a complete rebuilding of the fiber backbone.
- This upgrade/replacement will enhance and upsize the system to meet emerging needs.

	Benefits	Strategic Outcome Area
•	This will increase the available speed. Increase scalability of system to account for an increase in the number of smart devices being used.	Effective Financial Stewardship
	Key Milestones for FY 20	Impact on Operations or Community
•	Award contract	Completion of the project will require a series of outages to place all current
•	Begin design	devices on the new system
	External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP

1		0
2015-2016 Audit of Fiber Optics	• De	ecrease in work timeframe so that all work is complete by December 2020

## **HMI Upgrade**

Managing Department and Champion			Project Location			Program and Project Category			Estim	Lifetime Budget		
Engineering Jeff Lindsay				WRRF		WRRF Improvements  ☐ Alexandria Only  ☑ Joint Use			10 years			\$4,452,000
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$885,000	\$2,182,000	\$1,385,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,567,000
Financing												
AlexRenew	\$354,000	\$872,800	\$554,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,426,800
Fairfax	\$531,000	\$1,309,200	\$831,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,140,200
VRLF												
Grant												
Line of Credit												

- This is a 5-phase project to replace WinCC with Factory Talk View SE. Screens will be updated to new standards. PLC code will be rewritten to reference the new standards. Phases 1-3 were completed in and prior to FY 2019.
- Phase 4 will be detailed design/HMI Dev/PLC Programing.
- Phase 5 is the final rollout, testing and completion.

- Thuse s is the initial follows, testing and completion.					
Benefits	Strategic Outcome Area				
Reduce the number of screens to provide concise graphical information					
Reduce the number of ghost alarms					
Eliminate stability issues inherent to WinCC	Adaptive Culture				
<ul> <li>Develop scalable control system to meet future demands</li> </ul>	- Maprive culture				
Improve fault tolerance					
Develop HMI and PLC standards					
	Impact on Operations or Community				
Key Milestones for FY 20	Impact on Operations or Community				
•	Impact on Operations or Community     Increase operational efficiencies through improved user experience				
<ul> <li>Key Milestones for FY 20</li> <li>Begin phase 4</li> </ul>					
•					

# **Intermediate Pump Station Pump Study**

Managing Department and Champion			Project Location			Program and Project Category			Esti	Lifetime Budget		
M	Iaintenance					WRRF Imp	rovements					
				Building G		☐ Alexand	lria Only			N/A		\$250,000
Steve Hill												
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$0	\$250,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$250,000
Financing												
AlexRenew	\$0	\$100,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$100,000
Fairfax	\$0	\$150,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$150,000
VRLF												
Grant												
Line of Credit												

### **Project Description and Justification**

• An assessment of the pumps for energy, efficiency, etc. is scheduled for FY20.

	Benefits	Strategic Outcome Area				
•	Full redundancy and reliability of the Intermediate Pumping System	Operational Excellence				
	Key Milestones for FY 20	Impact on Operations or Community				
•	Completion of assessment of pumps	Increase equipment availability to process				
	External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP				
•	N/A	•	Addition of condition assessment in FY 20.			

# **IRR: Preliminary/Primary Infrastructure**

Managing Department and Champion			Project Location			Program and Project Category			Estimated Useful Life			Lifetime Budget
M	laintenance					1 -	ehab., Replac	cement	6 Years for raw sewage pump Yearly for probes and instruments			
Steve Hill			WRRF			☐ Alexandria Only ☐ Joint Use			10 years for >100 Hp Motors 10 years for VFDs			\$1,210,000
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$346,667	\$346,667	\$296,667	\$33,333	\$33,333	\$33,333	\$33,333	\$33,333	\$33,333	\$83,333	\$83,333	\$876,667
Financing												
AlexRenew	\$133,333	\$133,333	\$113,333	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$28,000	\$28,000	\$350,667
Fairfax	\$200,000	\$200,000	\$170,000	\$20,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$42,000	\$42,000	\$526,000
VRLF												
Grant												
Line of Credit												

### **Project Description and Justification**

• This subprogram covers all improvement, renewal and replacement projects associated with liquid unit processes in preliminary and primary facilities. This includes, but is not limited to VFD probes, motors, pumps and instrumentation repair and replacement.

	Benefits	Strategic Outcome Area					
	Reliability of the preliminary/primary infrastructure						
	<ul> <li>Improve accuracy on flow, level, pressure, etc.</li> </ul>	Effective Financial Stewardship					
	Improved and advanced automation campus wide						
ľ	Key Milestones for FY 20	Impact on Operations or Community					

,	• •
<ul> <li>Upgrade VFDs</li> <li>Complete replacement or repair of process instruments</li> <li>Complete rebuilt or replacement of a Raw Sewage Pump</li> <li>Replacement of motors with &gt;100 Hp</li> </ul>	<ul> <li>Decreases future 0&amp;M costs</li> <li>Reduces risk</li> <li>Increase equipment availability to process</li> </ul>

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP				
This project complements Building A: Raw Sewage Pump Replacement	<ul> <li>Changes to accommodate the pump replacement schedule.</li> <li>Costs updated to reflect newest quotes</li> </ul>				

### **IRR: Secondary Infrastructure**

Managing Department and Champion			Project Location			Program and Project Category			Estimated Useful Life			Lifetime Budget
Process/Maintenance Hari Santha/Steve Hill			WRRF			Improve., Rehab., Replacement  ☐ Alexandria Only  ☑ Joint Use			10 years for BRB actuators 5 years for large BRB mixers 5 years for small BRB mixers 10 years for VFDs 10 years for NMF actuators			\$4,406,000
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$922,333	\$613,333	\$796,333	\$533,000	\$273,000	\$70,000	\$70,000	\$313,000	\$433,000	\$312,000	\$70,000	\$3,483,667
Financing												
AlexRenew	\$368,933	\$245,333	\$318,533	\$213,200	\$109,200	\$28,000	\$28,000	\$125,200	\$173,200	\$124,800	\$28,000	\$1,393,467
Fairfax	\$553,400	\$ 368,000	\$477,800	\$319,800	\$163,800	\$42,000	\$42,000	\$187,800	\$259,800	\$ 187,200	\$42,000	\$2,090,200
VRLF												
Grant												
Line of Credit												

### **Project Description and Justification**

This subprogram covers all improvement, renewal and replacement projects associated with liquid unit processes in secondary facilities. This includes, but is not limited to, BRB AUMA actuators, NMF actuators, BRB mixers, VFDs, probes, motors, pumps and instrumentation repair and replacement; and additional air flow monitoring in SST Influent Channel.

Benefits	Strategic Outcome Area				
<ul> <li>Reliability and efficiency of the secondary infrastructure</li> <li>Improve accuracy on flow, level, pressure, etc.</li> <li>Reliable diversion and transfer of flow using NMF</li> </ul>	Effective Financial Stewardship				
Key Milestones for FY 20	Impact on Operations or Community				
<ul> <li>Complete replacement or repair of process instruments</li> <li>Complete RAS pump rebuild</li> <li>Complete replacement of all actuators for one (1) BRB Tank</li> <li>Robicon VFDs replaced</li> </ul>	<ul> <li>Increase equipment availability to process</li> <li>Increase equipment availability for high flow events</li> <li>Increase equipment reliability for future RiverRenew Project</li> </ul>				
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP				
• N/A	Addition of FY 29 funding     Redetermination of schedule of BRB actuators and mixers				

## **IRR: Tertiary Infrastructure**

	g Departmen Champion	it and	Project Location			Program and Project Category			Estimated Useful Life			Lifetime Budget
-	Iaintenance Steve Hill			WRRF		Improve., Rehab., Replacement  ☐ Alexandria Only  ☑ Joint Use			6 years for UV system parts Yearly for probes 10 years for >100 Hp motors 10 years for Inter. PS pumps			\$2,621,000
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$468,333	\$761,333	\$391,333	\$85,000	\$276,000	\$65,000	\$108,000	\$105,000	\$128,000	\$85,000	\$148,000	\$2,152,667
Financing												
AlexRenew	\$187,333	\$304,533	\$156,533	\$34,000	\$110,400	\$26,000	\$43,200	\$42,000	\$51,200	\$34,000	\$59,200	\$861,067
Fairfax	\$281,000	\$456,800	\$234,800	\$51,000	\$ 165,600	\$ 39,000	\$ 64,800	\$63,000	\$76,800	\$51,000	\$88,800	\$1,291,600
VRLF												
Grant												
Line of Credit												

#### **Project Description and Justification**

This subprogram covers all improvement, renewal and replacement projects associated with liquid unit processes in tertiary and disinfection treatment facilities. This includes, but is not limited to, UV system parts, instruments, probes, motors, pumps, VFDs replacements.

<ul> <li>Redundancy and reliability of the UV system, intermediate pumping system, VFD and motors</li> <li>Improve accuracy on flow, level, pressure, etc.</li> <li>Improved and advanced automation</li> </ul>	Effective Financial Stewardship				
Key Milestones for FY 20	Impact on Operations or Community				
<ul> <li>Complete rebuilt or replacement one (1) Wash Water Pump</li> <li>Installation, and testing of Robicon VFD replacements</li> <li>Replace of motors with &gt;100 Hp</li> <li>Replacement or repair of process instruments</li> <li>UV System Parts installed, tested and online</li> </ul>	Increase equipment availability to process     Increase equipment reliability for future RiverRenew Project				
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP				
• N/A	<ul> <li>Addition of FY 29 funding</li> <li>Costs updated to reflect newest quotes</li> </ul>				

Benefits

**Strategic Outcome Area** 

### **IRR: Solids Infrastructure**

Managing Department and Champion Project Location					on	Program	and Project	Category	Estim	Lifetime Budget		
						Improve., R	ehab., Replac	cement	Yearly for probes			
						☐ Alexand	-			seepex pump		
							•			for screen pi		
							e			seepex pump		
									3 years	for centrate r	ecycle	
										pumps		
Drogoe	a /Maintanan								3 years	for polymer p	oumps	
Proces	ss/Maintenan	ice		MDDD					4 years for pumps and			444 500 000
Hari Sa	antha/Steve I	Hill	WRRF						compressors 5 years for motors 7 years for centrifuge feed pumps			\$11,500,000
1141100												
									7 years for centrifuge actuators 10 years for centrifuge VFDs			
									10 years for heat exchanger			
									actuators			
									10 years for >100 hp motors			
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$783,000	\$1,750,500	\$851,500	\$1,195,500	\$1,374,500	\$729,500	\$377,500	\$624,500	\$1,201,500	\$1,490,500	\$1,121,500	\$10,717,000
Financing												
AlexRenew	\$313,200	\$700,200	\$340,600	\$478,200	\$549,800	\$291,800	\$151,000	\$249,800	\$480,600	\$596,200	\$448,600	\$4,286,800
Fairfax	\$469,800	\$1,050,300	\$ 510,900	\$717,300	\$824,700	\$437,700	\$ 226,500	\$374,700	\$720,900	\$894,300	\$672,900	\$6,430,200
VRLF												
Grant												
Line of Credit												

### **Project Description and Justification**

• This subprogram covers all improvement, renewal and replacement projects associated with the solids processing flow train. This includes, but is not limited to, digestors, actuators, motors, screen presses, pumps, probes and instrumentation.

Benefits	Strategic Outcome Area				
<ul> <li>Full redundancy and reliability of dewatering and thickening systems</li> </ul>					
<ul> <li>Maintain AlexRenew Bio-solids Class A output</li> </ul>	• Effective Financial Stewardship				
<ul> <li>Maintain consistent solids percentage</li> </ul>	Effective Financial Stewardship				
<ul> <li>Reduced spare parts by standardizing actuators</li> </ul>					

IRR: Solids Inf	IRR: Solids Infrastructure Continued										
Key Milestones for FY 20	Impact on Operations or Community										
<ul> <li>2 Polymer Feed Pumps installed, tested and online</li> <li>8-10 VFDs installed, tested and online</li> <li>Complete 1 screen press replacement</li> <li>Complete rebuild of heat exchangers motors</li> <li>Complete rebuild/replace of two (2) DCEN Feed Pumps</li> <li>Complete rebuild/replace of two (2) TCEN Feed Pumps</li> <li>Complete rebuild/replace of two (2) TCEN Feed Pumps</li> <li>Complete rehab of all digesters</li> <li>Complete repair or replacement of one DCEN or TCEN VFD</li> <li>Complete replacement of all actuators for one (1) Pre-Past Heat Exchanger</li> <li>Complete replacement or repair of process instruments</li> </ul>	<ul> <li>Increase equipment availability for high flow events</li> <li>Increase equipment availability for solids process</li> <li>Increase equipment reliability for future RiverRenew Project</li> </ul>										
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP										
• N/A	<ul> <li>Addition of FY 29 funding</li> <li>Costs updated to reflect newest quotes</li> <li>Change of replacement/rebuild schedule</li> </ul>										

## **IRR: Campus Wide Projects**

Managing Department and Champion			Pr	oject Locati	on	Program	and Project	Category	Estim	Lifetime Budget		
Facilities/Maintenance/Safety William Rodriguez /Steve Hill/Sarah Clark				WRRF		Improve., Rehab., Replacement  ☐ Alexandria Only  ☑ Joint Use			4 years for odor media 6 years for cranes 10 years for vehicles 15 year for odor scrubber and piping			\$4,832,500
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$864,000	\$384,500	\$ 267,000	\$142,000	\$367,000	\$437,000	\$820,000	\$162,000	\$377,000	\$167,000	\$845,000	\$3,968,500
Financing												
AlexRenew	\$345,600	\$153,800	\$106,800	\$56,800	\$146,800	\$174,800	\$328,000	\$64,800	\$150,800	\$66,800	\$338,000	\$1,587,400
Fairfax	\$518,400	\$230,700	\$160,200	\$85,200	\$220,200	\$262,200	\$492,000	\$97,200	\$226,200	\$100,200	\$507,000	\$2,381,100
VRLF												
Grant												
Line of Credit												

### **Project Description and Justification**

• This subprogram covers all improvement, renewal and replacement projects associated with non-process facilities work at the WRRF. This includes, but is not limited to roof, concrete, HVAC, vehicles, and odor control repairs/replacement. This subprogram also includes the AlexRenew website.

	Benefits	Strategic Outcome Area				
• Full	optimization of the Methane Gas supply generation using the					
Abso	orption Chillers					
• Main	ntain reliability and effectiveness of the steam, chiller , odor control,					
plan	nt air, and HVAC systems					
• Main	ntain AlexRenew's odor quality control	•	Effective Financial Stewardship			
• Main	ntain the availability and integrity of the cranes and buildings					
• More	re efficient and reliable vehicles for employee transportation					
• Redu	uce carbon emissions					
• Impr	rove website functionality for community members					

# **IRR: Collection System Projects (Joint Use)**

Managing Department and Champion			Pr	oject Locati	on	Program	and Project	Category	Estim	Lifetime Budget		
M	<b>f</b> aintenance			Improve., Rehab., Replacement								
Steve Hill			All Pumping Stations			☐ Alexand	☐ Alexandria Only			ears for pum	os	\$214,000
	Steve Hill											
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$5,000	\$8,000	\$51,000	\$8,000	\$8,000	\$8,000	\$51,000	\$8,000	\$8,000	\$8,000	\$51,000	\$209,000
Financing												
AlexRenew	\$2,000	\$3,200	\$20,400	\$3,200	\$3,200	\$3,200	\$20,400	\$3,200	\$3,200	\$3,200	\$20,400	\$83,600
Fairfax	\$3,000	\$4,800	\$30,600	\$4,800	\$4,800	\$4,800	\$30,600	\$4,800	\$4,800	\$4,800	\$30,600	\$125,400
VRLF												
Grant												
Line of Credit												

### **Project Description and Justification**

• This subprogram covers all improvement, renewal and replacement projects associated with the pump stations, service chambers, and outfalls that are funded by AlexRenew and Fairfax.

Benefits	Strategic Outcome Area				
<ul> <li>Full redundancy and reliability of Potomac Yards PS</li> <li>Maintain the buildings, integrity</li> <li>Secure equipment from water damage</li> </ul>	Effective Financial Stewardship				
Key Milestones for FY 20	Impact on Operations or Community				
<ul> <li>Complete rebuild or replacement of PYPS Pumps</li> <li>Complete rebuild or replacement of PYPS Climb Screens</li> <li>Complete roof and drain replacements</li> </ul>	<ul> <li>Increase equipment availability to process</li> <li>Maintain roof integrity to prevent equipment damage</li> <li>Maintain the aesthetic of the plant to blend in the surrounding community</li> </ul>				
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP				
• N/A	Addition of FY 29 funding				

### **IRR: Information Technology Projects**

Managing Department and Champion			Pr	oject Locati	on	Program	and Project	Category	Estiı	Lifetime Budget		
Information Technology and River Renew (Business Owner) Holdren / Maldonado			Main	and West Ca	mpus	Alexand	Improve., Rehab., Replacement ☑ Alexandria Only ☐ Joint Use			10 years for Data Center and Network Improvements		
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$300,000	\$468,000	\$350,000	\$750,000	\$650,000	\$300,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$3,018,000
Financing												
AlexRenew	\$120,000	\$187,200	\$140,000	\$300,000	\$260,000	\$120,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$1,207,200
Fairfax	\$180,000	\$280,800	\$210,000	\$450,000	\$390,000	\$180,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$1,810,800
VRLF												
Grant												
Line of Credit												

#### **Project Description and Justification**

This subprogram to the Improvement, renewal and Replacement program covers the comprehensive enterprise-wide records management policy that complies with the Virginia Public Records Act (VPRA) guidelines provided by the Library of Virginia (LVA); supporting infrastructure and network to minimize outages, disruptions and extended unavailability; monitoring and securing the AlexRenew environment and updating the emergency notification systems.

	Benefits		Strategic Outcome Area
•	24/7 near real time security monitoring and incident response.		
•	Ensure and improve compliance with federal, state and local regulatory		
	recordkeeping directives		
•	Establish a classification scheme that facilitates the capture, storage		
	and speedy retrieval of records by staff when needed to conduct day-		
	to-day business activities, preserve historically and culturally		
	important records as well as provide support in litigation		
•	Prevention of technological obsolences	•	Adaptive Culture
•	Reduce physical storage space and staff resources required to maintain		
	current paper records, and		
•	Support continued and on-going awareness of staff recordkeeping		
	responsibilities through the use of training		
•	Up to date security patching for critical assets		
•	Upgrading the emergency notification systems		
•	Vulnerability management and monitoring of network and hosts		

IRR: Information Te	IRR: Information Technology Projects Continued										
Key Milestones for FY 20	Impact on Operations or Community										
<ul> <li>Development of detailed roadmap and roll out plan</li> <li>Pilot of VDI solution.</li> <li>Security Event Monitoring and Incident Response</li> </ul>	<ul> <li>Data is more secure</li> <li>Decreased bandwidth requirements.</li> <li>Information access is better controlled and managed</li> <li>Operational, reputational, and legal risks are managed.</li> <li>Provides secure, available, and accurate systems and data</li> <li>Reduced hardware costs</li> <li>Regulatory Compliance</li> <li>Results in operational efficiencies</li> </ul>										
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP										
<ul> <li>Cybersecurity Assessment completed by AchillesShield, including assessment of vulnerabilities and hacker exploitation; and a physical security assessment.</li> <li>Electronic Records Management (ERM) As-Is Observation Report Contract: 14-016 Task Order 2015-1</li> </ul>	<ul> <li>Additions to program</li> <li>Change in timing</li> </ul>										

## **Long Range Plan**

	g Departmen Champion	it and	Project Location			Pr	oject Catego	ory	Estim	Lifetime Budget		
Е	ngineering TBD			Campus		WRRF Imp  □ Alexand  ⊠ Joint Us	lria Only			\$350,000		
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$350,000	\$0	\$0	\$0	\$350,000
Financing												
AlexRenew	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$140,000	\$0	\$0	\$0	\$140,000
Fairfax	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$210,000	\$0	\$0	\$0	\$210,000
VRLF												
Grant												
Line of Credit												

### **Project Description and Justification**

The Long Range Plan Report was completed in May 2009. This report addressed immediate needs as well as future drivers and AlexRenew's organizational goals. The plan was also updated in 2016 anticipated needs and an implementation strategy through 2020. This Solids Handling and Energy Optimization portions of the plan were updated in a January 2017 report. This project is for the update of the entire Long Range Plan including:

• Dry-Weather Capacity Expansion (4.0 MGD)

Benefits	Strategic Outcome Area					
Planning helps to determine which projects are priority.	Operational Excellence					
Key Milestones for FY 20	Impact on Operations or Community					
• N/A	Additional projects may result in additional staffing needs.					
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP					
<ul> <li>Solids Handling and Energy Optimization Update to the Long Range Plan (CH2M, January 2017)</li> <li>Long Range Planning Report (CH2M, May 2009)</li> </ul>	Addition to the program					

# **PLC Network & Equipment Upgrades**

_	ng Departmer Champion	nt and	Project Location			Pr	oject Catego	ry	Estin	Lifetime Budget		
H	Engineering					WRRF Imp	rovements					
	leff Lindsay		WRRF			☐ Alexand ☐ Joint Us	•			\$2,729,000		
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr Total
Total	\$500,000	\$1,671,000	\$697,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,368,000
Financing												
AlexRenew	\$144,400	\$668,400	\$278,800	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$947,200
Fairfax	\$216,600	\$1,002,600	\$418,200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,420,800
VRLF												
Grant												
Line of Credit												

- Replacement of legacy Allen Bradley PLCs with modern hardware and network is necessary due to the old PLC5 no longer be supported.
- Installing new PLC hardware will expand processing power while ensuring the control system remains operational and hardware remains supported by the manufacturer.

	Benefits	Strategic Outcome Area
•	Installing new PLC hardware will expand processing power while ensuring the control system remains operational and hardware remains supported by the manufacturer.	Effective Financial Stewardship
	Key Milestones for FY 20	Impact on Operations or Community
•	Establish new contract for 3 <sup>rd</sup> party of labor Establish new contract for parts.	Impact on Operations or Community      Will require outage for each PLC upgrade

External or Internal Adopted Plan or Recommendation		Changes from Prior Year CIP				
SCADA Master Plan	•	Budgeting has been changed to reflect the amount of PLCs left.				

### **Power Distribution Monitors**

	g Departmen Champion	nt and	Pr	oject Locati	on	Program	and Project	Category	Estin	nated Useful	Life	Lifetime Budget
	ngineering eff Lindsay			WRRF		WRRF Imp:  □ Alexand  ⊠ Joint Us	lria Only			10 years		\$500,000
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$50,000	\$100,000	\$100,000	\$0	\$250,000	\$500,000
Financing												
AlexRenew	\$0	\$0	\$0	\$0	\$0	\$0	\$20,000	\$40,000	\$40,000	\$0	\$100,000	\$200,000
Fairfax	\$0	\$0	\$0	\$0	\$0	\$0	\$30,000	\$60,000	\$60,000	\$0	\$150,000	\$300,000
VRLF												
Grant												
Line of Credit												

- The current power distribution monitors are obsolete and rely on proprietary communication technology. Replacement of existing power monitors with Ethernet connectivity and network replacement of DH+ with Ethernet will be required. The current system of power consumption monitoring is inadequate in terms of the number of power monitors and its ability to interpret data.
- Power monitor audit will being in FY 2025 and the results will determine the number and location of additional monitors needed.

	Benefits		Strategic Outcome Area
•	Enhance the system so that data interpretation can be used to make		
	operational changes.	•	Operational Excellence
	Enhance understanding of resource consumption.		

	Key Milestones for FY 20		Impact on Operations or Community
İ		•	A series of outages will be necessary to transition every device onto the new
	• N/A		system.
		•	Identification of cost savings opportunities in terms of power consumption.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP				
SCADA Master Plan	Change in timing				

## **Preliminary/Primary System Upgrades**

	g Departmer Champion	nt and	Project Location			Program	and Project	Category	Estimated Useful Life			Lifetime Budget
-	Iaintenance Steve Hill			Building K		WRRF Impr □ Alexand ⊠ Joint Use	ria Only		10 years transfer co 20 years fo 20 years fo 20 Years	r Pista Grit A s for truck los nveyor & gri or the grit sep or Raw Sewaş for Coarse S cs for Sluice (	ading, t pumps parators ge Pump creens	\$25,589,000
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$240,000	\$890,000	\$1,637,000	\$6,907,,000	\$7,097,000	\$6,516,000	\$2,302,000	\$0	\$0	\$0	\$0	\$25,349,000
Financing												
AlexRenew	\$96,000	\$356,000	\$654,800	\$2,762,800	\$2,838,800	\$2,606,400	\$920,800	\$0	\$0	\$0	\$0	\$10,139,600
Fairfax	\$144,000	\$534,000	\$ 982,200	\$4,144,200	\$4,258,200	\$3,909,600	\$1,381,200	\$0	\$0	\$0	\$0	\$15,209,400
VRLF												
Grant												
Line of Credit												

- The existing Pista Grit Actuators are at the end of its lifecycle. Replacing two (2) Actuators annually will complete replacement of all the eight actuators in 4 years.
- The abandoned Primary Piston Pumps are scheduled to be removed.
- The current Truck Loading and Transfer Conveyor are to be replaced with a more robust design that is easier to maintain.
- The Grit Pumps are scheduled to be repair or replaced based on O&M recommended runtime hours. Currently that is a 10 year rebuild/replacement cycle.
- Grit conveyors need to be replaced.
- Grit Separators have exceeded their useful life. Grit Separator 2 is currently out of service due to rusted out Fluidizer and hardware (flange and bolts). Planning on replacing 4 Grit Separators in FY 2020.
- The primary sludge pumping system consists of twelve (12) pumps which remove sludge from the bottom of the primary settling tanks and pump it to the gravity thickeners. The primary sludge pumps need rehabilitation and/or replacement due to corrosion and age. The primary sludge pumps may not have adequate capacity should CEPT be implemented. This project also includes new variable frequency drives (VFDs) for the pumps and improvements to the ferric chloride and polymer distribution systems for improved CEPT performance. These are proposed to be procured through a Design-Bid-Build method.
- Coarse Screen Replacement: The raw influent wastewater from the interceptors is split between two coarse screening channels, each equipped with a mechanically-cleaned bar screen. This is a new facility that was placed into operation in 2005. Each screen consists of a static bar rack with 3-inch openings and a motorized climber rake that clears the material that accumulates between the bars and lifts it to the ground floor for disposal in dumpsters. The capacity of this system is adequate to treat the planned peak raw influent flow (116 MGD) plus 2-3 MGD of recycles (drains and stormwater) with both channels in service. There is no coarse screen redundancy therefore reliability is critical. Identified deficiencies of the current system include difficulty servicing the screen motor due

## **Preliminary/Primary System Upgrades Continued**

to poor access to the upper part of the screen. This equipment will reach the end of its useful life by the year 2025 and should be considered for replacement. Replacement can be in-kind (climber rake type screen) or new technologies can be implemented (such as the multi-rake screen) with more accessible motor. The project is proposed to be procured through a Design-Bid-Build method. Key milestones are TBD.

• The Raw Sewage Pump Station was originally constructed in 1954. The pump station consists of six vertical, end-suction, centrifugal type pumps that pump the full influent flow of the plant. The pumps are re-built on a scheduled basis (about 1 per year). The pump station can pump the design peak flow of 116 MGD plus 2-3 MGD of internal recycles (stormwater and drains). However, the pump station is still not performing as indicated by the pump curves. Newly rebuilt pumps tend to pump 5-6 MGD more flow than older pumps. The existing variable frequency drives (by Robicon) are now obsolete and new drives are needed. The Preliminary and Primary Treatment Evaluation Study recommended conducting a condition assessment of the pumps' discharge conduits to determine if rehabilitation is necessary. The project is proposed to be procured through a Design-Bid-Build method. Key milestones are TBD

The Wet Well Sluice Gates 1 and 2 are scheduled to be rebuilt based on O&M recommended runtime hours.

	Benefits	Strategic Outcome Area
•	Full redundancy and reliability of the Pista Grit Actuators Standardizing actuator to one manufacturer will decrease parts inventory Full redundancy and reliability of the Screening and Grit System Improvement of Grit Separation and ease of Maintenance and Removal (Design Change) Replacing aging equipment will provide effective, reliable, cost-efficient performance with long-term durability. Gain more work area Remove abandoned equipment	Effective Financial Stewardship
	Key Milestones for FY 20	Impact on Operations or Community
•	Key Milestones for FY 20  Complete replacement of two (2) Actuators Complete install of new Truck Loading and Transfer Conveyors Grit channels 104 replaced. Complete Grit Pump rebuilt or replacement Complete replacement of RSP Sluice Gate for Wet Well 1 & 2	<ul> <li>Impact on Operations or Community</li> <li>Increase equipment availability for high flow events</li> <li>Increase equipment reliability for future RiverRenew Project</li> <li>Improved operations with newer equipment.</li> </ul>
•	Complete replacement of two (2) Actuators Complete install of new Truck Loading and Transfer Conveyors Grit channels 104 replaced. Complete Grit Pump rebuilt or replacement	<ul> <li>Increase equipment availability for high flow events</li> <li>Increase equipment reliability for future RiverRenew Project</li> </ul>

# **Pre-Pasteurization System Improvements**

Managing Department and Champion			Project Location			Program and Project Category			Estim	Lifetime Budget		
Engineering TBD			Building K			WRRF Improvements  ☐ Alexandria Only  ☑ Joint Use			20 years for equipment			\$150,000
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024 FY 2025 FY 2026		FY 2027	FY 2028	FY 2029	10 Yr. Total	
Total	\$100,000	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$50,000
Financing												
AlexRenew	\$40,000	\$20,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,000
Fairfax	\$60,000	\$30,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$30,000
VRLF												
Grant												
Line of Credit												

## **Project Description and Justification**

- Phase 1: Implementing the recommendations of previous investigations to improve performance of the pre-pasteurization system at AlexRenew. These improvements include: cleaning all three heat exchangers, re-evaluating heat exchanger performance, replacing pressure gauges on the hot water supply system, modifying the programming to allow all three heat exchangers to be in operation at the same time, and replacing an exhaust fan on the pre-pasteurization holding tank.
- Phase 2: If the pre-pasteurization system is still not performing as desired after phase 1, a pre-pasteurization business case evaluation should be performed. A comprehensive evaluation of the pre-pasteurization system and potential modifications/replacement to achieve reliable performance should be conducted.

	Benefits	Strategic Outcome Area
•	Replacing aging equipment will provide effective, reliable, cost-efficient performance with long-term durability.	Effective Financial Stewardship
	Key Milestones for FY 20	Innert on Onemations on Community
	Rey Milestones for F1 20	Impact on Operations or Community

# **Process Air Compressor (PAC) System Upgrades**

Managing Department and Champion			Project Location			Program	Program and Project Category			Estimated Useful Life			
Е	Ingineering					WRRF Imp	rovements						
7 -1-	M II I			WRRF		☐ Alexand	lria Only			20 years		\$19,535,000	
Lilia	Liliana Maldonado												
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total	
Total	\$2,050,000	\$11,521,000	\$5,964,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,485,000	
Financing													
AlexRenew	\$820,000	\$4,608,400	\$2,385,600	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,994,000	
Fairfax	\$1,230,000	\$6,912,600	\$3,578,400	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,491,000	
VRLF													
Grant													
Line of Credit													

## **Project Description and Justification**

The current Process Air Compressor (Blower) system consists of five blowers designed to provide air to the Biological Reactor Basins (BRBs) for aeration and to the Secondary Settling Tanks (SSTs) for mixing. This project involves replacing existing blowers with High Speed Turbos within a new building located on the BRB tanks. The aeration header will also be replaced in this project. The project will be constructed by November 2020 in order to out of the way for the Wet Weather tunnel contractor to be onsite.

Benefits	Strategic Outcome Area
This project will improve energy efficiency and provide operational flexibility.	Effective Financial Stewardship
Key Milestones for FY 20	Impact on Operations or Community
Construction NTP for all phases	<ul> <li>Decrease future O&amp;M costs for blowers, electrical gear, and aeration header</li> <li>Improved BRB operational flexibly &amp; efficiencies (better blower turn-down)</li> <li>New building on BRB tanks will be visible to public</li> </ul>
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
HDR's November 2018 30% Submittal	Increase in cost due to new building located on the BRB deck.

## RiverRenew 108 to 116 mgd Expansion

	Managing Department and Champion			Project Location			Program and Project Category			Estimated Useful Life			
Engineering Dorian Hemming			Building L (PEPS) Building K (Gallery)			RiverRenew  ☐ Alexandria Only  ☑ Joint Use			25 Years for Equipment			\$4,100,000	
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total	
Total	\$910,000	\$2,550,000	\$640,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,852,468	
Financing													
AlexRenew	\$364,000	\$1,020,000	\$256,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,276,000	
Fairfax	\$546,000	\$1,530,000	\$384,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,914,000	
VRLF													
Grant													
Line of Credit													

### **Project Description and Justification**

In April 2017, a new Virginia law was passed requiring that all four of Alexandria's existing combined sewer outfalls be brought into compliance by July 1, 2025.

In compliance with the new law, AlexRenew and the City of Alexandria submitted a joint Long Term Control Plan Update (LTCPU), which was approved by the Virginia Department of Environmental Quality (VDEQ) in June 2018. The LTCPU recommends construction of a storage/conveyance tunnel system coupled with upgrades to AlexRenew's Water Resources Recovery Facility (WRRF) to capture and treat combined sewer overflows. This program was branded as RiverRenew in July 2018.

One of the elements of the LTCPU is an increase in the peak instantaneous raw influent flowrate that is treated through preliminary treatment facilities at the AlexRenew WRRF from 108 to 116 MGD. The 108 to 116 MGD expansion project involves upgrades needed to increase the peak flow through the preliminary and primary processes which include: increasing the capacity of the primary effluent pump station (PEPS) pumps and re-routing the filter backwash wastewater (FBWW) recycle to relieve hydraulic constraints in the preliminary treatment facility (Building K). The selected approach for increasing the PEPS capacity is to replace the pump's pull-out assembly (POA) which includes the impeller, the shaft, the bearings and the seals. The pump motors and VFDs will not be replaced. Additional improvements include suction flow straighteners for each pump, new seal water assemblies and instruments for each pump, and an additional cooling system for the electrical room that houses the pump drives to dissipate the heat load.

The project is proposed to be procured through a Design-Bid-Build method with AlexRenew pre-selecting and pre-purchasing the pump POAs from the manufacturer as this element is on the critical path in order to meet the schedule.

# **RiverRenew 108 to 116 mgd Expansion Continued**

Key Milestones: This project must be complete by Oct. 31, 2020. In order to meet this schedule, the following critical path milestones must be met:

- 1) Notice-to-Proceed to Contractor by August 9, 2019
- 2) POAs delivered to site by August 12, 2019 for installation

3) Sequential installation and testing of six (6) pumps, 12 month total d	luration, starting on August 2019 and finish August 2020.
Benefits	Strategic Outcome Area
The tunnel system and plant upgrades will significantly reduce the volume and frequency of combined sewer overflows to Alexandria's waterways.	Watershed Stewardship
Key Milestones for FY 20	Impact on Operations or Community
<ul> <li>Delivery of POAs by August 12, 2019</li> <li>NTP to general contractor by August 9, 2019</li> </ul>	<ul> <li>Operation of the Primary Effluent Pump Station may be impacted during construction. Pump modifications will be completed one pump at a time to ensure adequate pumping capacity during construction.</li> <li>Primary Settling Tanks 7/8 and 5/6 will have to be taken out of service for tiein of FBWW re-routing pipe. FBWW routing to Building K will be unavailable during this time (FBWW will have to be routed to IPS).</li> </ul>
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
<ul> <li>City of Alexandria Wastewater Capacity and Wet Weather Management Evaluation (Task Order 11 Report, CH2M, November 2010)</li> <li>Primary Effluent Pump Station (PEPS) Evaluation Technical Report (CH2M, February 2016)</li> <li>Long Term Control Plan Update (June 2018)</li> <li>Preliminary Engineering Report (Brown and Caldwell, projected Oct. 2018)</li> <li>108 to 116 Schematic Design Report (CH2M/Jacobs, Oct. 2018)</li> <li>108 to 116 60% Design Submittal (CH2M/Jacobs, January 2019)</li> </ul>	The project cost estimate was updated per the latest estimates available for the project (60% Design).

## RiverRenew Building J Facilities Relocation and Decommissioning

Managing Department and Champion			Project Location			Program and Project Category			Estima	Lifetime Budget		
E	ngineering			Building J		RiverRenev	V		20 Year	s for Laborat	tory	\$20,950,000
Don	ian Uammina			Building G		☐ Alexand	ria Only		25 Year	s for Equipm	nent	
Doi	Dorian Hemming			Field Labs (in K, N, and 69)								
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024 FY 2025 FY 2026		FY 2027	FY 2028	FY 2029	10 Yr. Total	
Total	\$4,510,000	\$11,510,000	\$4,930,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,440,000
Financing												
AlexRenew	\$3,337,400	\$8,517,400	\$3,648,200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$12,165,600
Fairfax	irfax \$1,172,600 \$2,992,600 \$1,281,800 \$0 \$0		\$0	\$0	\$0	\$0	\$0	\$0	\$4,274,400			
VRLF												
Grant												
Line of Credit												

### **Project Description and Justification**

In April 2017, a new Virginia law was passed requiring that all four of Alexandria's existing combined sewer outfalls be brought into compliance by July 1, 2025.

In compliance with the new law, AlexRenew and the City of Alexandria submitted a joint Long Term Control Plan Update (LTCPU), which was approved by the Virginia Department of Environmental Quality (VDEQ) in June 2018. The LTCPU recommends construction of a storage/conveyance tunnel system coupled with upgrades to AlexRenew's Water Resources Recovery Facility (WRRF) to capture and treat combined sewer overflows. This program was branded as RiverRenew in July 2018.

The RiverRenew project includes construction of a tunnel access shaft on the AlexRenew property. Construction of this shaft will affect operation of Building J, which currently houses the laboratory, the chilled water plant (which serves the entire campus), a multi-purpose room (break room and/or training room) and a communications and I&C ductbank which connects the Main Plant Site to the NMF and the Environmental Center.

The Building J Decommissioning project includes: Construction of a new lab (approx. 4,000-5,000 sf) on the ground floor of Bldg. G/2 (where the existing locker rooms are currently located), reconfiguration/remodeling of the existing lockers to fit current staffing needs, a new training/break room located in the first floor of G/1, a new server room located in the second floor of G/2 and a corresponding electrical room, a new chilled water plant located in the basement level of Bldg. G/2, relocation of existing ductbank, a new walkway from the new laboratory in Bldg. G/2 to the people spaces in Bldg. G/1, a new control room on the first floor of Bldg. G/1, a new roof on Bldg G/2, relocation of the PBX room, relocation of the fire alarm panel/autodialer, temporary locker rooms, new egress stairwell from Bldg G/2 and demolition of Building J. The driver of this project is rapid construction of the systems and spaces needed for plant operations (including the lab) to allow demolition of Building J and shaft construction on schedule.

## RiverRenew Building J Facilities Relocation and Decommissioning Continued

The project is proposed to be procured through a Design-Bid-Build method with AlexRenew pre-selecting and pre-purchasing critical equipment with long procurement lead times such as the chillers, the air handling units, the motor control centers (MCC) and laboratory casework.

Key Milestones: Building J demolition must be complete by Oct. 31, 2020. In order to meet this schedule, the following milestones must be met:

- 1) NTP to contractor complete by July 1, 2019
- 2) Four early construction packages MCCs, AHUs, Chillers and laboratory casework are needed to ensure that the October 31, 2020 deadline is met
- 3) Chiller plant construction is critical path (includes delivery of chillers and MCC) expected construction completion by June 30, 2020 (12-month duration) Building J demolition begin July 1, 2020 4 month duration complete by Nov 1 2020.

Benefits	Strategic Outcome Area
Relocation of the laboratory and other functions currently housed in Building J prior to start of tunnel shaft construction will minimize disruption to plant operations, increase plant personnel safety and will consolidate operator/maintenance/lab spaces in one area of the plant (Building G).	Watershed Stewardship
Key Milestones for FY 20	Impact on Operations or Community
<ul> <li>Construction of chiller plant, relocation of ductbank, relocation of fire alarm panel, relocation of PBX room, server room upgrade, control room, long-term laboratory, locker room, new walkway between G/1 and G/2, temporary locker rooms</li> <li>Relocation of business servers and records storage</li> </ul>	<ul> <li>Laboratory operations may be impacted during transition to temporary spaces and new spaces. Impact will be mitigated by sending samples for outside analysis if/when needed.</li> <li>Capacity of staff to perform analysis for research and process-optimization purposes may be limited during the interim lab operation.</li> <li>Existing locker rooms in Building G/2 will be closed for construction of new lab and reconfiguration of locker spaces. Personnel will have to use the locker rooms in the Environmental Center and other temporary locker room facilities.</li> </ul>
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
<ul> <li>Long Term Control Plan Update (June 2018)</li> <li>Preliminary Engineering Report (Brown and Caldwell, projected for October 2018)</li> <li>Buildings J and G Facility Needs Assessment (CH2M/Jacobs, May 2018)</li> <li>Buildings J and G Conceptual Workplan Report (CH2M/Jacobs, July 2018)</li> <li>Decommissioning of Building J Alternatives Evaluation Report (CH2M/Jacobs, projected for October 2018)</li> </ul>	<ul> <li>The scope of this project was expanded to include:</li> <li>The replacement of the roof of Building G/2</li> <li>A walkway from the new laboratory in Building G/2 to the new people spaces in Building G/1</li> <li>A new control room in Building G/1</li> <li>Expansion of the break/training space in Building G/1</li> <li>Temporary locker room facilities</li> </ul>

## **RiverRenew Site Security and Access**

	Managing Department and Champion			Project Location			Program and Project Category			Estimated Useful Life			
	RiverRenew aitlin Feehan		WRRF			RiverRenew  ☐ Alexandria Only  ☑ Joint Use			25 years			\$1,043,000	
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	·		FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total	
Total	\$313,000	\$472,000	\$258,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$730,000	
Financing													
AlexRenew	\$283,265	\$427,160	\$233,490	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$660,650	
Fairfax	\$29,735	\$44,840	\$24,510	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$69,350	
VRLF													
Grant													
Line of Credit													

### **Project Description and Justification**

- For both construction during the RiverRenew program and facility operations thereafter, the WRRF and NMF site security and access must be improved. Existing gates are either non-functional or in locations not suitable for efficient construction traffic flow and security.
- Site security and access to the WRRF and NMF site has been installed piecemeal through various construction projects over the years of service for the facilities. A complete review of site security and access is needed with new gates, security points, and access to the facilities.
- This project includes new automatic gates in three access points to the WRRF, three new security booths at these locations, repairs to two gates, removal of two gates, changes to parking garage access, installation of a sidewalk across Hooffs Run culvert, layout for construction trailer and parking, and review of general site security fencing.
- Project procurement is expected to be design-bid-build.
- Project schedule:
  - Complete Design May 2019
  - Award Contract August 2019
  - Complete Construction April 2021 (various phases)

	Benefits	Strategic Outcome Area				
•	The project will improve access to the WRRF both during construction of the River Renew program and thereafter. By improving security with new gates and security booths, the public will be protected from dangers associated with plant operations and construction.	•	Watershed Stewardship			

	RiverRenew Site Se	ecurity and Access Continued
	Key Milestones for FY 20	Impact on Operations or Community
	d procurement will be completed on will be completed for Phase 1 and Phase 2	<ul> <li>Improved access to the WRRF with three new automated gates</li> <li>Improved security for the WRRF with three new security booths</li> <li>Repair of two poorly functioning gates will improve site access for WRRF</li> <li>Modified access to the parking garage at the Administration Building. Garage exit will be restricted to single point on Holland for cars without access remotes/cards. This will provide additional security to WRRF site.</li> <li>New gate on S. Payne Street will reduce public access to south end of road</li> </ul>
Exter	nal or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
	cludes a Technical Memorandum documenting the need and adations for the project	Not included in previous CIP

# **RiverRenew Tunnel System**

Managing Department and Champion			Project Location			Program and Project Category			Estima	Lifetime Budget		
RiverRenew: CSO 001/2 Tunnel, CSO 003/4 Tunnel, and Pumping Stations Liliana Maldonado						RiverRenew  ☐ Alexandria Only ☑ Joint Use			100 yea 25 year	\$339,600,000		
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$12,700,000	\$8,700,000	\$41,700,000	\$75,500,000	\$104,700,000	\$51,800,000	\$44,500,000	\$0	\$0	\$0	\$0	\$326,900,000
Financing												
AlexRenew	\$11,493,500	\$7,873,500	\$37,738,500	\$68,327,500	\$94,753,500	\$46,879,000	\$40,272,500	\$0	\$0	\$0	\$0	\$295,844,500
Fairfax	\$1,206,500	\$826,500	\$3,961,500	\$7,172,500	\$9,946,500	\$4,921,000 \$4,227,500		\$0	\$0	\$0	\$0	\$31,055,500
VRLF												
Grant												
Line of Credit												

### **Project Description and Justification**

In April 2017, a new Virginia law was passed requiring that all four of Alexandria's existing combined sewer outfalls be brought into compliance by July 1, 2025.

In compliance with the new law, AlexRenew and the City of Alexandria submitted a joint Long Term Control Plan Update (LTCPU), which was subsequently approved by the Virginia Department of Environmental Quality (VDEQ) in late June 2018.

The LTCPU recommends the construction of a storage/conveyance tunnel system coupled with upgrades to AlexRenew's Water Resource Recovery Facility to capture and treat combined sewer overflows. In July 2018, the plan presented in the LTCPU was branded as RiverRenew.

This project associated with RiverRenew includes: installation of a 2-mile long, 12 foot inside diameter tunnel; installation of a 0.5-mile long, 6 foot inside diameter diversion sewer; four shafts with inside diameters from 30 to 50 feet; five diversion chambers; 40 MGD tunnel dewatering pumping station; 130 MGD wet weather pumping station; and odor control facilities and other appurtenances.

The project is proposed to be procured through a 2-step Fixed-Price Design-Build model with a collaborative Request for Proposal Documents process.

## **RiverRenew Wet-Weather Treatment Facility**

Managing Department and Champion			Project Location			Program and Project Category			Estima	Lifetime Budget			
	Wet-Weathe Freatment na Maldonado	•		Settling Tanks			RiverRenew  ☐ Alexandria Only  ☑ Joint Use			25 years			
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 202	6 FY 2027	FY 2028	FY 2029	10 Yr. Total	
Total	\$100,000	\$0	\$0	\$0	\$100,000	\$1,700,000	\$0	\$0	\$0	\$0	\$0	\$1,800,000	
Financing													
AlexRenew	\$40,000	\$0	\$0	\$0	\$40,000	\$680,000	\$0	\$0	\$0	\$0	\$0	\$720,000	
Fairfax	\$60,000	\$0	\$0	\$0	\$60,000	\$1,020,000	\$0	\$0	\$0	\$0	\$0	\$1,080,000	
VRLF													
Grant													
Line of Credit													

### **Project Description and Justification**

In April 2017, a new Virginia law was passed requiring that all four of Alexandria's existing combined sewer outfalls be brought into compliance by July 1, 2025.

In compliance with the new law, AlexRenew and the City of Alexandria submitted a joint Long Term Control Plan Update (LTCPU), which was subsequently approved by the Virginia Department of Environmental Quality (VDEQ) in late June 2018.

The LTCPU recommends the construction of a storage/conveyance tunnel system coupled with upgrades to AlexRenew's Water Resource Recovery Facility to capture and treat combined sewer overflows. In July 2018, the plan presented in the LTCPU was branded as RiverRenew.

This project associated with RiverRenew includes the design and construction of a dual-use wet-weather treatment facility at AlexRenew's WRRF. Major components of the work include: modifications to the existing WRRF primary settling tanks and installation of a chlorination / dechlorination system to treat up to 40 mgd of wetweather flow delivered by the new RiverRenew tunnel system.

The project is proposed to be procured through a traditional design-bid-build process.

#### **Security During Construction Managing Department and** Lifetime **Project Location Program and Project Category Estimated Useful Life** Champion **Budget WRRF** Improvements Engineering N/A ☐ Alexandria Only WRRF \$4,370,000 TBD ☐ Ioint Use FY 2020 FY 2021 FY 2022 FY 2023 FY 2024 FY 2025 FY 2027 FY 2028 FY 2029 10 Yr. Total Expenditure **Prior Year** FY 2026 Total \$370,000 \$400,000 \$400,000 \$400,000 \$400,000 \$400,000 \$400,000 \$400,000 \$400.000 \$400,000 \$400,000 \$4,000,000 Financing AlexRenew \$148,000 \$160,000 \$160,000 \$160,000 \$160,000 \$160,000 \$160,000 \$160,000 \$160,000 \$160,000 \$160,000 \$1,600,000 Fairfax \$222,000 \$240,000 \$240,000 \$240,000 \$240,000 \$240,000 \$240,000 \$240,000 \$240,000 \$240,000 \$240,000 \$2,400,000 VRLF Grant Line of Credit **Project Description and Justification** Security services for capital projects. Strategic Outcome Area **Benefits** This effort provides essential support when construction activities Effective Financial Stewardship disrupt normal physical and procedural safeguards. **Impact on Operations or Community Key Milestones for FY 20** Creates operational efficiencies so staff can focus on the construction activity rather • N/A than temporary security deficiencies. **External or Internal Adopted Plan or Recommendation Changes from Prior Year CIP** Addition of FY29 funding

N/A

# **Solids/Resource Recovery Upgrades**

	g Departmen Champion	Project Location			Program and Project Category			Estim	Lifetime Budget			
TRD Building A				WRRF Improvements  ☐ Alexandria Only  ☑ Joint Use			20 Years for Equipment			\$20,384,000		
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$0	\$0	\$0	\$542,000	\$213,000	\$0	\$ 2,865,900	\$5,305,000	\$5,305,000	\$5,305,000	\$849,000	\$20,384,000
Financing												
AlexRenew	\$0	\$0	\$0	\$216,800	\$85,200	\$0	\$1,146,000	\$2,122,000	\$2,122,000	\$2,122,000	\$339,600	\$8,153,600
Fairfax	\$0	\$0	\$0	\$325,200	\$127,800	\$0	\$1,719,000	\$3,183,000	\$3,183,000	\$3,183,000	\$509,400	\$12,230,400
VRLF												
Grant												
Line of Credit												

## **Project Description and Justification**

In FY2017, an update to the Long Range Plan was performed looking specifically at the solids handling processes. This project would implement the recommendations related to improved carbon utilization and resource recovery at the facility. The Long Range Plan will be update to analyze needed solids handling improvements due to the implementation of the RiverRenew program.

These can be contracted separately or together. The project is proposed to be procured through a Design-Bid-Build method. Key milestones are TBD.

Benefits	Strategic Outcome Area					
	Effective Financial Stewardship					

# **South Carlyle Partnership**

Managing Department and Champion			Pr	oject Locati	on	Program	Program and Project Category			Estimated Useful Life			
E	Engineering TBD West Campus				Non-Process Facilities  ☐ Alexandria Only  ☑ Joint Use			40 years			\$300,000		
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total	
Total	\$0	\$300,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$300,000	
Financing													
AlexRenew	\$0	\$204,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$204,000	
Fairfax	\$0	\$96,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$96,000	
VRLF													
Grant													
Line of Credit													

## **Project Description and Justification**

- Engineering services and inspection affiliated with CP2 construction on adjacent property.
- This ensures proper coordination and physical connections to AlexRenew infrastructure.

Benefits	Strategic Outcome Area
Proper coordination between CP2 and AlexRenew.	Watershed Stewardship
Key Milestones for FY 20	Impact on Operations or Community
Completion of work	Decreases future O&M costs
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• None	Combined with West Campus Deck Connector.

# **Stormwater System - Structural and Nonstructural BMPs**

	g Departmer Champion	nt and	Project Location			Program a	Program and Project Category			Estimated Useful Life			
Е	ngineering			MDDD		WRRF Improvements			40 years			#2 <b>T</b> 22 222	
	TBD			WRRF		☐ Alexandria Only ☑ Joint Use						\$2,732,000	
Expenditure	Prior Year					,		FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total	
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,134,000	\$1,236,000	\$349,000	\$13,000	\$2,732,000	
Financing													
AlexRenew	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$453,600	\$494,400	\$139,600	\$5,200	\$1,092,800	
Fairfax	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$680,400	\$741,600	\$209,400	\$7,800	\$1,639,200	
VRLF													
Grant													
Line of Credit													

### **Project Description and Justification**

The AlexRenew WRRF storm sewer system is subdivided into seven drainage areas (DAs). Stormwater runoff within the three drainage areas on the western side of the facility (DAs 1, 2, and 3) discharge directly to Hooff's Run. DAs 4 and 6 discharge to the Virginia Department of Transportation (VDOT) Municipal Separate Storm Sewer System (MS4) and to the City of Alexandria MS4, respectively. Stormwater inlets within the final two drainage areas (DAs 5 and 7) convey stormwater directly to the Potomac Yard Interceptor and the Commonwealth Interceptor, respectively. Stormwater from these drainage areas (DAs 5 and 7) are directed to the AlexRenew wastewater treatment plant headworks. Drainage areas that discharge to the interceptors are not a part of this project as additional pretreatment stormwater BMPs is not a priority. Proposed stormwater BMPs in this analysis are located within the five drainage areas which discharge to adjacent surface water bodies or to adjoining storm sewer systems (DAs 1, 2, 3, 4, and 6). 8 BMP are recommended. Ponding that was also studied in the report is not a part of this project.

Benefits	Strategic Outcome Area					
• Alternative treatment facilities to support AlexRenew's sustainability initiatives and commitment to environmental stewardship.	Watershed Stewardship					
Key Milestones for FY 20	Impact on Operations or Community					
• N/A	<ul> <li>Potential to increase 0&amp;M costs to an annual cost of approximately 5% of construction costs</li> <li>Results in reduction of pollutant loading of permitted stormwater conveyed.</li> </ul>					

Stormwater System - Structural and Nonstructural BMPs Continued							
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP						
April 2016 URS Report "Stormwater Improvement Analysis Report"	<ul> <li>Deletion of ponding issue from project.</li> <li>Escalation added.</li> <li>Deletion of BMP-8 until after FY 2025.</li> </ul>						

## **Truck Scale Rehabilitation**

Managing Department and Champion			Project Location			Program and Project Category			Estiı	Lifetime Budget		
M	laintenance					WRRF Impr	ovements					
	Steve Hill		WRRF □ Alexandria Only □ Joint Use				10 years				\$86,000	
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$86,000	\$0	\$0	\$0	\$86,000
Financing												
AlexRenew	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$34,400	\$0	\$0	\$0	\$34,400
Fairfax	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,600	\$0	\$0	\$0	\$51,600
VRLF												
Grant												
Line of Credit												

## **Project Description and Justification**

- The truck scale is utilized to authenticate the weight of biosolids transferred from the WRRF, and the information is used in the Annual Biosolids report.
- The Mettler Toledo 7560SD scale was replaced, and software upgraded, in August 2016.
- This project is for periodic rehabilitation of the Truck Scale.

Benefits	Strategic Outcome Area
<ul> <li>Periodic rehabilitation of the truck scale provides reliable recordation of outgoing biosolid weights for regulatory reporting.</li> </ul>	Effective Financial Stewardship
Key Milestones for FY 20	Impact on Operations or Community
• None	May require use of alternate methods to weigh the outgoing truckloads.
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP

None

• Assumption of replacement at the end of useful life.

# **Upper Holmes Run Trunk Sewer Rehabilitation**

Managing Department and Champion			Pr	oject Locati	on	Program	Program and Project Category			Estimated Useful Life			
Engineering TBD West Alexandria				Interceptor/Trunk Sewers Rehab.  ☐ Alexandria Only  ☑ Joint Use			20-30 years			\$5,039,000			
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10 Yr. Total	
Total	\$0	\$0	\$0	\$0	\$0	\$833,000	\$351,000	\$1,850,000	\$1,850,000	\$100,000	\$55,000	\$5,039,000	
Financing								İ			İ		
AlexRenew	\$0	\$0	\$0	\$0	\$0	\$333,200	\$140,400	\$740,000	\$740,000	\$40,000	\$22,000	\$2,015,600	
Fairfax	\$0	\$0	\$0	\$0	\$0	\$499,800	\$210,600	\$1,110,000	\$1,110,000	\$60,000	\$33,000	\$3,023,400	
VRLF													
Grant													
Line of Credit													

### **Project Description and Justification**

- The pipes in Reach 9 were not inspected as part of the June 2017 Interceptor System Condition Assessment Report. These pipes were last inspected in 2009. In order to address capacity limitations, the HRTS upstream of North van Dorn Street will be lined as a part of the HRTS improvements conceived under RiverRenew.
- Phase 1: Rehabilitate 30"/36" pipe in Reach 8 and 9 from the Reach 7 to Dowden Terrance. This is approximately 5,700 feet. This was previously included in the CIP for FY2016, to address capacity limitations, but work has not yet begun. Reinspection is necessary. Design is scheduled for FY24-25. Construction is scheduled for FY26-27.
- Phase 2: Surface aggregate visible defects are present throughout many pipe segments in Reaches 4 &5. The proposed rehabilitation extents span over 3,000 linear feet, beginning with manhole 5514 at the Fairfax County sewer connection in Cameron Run Regional Park, through manhole 4243 downstream of the original County sewer connection at Cameron Station. Pipe diameters range from 48" to 72".

Benefits	Strategic Outcome Area					
Minor Repairs and maintenance activities to maximize asset life	Effective Financial Stewardship					
Key Milestones for FY 20	Impact on Operations or Community					
• N/A	<ul> <li>Any cleaning and/or inspection on HRTS require City permitting for traffic control, and parking impacts.</li> <li>Citizens are to be notified if contractor equipment will be in their neighborhood.</li> </ul>					

# WRRF Fire Alarm Upgrade

Managing Department and Champion			Pr	oject Locati	on	Program and Project Category Estimated Useful Life			Life	Lifetime Budget		
Safety			WRRF			Non-Process Facilities  Alexandria Only			15 Years			\$1,750,000
Sarah Clark						⊠ Joint Use						41,750,000
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024 FY 2025 FY 2026		FY 2027	FY 2028	FY 2029	10 Yr. Total	
Total	\$1,500,000	\$250,000	\$0	\$0	\$0	\$0 \$0 \$0		\$0	\$0	\$0	\$0	\$250,000
Financing												
AlexRenew	\$600,000	\$100,000	\$0	\$0	\$0	\$0 \$0 \$0		\$0	\$0	\$0	\$100,000	
Fairfax \$900,000 \$150,000		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$150,000	
VRLF												
Grant												
Line of Credit												

## **Project Description and Justification**

• The WRRF Fire Alarm System is scheduled to be upgraded. The panel is obsolete, and parts availability is hard to source out for replacement and repairs.

Benefits			Strategic Outcome Area				
Full redundancy and reliability of the Campus Fire Alarm System			Adaptive Culture				
	Key Milestones for FY 20		Impact on Operations or Community				
• Com	plete upgrade of the Campus Fire Alarm System	•	Increase employee safety within the campus buildings and grounds				
External or Internal Adopted Plan or Recommendation			Changes from Prior Year CIP				
• John	nson Controls' Memo on existing panels being obsolete.	•	None				

# WRRF HVAC Automation System Upgrade

Managing Department and Champion			Pr	oject Locati	on	Program and Project Category Estimated Useful Life			Life	Lifetime Budget		
Engineering			WRRF			Non-Process Facilities  Alexandria Only			N/A			\$1,000,000
TBD			WIKK			☐ Inexaliaria only ☐ Joint Use						Ψ1,000,000
Expenditure	Prior Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024 FY 2025 FY 2026		FY 2027	FY 2028	FY 2029	10 Yr. Total	
Total	\$0	\$0	\$0	\$0	\$500,000	\$500,000	\$0	\$0	\$0	\$0	\$0	\$1,000,000
Financing												
AlexRenew	\$0	\$0	\$0	\$0	\$200,000	\$200,000 \$0 \$0		\$0	\$0	\$0	\$400,000	
Fairfax \$0 \$0		\$0	\$0	\$300,000	\$300,000	\$0	\$0	\$0	\$0	\$0	\$600,000	
VRLF												
Grant												
Line of Credit												

## **Project Description and Justification**

The project goal is to upgrade the WRRF HVAC system computer software and field devices. A study will be performed to evaluate all the HVAC and recommend improvements for efficiency.

improvements for emerciney.					
Benefits	Strategic Outcome Area				
Full redundancy and reliability of the HVAC System	Effective Financial Stewardship				
Key Milestones for FY 20	Impact on Operations or Community				
• N/A	Increase equipment availability to process				
External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP				
• N/A	Project moved to FY2023.				





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 FY2020 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 FY2019	Proposed FY2020
Reserve Requirement			
Operating Fund			
60 Days Current Year Budgeted Expenses	\$	4,640,520	4,742,230
Projected Ending Balance		4,640,520	4,742,230
Excess (Deficiency)		-	-
General Reserve sub-Fund			
60 Days Current Year Budgeted Expenses	\$	4,640,520	4,742,230
Projected Ending Balance		4,640,520	4,742,230
Excess (Deficiency)		-	-
Total Reserve Requirement - 120 Days		9,281,040	9,484,460
Debt Service Coverage (DSC) Requirement			
Wastewater Treatment Charges	\$	39,195,503	\$ 43,848,000
Fairfax County Operating Expense Charge		11,329,663	11,653,647
Interest Income		90,000	90,000
Gross Revenue Available for Debt Service:	\$	50,615,166	\$ 55,591,647
Operating Expenses	\$	(27,843,111)	\$ (28,453,556)
Net Revenues Available for Debt Service	\$	22,772,055	\$ 27,138,091
Total Annual Debt Service	\$	15,245,561	\$ 14,220,146
All-in Debt Service Coverage		1.50x	<u>1.91x</u>
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

- 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.
- 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:
  - Fairly allocate bonds to other managers and the selling group.
  - 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 Management8. 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.



Alexandria Renew Enterprises



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## Minutes of the 866<sup>th</sup> Meeting

## "Celebrating Over 60 Years of Continuous Environmental Excellence"

Alexandria Renew Enterprises 6:00 p.m., Tuesday, May 21, 2019

On Tuesday, May 21, at 6:00 p.m., Alexandria Renew Enterprises held its regular Board of Directors meeting at Alexandria Renew Enterprises in the Ed Semonian Board Room at 1800 Limerick Street with the following present:

Members: Mr. John Hill, Chairman

Mr. Bruce Johnson, Vice Chairman

Mr. William Dickinson, Secretary-Treasurer

Mr. James Beall, Member Ms. Patti Turner, Member

Staff: Ms. Karen Pallansch, Chief Executive Officer

Ms. Liliana Maldonado, Deputy General Manager, Engineering & Planning Mr. Brian Mosby, Deputy General Manager, Operations & Maintenance

Ms. Lisa Van Riper, Director, Enterprise Communications

Ms. Christine McIntyre, Director of Finance Ms. Felicia Glapion, Program Manager, III Ms. Lorna Huff, Secretary to the Board

Counsel: Mr. Jonathan Rak

McGuireWoods, LLP

Consultants: Mr. Jeff Theerman, Brown & Caldwell

Fairfax County Representative: Mr. Shahram Mohsenin, Director

Fairfax County Wastewater Planning & Monitoring Division

City Representative: Mr. Lalit Sharma, Division Chief

Sanitary Sewer Infrastructure Division

Visitor: Mr. Dino Drudi, 315 N. West Street, Alexandria

Call to Order

The Chairman called the meeting to order at 6:01 p.m.

### Approval of the Agenda

The Chairman requested that members review the agenda and inquired if there were changes. There being none, the Chairman requested a motion to approve. Mr. Dickinson moved approval and Ms. Turner provided the second. The Board unanimously approved the agenda.

### **Public Comment Period**

There were no members of the public in attendance and wishing to speak, the Chairman closed the public comment period.

#### **Closed Session**

At 6:03 p.m., the Chairman moved to enter a closed session for discussion or consideration of real property acquisition for public purposes, or the disposition of publicly held property where discussion in an open meeting would adversely affect the bargaining position of the public body. Mr. Dickinson moved and Ms. Turner provided the second. The board unanimously approved.

At 6:51 p.m., the meeting returned to open session, and the following certification was unanimously adopted by the members: "Pursuant to 2.2-3712(D) of the Virginia Freedom of Information Act, it is hereby certified that to the best of each Member's knowledge, (1) only public business matters lawfully exempted from the open meeting requirements of the Act, and (2) only public business matters identified in the motion by which this closed meeting was convened were heard, discussed, or considered by Alexandria Renew Enterprises." Motion was made by Mr. Beall and seconded by Ms. Turner. All Members present voted via roll call:

Mr. Hill	Aye
Mr. Johnson	Aye
Mr. Dickinson	Aye
Mr. Beall	Aye
Ms. Turner	Aye

The Chairman moved the following.

**Be It Resolved That** the Board authorizes the CEO to execute an easement purchase agreement with RTN East, LLC as discussed in closed session with minor amendments in consultation with Counsel. Mr. Dickinson moved and Mr. Beall provided the second. The Board unanimously approved.

There were no additional questions or comments and the Chairman moved to the Consent Calendar.

## **Consent Calendar**

## A. Review and Approve Minutes from the April 16, 2019 Board Meeting

Mr. Hill requested that members review the Consent Calendar containing the Minutes of the April 16 Board Meeting and the May 11 Public Hearing. Mr. Johnson reported that he worked for the City of Alexandria and not Alexandria Public Schools and requested a correction to the Minutes of the May 11 Public Hearing.

There were no edits to the April 16 Minutes. Mr. Dickinson moved approval and Mr. Beall provided the second. The Board unanimously approved.

The Chairman requested a motion to approve the Minutes of the May 11 Public hearing as edited. Mr. Dickinson moved approval and Mr. Beall provided the second. The Board unanimously approved.

There being no additional discussion, the Chairman moved to Unfinished Business.

## <u>Unfinished Business</u>

## A. Unfinished Business

## Review and Approve Changes to Rates, Rules and Regulations

The Chairman recognized Ms. Pallansch, she noted the presentation from the May 11 Public Hearing and inquired if members had additional questions or comments. Board members inquired about

Fairfax County payments and increased social media activity regarding the proposed rate increase. Ms. Pallansch reported that Fairfax County payments do not increase based on the proposed rate increase. She further noted no increase in social media activity around the proposed rate increase. She recapped AlexRenew's communications process around notifying the public and reported that AlexRenew used social media, community meetings, and local media and bill stuffers to communicate the rate increase.

Ms. Pallansch reported that staff sends the signed resolution to Greater Cincinnati Water Works (GCWW). GCWW staff will learn the revised Rates, Rules and Regulations. Their scripts will be updated to include the new rates and information. This process takes a few weeks. There was no rate flyer included in the last bill as there was not enough time to complete them.

There were no additional questions or comments. The Chairman requested a motion to approve. Mr. Dickinson moved and Mr. Beall provided the second. The Board unanimously approved.

## RESOLUTION OF INTENT TO ADOPT AND CHANGE CERTAIN RATES, FEES AND CHARGES

BE IT RESOLVED, that the City of Alexandria, Virginia Sanitation Authority d/b/a Alexandria Renew Enterprises adopts the following Rates, Rules and Regulations schedule:

Description	Meter Size	Effective Oct 1, 2017	Effective July 1, 2019	Effective July 1, 2020
		Per 1,000 Gallons	Per 1,000 Gallons	Per 1,000 Gallons
Individually Metered Residential Service - Wastewater Treatment Charge	All Meters	\$6.77	\$7.63	\$8.50
Commercial Service - Wastewater Treatment Charge	All Meters	\$6.77	\$7.63	\$8.50
Description	Meter Size	Current Effective Oct. 1, 2017	Proposed Effective July 1, 2019	Proposed Effective July 1, 2020
Residential Base Charge	All Meters	\$9.61	\$10.83	\$12.05
Commercial Base Charge	5/8"	\$28.83	\$32.49	\$36.14
	3/4"	\$28.83	\$64.97	\$72.29
	1"	\$72.07	\$81.22	\$90.36
	1-1/2"	\$144.16	\$162.43	\$180.71
	2"	\$230.65	\$259.88	\$289.14
	3"	\$432.47	\$487.28	\$542.14
	4"	\$720.77	\$812.13	\$903.56
	6"	\$1,441.56	\$1,624.26	\$1,807.13
	8"	\$2,306.50	\$2,598.81	\$2,981.40
Minimum Deposit Based on Meter Size		\$0.00	\$0.00	\$0.00
Residential Customer Activation Fee		\$15.00	\$15.00	\$15.00

This Resolution shall take effect July 1, 2019.	
Adopted this day of	2019.
Secretary-Treasurer	
Chairman	_

There were no additional questions or comments. The Chairman requested a motion to approve the Resolution. Mr. Johnson moved and Mr. Beall seconded. The Board unanimously approved. There were no additional questions or comments. The Chairman moved to the Strategic Roundtable.

## Board Strategic Roundtable – Member and Committee Reports

## CSO Workgroup - Ms. Pallansch

Ms. Pallansch reported that she briefed Council on the tunnel program and status of Development Special Use Permit (DSUP).

## Seminary Hill - Mr. Dickinson

Mr. Dickinson reported that staff did a good job with their presentation and noted that there is still confusion about the Alexandria Arlington relationship and the stormwater issue.

## <u>Lynnhaven – Mr. Beall</u>

Mr. Beall reported that he attended the meeting and encouraged participants to attend AlexRenew's Rate Hearing.

## Potomac Green – Ms. Turner

Ms. Turner reported that the HOA was focused on the Potomac Yard Metro issue.

## Chamber of Commerce - Ms. Turner

Nothing to report.

## Chesapeake Bay Citizens Advisory Group - Mr. Dickinson

Mr. Dickinson reported that the Group would meet Wednesday, May 22, through Friday, May 25. There are two new appointees from New York State and West Virginia. The topic will be protecting land and source water and receiving credits for Best Management Practices (BMPs).

## Chesapeake Bay Commission – Mr. Dickinson

Mr. Dickinson reported that this group is comprised of 21 legislators from three states. They discussed cobenefits on investments and the expense of the Chesapeake Bay Program.

## US Water Alliance Meeting – Mr. Dickinson

Mr. Dickinson reported that the focus on this meeting was infrastructure and technology in the water industry. Ms. Pallansch also attended.

## Finance & Audit Committee - Mr. Johnson

Nothing to Report.

Alexandria Renew Enterprises Board Minutes 5/21/2019 Page 5

## **Governance Committee**

Nothing to report.

There were no additional questions or comments. The Chairman moved to the CEO's Reports and Recommendations.

## CEO's Reports and Recommendations

## A. <u>Consideration of April 2019 Financial Report</u>

Mr. Johnson noted that there were approximately 5 weeks left in the fiscal year. Cash reserves, debt service and overall numbers look good.

There were no additional questions or comments and the Chairman moved to the CEO Monthly Report.

## B. <u>CEO Monthly Report (April)</u>

Ms. Pallansch noted her written report and reported she had nothing to add. She reported that June was AlexRenew Safety Month. She reported on Moxie's Aquatic Alcove located in the lobby was opening soon. Visitors can learn about RiverRenew.

## RiverRenew Dashboard

Ms. Pallansch reported that RiverRenew is on schedule. There will be some delays from the National Park Service (NPS) and the EPA due to the government shutdown. Ms. Pallansch further reported that the National Park Service has been good to work with. The Environmental Assessment (EA) is expected around the June Board meeting. After that, there will be a 30-day comment period, with a finding of no significant impact. Ms. Pallansch will forward the EA statement when AlexRenew receives it.

There were no additional questions or comments and Chairman requested a motion to adjourn. Mr. Beall moved and Ms. Turner seconded. The Board unanimously approved.

The meeting adjourned at 7:34 p.m.

APPROVED:		
		Secretary-Treasurer



Board of Directors
John Hill, Chair
Bruce Johnson, Vice Chair
William Dickinson, Sec'y-Treas
James Beall
Patricia Turner

Chief Executive Officer Karen L. Pallansch, P.E., BCEE General Counsel

McGuireWoods, LLP

TO: AlexRenew Board of Directors

FROM: Karen Pallansch, CEO

DATE: June 11, 2019

SUBJECT: Action Item - Consent Agenda, Joint Use

Approval of Task Order WA2019-02 to Professional Services Agreement 14-017-2, Engineering

Services during Construction for the Process Air Compressor System Upgrade Project

## Issue:

AlexRenew requires a contract to provide Engineering Services during Construction to assist in the construction of the Process Air Compressor (PAC) System Upgrade Project.

#### Recommendation:

Staff respectfully recommends that the Board authorize the Chief Executive Officer to execute Task Order WA2019-02 to contract 14-017-2 to provide Engineering Service during Construction for the PAC System Upgrade Project. The contract duration is approximately 20 months; the contract amount for FY 2020 is a not-to-exceed budget of \$694,138.

## **Budget and Funding:**

These services are in support of the Process Air Compressor System Upgrade (PAC) Project. Funding for the PAC project is included in the proposed FY 2020 CIP budget.

## **Discussion:**

Construction of the Process Air Compressor System Upgrade (PAC) Project is scheduled to begin in FY 2020. HDR is the Engineer of Record for the PAC project and is best equipped to provide Engineering Services during construction.

## **Congruence with AlexRenew Strategic Plan:**

This action supports AlexRenew's Operational Excellence strategic outcome by ensuring that the WRRF PAC Upgrade Project is constructed in accordance with design requirements.

Action Taken:	Approved:	Disapproved: _	
	Approved with Modifications:	:	
	Modifications:		_

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**Board of Directors** 

John Hill, Chair Bruce Johnson, Vice Chair William Dickinson, Sec'y-Treas James Beall Patricia Turner

Chief Executive Officer Karen L. Pallansch, P.E., BCEE

> General Counsel McGuireWoods, LLP

TO: AlexRenew Board of Directors

FROM: Karen Pallansch, CEO

DATE: June 11, 2019

SUBJECT: Action Item – Consent Agenda, Joint use

Review and Approve Contract Award to Low Bidder Name here for the Construction of the Process

Air Compressor System (PAC) Upgrade Project, Contract No. 19-041

### Issue:

AlexRenew's Process Air Compressor System, which provides air to treat wastewater, is ready for renewal. Design was completed in FY2019; the project now requires construction.

## Recommendation:

Staff respectfully recommends that the Board authorize the Chief Executive Officer to execute a contract with <a href="Apparent Low Bidder Name here">Apparent Low Bidder Name here</a> for the Construction of the Process Air Compressor System Upgrade (PAC) Project. The contract duration is approximately 20 months. The contract amount is <a href="\$\frac{\\$xx,xxx,xxx}{\\$xxx.}\$.

## **Budget and Funding:**

Funding for this project is included in the proposed FY 2020 capital budget.

## **Discussion:**

AlexRenew conducted solicitations using the Competitive Sealed Bidding procurement process as defined and authorized in the Virginia Public Procurement Act § 2.2-4302.1. AlexRenew received YYY bids. Apparent Low Bidder Name here is the selected bidder.

This contract will support the renewal of the Process Air Compressor System, allowing AlexRenew to meet current and future treatment requirements.

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Action Taken:				
	Approved:		Disapproved:	
		Approved with Modifications:		
		Madifications		

This action supports AlexRenew's Operational Excellence strategic outcome.

**Congruence with AlexRenew Strategic Plan:** 



**Board of Directors** 

John Hill, Chair Bruce Johnson, Vice Chair William Dickinson, Sec'y-Treas James Beall Patricia Turner

Chief Executive Officer Karen L. Pallansch, P.E., BCEE General Counsel

McGuireWoods, LLP

TO: AlexRenew Board of Directors

FROM: Karen Pallansch, CEO

DATE: June 11, 2019

SUBJECT: Action Item - New Business, Joint Use

Review and Approve Contract Award to Clark Construction Group, LLC, for Building J Facilities

Relocation and Decommissioning Project - Contract No. 19-064

## Issue:

To support construction of a shaft on AlexRenew's campus for the RiverRenew project, Building J will need to be decommissioned and demolished. Facilities with Building J will be relocated. We are requesting approval of a contract award to Clark Construction Group, LLC to complete this project.

## **Recommendation:**

Staff respectfully recommends that the Board authorize the Chief Executive Officer to execute a contract with Clark Construction Group, LLC for the Building J Facilities Relocation and Decommissioning Project. The contract duration is approximately 21 months with an end date of March 30, 2021. The contract amount is \$19,589,740.

## **Budget and Funding:**

Funding for this project is included in the proposed FY 2020 CIP budget.

## **Discussion:**

AlexRenew conducted solicitations using the Competitive Sealed Bidding procurement process as defined and authorized in the Virginia Public Procurement Act § 2.2-4302.1. AlexRenew issued ITB No. 19-064 on April 16, 2019 and received two bids on May 28, 2019. Clark Construction Group, LLC is the lowest responsive and responsible bidder.

As result of this Contract, AlexRenew will be able to relocate critical process support and laboratory functions from Building J to Buildings G/1 and G/2 to facilitate the overall RiverRenew strategy.

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Action Taken:	Approved: _		Disapproved:	
		Approved with Modifications: _		

**Congruence with AlexRenew Strategic Plan:** 

This action supports the Watershed stewardship strategic outcome.



Board of Directors

John Hill, Chair Bruce Johnson, Vice Chair William Dickinson, Sec'y-Treas James Beall Patricia Turner

Chief Executive Officer Karen L. Pallansch, P.E., BCEE

> General Counsel McGuireWoods, LLP

TO: AlexRenew Board of Directors

FROM: Karen Pallansch, Chief Executive Officer

DATE: June 11, 2019

SUBJECT: Action Item, New Business – Joint Use

Approval of Contract No. 19-031: Wastewater Services Resident Engineering and Inspection

(RE & I)

#### Issue:

AlexRenew requires a contract to provide Wastewater Services RE & I services to assist in the construction oversight of its Capital Improvement Program (CIP) projects that begin Summer 2019 (The Process Air Compressor Upgrade Project, 108 to 116 MGD Expansion Project, Building J Facilities Relocation and Decommissioning Project, and WRRF Site Security and Access Project).

### Request:

Staff respectfully recommends the Board authorize the Chief Executive Officer to award a professional services agreement to Hazen and Sawyer, P.C. in the amount not to exceed \$2,907,309 to provide Wastewater Services RE&I for AlexRenew's CIP for FY2020, with the option to renew for four (4) subsequent years, one (1) year at a time. Budgets for the subsequent years will be determined annually, based on agreed-upon scopes of work for approved CIP projects under construction.

## **Budget and Funding:**

Funding for the four projects is included in the proposed FY2020 budget. This contract will be funded from the budgets allocated to each of these four projects in the approved FY2010 budget.

#### Discussion:

AlexRenew issued RFP-19-031, conducting the solicitation as a competitive negotiation in accordance with Virginia Code § 2.2-4302.2. AlexRenew received four (4) proposals and shortlisted three (3) respondents to interview. After proposal evaluations and interviews, Hazen and Sawyer, P.C. was ranked as the most qualified offeror for this solicitation.

## **Congruence with AlexRenew Strategic Plan:**

This action supports AlexRenew's Operational Excellence strategic outcome.

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Action Taken:				
	Approved:		Disapproved: _	
		Approved with Modifications: _		
		Modifications:		



Board of Directors
John Hill, Chair
Bruce Johnson, Vice Chair
William Dickinson, Sec'y-Treas
James Beall
Patricia Turner

Chief Executive Officer Karen L. Pallansch, P.E., BCEE

> General Counsel McGuireWoods, LLP

TO: AlexRenew Board of Directors

FROM: Karen Pallansch, CEO

DATE: June 11, 2019

SUBJECT: Action Item - New Business, Joint Use

Approval of RiverRenew Owner's Advisor Scope of Services and Budget for Amendment

No. 3 to Contract No. 17-022 (July 1, 2019 – June 30, 2020)

#### Issue:

A Professional Services Agreement with Brown and Caldwell and their subconsultants, referred to herein as Owner's Advisor, was initiated in November 2017 to provide Owner's Advisor Services associated with RiverRenew. The Owner's Advisor contract requires an amendment to cover the period of service for FY20, beginning July 1, 2019 through June 30, 2020.

### Recommendation:

Staff respectfully recommends that the Board authorize the Chief Executive Officer to approve the Scope of Services and Budget for Amendment 3 to Contract No. 17-022 in the amount of \$16,968,912 to support Owner's Advisor Services for RiverRenew through the end of FY20.

## **Budget and Funding:**

Costs for Owner's Advisor Services associated with RiverRenew are included in the overall FY20 Capital Improvement Program budget.

## **Discussion:**

The contract amount requested for authorization represents anticipated tasks to be completed in FY20. During the coming fiscal year, RiverRenew will move to the Design Phase Amendment 3 services include:

- Program Management
- Finalization of the Planning Phase
- Stakeholder Outreach and Engagement
- Construction Management Oversight
- Third Party Coordination
- Site Investigations
- Hydraulic Modeling
- Geotechnical Exploration
- Procurement, including finalization of the Request for Proposal for a design-build team

## **Congruence with AlexRenew Strategic Plan:**

This action supports the Watershed Stewardship strategic outcome in the AlexRenew strategic plan.

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ACTION TAKEN:	
APPROVED:	DISAPPROVED:
APPROVED WITH MO	ODIFICATION:
MODIFICATIONS:	



**Board of Directors** 

John Hill, Chair Bruce Johnson, Vice Chair William Dickinson, Sec'y-Treas James Beall Patricia Turner

Chief Executive Officer
Karen L. Pallansch, P.E., BCEE
General Counsel

General Counsel McGuireWoods, LLP

TO: AlexRenew Board of Directors

FROM: Karen Pallansch, CEO

DATE: June 11, 2019

SUBJECT: Action Item - New Business, Joint Use

Review and Approval of Task Order No. 18-006-04 to Professional Services Agreement 18-006: Wet-Weather Support Implementation, Engineering Services During Construction for RiverRenew

Building J Facilities Relocation and Decommissioning Project, FY20 Budget Authorization, CH2M Hill,

Inc.

## Issue:

AlexRenew requires a contract to provide Engineering Services During Construction (ESDC) for CH2M Hill Engineers, Inc. to provide technical support services for the Building J (BLDG J) Facilities Relocation and Decommissioning Project. CH2M Hill Engineers, Inc. was selected to provide design engineering services for this project.

## **Recommendation:**

Staff respectfully recommends that the Board authorize the Chief Executive Officer to execute a Task Order to Professional Services Agreement 18-006 to provide Engineering Services During Construction for the Building J Facilities Relocation and Decommissioning Project. The contract duration is approximately 21 months and the budget for FY 2020 is a not to exceed amount of \$885,963.

## **Budget and Funding:**

These services are a part of the Building J Facilities Relocation and Decommissioning Project. Funding for the Building J Facilities Relocation and Decommissioning Project is included in the proposed FY 2020 CIP budget.

## **Discussion:**

The Building J Facilities Relocation and Decommissioning Project is scheduled to begin in FY2019. Building J must be removed (and its functions relocated) to make room for infrastructure associated with the RiverRenew program. CH2M Hill, Engineers, Inc. is the Engineer of Record for the project and is best equipped to provide these services since they also provided design services for the project.

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This action supports AlexRenew's Watershed Stewa	rdship strategic outcome.
Action Taken:	
Approved:	Disapproved:
Approved with Modif	ications:
Modifications:	

**Congruence with AlexRenew Strategic Plan:** 

May 11, 2018, Consent Agenda, Joint Use: Review and Approve Task Order 18-006-04 for ESDC for Building J Facilities Relocation and Decommissioning



**Board of Directors** 

John Hill, Chair Bruce Johnson, Vice Chair William Dickinson, Sec'y-Treas James Beall Patricia Turner

Chief Executive Officer Karen L. Pallansch, P.E., BCEE

> General Counsel McGuireWoods, LLP

### **MEMORANDUM**

TO: AlexRenew Board of Directors

FROM: Karen Pallansch, CEO

DATE: June 11, 2019

SUBJECT: Action Item (Joint) – Review and Approval of Bond Resolution Authorizing Issuance of

Sewer Revenue Bonds, Series 2019, through the Virginia Clean Water Revolving Loan

Fund (Virginia CWRLF)

#### Issue:

AlexRenew has applied to the Virginia Clean Water Revolving Loan Fund to borrow \$10.4 million to help fund portions of the Capital Improvement Program. Board Approval of the Bond Resolution is necessary to authorize the upcoming bond issuance and will also set a not-to-exceed principal amount and interest rate for the Series 2019 Bonds.

## **Recommendation:**

The CEO and legal counsel respectfully recommend that the Board approve the attached Bond Resolution to issue the Series 2019 Bonds through the Virginia CWRLF.

## **Budget and Funding:**

The Fiscal Year 2020 budget included this debt issuance and incorporated its preliminary structure into the debt schedules provided in the budget document. The projects being funded by the Series 2019 Bonds were included in the Fiscal Year 2020 budget within the Capital Improvement Program under the heading WRRF Improvements. These projects consist of the replacement of process air compressor blowers and other plant improvements that are needed to prepare the facility for the RiverRenew program. The proceeds will likely be spent entirely on the replacement of the process air compressor blowers, but AlexRenew will reserve the flexibility to spend the proceeds on other projects within the WRRF Improvements category if needed.

## **Discussion:**

PFM Financial Advisors LLC, as Financial Advisor to AlexRenew, has prepared an accompanying memo outlining their recommendation for structuring the Series 2019 Bonds. The recommendation is to structure the Series 2019 Bonds with a 25-year repayment schedule, structured around AlexRenew's existing debt to provide for annual payments that are generally level. The Bond Resolution provides a not-to-exceed interest rate (5.00%) and principal amount (\$10.4 million) and the final structure will be input to the Financing Agreement upon closing by AlexRenew Bond Counsel, McGuireWoods. Based on current market conditions, the interest rate is expected to approximate 2.20%.

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The resolution attached for your consideration authorizes the Chairman, Chief Executive Officer and staff, as applicable, to sign the necessary closing documents and take other such actions as may be needed.

## **Congruence with AlexRenew Strategic Plan:**

This action supports the strategic outcome of Effective Financial Stewardship.

ACTION TAKEN:	
APPROVED:	DISAPPROVED:
APPROVED WITH M	ODIFICATION:
MODIFICATIONS:	·



June 7, 2019

## Memorandum

**To:** Board of Directors of Alexandria Renew Enterprises

From: Sarah Frey, Director, PFM Financial Advisors LLC

Erick Winterkamp, Analyst, PFM Financial Advisors LLC

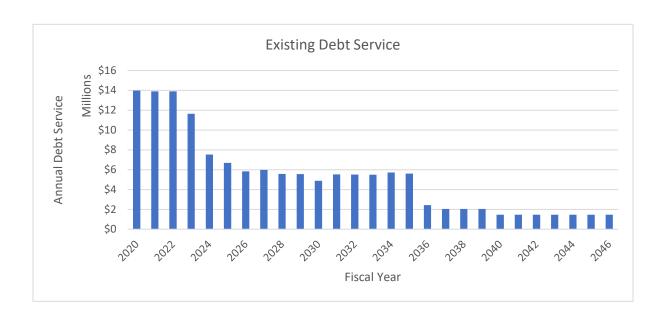
**Re:** Recommended Structure for

Alexandria Renew's 2019 Sewer Revenue Bond

In our role as Alexandria Renew Enterprises' ("AlexRenew") Financial Advisor, PFM Financial Advisors LLC ("PFM") has prepared this memorandum to describe our recommendation concerning the structure of the above referenced financing (the "Series 2019 Bonds") to be issued through the Virginia Clean Water Facilities Revolving Fund in 2019.

## **Existing Debt**

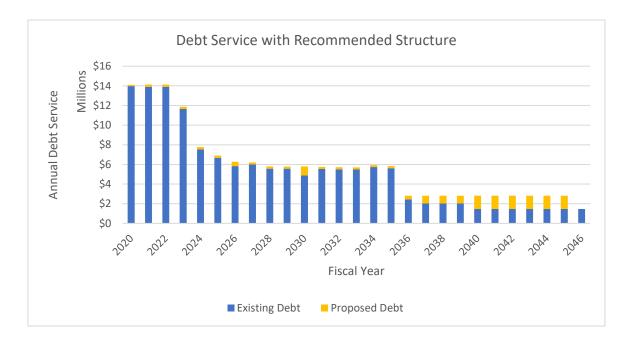
Currently, AlexRenew has nine outstanding series of bonds through the Virginia Clean Water Facilities Revolving Loan Fund, with a total par amount of approximately \$66 million, and three outstanding series through the Virginia Pooled Financing Program with a total par amount of approximately \$42 million. As shown in the graph below, the outstanding bonds' debt service structure is generally level, at approximately \$14 million through FY 2022, approximately \$12 million in FY 2023, with a significant decrease thereafter upon the final maturity of the Clean Water State Revolving Fund Revenue Bonds, Series 2000 Bonds.



## **Recommended Structure**

The decrease in debt service beginning in FY 2024 provides some "delayed" capacity to accommodate the upcoming issuance. Most of AlexRenew's debt has been issued with a 20-year term due to the prior restrictions imposed on loans from the Clean Water Facilities Revolving Loan Fund, though the most recent financing in 2017 was structured with a 28-year final maturity. Now, for certain project types, the Clean Water Facilities Revolving Loan Fund offers loans with a final maturity beyond 20 years.

Given its existing capital structure, current market conditions, and the terms of the Clean Water Facilities Revolving Fund, we recommend that AlexRenew's upcoming borrowing be structured around the existing debt service to create level annual debt service payments, where feasible. We recommend amortizing the Series 2019 Bonds over 25 years, with a final maturity in FY 2045. Under the recommended structure, AlexRenew would make relatively small principal payments through FY 2035, after which, principal payments would increase annually. The graph below shows AlexRenew's estimated annual debt service with the recommended structure on the Series 2019 Bonds.



Favorably, because of the method by which interest rates are determined under the Clean Water Facilities Revolving Loan Fund, the delayed principal repayment structure does not impact the interest rate on the Series 2019 Bonds.

The final interest rate on the Series 2019 Bonds will be determined upon loan closing. Based on current market conditions and the proposed term of the debt, the interest rate on the Series 2019 Bonds is around 2.20%, including the required financing administrative fee.

Please feel free to contact us at (703) 741-0175 with any questions or if you need any additional information.

## CITY OF ALEXANDRIA, VIRGINIA SANITATION AUTHORITY

RESOLUTION AUTHORIZING AND APPROVING THE ISSUANCE, AWARD AND SALE OF THE CITY OF ALEXANDRIA, VIRGINIA SANITATION AUTHORITY, SEWER REVENUE BOND, AND SETTING FORTH THE FORM, DETAILS AND PROVISIONS FOR THE PAYMENT THEREOF

WHEREAS, the City of Alexandria, Virginia, Sanitation Authority d/b/a Alexandria Renew Enterprises ("Alexandria Renew") is a public body politic and corporate of the Commonwealth of Virginia (the "Commonwealth") created pursuant to the Virginia Water and Waste Authorities Act, Chapter 51, Title 15.2 of the Code of Virginia of 1950, as amended (the "Act").

WHEREAS, the Board of Directors of Alexandria Renew (the "Board") has determined that it is necessary and desirable to issue its Sewer Revenue Bond (the "Bond"), and to use the proceeds thereof, along with other available funds, if any (i) to finance all or a portion of the costs of wet weather improvements and the replacement of process air compressor blowers, together with related expenses and (ii) to pay the costs of issuance of the Bond (the "Project").

WHEREAS, the Bond will be sold by Alexandria Renew to or at the direction of the Virginia Resources Authority ("VRA"), as Administrator of the Virginia Water Facilities Revolving Fund (the "Fund"), pursuant to the terms of a Financing Agreement (the "Financing Agreement") between Alexandria Renew and VRA, as Administrator of the Fund, to be dated as of a date specified by VRA.

WHEREAS, the Bond will be issued as parity indebtedness ("Parity Indebtedness") under the Master Indenture of Trust dated as of March 15, 1999 (as supplemented and amended, the "Master Indenture"), between Alexandria Renew and U.S. Bank National Association, as successor trustee (the "Trustee"). The Bond will be secured by a pledge of the net revenues (as more particularly defined in the Financing Agreement, the "Net Revenues") derived by the Alexandria Renew from the ownership and operation of its sewage disposal and sewer systems (as more particularly defined in the Financing Agreement, the "System").

**WHEREAS**, the foregoing arrangements will be reflected in the Financing Agreement, a form of which has been filed in Alexandria Renew's records.

NOW, THEREFORE, IN FURTHERANCE OF THE PUBLIC PURPOSE FOR WHICH THE CITY OF ALEXANDRIA, VIRGINIA, SANITATION AUTHORITY WAS CREATED, BE IT RESOLVED THAT:

1. Authorization of Bond and Use of Proceeds. The Board hereby determines that it is in the best interest of Alexandria Renew to contract a debt and to issue the Bond in the maximum principal amount of \$10,400,000, and to award and sell the Bond to or at the direction of VRA, all pursuant to the Act and the terms of this Resolution and the Financing Agreement. The Board hereby finds that the issuance of the Bond will promote the health, safety, welfare, morals and propriety of the citizens served by Alexandria Renew and will promote the governmental purposes of the Act. Accordingly, the Board hereby authorizes the issuance, award and sale of the Bond in accordance with the terms of this Resolution and the Financing Agreement.

The Bond shall be known as the "City of Alexandria, Virginia, Sanitation Authority, Sewer Revenue Bond" with an appropriate series designation as the Chairman may approve. The Board hereby covenants that the proceeds from the issuance and sale of the Bond shall be used, together with other available funds, if any, as described in the Recitals.

- **2.** <u>Details of Bond</u>. The Bond shall be issued as a single bond in fully registered form, shall be dated the date of its issuance and delivery and shall bear a Cost of Funds (as defined in the Financing Agreement) at a rate not to exceed five percent per annum. The maturity and the principal and Cost of Funds payment schedule shall be set forth in the form of the Bond and approved by the Chairman of Alexandria Renew (the "Chairman"); provided that the final maturity of the Bond shall be no later than June 30, 2049.
- 3. Pledge of Net Revenues and Parity Indebtedness. The Bond shall be a limited obligation of Alexandria Renew and, except to the extent payable from the proceeds of the sale of the Bond or the income, if any, derived from the investment thereof, is payable exclusively from the Net Revenues of the System which are hereby pledged to pay the principal of and Cost of Funds on the Bond pursuant to the terms of the Financing Agreement. The Board hereby determines that the Bond shall be issued as Parity Indebtedness under the Master Indenture. The Board hereby acknowledges that as Parity Indebtedness the Bond will be secured equally and ratably with Alexandria Renew's outstanding Parity Indebtedness or Bonds (as defined in the Master Indenture) and any Parity Indebtedness or Bonds issued in the future, subject to Section 2.1(b) of the Master Indenture. Neither the Commonwealth of Virginia nor any of its political subdivisions, including Alexandria Renew, shall be obligated to pay the principal of or Cost of Funds on the Bond or other costs incident to it except from the revenues and any other money or property pledged for such purpose, and neither the faith and credit nor the taxing power of the Commonwealth of Virginia or any of its political subdivisions, including Alexandria Renew, is pledged to the payment of the principal of or Cost of Funds on the Bond or other costs incident to The issuance of the Bond does not directly, indirectly or contingently obligate the Commonwealth of Virginia or any of its political subdivisions, including Alexandria Renew, to levy any taxes for the payment of the Bond. It is expected that the principal of and Cost of Funds on the Bond will be paid from Net Revenues derived from Alexandria Renew's retail customers in the City of Alexandria, Virginia, and not from payments derived from Fairfax County under the Amended and Restated Service Agreement dated as of October 1, 1998, between Alexandria Renew and the Board of Supervisors of Fairfax County.
- **4. Project Part of System**. The Board hereby confirms that the Project shall constitute part of the System.
- 5. Form of Bond. The Bond shall be in substantially the form attached as Exhibit A to the Financing Agreement and on file in Alexandria Renew's records, with such variations, insertions or deletions as may be approved by the Chairman. There may be endorsed on the Bond such legend or text as may be necessary or appropriate to conform to any applicable rules and regulations of any governmental authority or any usage or requirement of law with respect thereto.
- **6.** Redemption of Bond. The Bond shall be subject to optional redemption at the direction of Alexandria Renew, upon the terms set forth in the Bond and the Financing Agreement.

- 7. Execution and Delivery of Bond. The Board hereby authorizes and directs the Chairman to execute the Bond. The Board hereby authorizes and directs the Secretary-Treasurer to affix the seal of Alexandria Renew to the executed Bond and to attest to it and then to deliver the Bond to or at the direction of VRA upon payment of the first principal advance thereunder. An authorized representative or other designee of VRA shall enter the amount and date of each principal advance as provided in the Certificate of Advances attached to the Bond when the proceeds of such advance are delivered to Alexandria Renew.
- **8.** Parity Debt Service Fund Accounts. The Board hereby authorizes the creation of a series-specific Bond Account in the Parity Debt Service Fund described in Section 7.5 of the Master Indenture. The Board hereby covenants that Alexandria Renew shall use money in such Bond Account to make payments on the Bond when due.
- 9. <u>Approval of Financing Agreement</u>. The Board hereby approves the form of the Financing Agreement, with such changes, insertions or omissions as may be approved by the Chairman. The Board hereby authorizes the Chairman to complete the Financing Agreement with the final terms and details of the Bond as determined pursuant to paragraph 2. The Board hereby authorizes the Chairman to execute and deliver the Financing Agreement and such other documents and certificates as such officer may consider necessary in connection therewith.
- 10. <u>Evidence of Approval</u>. The approval or determination of all of the details and provisions of the Bond, the Financing Agreement and all other documents executed under the Authority of this Resolution shall be evidenced conclusively by the execution and delivery of the Bond, the Financing Agreement and such other document by the officer or officers authorized hereby.
- 11. <u>Tax Documents</u>. If required by VRA, the Board hereby authorizes the Chief Executive Officer of Alexandria Renew (the "Chief Executive Officer") to execute a Tax Compliance Agreement or any related document (the "Tax Documents") setting forth the expected use and investment of the proceeds of the Bond and containing such covenants as may be required by VRA or otherwise necessary in order to comply with the applicable provisions of the Internal Revenue Code of 1986, as amended (the "Code"), including the provisions of Section 148 of the Code and applicable regulations relating to "arbitrage bonds." If required by VRA, the Board hereby covenants that the proceeds from the issuance and sale of the Bond will be invested and expended as set forth in the Tax Documents, which will be delivered simultaneously with the issuance and delivery of the Bond, and that Alexandria Renew shall comply with the other covenants and representations contained therein.
- 12. Further Actions; Authorized Representative. The Board hereby authorizes and directs the Chairman and the Chief Executive Officer and such officers and agents of Alexandria Renew as may be designated by either of them to take such further actions as they deem necessary regarding, the issuance and sale of the Bond and the execution, delivery and performance of the Financing Agreement, including, without limitation, the execution and delivery of VRA's commitment letter of May 2, 2019, as amended or supplemented from time to time, and closing documents and certificates. All such actions previously taken by such officers and agents are ratified and confirmed. The Board hereby designates the Chief Executive Officer Alexandria Renew as Alexandria Renew's authorized representatives for purposes of the Financing

Agreement. The authorization granted in this Resolution to the Chairman, Chief Executive Officer, Secretary may be carried out by the Vice Chairman, Assistant or Acting Secretary, as applicable, or such other officer as any of the named officers may designate in writing.

- 13. <u>Filing of Resolution</u>. The Board hereby directs counsel to Alexandria Renew to file a certified copy of this Resolution with the Circuit Court of the City of Alexandria, Virginia, pursuant to Section 15.2-5126 of the Code of Virginia of 1950, as amended.
  - **14. Effective Date**. This Resolution shall take effect immediately.

	Adopted
-	
	Secretary-Treasurer
[Signature Page	e to Bond Resolution]

## **Monthly Financial Report**



Month: May 2019

## Overview

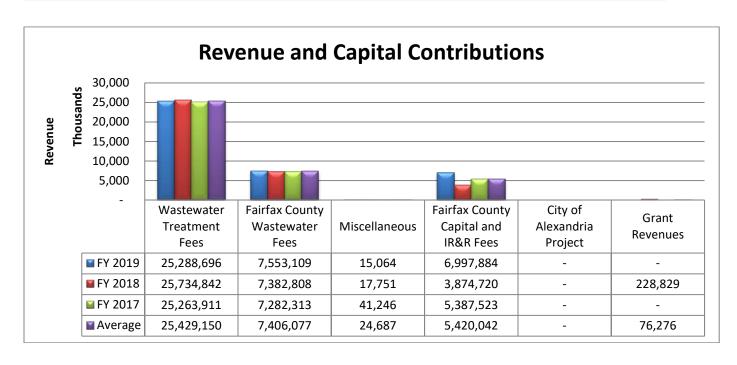
Monthly performance of AlexRenew's annual approved budget is reviewed and evaluated against actual to planned spend rates, historical trends, appropriate benchmarks and internal financial policies, to ensure overall organizational financial stability.

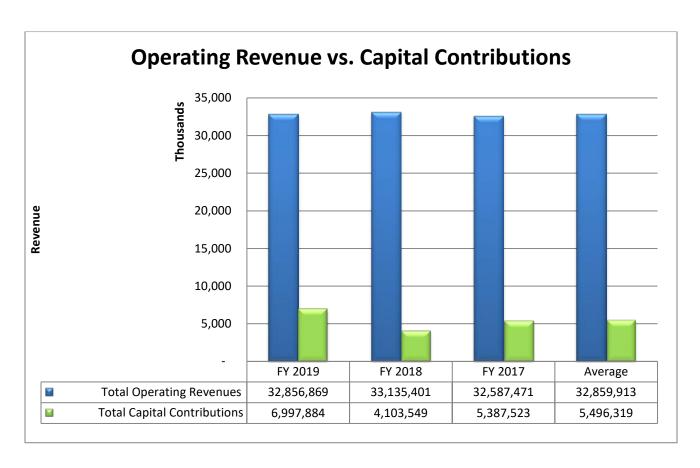
Currently, as the summary data herein will indicate, AlexRenew is trending slightly below its FY19 consolidated revenue budget and below its consolidated expense budget, month-to-date.

## **Revenues**

- FY19 operating revenues total \$32.9 million through the end of May with approximately \$25.3 million in Wastewater Treatment Charge revenue and \$7,553,109 collected from Fairfax County. Wastewater Treatment Charge revenue is approximately \$446,000 (1.7%) less compared to the same time period in FY18 and \$841,639 (3.2%) below the Fiscal 2019 YTD budget.
- Our revenue performance is primarily driven by billed flows that may be impacted by seasonality and by the Virginia American Water meter reading process which can vary month-to-month.
- The Fairfax County operating expense charge and IR&R contribution YTD are on budget respectively. Fairfax County capital outlay contributions are also in-line with capital expenditures.









## **Expenses**

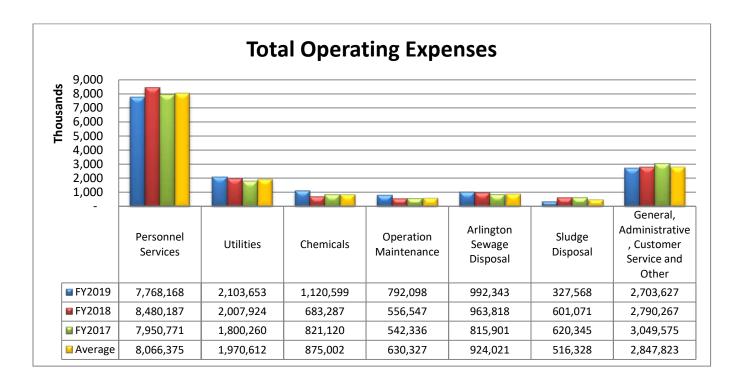
FY19 operating and maintenance expenses are approximately 15% or \$2.9 million under our year-to-date budget, representing a spend rate of 56.4% (75.2% when adjusted for 9-month fiscal year). An overall decrease in General and Administrative costs, as well as Sludge Disposal costs accounts primarily for this variance.

Capital outlay expenses are \$13.9 million year-to-date, representing a spend rate of 52.1% (69.5% when adjusted for 9-month fiscal year).

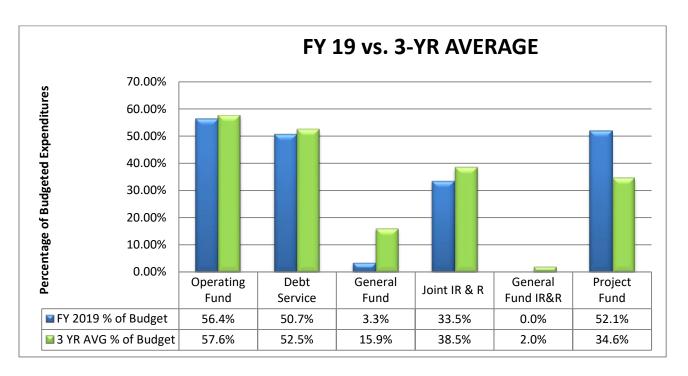
At eight (8) months into our fiscal year, our overall spend rate is 46.9% of our total budget (62.5% when adjusted for 9-month fiscal year)

### **EXPENSES BY FUND**

ACTUAL VS. BUDGET									SPEND		
Through May, 2019										RATE	
(Millions of Dollars)	FY 2019 FYTD 2019		3 YR AVG FY		FY	TD 2019	FY 2019	3 YR AVG	Variance FY18		
Expenses (By Fund)		BUDGET	GET ACTUAL ACTUAL BUDG		JDGET	% of Budget	% of Budget	to 3 YR AVG			
Operating Fund	\$	27.84	\$	15.70	\$	15.70	\$	18.56	56.4%	57.6%	-1.2%
Debt Service		15.24		7.73		7.58		10.16	50.7%	52.5%	-1.8%
General Fund		8.17		0.27		0.71		5.45	3.3%	15.9%	-12.6%
Joint IR & R		5.63		1.89		1.75		3.75	33.5%	38.5%	-5.0%
General Fund IR&R		0.60		-		0.01		0.40	0.0%	2.0%	-2.0%
Project Fund		26.60		13.85		7.94		17.73	52.1%	34.6%	17.4%
Total	\$	84.08	\$	39.44	\$	33.68	\$	56.05	46.9%	45.5%	1.4%

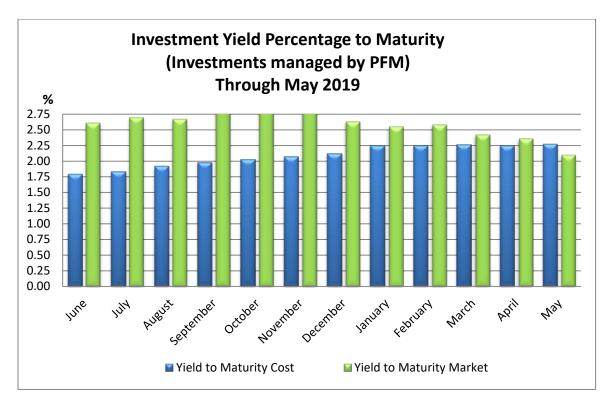






## **Investments**

PFM Investment Advisors manages approximately \$24 million of AlexRenew's \$31.1 million investment portfolio. The following graph demonstrates current earnings on investments of approximately 2.27%; a level significantly higher than general bank deposit earnings rates.



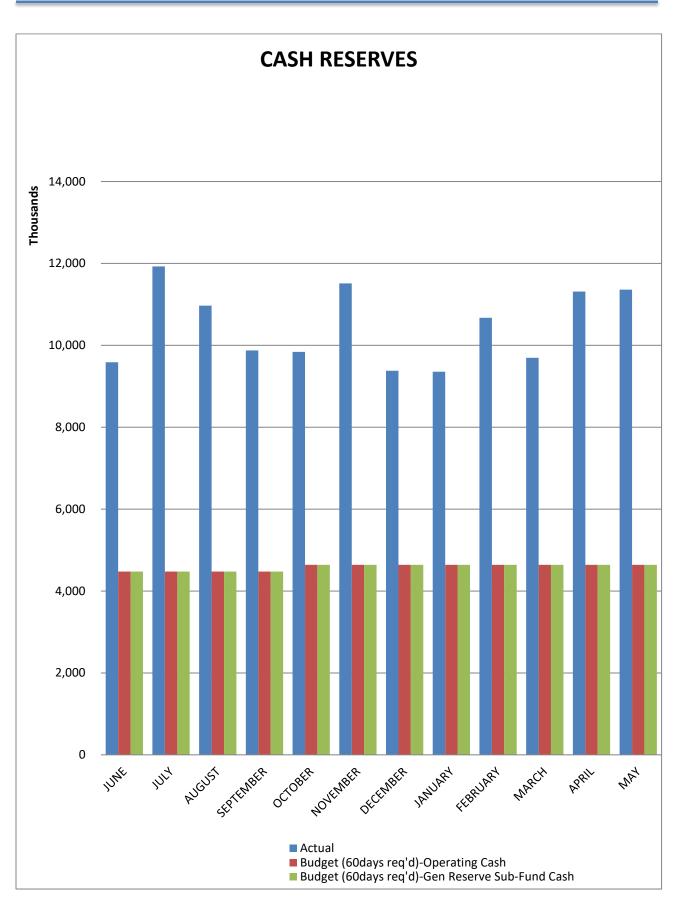


## **Cash Reserves**

Our Indenture requires that we maintain a balance on deposit in our Operating Fund equal to not less than 60 days of budgeted operating expenses. AlexRenew Financial Policy requires a balance on deposit in our General Reserve sub-Fund also equal to not less than 60 days of budgeted operating expenses. In total, these combined compliance conditions require AlexRenew to maintain at least 120 days cash on hand, and for FY19 this equals a minimum of \$9,281,042. The chart and graph below demonstrate that AlexRenew currently exceeds this requirement.

Board Policy 120 Days Operating-General fund Cash Reserve	FY	2019 Actual	Percentage of Goal
As of May, 2019			
Total Operating Cash	\$	3,910,831	
Total Certificates of Deposit (Cash Equivalent)	\$	2,806,903	
Total Operating Cash	\$	6,717,734	
Total General Reserve Sub-Fund Cash		4,640,520	
Total Operating and General Reserve Sub- Fund Cash		11,358,254	122%







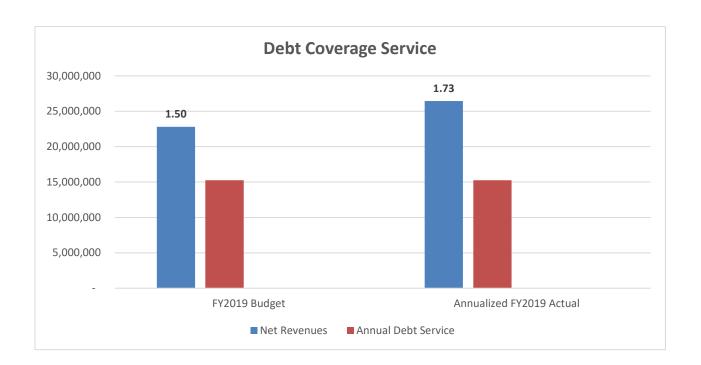
## **Debt Service Coverage**

Our Indenture also requires AlexRenew to maintain a minimum debt service coverage such that Revenues less Operating Expenses or Net Revenues (each term as defined in the Indenture) is at least 1.10x our parity debt service due in any fiscal year. Compliance with our Board-approved financial policies requires AlexRenew to maintain a higher minimum debt service coverage of at least 1.50x applying the same criteria as defined above.

In both cases, AlexRenew currently exceeds its compliance standard as indicated in the graph below. The 1.73x designated in the graph below represents projected coverage for FY19 based on actual results to date. We also note our anticipated coverage of 1.50x based on original FY19 budget expectations. As a result; we are well ahead of our budgeted projection, as well as our minimum policy level.

		FY 2019
Financial Policy Compliance - All-In Debt Coverage	FY 2019 Actual	Budget
Gross Revenues Available for Debt Service Coverage:		
Wastewater Treatment Charges - Alexandria	37,933,044	39,195,503
Fairfax County Operating Expense Charge	11,329,663	11,329,663
Reimbursement from other systems	22,597	-
Investment Income	699,507	115,000
Less Restricted Investment Income	-	-
Total	49,984,810	50,640,166
Operating Expenses	23,548,740	27,843,111
Net Revenues	26,436,071	22,797,055
Annual Debt Service	15,245,561	15,245,561
Calculated All-In Debt Coverage	1.73	1.50
Financial Policy Target	≥150%	≥150%







## **Glossary:**

## Revenue Fund

All revenue receipts of Alexandria Renew are deposited in the Revenue Fund.

## The Operating Fund

The Operating Fund accounts for the administration and maintenance of the wastewater treatment system. By Board policy, the Operating Fund shall maintain 120 days of cash in reserve as established by Board Policy.

## Parity Debt Service Fund

The Parity Debt Fund shall have deposited in it one-twelfth (1/12th) of the annual required debt payment due within the budget year. Deposits are restricted funds for use to make semiannual payments in accordance with the Alexandria Renew Trust Agreements.

## Joint Improvement, Renewal & Replacement (IRR) Fund

The IR&R Fund receives deposits directly from Fairfax County (60% of IR&R budget) and from AlexRenew customer revenue (40% of IR&R budget) for asset renewal of joint use facilities. The contribution to the IRR Fund is 0.7% of the total amount of capital expenditures made subsequent to October 1, 1997, for the joint portion of the system, as set forth by the service agreement with Fairfax County.

## **Project Fund**

The Project Fund records the cost of each joint use capital project included in the Alexandria Renew Capital Improvement Plans (CIP).

The plans for current and future capital projects, both joint and City only, is summarized in a Ten-Year CIP. City use only CIP are accounted for within the General Fund.

## General Fund

The General Fund serves as reserve fund to be used for any lawful purpose of the Authority. Deposits to the General Fund are made from the Revenue Fund after all other fund expenditures and requirements have been satisfied. Alexandria Renew principally uses the General Fund to finance specific capital improvements and to provide sufficient reserves in accordance with policy.

## **CEO Board Report - May 2019**

Dear Members of the Board of Alexandria Renew Enterprises,

We held a public hearing on May 11 about our rate changes. We had one speaker from the community, who also published an editorial in the *Alexandria Times* towards the end of the month. (Attachment 1)

For Infrastructure Week (May 13 through 18), we hosted a tour for community members; 12 attended, including leaders from the Eisenhower Partnership and Upcycle. We also held a RiverRenew Stakeholder Advisory Group meeting on May 1.

## **Operational Excellence**

Precipitation for May at Reagan National Airport was 4.97 inches, which is above the Washington, D.C. historical average of 3.99 inches for the month. There were no overflows in the collection system or at the plant during the month.

Biosolids production for May 2019 was 2,304 wet tons, all of which was beneficially reused through land application in the Virginia counties of Fauquier, Hanover, King William, Louisa, Caroline, Culpepper, and Spotsylvania.

AlexRenew met all Virginia Pollutant Discharge Elimination System (VPDES) effluent parameters for May 2019.

Treatment	Daily Average Flow	Carbonaceous Biochemical Oxygen Demand	Total Suspended Solids	Ammonia (as N)	Dissolved Oxygen	Total Nitrogen <sup>1</sup>	Total Nitrogen LOAD	Total Phosphorus	Total Phosphorus LOAD
	MGD	(Monthly Average) <b>mg/L</b>	(Monthly Average) mg/L	(Monthly Average) mg/L	(Minimum)	(Annual Average) mg/L	(YTD)	(Monthly Average) <b>mg/L</b>	(YTD)
Permit	54.0	5.0	6.0	Seasonal <sup>2</sup>	6.0	3.0	493,381	0.18	29,603
Reported	39.1	<ql< th=""><th>4.3</th><th>0.15</th><th>8.2</th><th>2.9</th><th>153,119</th><th>0.07</th><th>8,063</th></ql<>	4.3	0.15	8.2	2.9	153,119	0.07	8,063

## **NOTES**

1. Total Nitrogen expressed as year-to-date average.

2. Ammonia has seasonal limits:

November – January: 8.4 mg/L
 February – March: 6.9 mg/L
 April – October: 1.0 mg/L

## **Public Engagement and Trust**

## **Tours and Events**

During May, we welcomed 411 visitors to our Environmental Center. To date for 2019, we have hosted more than 1,800 visitors. We hosted 17 events in May, including a tour for 22 members of the Alexandria Health

Department, a WaterReuse meeting with 42 attendees, the Alexandria Clerk Court Debate with 75 attendees, and an ACT for Alexandria Mindfulness Workshop with 35 attendees.

## **Customer Service**

Customer Service received 2,192 calls in May, with 48% of callers opting for self-service. Average call answer time was 26 seconds. Call Center staff also answered 144 customer emails.

## Social Media and Website

Seventy-two percent of people who engaged with us on Facebook during May were from the City of Alexandria; the majority (63%) were women. We had 2,142 active, organic engagements on Facebook as evidenced by likes, comments, and shares. We have 3,440 Facebook Fans.

Almost 670 Twitter, 140 LinkedIn, and 75 Instagram followers engaged with our posts during May. We have 3,500 Twitter, 1,691 LinkedIn, and 170 Instagram followers. For our website, we had 9,976 visitors during May, with 32,596 page views. We had 185 visitors click through to our website from social media.

## **Watershed Stewardship**

Our RiverRenew program manager and AlexRenew director of enterprise communications hosted three artist finalists and City Department of the Arts staff for the artist-in-residence public art partnership with AlexRenew and RiverRenew. In June, the artist-in-residence stakeholder group will choose the winning artist for the first phase of the residency. Finalists include environmentally-focused artists from Seattle and New York, and an Alexandria-based artist.

## RiverRenew

The National Park Service (NPS) has indicated it expects to publish the Environmental Assessment (EA) the week of June 17, 2019, initiating the 30-day public comment period. The RiverRenew team is planning to host Community Listening Sessions to discuss the EA the week of June 24, 2019.

The next RiverRenew Stakeholder Advisory Group meeting will be June 20, 2019 to walk through the Listening Sessions information.

The Development Special Use Permit (DSUP) process for the Tunnel System is underway. City staff expects to publish their report on June 14, 2019. The DSUP application is on the agenda for the June 25, 2019 Planning Commission meeting, and scheduled for the City Council Public Hearing on July 9, 2019.

The first step of the procurement process for the Tunnel System begins in June. Request for Qualifications (RFQ) for the Tunnel System project will be posted the week of June 10, 2019. AlexRenew will host an Information session for interested Design-Build teams to discuss the RFQ on June 27, 2019. Statements of Qualifications from Design-Build teams will be due in August 2019.

## **Adaptive Culture**

From April 30, 2018, we have logged 160,340 hours without a lost time accident.

As always, thank you for your dedicated service to AlexRenew.

Regards,

# Your Views: Sewers were an unfunded mandate

May 23, 2019









To the editor:

On May 21, the AlexRenew board will consider the drastic rate hikes which had their public hearing on May 11. These back-to-back rate hikes will increase what folks pay by 25 percent in two stages, mainly to pay for the combined sewer project Richmonth of 153 jammed down the city's throat in what can only be described as an egregious unfunded mandate.

The state legislature's republicans normally know better than to ramrod an unfunded mandate down taxpayers' throats, but this time they made an exception with the vile

claim that "wealthy Alexandria" can afford it. During this year's legislative session,
Del. Mark Levine had to force them to give us a paltry \$25 million toward the
combined sewer project – estimated to cost more than a half billion dollars – by
blocking the republicans' attempt to conform Virginia's tax law to the federal tax cut.

Now, our own city-appointed AlexRenew board seems poised to ratify their claim that "wealthy Alexandria can afford" half a billion dollars by imposing this exorbitant rate increase which the board could reduce by choosing 30-year bonds instead of the proposed 20-year bonds and by basing the cost on an assumption that the legislature will give us the same 20 percent funding it gave Richmond and Lynchburg.

Tax increase on top of tax increase will eventually drive out Alexandria's struggling middle class and make the republicans' claim that "wealthy Alexandria can afford it" self-fulfilling.

-Dino Drudi, Alexandria



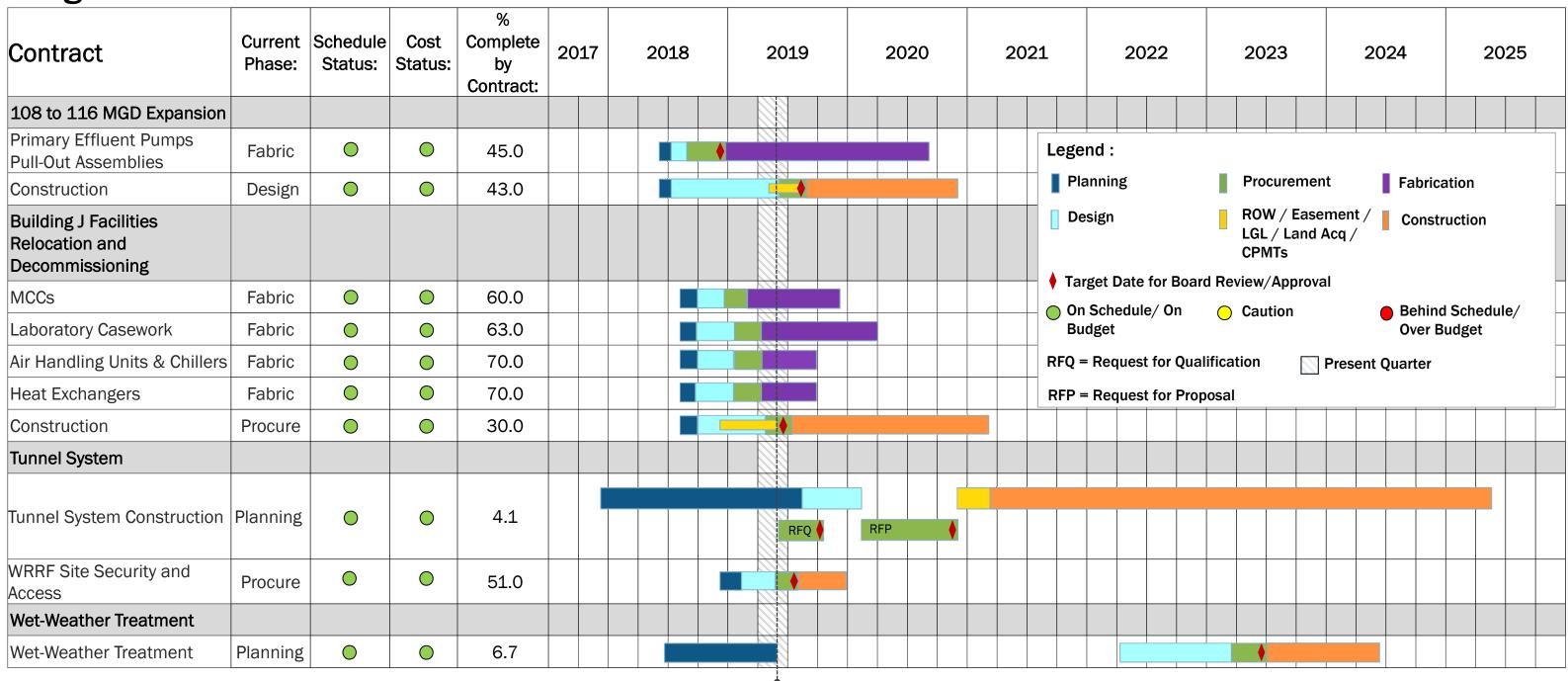








## **Program Schedule**



May 31, 2019

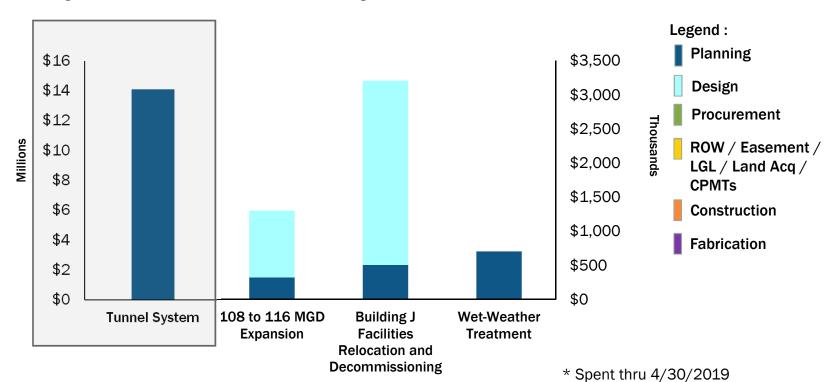


## **Contract Award Status**

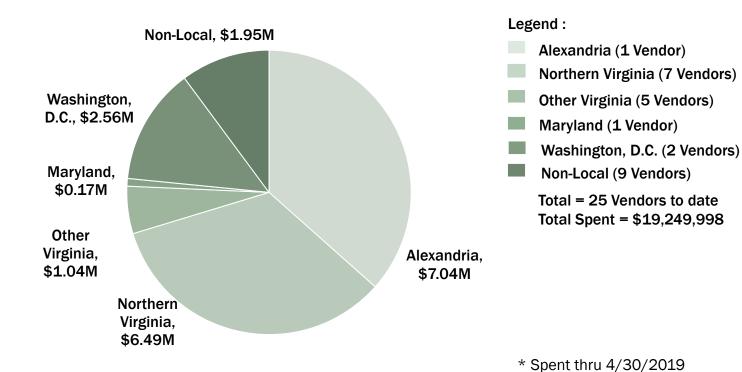
Contract	Contract No.:	Date of Contract Award:	Vendor:	Contract Amount:	Notice to Proceed:	Construction Start Date:	Construction Finish Date:
108 to 116 MGD Expansion							
Primary Effluent Pumps Pull-Out Assemblies	19-001	12/19/2018	Flowserve	\$941,911	12/20/2018	12/21/2018	9/23/2020
Building J Facilities Relocation and Decommissioning							
MCCs	19-016	2/26/2019	Rexel	\$280,453	2/27/2019	2/27/2019	10/30/2020
Lab Casework	19-017	4/4/2019	Nycom	\$432,307	4/8/2019	4/8/2019	10/30/2020
Chillers and AHU's	19-018	4/1/2019	Johnson Controls	\$435,522	4/3/2019	4/3/2019	10/30/2020
Heat Exchangers	19-019	4/1/2019	United Energy Products	\$51,757	4/8/2019	4/8/2019	10/30/2020
Construction Management Information Systems (CMIS)							
Construction Management Information Systems	19-060	5/2/2019	e-Builder	\$751,600	5/7/2019	5/7/2019	5/2/2029



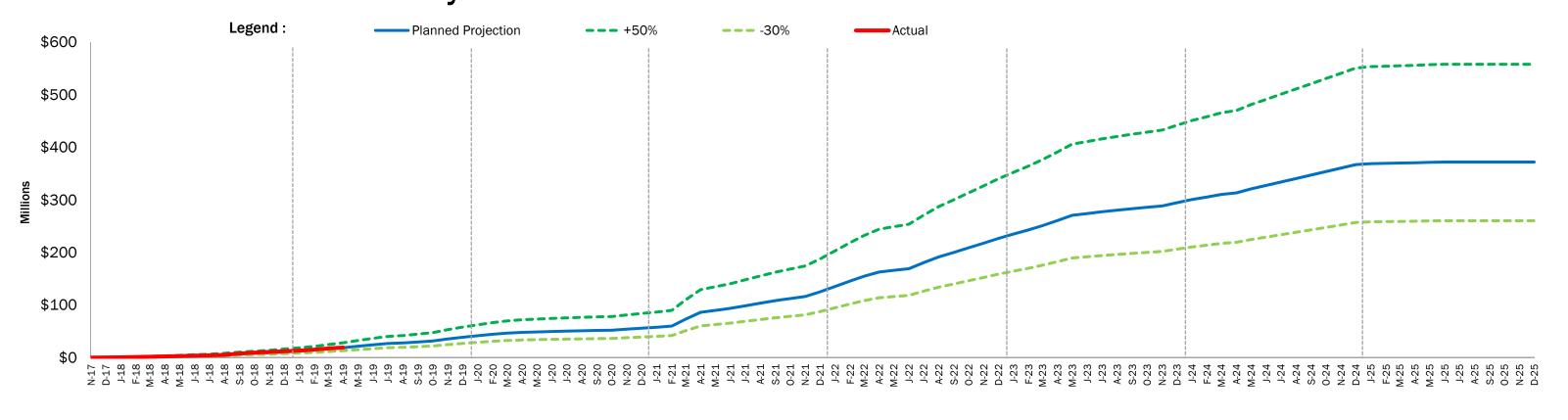
## **Project to Date Cost by Phase\***



## RiverRenew Spent to Date by Locality\*



## RiverRenew Cashflow Analysis\*



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## **Summary of Activities**

Date:	Accomplished Milestones:	Date:	Upcoming Activities:
5/11/2019	AlexRenew Public Hearing on Proposed Rates	6/18/2019	AlexRenew Budget Hearing and Budget Adoption
5/21/2019	AlexRenew Board Adoption of Rates	6/20/2019	RiverRenew Stakeholder Advisory Group Meeting
		6/25/2019	City of Alexandria Planning Commission Hearing on the RiverRenew Tunnel System DSUP
		7/24/2019	RiverRenew City Council Workgroup Meeting

## **Tunnel System Contract Permit Status and Descriptions**

Permit/Activity:	Anticipated Date of Completion:	Status:	Description:
National Park Service (NPS) Special Use Permits (SUP)	Completed	Received NPS SUP for Jones Point Park. NPS SUP for Potomac River borings received 4/11/2019.	Required for Phase B geotechnical investigations within Jones Point Park and Potomac River
U.S. Army Corps of Engineers (USACE) Nationwide Permit (NWP) #6	Completed	NWP #6 received 3/15/2019	Required for Phase B geotechnical investigations within Potomac River and/or wetlands
Virginia Department of Transportation (VDOT) Land Use Permits (LUP)	6/30/2019	<ul> <li>Received LUP for soil boring. Drafting LUP application for tunnel crossing</li> </ul>	Required for deep tunnel crossing under, and geotechnical investigations within VDOT limited access right-of-way
City of Alexandria Development Special Use Permit (DSUP) Tunnel System (DSUP No. 2018- 0020)	7/9/2019	Submitted Preliminary Site Plan for Verification to the City 4/9/2019. City drafting staff report	Required for the approval of RiverRenew's tunnel system and diversion facilities
City of Alexandria Development Special Use Permit (DSUP) Tunnel Dewatering Pumping Station (DSUP No. 2019-0013)	9/4/2019	Submitted Preliminary Site Plan (Completeness Phase) to the City 5/15/2019. Awaiting City comments.	Required for the approval of the new Tunnel Dewatering Pumping Station and associated superstructure
Environmental Assessment (EA)	7/15/2019	Submitted draft EA to NPS on 3/10/2019. Coordinating with NPS to finalize and issue EA document around 6/17/2019 (note: issuance date is estimated and at the discretion of NPS)	Required to comply with the National Environmental Policy Act (NEPA) as RiverRenew will need NPS permits. Prepared in coordination with the NPS as the lead federal agency
Joint Permit Application	11/1/2019	O Drafting permit application	Required application for Clean Water Act permits. A single application is sent to USACE, Virginia Department of Environmental Quality (VDEQ) and Virginia Marine Resources Commission (VMRC) to request authorization for all RiverRenew wetland/stream impacts
NPS Construction/Right-of-Way Permits	2/1/2020	O Drafting permit application	Required for diversion facility construction within, and deep tunnel crossing under Jones Point Park. Also required for Outfall 001 extension and deep tunnel crossing under Potomac River bed
Flood Emergency Management Agency (FEMA) Letter of Map Revision (LOMR)	2/1/2020	Submitted floodplain encroachment analysis to City on 4/27/2019	If the City confirms the no-rise analysis, a Letter of Map Revision will not be required from FEMA
U.S. Army Corps of Engineers (USACE) Nation Wide Permit (NWP) #18	7/1/2019	Submitted permit application 5/1/2019	Required for wetland impacts associated with contractor trailers, staging, and laydown areas on the WRRF campus.



## **Program Breakdown Summary by Project**

rogram Bre	aka
108 to 116 MGD Expansion	
Building J Facilities Relocation and Decommissioning	
Tunnel System	

Upgrade front-end capacity of the plant from 108 to 116 mgd

- Upgrade of the primary effluent pumps
- Modifications to the filter effluent backwash

Building J relocation of building uses and demolition

- Relocation of WRRF lab, WRRF electrical equipment, and WRRF chillers
- Construction of a new lab
- · Disconnection and relocation of building utilities
- · Demolition of Building J and hauling of materials off-site
- Building G/2 roof replacement

001/2 Tunnel

## Storage and conveyance tunnel to control overflows from Outfalls 001 and 002

- Installation of a 12 foot inside diameter reinforced concrete tunnel
- Construction of three shafts ranging from 30 to 50 feet inside diameter and two diversion chambers
- Installation of two below-grade odor control facilities

003/4 Tunnel or Diversion Sewer

## Tunnel or diversion sewer to control overflows from Outfalls 003 and 004

- Three options include a 12 foot deep tunnel, trenchless diversion sewer with an inside diameter of 6 feet, and an open-cut diversion sewer with an inside diameter of 6 feet
- Construction of the three diversion chambers
- Installation of a force main from the wet weather pumping station to the headworks/primary tanks of the WRRF

Tunnel Dewatering Pumping Station

## Tunnel dewatering pumping station

- Installation of a 40-60 mgd pumping station, screening facility, gantry crane, and odor control equipment
- Superstructure to house gantry crane and odor control equipment
- Installation of electrical and instrumentation equipment

Wet-Weather Pumping Station

## Installation of pumps up to a capacity of 130 mgd

• Installation of pumps and piping within the wet well below the Nutrient Management Facility

WRRF Site Security and Access

## Improvements to four existing gates and perimeter fencing

- Installation of one new rollup gate and security booth under garage overhang south of Limerick Street
- Installation of a new walkway along the South Bridge crossing Hooffs Run
- Replacement of three existing gates and installation of three security booths
- Replacement of perimeter fencing along southern border of the WRRF

Wet-Weather Treatment

Conversion of Primary Tanks to dual-use

- Widening of concrete influent channels
- Installation of sodium hypochlorite system and dechlorination system
- Installation of new piping for sodium hypochlorite
- Upgrades to an existing pipeline that connects to the WRRF outfall

## June 2019 Association Meetings | Alexandria Civic

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	Lynhaven Civic Assn. 7:00p Leonard Chick Armstrong Rec Ctr. 25 West Reed Avenue Jim Beall	4	5	6	7	8
9	North Ridge Citizens Assn. 7:30p – Beverly Hills United Methodist, 3512 Old Dominion Blvd - Bruce Johnson	11	Del Ray Citizens Assn. 6:30p Del Ray United Methodist Church, 100 E. Windsor Ave. – Jim Beall  Old Town Civic Assn. 7p-Social, 7:30p-Mtg. Lyceum 201 S. Washington St. Bill Dickinson	Seminary Hill Assn. 7:30p-Immanuel Church on the Hill, 3606 Seminary Rd. Bill Dickinson	14	15
16	17	18	Park Fairfax Unit Owners Assn. 7:00p-Assn. Office, 3360 Gunston Rd. Bruce Johnson Wakefield Tarleton Citizens Assn. 6:30p-TBD Bill Dickinson	20	21	22
23/30	Lenox Park @ Sunnyside HOA 7:00p – Beverly Hills United Methodist, 3512 Old Dominion Blvd - <i>Vacant</i>	25 Cameron Station Civic Assn. 7:00p – Cameron Club, Kilburn St. & Ben Brenman Park Dr. Vacant	Alex. Federation of Civic Assn. 7:00p City Hall, Rm. 2000 Bill Dickinson	Potomac Greens HOA 7:00p Potomac Greens Clubhouse - Patti Turner	28	29

## July 2019 Association Meetings | Alexandria Civic

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Lynhaven Civic Assn. 7:00p Cora Kelly Rec Center 25 W. Reed Ave. Jim Beall	2		4	5	6
7	8	9	Del Ray Citizens Assn. 6:3op Del Ray United Methodist Church, 10o E. Windsor Ave. – Jim Beall  Old Town Civic Assn. 7p-Social, 7:3op-Mtg. Lyceum 201 S. Washington St. Bill Dickinson	Seminary Hill Assn. 7:30p-Immanuel Church on the Hill, 3606 Seminary Rd. Bill Dickinson  West Old Town Citizens Assoc. 7:30pm – Durant Arts Ctr., 1605 Cameron St. Vacant	12	13
14	15	16	Park Fairfax Unit Owners Assn. 7:00p-Assn. Office, 3360 Gunston Rd. Bruce Johnson Wakefield Tarleton Citizens Assn. 6:30p-TBD Bill Dickinson	18	19	20
21	Lenox Park @ Sunnyside HOA 7:00p – Beverly Hills United Methodist, 3512 Old Dominion Blvd - Vacant	23	24	Potomac Greens HOA 7:00p Potomac Greens Clubhouse - Patti Turner	26	27
28	29	Gameron Station Civic Assn. 7:00p – Cameron Club, Kilburn St. & Ben Brenman Park Dr. Vacant	Alex. Federation of Civic Assn. 7:00p City Hall, Rm. 2000 Bill Dickinson			