

# FY 2023

## OPERATING AND CAPITAL BUDGET

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July 1, 2022 – June 30, 2023  
Alexandria, VA



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Appendix A - Financial Policies

# AlexRenew Leadership

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## Alexandria Renew Enterprises Board of Directors

John B. Hill, Chairman  
James Beall, Vice Chairman  
William Dickinson, Secretary-Treasurer  
Adriana Caldarelli, Member  
Kerry Donley, Member

## Fairfax County Representative to the Board

Shahram Mohsenin, P.E.

## Executive Staff

Karen L. Pallansch, P. E., Chief Executive Officer  
Liliana Maldonado, Chief Environmental Performance Officer  
Christine McIntyre, Chief Financial Officer  
Dave Roberts, Chief Information Technology Officer  
Wendy Callahan, Director of Human Resources & Employee Experience  
Allison Deines, Director of Research and Strategy Engagement  
Caitlin Feehan, Director of Communications and External Programs

## Chief Executive Officer's Message

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### To the Alexandria Renew Enterprises Board of Directors and our Ratepayers:

Alexandria Renew Enterprises (AlexRenew) supports the City of Alexandria in maintaining the City's stellar reputation as a great place to live, work, learn and visit by being a strong anchor institution. Equitable and affordable access to healthy water resources through anchor institutions is essential for a community's well-being and economic development. Throughout the 2020-2022 pandemic, AlexRenew continued its mission of creating healthier waterways by continuing investment in wastewater infrastructure, supporting our local businesses, creating jobs, and improving public health.

We at AlexRenew recognize that the pandemic has caused economic strain on many in our community. My team has worked diligently to incorporate those concerns into this budget, while balancing AlexRenew's need to meet our mission, constantly comply with Federal, state, and local mandates for water quality and continue to invest in healthier waterways for the city through our RiverRenew program, the largest infrastructure program undertaken in the city's history. Because of our status as an independent authority, we did not receive any Federal assistance during the pandemic. Yet we have continued to meet our mission through the judicious use of reserves and the talent and dedicated work of our employees, who continued to be on-site at AlexRenew's facilities throughout the pandemic.

The Fiscal Year 2023 adopted budget and rate structure minimize increases to residential and commercial customers, while maintaining a fiscally sustainable utility and building capacity for the future. The Operating Budget totals \$30.4 million, representing a 7.2% year-over-year increase. Over the past few years, AlexRenew has successfully held our operating budget steady with no increases. The Operating Budget increase recognizes the current inflationary conditions faced by all as labor and supply shortages affect our ability to procure the needed energy, chemicals, and supplies to meet our mission. It invests in our employees, helps implement changes in our customer service practice required by 2024, continues our cybersecurity efforts and enhances our resiliency initiatives.

The adopted Fiscal Year 2023 Capital Improvement Program budget totals \$175.8 million. This is consistent relative to last year's budget and continues to reflect the investments for the RiverRenew program. AlexRenew received two grants from the Commonwealth of Virginia over the last two years for \$25 million each to help offset the rate shock being experienced by our ratepayers caused by the legislatively mandated RiverRenew program costs.

AlexRenew continues to improve local waterways and help make our community's water environment a cleaner, healthier place. We will continue our strong community partnerships that help keep our waterways clean. Thank you for your passionate support of AlexRenew's clean water mission.



**Karen Pallansch, P. E., BCEE, General Manager and Chief Executive Officer  
Alexandria Renew Enterprises**

# Understanding the Budget

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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 the community. The 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 AlexRenew's 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 the budget is to ensure AlexRenew maintains its mandated level of service, satisfies the requirements of the Master Indenture of Trust ("Indenture"), and achieves the objectives of AlexRenew's Financial Policies.

AlexRenew has only two major sources of revenue to fund all expenditures: wastewater treatment charges paid by City of Alexandria customers, and the reimbursement of a portion of expenses paid by Fairfax County. Fairfax County makes payments 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 operations and maintenance expenses based upon sewer flow volume. Fairfax County also contributes to the 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.

## How is AlexRenew's Budget Organized?

AlexRenew builds its budget from documents that provide legal or internal policy direction. These documents include a Master Indenture of Trust (Indenture) and related financing documents; 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.

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 wastewater treatment charges collected from City of Alexandria sewer system customers be deposited in a Revenue Fund. This document also requires operating expense payments that are made by Fairfax County to AlexRenew, for its reserved capacity in the sewer system, also be deposited in the Revenue Fund. The amount due to AlexRenew from Fairfax County is established in the Fairfax County Service Agreement.

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

The Arlington County Service Agreement is similar to the Fairfax County Service Agreement. 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 that treats wastewater flows from the northwestern quadrant of the city.

AlexRenew's budget is also structured to comply with the Financial Policies adopted by the Board of Directors to maintain a combined 120 days of reserves in the Operating Fund and General Reserve sub-Fund, to ensure 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, and to fund at least 15% of the Capital Improvement Program from cash and reserves (PAYGO).

## What is AlexRenew's Strategic Plan?

The AlexRenew Strategic Plan cascades from the AlexRenew 2040 Vision, shown on the following page. The 2040 Vision was originally developed in 2012 by AlexRenew's citizen-led Board and was most recently updated in 2018.

# 2040 Vision

**By 2040, AlexRenew has 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**.

Create a **healthy environment** and improve **quality of life** through the exceptional reclamation of used water resources.

**Sustainably** manage water as a **single resource** through the entire water cycle.

Maximize use of multiple financial options to continue **fiscal stability**.

## Strategic Outcomes



**Operational Excellence:** 100% compliance with all imposed mandates through continuous improvement efforts.



**Public Engagement and Trust:** Transparency in all public interactions.



**Watershed Stewardship:** Sustainability and resiliency integrated through effective partnerships.



**Adaptive Culture:** All employees continue to be fully rounded water professionals.



**Effective Financial Stewardship:** Provides cleaned water in a cost effective and efficient manner.

# Budget Timeline

AlexRenew utilizes a fiscal year cycle ending June 30. The FY 2023 budget will encompass the 12-month period from **July 1, 2022 – June 30, 2023**. AlexRenew typically develops the budget during the prior fiscal year before it undergoes review by the Board of Directors and the public. The prior FY 2022 budget cycle included the adoption of new rates and charges for FY 2022 and for FY 2023. A public hearing was held **May 7, 2022** to obtain public comments pertaining to AlexRenew’s proposed FY 2023 budget.

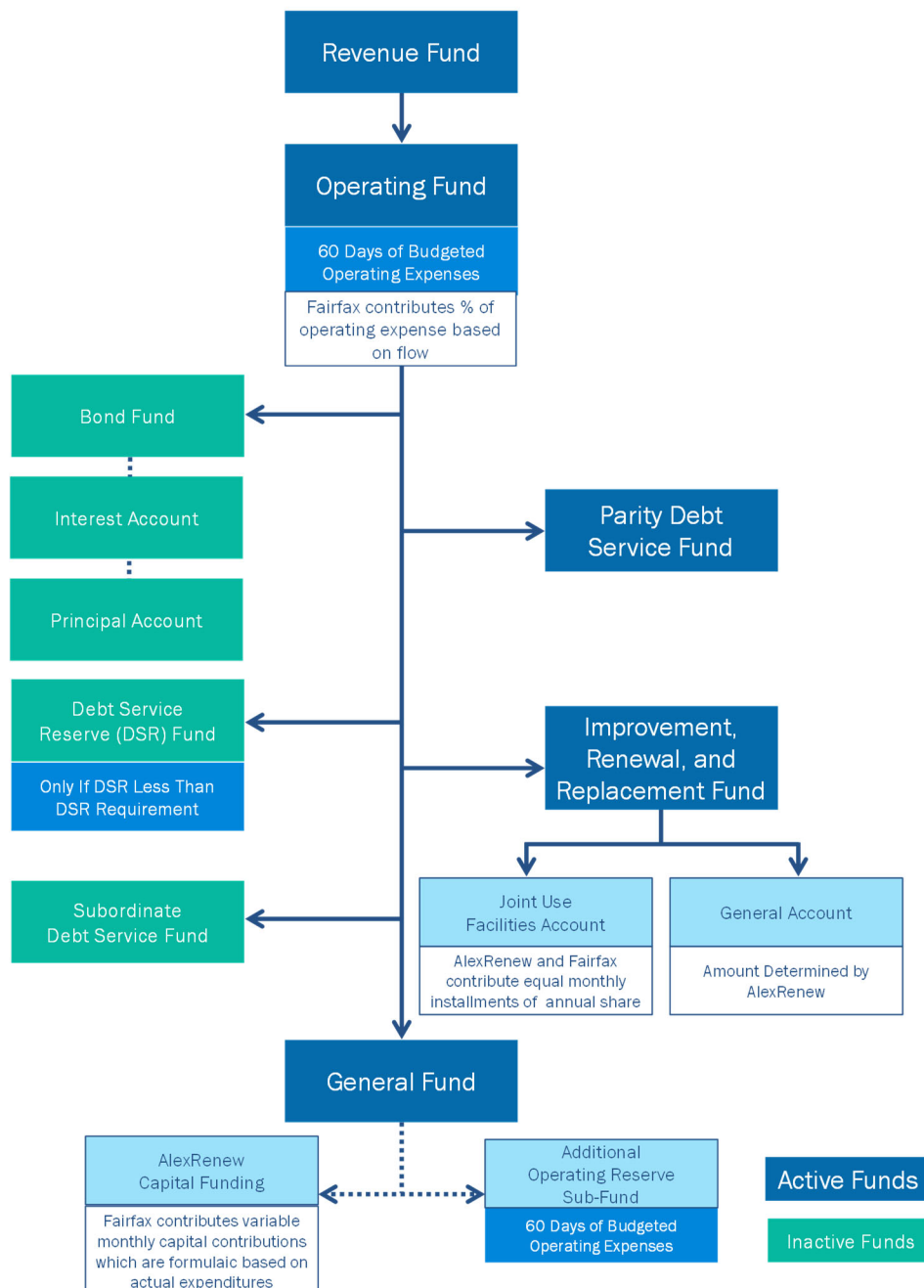
| <i>Month</i>      | <i>Customer</i>   | <i>Board of Directors</i>   | <i>Staff</i>   |
|-------------------|---|---|--|
| August - February |   |   | <i>Proposed Budget Development</i><br>Departments prepare budget proposals; CEO develops a balanced proposed budget. |
| March-April       |   | <i>Budget Review</i><br>Board of Directors request additional information on specific budget issues from staff.                 | The CEO presents the proposed budget to the Board of Directors.  |
| May-June          | Customers are informed of proposed budget via posting to the AlexRenew website and may provide written comments, if any. <b>Customers invited to attend Public Hearing May 7, 2022.</b> | <i>Final Adoption</i><br>Board of Directors makes final decisions and adopts the AlexRenew budget for the upcoming fiscal year. |  |
| July              |   |   | Execute adopted FY 2023 Budget starting July 1, 2022   |

# Consolidated Enterprise Budget Statement

AlexRenew begins its annual budget presentation by preparing a Consolidated Enterprise Budget Statement (Statement) that combines all the estimated sources and uses of funds for the upcoming fiscal year. This statement is organized in accordance with the terms mandated in Article VII of the Indenture. The primary purpose for this Statement is to demonstrate that the overall FY 2023 operating and capital budgets are in “structural” balance – which means all of the revenues and expenses are consistent with the historical financial performance, all balances that remain in the prescribed funds and accounts meet stated requirements, and if total revenues exceed total expenses, any potential excess funds are deposited in the General Fund to serve as reserves.

The graphic below provides a visual presentation of the flow of monies through the financial structure established in the 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





# 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   |  |
|---|--|
| <b>Revenues</b>   | 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. |
| <b>Revenue Fund</b>   | Revenues are initially deposited into the Revenue Fund and then transferred to the other funds in the following order of priority.   |
| <b>Operating Fund</b>   | To the Operating Fund to pay Operating Expenses. At the end of each month, AlexRenew must ensure at least 1/6th (or 60 days) of annual budgeted operating expenses are deposited into the operating fund.  |
| <b>Parity Debt Service Fund</b>   | To the Parity Debt Service in order to pay debt service payments in equal monthly amounts such that debt service payments can be paid when due.  |
| <b>Improvement, Renewal and Replacement (IRR) Fund – Joint Use Facilities Account</b> | To the Joint-Use Facilities Account of the IRR Fund an amount equal to 1/12th of AlexRenew’s share of the amount due.  |
| <b>Improvement, Renewal and Replacement (IRR) Fund – General Account</b>              | To the General Account of the IRR Fund in an amount predetermined by AlexRenew.  |
| <b>General Fund</b>   | 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 FY 2023. This schedule directly follows the flow of funds mandated in the Indenture.

# Consolidated Enterprise Budget Statement



| Consolidated Enterprise Budget Statement                                     | Adopted<br>FY2022    | Adopted<br>FY2023    |
|--|----------------------|----------------------|
| <b>REVENUE FUND (Per Master Indenture)</b>                                   |                      |                      |
| AlexRenew Wastewater Treatment Charges                                       | \$ 47,814,540        | \$ 50,922,485        |
| Estimated Fairfax County Operating Expense Charge                            | 10,785,305           | 11,694,706           |
| <b>Total Revenues</b>  | <b>58,599,845</b>    | <b>62,617,191</b>    |
| <b>OPERATING FUND</b>  |                      |                      |
| Beginning Balance  | 4,666,355            | 4,666,355            |
| Revenue Fund Transfer  | 28,376,991           | 30,770,960           |
| Interest Income  | 10,000               | 10,000               |
| Operating Expenses   | <b>(28,386,991)</b>  | <b>(30,442,988)</b>  |
| <b>Ending Balance (Operating Fund Reserve)</b>                               | <b>4,666,355</b>     | <b>5,004,326</b>     |
| <b>REVENUE FUND BALANCE [Total Revenues LESS Transfer to Operating Fund]</b> | <b>30,222,855</b>    | <b>31,846,231</b>    |
| <b>PARITY DEBT SERVICE FUND</b>  |                      |                      |
| Beginning Balance  | 12,364               | (0)                  |
| Revenue Fund Transfer  | 13,817,255           | 14,649,508           |
| Interest Income  | 90,000               | 90,000               |
| Parity Debt Service Payment  | <b>(13,919,620)</b>  | <b>(14,739,509)</b>  |
| <b>Ending Balance</b>  | <b>(0)</b>           | <b>0</b>             |
| <b>REVENUE FUND BALANCE [LESS transfer to Parity Debt Service Fund]</b>      | <b>16,405,600</b>    | <b>17,196,723</b>    |
| <b>IMPROVEMENT, RENEWAL AND REPLACEMENT FUND</b>                             |                      |                      |
| Joint Use Facilities Account   |                      |                      |
| Beginning Balance  | 8,319,883            | 11,545,464           |
| Revenue Fund Transfer  | 2,319,561            | 2,410,801            |
| Fairfax County Annual Required Contribution                                  | 3,346,197            | 3,477,819            |
| IRR Joint Use Facilities Expenses  | <b>(5,667,100)</b>   | <b>(10,327,855)</b>  |
| <b>Ending Balance</b>  | <b>11,545,464</b>    | <b>7,106,228</b>     |
| General Account (Alex-only)  |                      |                      |
| Beginning Balance  | -                    | -                    |
| Revenue Fund Transfer  | 124,400              | 689,475              |
| IRR Alex-Only Expenses   | <b>(124,400)</b>     | <b>(689,475)</b>     |
| <b>Ending Balance</b>  | <b>-</b>             | <b>-</b>             |
| <b>REVENUE FUND BALANCE [LESS transfer for IRR Funds]</b>                    | <b>13,961,638</b>    | <b>14,096,447</b>    |
| <b>GENERAL FUND</b>  |                      |                      |
| Beginning Balance  | 45,046,760           | 42,250,354           |
| Revenue Fund Transfer  | 13,961,638           | 14,096,447           |
| Interest Income  | 15,000               | 15,000               |
| Alex-Only General CIP Capital Costs  | <b>(4,532,005)</b>   | <b>(3,481,290)</b>   |
| Transfer to CIP - Joint Use Facilities                                       | <b>(17,527,058)</b>  | <b>(11,886,206)</b>  |
| <b>Ending Balance</b>  | <b>36,964,336</b>    | <b>40,994,305</b>    |
| <b>General Reserve sub-Fund</b>  | <b>(4,666,355)</b>   | <b>(5,004,326)</b>   |
| <b>Available Balance</b>   | <b>32,297,981</b>    | <b>35,989,978</b>    |
| <b>REVENUE FUND BALANCE [LESS transfer to General Fund]</b>                  | <b>-</b>             | <b>-</b>             |
| <b>PROJECT FUND</b>  |                      |                      |
| Beginning Balance  | -                    | -                    |
| Parity Debt / New Bond Proceeds  | 134,395,696          | 118,814,132          |
| Transfer to CIP - Joint Use Facilities                                       | <b>(137,968,696)</b> | <b>(118,814,132)</b> |
| <b>Ending Balance</b>  | <b>-</b>             | <b>-</b>             |
| <b>CAPITAL IMPROVEMENT PROGRAM - JOINT USE FACILITIES</b>                    |                      |                      |
| Beginning Balance  | -                    | -                    |
| General Fund Transfer  | 17,527,058           | 11,886,206           |
| Project Fund Transfer  | 137,968,696          | 118,814,132          |
| Estimated Fairfax County Capital Contributions                               | 19,851,158           | 30,699,887           |
| Joint Capital Costs  | <b>(175,346,912)</b> | <b>(161,400,225)</b> |
| <b>Ending Balance</b>  | <b>-</b>             | <b>-</b>             |

# Consolidated Enterprise Budget Summary

The schedule below summarizes the funding sources and budgeted expenses associated with AlexRenew's FY 2023 budget, which total \$221.4 million, a 3% decrease compared to the prior year.

| Condensed Summary   | Adopted<br>FY2022     | Adopted<br>FY2023     | ANNUAL<br>VAR % |
|---|-----------------------|-----------------------|-----------------|
| <b>OPERATING REVENUES</b>   |                       |                       |                 |
| AlexRenew Wastewater Treatment Charges                                | \$ 47,814,540         | \$ 50,922,485         | 6%              |
| Fairfax County Operating Expense Charge                               | 10,785,305            | 11,694,706            | 8%              |
|   | \$ 58,599,845         | \$ 62,617,191         | 7%              |
| <b>IR&amp;R AND CAPITAL CONTRIBUTIONS</b>                             |                       |                       |                 |
| Fairfax County IRR Contribution                                       | \$ 3,346,197          | \$ 3,477,819          | 4%              |
| Fairfax County Capital Contribution                                   | 19,851,158            | 30,699,887            | 55%             |
|   | \$ 23,197,355         | \$ 34,177,706         | 47%             |
| <b>DEBT PROCEEDS AND OTHER SOURCES</b>                                |                       |                       |                 |
| Parity Debt Proceeds  | \$ 137,968,696        | \$ 118,814,132        | -14%            |
| Interest Income   | 115,000               | 115,000               | 0%              |
| Use of Fund Balances  | 8,096,130             | 5,695,285             | -30%            |
|   | \$ 146,179,826        | \$ 124,624,417        | -15%            |
| <b>TOTAL FUNDING SOURCES</b>  | <b>\$ 227,977,027</b> | <b>\$ 221,419,313</b> | <b>-3%</b>      |
| <b>OPERATING EXPENSES</b>   |                       |                       |                 |
| Operating and Maintenance Expenses - AlexRenew Portion                | \$ 17,601,686         | \$ 18,748,282         | 7%              |
| Operating and Maintenance Expenses - Estimated Fairfax County Portion | 10,785,305            | 11,694,706            | 8%              |
|   | \$ 28,386,991         | \$ 30,442,988         | 7%              |
| <b>NON-OPERATING EXPENSES</b>   |                       |                       |                 |
| Parity Debt Service   | 13,919,620            | 14,739,509            | 6%              |
| Joint IRR   | 5,667,100             | 10,327,855            | 82%             |
| Alex-only IRR   | 124,400               | 689,475               | 454%            |
| Fund Balance Additions  | -                     | 337,972               | 0%              |
|   | \$ 19,711,120         | \$ 26,094,810         | 32%             |
| <b>CAPITAL OUTLAY</b>   |                       |                       |                 |
| RiverRenew (Alex-only)  | \$ 67,857,050         | \$ 65,800,000         | -3%             |
| RiverRenew (Joint)  | 93,320,649            | 57,800,000            | -38%            |
| General CIP (Alex-only)   | 4,532,005             | 3,481,290             | -23%            |
| General CIP (Joint)   | 14,169,213            | 37,800,225            | 167%            |
|   | \$ 179,878,918        | \$ 164,881,515        | -8%             |
| <b>TOTAL EXPENSES AND CAPITAL OUTLAY</b>                              | <b>\$ 227,977,027</b> | <b>\$ 221,419,313</b> | <b>-3%</b>      |

The FY 2023 revenue projection is based on the rates and charges adopted by AlexRenew's Board during the prior FY 2022 budget cycle including a rate adjustment of approximately 6.5% to become effective on July 1, 2022 for FY 2023. The rate adjustment is further detailed on pages 14-15 to follow.

At approximately 74%, capital outlay represents the largest share of the budget. Together with the Parity Debt Service Fund at 7%, these combined expenses comprise 81% of the FY 2023 budget, demonstrating the capital-intensive nature of the wastewater utility business.

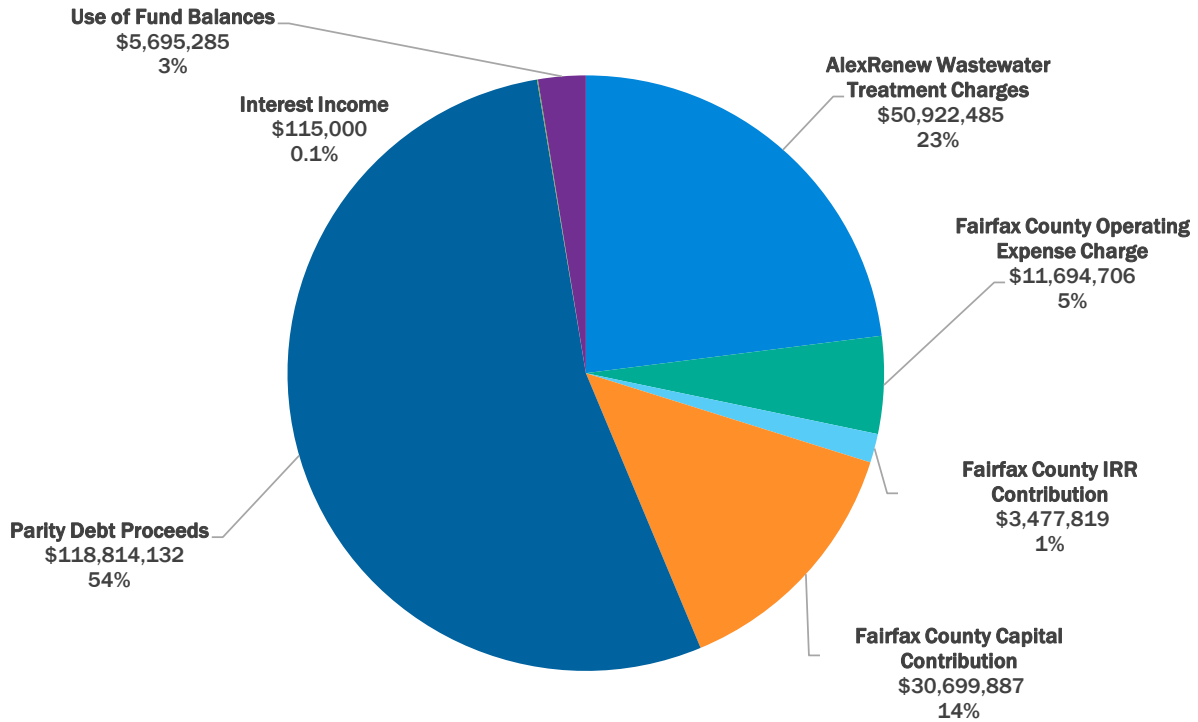
The FY 2023 operating budget reflects an increase of 7.2%, a departure from the prior three fiscal years during which AlexRenew was able to maintain its annual operating budget with no increases. Even during times of economic stability, wastewater expenses tend to increase at least at the rate of inflation. As global and regional markets have begun to recover from the COVID pandemic, many core expense areas are experiencing significant cost increase pressures, including energy, chemicals, construction, labor, and transportation. As such, the budget accounts for current market conditions while maintaining efficiency across the business while conservatively planning for future needs.

The FY 2023 capital budget reflects continued momentum in the capital program with \$164 million in planned spending across the RiverRenew and general capital improvement programs. Funding for improvement, renewal and replacement projects increased year-over-year reflecting an effort to ensure timely upgrades of AlexRenew's infrastructure to maintain efficient operations. The budget funds the capital program with cash and reserves, along with \$118 million in debt proceeds for RiverRenew construction.

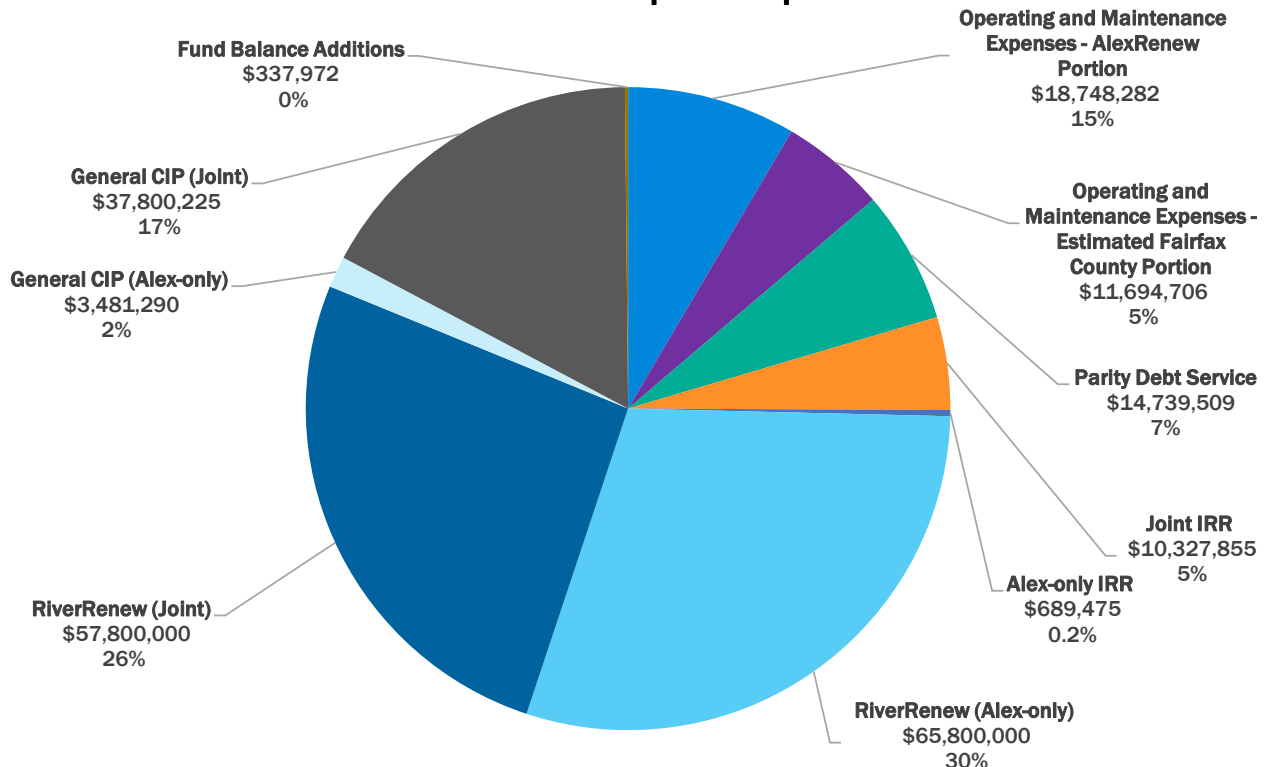
# Consolidated Enterprise Budget Summary

The charts below further depict the funding sources and budgeted expenses for FY 2023, again highlighting the significant activity related to debt financing and capital project construction associated with RiverRenew.

## Consolidated Enterprise - Revenues



## Consolidated Enterprise - Expenses



# Determining Rates, Charges and Revenues

For more than fifteen years, AlexRenew has employed rate modeling to analyze, evaluate and implement an annual and long-term fee structure to support the financial obligations of the enterprise. AlexRenew has engaged an independent, third-party consultant to develop and monitor a rate model designed specifically for AlexRenew. This model is used to manage 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 strong Financial Policy (see Appendix A) to guide the approach to setting rates and maintaining a sustainable financial position. These policies target key financial metrics, represent best practices, and ensure AlexRenew maintains cost-efficient operations while delivering superior public services for AlexRenew’s customers and community.

## The Rate Modeling Process

Annually, upon completion and acceptance of AlexRenew’s audited financial statements, and more frequently as necessary, 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, the current budget, and capital plan forecasts. The 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 adjust 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 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 AlexRenew’s 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 almost 50% of operating revenues, the Wastewater Treatment Charges are critical to the funding of current operations and long-term financial viability. As a result, it is imperative to combine a thorough understanding of the rate modeling process, strict adherence to the terms of the Indenture, faithfulness to AlexRenew’s Financial Policies, and the needs of the community when establishing 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 the forecast period.

## Expenditure Growth Assumptions

AlexRenew has historically used CPI to evaluate costs over the forecast period and has commonly assumed an inflation range of 2.0% to 3.5%.

## Revenue Forecast Assumptions

Starting in FY 2020, AlexRenew began implementing a multi-year phased rate increase initiative, primarily to fund capital expenditures including the RiverRenew program. The revenue forecast that forms the basis of this budget includes annual rate increases that were adopted by AlexRenew’s Board for FY 2022 and FY 2023, as further described on the following page.

# 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 AlexRenew Board of Directors previously approved a rate adjustment effective July 1, 2022 for the upcoming FY 2023. The adopted rates are shown below and are projected to increase the average monthly bill by approximately 6.5% or \$3/month based on average water usage. Based on current projections, these rate adjustments will allow AlexRenew to maintain its fiscal profile while funding the budget and capital program herein. The chart below details the rate structures in effect for FY 2021, FY 2022, and the upcoming FY 2023.

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

| Description                         | Meter Size | Prior<br>(Effective July 1, 2020)<br>Monthly | Current<br>(Effective July 1, 2021)<br>Monthly | Adopted<br>(Effective July 1, 2022)<br>Monthly |
|-------------------------------------|------------|--|--|--|
| Residential Base Charge             | All Meters | \$11.54                                      | \$12.34  | \$13.14  |
| Commercial Base Charge              | 5/8"       | \$34.63                                      | \$37.02  | \$39.42  |
|                                     | 3/4"       | \$34.63                                      | \$37.02  | \$39.42  |
|                                     | 1"         | \$86.59                                      | \$92.55  | \$98.55  |
|                                     | 1-1/2"     | \$173.17                                     | \$185.10                                       | \$197.10                                       |
|                                     | 2"         | \$277.08                                     | \$296.16                                       | \$315.36                                       |
|                                     | 3"         | \$519.52                                     | \$555.30                                       | \$591.30                                       |
|                                     | 4"         | \$865.87                                     | \$925.50                                       | \$985.50                                       |
|                                     | 6"         | \$1,731.74                                   | \$1,851.00                                     | \$1,971.00                                     |
|                                     | 8"         | \$2,770.79                                   | \$2,961.60                                     | \$3,153.60                                     |
| 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 | Prior<br>(Effective July 1, 2020)<br>Per 1,000 Gallons | Current<br>(Effective July 1, 2021)<br>Per 1,000 Gallons | Adopted<br>(Effective July 1, 2022)<br>Per 1,000 Gallons |
|--|------------|--|--|--|
| Individual Meter Residential Wastewater Charge | All Meters | \$8.13   | \$8.69   | \$9.26   |
| Commercial Wastewater Treatment Charge         | All Meters | \$8.13   | \$8.69   | \$9.26   |

# Revenue Fund Statement

AlexRenew’s Indenture establishes nine (9) Funds into which monies may be deposited to manage 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 Project or General Fund for capital outlay reimbursements, as appropriate.

The schedule below presents adopted and estimated Revenues expected to be received by AlexRenew for the period FY 2022 – FY 2027, respectively. In addition, planned Revenue transfers to various operating and non-operating Funds are provided to highlight the use or purpose of the funds.

| Revenue Fund  | Adopted<br>FY2022    | Adopted<br>FY2023    | VAR<br>%  | Estimated<br>FY2024  | Estimated<br>FY2025  | Estimated<br>FY2026  | Estimated<br>FY2027  |
|---|----------------------|----------------------|-----------|----------------------|----------------------|----------------------|----------------------|
| <b>REVENUES</b>                                     |                      |                      |           |                      |                      |                      |                      |
| AlexRenew Wastewater Treatment Charges              | \$ 47,814,540        | \$ 50,922,485        | 6%        | \$ 53,621,377        | \$ 56,302,446        | \$ 59,004,963        | \$ 60,067,052        |
| Fairfax County Operating Expense Charge             | 10,785,305           | 11,694,706           | 8%        | 12,045,729           | 12,407,287           | 12,655,433           | 12,910,752           |
| <b>Total Revenues</b>                               | <b>\$ 58,599,845</b> | <b>\$ 62,617,191</b> | <b>7%</b> | <b>\$ 65,667,106</b> | <b>\$ 68,709,733</b> | <b>\$ 71,660,396</b> | <b>\$ 72,977,805</b> |
| <b>TRANSFERS</b>                                    |                      |                      |           |                      |                      |                      |                      |
| Transfer to Operating Fund <sup>1</sup>             | \$ 28,376,991        | \$ 30,770,960        | 8%        | \$ 31,496,409        | \$ 32,441,600        | \$ 33,039,087        | \$ 33,700,069        |
| Transfer to Parity Debt Service Fund                | 13,817,255           | 14,649,508           | 6%        | 16,358,494           | 19,036,687           | 21,257,774           | 21,405,144           |
| Transfer to IRR Fund - Joint Use Facilities Account | 2,319,561            | 2,410,801            | 4%        | 2,581,223            | 2,704,353            | 2,879,101            | 2,971,371            |
| Transfer to IRR Fund - General Account              | 124,400              | 689,475              | 454%      | 2,077,725            | 191,000              | 166,000              | 166,000              |
| Transfer to General Fund                            | 13,961,638           | 14,096,447           | 1%        | 13,153,254           | 14,336,093           | 14,318,434           | 14,735,220           |
| <b>Total Uses</b>                                   | <b>\$ 58,599,845</b> | <b>\$ 62,617,191</b> | <b>7%</b> | <b>\$ 65,667,106</b> | <b>\$ 68,709,733</b> | <b>\$ 71,660,396</b> | <b>\$ 72,977,804</b> |

<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 Project Fund.

| Fairfax County Contributions                                 | Adopted FY2022       | Adopted FY2023       | VAR %      | Estimated FY2024     | Estimated FY2025     | Estimated FY2026     | Estimated FY2027     |
|--|----------------------|----------------------|------------|----------------------|----------------------|----------------------|----------------------|
| <b>Operating Expense Charge:</b>                             |                      |                      |            |                      |                      |                      |                      |
| Total Estimated Operating Expenses                           | \$ 28,386,991        | \$ 30,442,988        | 7%         | \$ 31,356,278        | \$ 32,296,966        | \$ 32,942,905        | \$ 33,601,763        |
| Less Estimated "Alexandria Only" Expenses                    | (4,379,920)          | (4,414,233)          | 1%         | (4,546,660)          | (4,683,060)          | (4,776,721)          | (4,872,256)          |
| Net Estimated Joint Operating Expenses                       | \$ 24,007,071        | \$ 26,028,755        | 8%         | \$ 26,809,617        | \$ 27,613,906        | \$ 28,166,184        | \$ 28,729,508        |
| Estimated Fairfax County Net Flow                            | 45.0%                | 45.0%                |            | 45.0%                | 45.0%                | 45.0%                | 45.0%                |
| Estimated Fairfax County Operating Expense Charge            | 10,803,182           | 11,712,940           | 8%         | 12,064,328           | 12,426,258           | 12,674,783           | 12,928,278           |
| Less Alexandria Only Flow Charge                             | (17,877)             | (18,234)             | 2%         | (18,599)             | (18,971)             | (19,350)             | (17,526)             |
| <b>Estimated Fairfax County Operating Expense Charge</b>     | <b>\$ 10,785,305</b> | <b>\$ 11,694,706</b> | <b>8%</b>  | <b>\$ 12,045,729</b> | <b>\$ 12,407,287</b> | <b>\$ 12,655,433</b> | <b>\$ 12,910,752</b> |
| <b>IRR Fund - Joint Account Contribution:</b>                |                      |                      |            |                      |                      |                      |                      |
| Estimated Joint Use Plant Investment                         | \$ 809,394,053       | \$ 841,231,254       | 4%         | \$ 900,699,169       | \$ 943,664,099       | \$ 1,004,641,248     | \$ 1,036,838,184     |
| Estimated Joint Use IRR Funding Percentage                   | 0.7%                 | 0.7%                 | 0%         | 0.7%                 | 0.7%                 | 0.7%                 | 0.7%                 |
| Estimated Joint Use IRR Investment                           | \$ 5,665,758         | \$ 5,888,619         | 4%         | \$ 6,304,894         | \$ 6,605,649         | \$ 7,032,489         | \$ 7,257,867         |
| Investment Allocation at 60%                                 | \$ 5,269,155         | \$ 5,476,416         | 4%         | \$ 5,863,551         | \$ 6,143,254         | \$ 6,540,215         | \$ 6,749,816         |
| Investment Allocation at 49%                                 | 339,946              | 353,317              | 4%         | 378,294              | 396,339              | 421,949              | 435,472              |
| Investment Allocation at 32%                                 | 56,658               | 58,886               | 4%         | 63,049               | 66,056               | 70,325               | 72,579               |
| <b>Total IRR - Joint Account Investment</b>                  | <b>\$ 5,665,758</b>  | <b>\$ 5,888,619</b>  | <b>4%</b>  | <b>\$ 6,304,894</b>  | <b>\$ 6,605,649</b>  | <b>\$ 7,032,489</b>  | <b>\$ 7,257,867</b>  |
| Fairfax County Allocation at 60%                             | \$ 3,161,493         | \$ 3,285,850         | 4%         | \$ 3,518,131         | \$ 3,685,952         | \$ 3,924,129         | \$ 4,049,890         |
| Fairfax County Allocation at 49%                             | 166,573              | 173,125              | 4%         | 185,364              | 194,206              | 206,755              | 213,381              |
| Fairfax County Allocation at 32%                             | 18,130               | 18,844               | 4%         | 20,176               | 21,138               | 22,504               | 23,225               |
| <b>Total Fairfax County IRR - Joint Account Contribution</b> | <b>3,346,197</b>     | <b>3,477,819</b>     | <b>4%</b>  | <b>3,723,670</b>     | <b>3,901,297</b>     | <b>4,153,388</b>     | <b>4,286,496</b>     |
| Alex Renew Joint IRR Contribution                            | 2,319,561            | 2,410,801            | 4%         | 2,581,223            | 2,704,353            | 2,879,101            | 2,971,371            |
| <b>Capital Project Contribution - Joint Use Facilities:</b>  |                      |                      |            |                      |                      |                      |                      |
| Estimated Joint Capital Improvements at 60%/40%              | \$ 13,059,213        | \$ 37,150,225        | 184%       | \$ 25,649,630        | \$ 43,395,891        | \$ 30,910,000        | \$ 21,705,000        |
| Fairfax County Allocation at 60%                             | 7,835,528            | 22,290,135           | 184%       | 15,389,778           | 26,037,535           | 18,546,000           | 13,023,000           |
| Estimated Joint Capital Improvements at 49%/51%              | 1,110,000            | 650,000              | -41%       | 150,000              | 150,000              | 1,200,000            | -                    |
| Fairfax County Allocation at 49%                             | 543,900              | 318,500              | -41%       | 73,500               | -                    | 588,000              | -                    |
| Estimated Joint Capital Improvements RiverRenew              | 93,320,649           | 57,800,000           | -38%       | 73,700,000           | 90,900,000           | 9,300,000            | -                    |
| Fairfax County Allocation <sup>1</sup>                       | 11,471,731           | 8,091,252            | -29%       | 10,158,466           | 14,521,004           | 820,409              | -                    |
| Estimated Joint Capital Improvements at 32%/68%              | -                    | -                    | 0%         | -                    | -                    | 300,000              | -                    |
| Fairfax County Allocation at 32%                             | -                    | -                    | 0%         | -                    | -                    | 96,000               | -                    |
| Total Fairfax County Capital Contribution                    | <b>19,851,158</b>    | <b>30,699,887</b>    | <b>55%</b> | <b>25,621,744</b>    | <b>40,558,539</b>    | <b>20,050,409</b>    | <b>13,023,000</b>    |
| <b>Total Fairfax County Contributions</b>                    | <b>\$ 33,982,661</b> | <b>\$ 45,872,411</b> | <b>35%</b> | <b>\$ 41,391,143</b> | <b>\$ 56,867,122</b> | <b>\$ 36,859,230</b> | <b>\$ 30,220,249</b> |

<sup>1</sup> Fairfax County allocation based on Contractor Schedule of Values (Rev 1)



# Operating Fund Statement

AlexRenew manages its Operating Fund by functional area 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 AlexRenew’s cleaned water product as well as ongoing operating needs such as bio-solids reuse and solids disposal.

## 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 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 the community and environment, including laboratory testing 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.

| Operating Fund                            | Adopted FY2022       | Adopted FY2023       | VAR %     | Estimated FY2024     | Estimated FY2025     | Estimated FY2026     | Estimated FY2027     |
|---|----------------------|----------------------|-----------|----------------------|----------------------|----------------------|----------------------|
| <b>REVENUES</b>                           |                      |                      |           |                      |                      |                      |                      |
| Transfer from Revenue Fund                | \$ 28,376,991        | \$ 30,770,960        | 8%        | \$ 31,496,409        | \$ 32,441,600        | \$ 33,039,087        | \$ 33,700,069        |
| Interest Income                           | 10,000               | 10,000               | 0%        | 10,000               | 10,000               | 10,000               | 10,000               |
| <b>Total</b>                              | <b>\$ 28,386,991</b> | <b>\$ 30,780,960</b> | <b>8%</b> | <b>\$ 31,506,409</b> | <b>\$ 32,451,600</b> | <b>\$ 33,049,087</b> | <b>\$ 33,710,069</b> |
| <b>EXPENSES</b>                           |                      |                      |           |                      |                      |                      |                      |
| Operational Excellence                    | \$ 7,168,460         | \$ 8,752,407         | 22%       | \$ 9,014,980         | \$ 9,285,429         | \$ 9,471,138         | \$ 9,660,560         |
| Public Engagement and Trust               | 2,385,686            | 2,564,960            | 8%        | 2,641,909            | 2,721,166            | 2,775,589            | 2,831,101            |
| Watershed Stewardship                     | 2,758,250            | 2,622,403            | -5%       | 2,701,075            | 2,782,108            | 2,837,750            | 2,894,505            |
| Adaptive Culture                          | 14,073,082           | 14,657,154           | 4%        | 15,096,868           | 15,549,774           | 15,860,770           | 16,177,985           |
| Effective Financial Stewardship           | 2,001,514            | 1,846,064            | -8%       | 1,901,446            | 1,958,489            | 1,997,659            | 2,037,612            |
| <b>Total</b>                              | <b>\$ 28,386,992</b> | <b>\$ 30,442,988</b> | <b>7%</b> | <b>\$ 31,356,278</b> | <b>\$ 32,296,966</b> | <b>\$ 32,942,905</b> | <b>\$ 33,601,763</b> |
| <b>FUND BALANCE - Beginning</b>           | <b>\$ 4,666,355</b>  | <b>\$ 4,666,354</b>  |           | <b>\$ 5,004,326</b>  | <b>\$ 5,154,457</b>  | <b>\$ 5,309,091</b>  | <b>\$ 5,415,272</b>  |
| <b>FUND BALANCE - Ending <sup>1</sup></b> | <b>\$ 4,666,354</b>  | <b>\$ 5,004,326</b>  |           | <b>\$ 5,154,457</b>  | <b>\$ 5,309,091</b>  | <b>\$ 5,415,272</b>  | <b>\$ 5,523,577</b>  |

<sup>1</sup> Operating Reserve Requirement of 60 days cash

# Adaptive Culture Highlights

AlexRenew continues to invest in its workforce to attract, retain and continuously develop top tier water sector professionals. Over \$13.3 million (44%) of AlexRenew’s budgeted operating expenditures are utilized for personnel expenses, consisting of salaries and benefits. Salaries are provided for full and part time employees, while fringe benefits for qualifying employees include healthcare, retirement, social security, short and long-term disability, personal protective gear and other competitive benefits. Paid time off is provided at a rate based on years of service.

| Personnel Budget       |               | Operating Budget       |               |
|------------------------|---------------|------------------------|---------------|
| Salaries               | \$ 9,739,942  | Personnel              | \$ 13,339,176 |
| Benefits               | 3,599,234     | Non-Personnel          | 17,103,812    |
| Total Personnel Budget | \$ 13,339,176 | Total Operating Budget | \$ 30,442,988 |

Other personnel and compensation highlights from the FY 2023 Budget include:

- In keeping with AlexRenew’s Board enacted compensation philosophy, AlexRenew recently completed a compensation study to benchmark positions and determine the competitive posture of AlexRenew’s compensation packages. AlexRenew has 14 general salary grades. The results of the compensation study led to adjustments in salary bands and positions, which have been incorporated into the FY 2023 budget. Employees are eligible for performance-based pay increases ranging from 2.0 to 5.0% of salary.
- In December 2021, AlexRenew received the employee health insurance renewal rates from United Healthcare. The renewal rate was four percent (4%). AlexRenew will continue to offer only one medical plan option, High Deductible with a Health Savings Account. AlexRenew pays 85% for employee-only premiums and 83% of dependent coverage.
- AlexRenew continues to offer a benefits program that balances quality and affordability and includes broad offerings such as the Employee Assistance Program, short and long term disability, family care & tutoring services through Care@Work, legal and identity theft support, and a robust Employee Wellness Incentive Program that encourages participation in wellness program activities, events, and challenges.
- A total of 1,440 hours of safety training are planned for AlexRenew employees during FY 2023, reflecting investment in the safety of AlexRenew team members beyond mandated trainings.

## Retirement Benefit

Budgeted funds for staff retirement are the contributions AlexRenew pays into the Virginia Retirement System (VRS). VRS administers pension plans and other benefits for Virginia’s covered public sector employees and updates the employer contribution every other even calendar year. AlexRenew’s contribution to VRS increased from 7.27% to 8.19% in July 2022 through June 2024.

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 20 employees in the VRS Plan 1 retirement plan, which allowed enrollment before July 1, 2010. AlexRenew has 7 employees in the VRS 2 retirement plan, which was available between July 1, 2010 and December 31, 2013. 71 employees are enrolled in the VRS Hybrid plan, which started on January 1, 2014 and is still in effect.

## Other Post-Employment Benefits (OPEB)

OPEB funding supports retiree healthcare benefits. The FY 2023 budget provides for approximately \$150,000 in OPEB funding. AlexRenew currently has 5 retirees receiving this benefit.

# Adaptive Culture Highlights

## Workforce by Full Time Equivalent (FTE)

As shown below by Focus Area, the FY 2023 budget includes a modest increase in head count (the addition of two FTEs) compared to the FY 2022 Adopted Budget.

| Focus Area                             | FY 2022 Adopted | FY 2023 Adopted | FTE Impact |
|--|-----------------|-----------------|------------|
| <b>Effective Financial Stewardship</b> |                 |                 |            |
| Executive Finance                      | 5<br>11         | 4<br>11         | -1<br>0    |
| Subtotal                               | 16              | 15              | -1         |
| <b>Watershed Stewardship</b>           |                 |                 |            |
| Strategy & Policy<br>Laboratory        | 3<br>8          | 5<br>7          | +2<br>-1   |
| Subtotal                               | 11              | 12              | +1         |
| <b>Public Engagement and Trust</b>     |                 |                 |            |
| Communications                         | 2.5             | 5               | +2.5       |
| Subtotal                               | 2.5             | 5               | +2.5       |
| <b>Operational Excellence</b>          |                 |                 |            |
| Operations & Maintenance               | 69              | 70              | +1         |
| Engineering & Planning                 | 12              | 8               | -4         |
| Information Systems                    | 7               | 9               | +2         |
| Subtotal                               | 88              | 87              | -1         |
| <b>Adaptive Culture</b>                |                 |                 |            |
| Human Resources                        | 3               | 3.5             | +0.5       |
| Subtotal                               | 3               | 3.5             | +0.5       |
| <b>Grand Total</b>                     | <b>120.5</b>    | <b>122.5</b>    | <b>+2</b>  |

## Equity in the Workplace

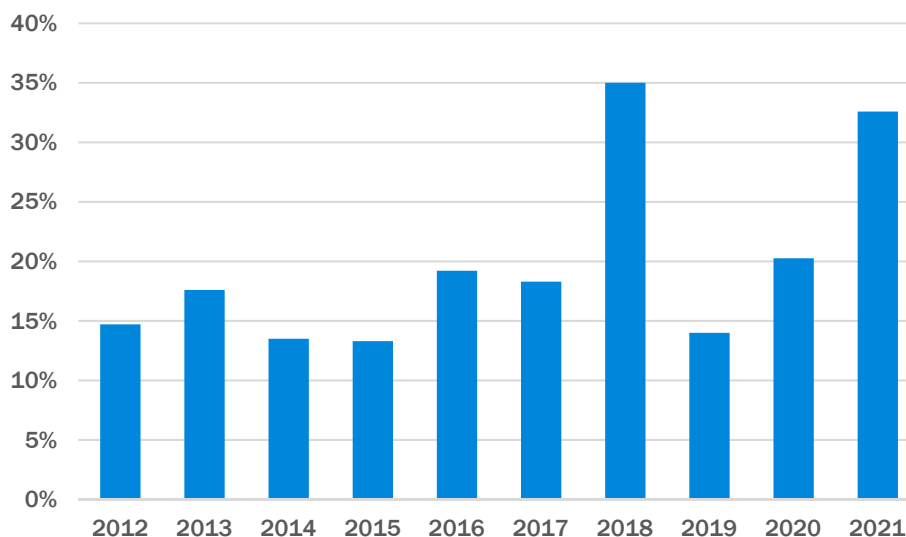
AlexRenew is committed to fostering, promoting, and preserving a culture of diversity and inclusion throughout the workplace. To support this commitment, our current diversity and inclusion initiatives extend to our practices and policies on recruitment and selection; compensation and benefits; professional development and training; and the ongoing development of a work environment built on the premise of gender and diversity equity.

# Adaptive Culture Highlights

## Workforce Impacts

AlexRenew saw continued workforce impacts due to pandemic related stresses as employees made life decisions affecting their tenure at AlexRenew. AlexRenew continues to utilize the apprentice program for succession development for its trades.

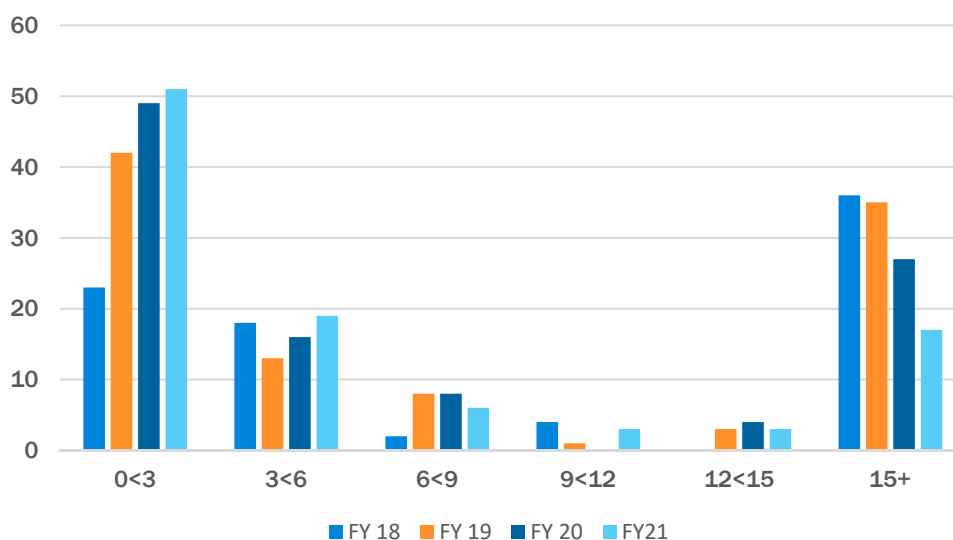
### Turnover



## Years of Service

Almost three quarters of the current workforce (70%) has been employed with AlexRenew for ten years or less while 30% have worked for AlexRenew for more than 10 years. The average years of service is currently nine (9) years. Over the past three years, the number of AlexRenew employees with less than three years of service increased while those with fifteen years of service or more decreased, in part due to a voluntary retirement program initiated during 2020.

### Workforce Years of Service

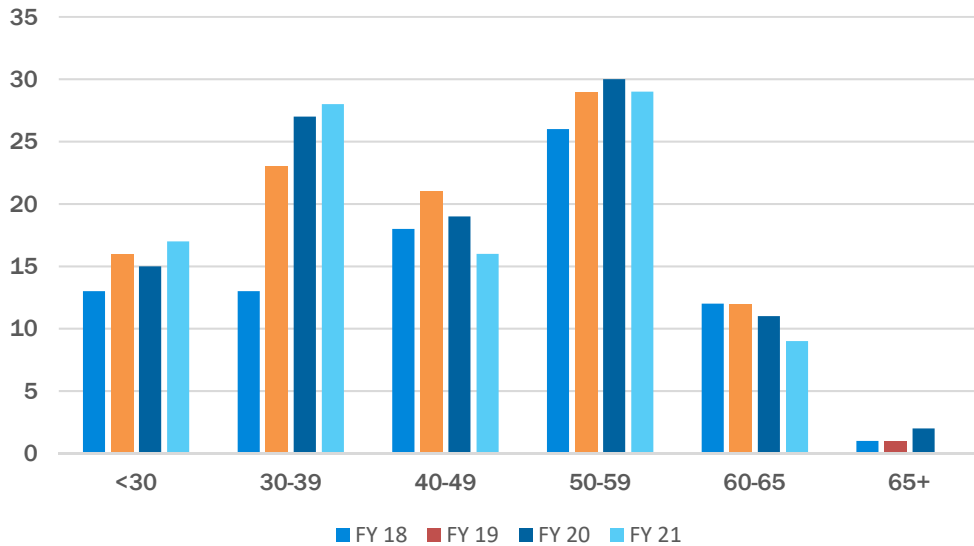


# Adaptive Culture Highlights

## Employee Demographics

Over eighty three percent (83%) of AlexRenew’s workforce falls within the ages of 30 and 60 years old with an average age of 44 years old. The percentage of the AlexRenew workforce in the 30-39 and 50-59 age range have increased considerably over the past three years, while the 60-65 age range has declined.

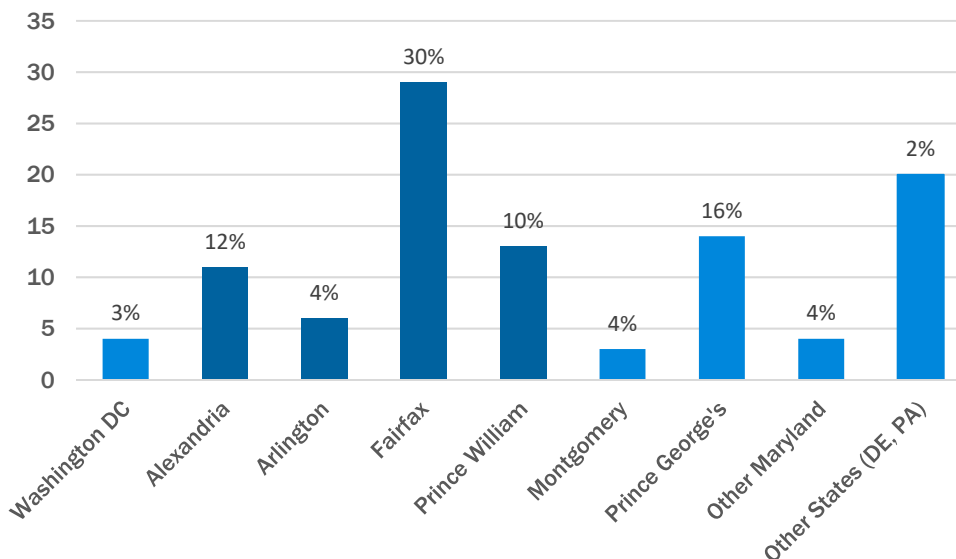
**Workforce Age in Years**



## Employee Home Address by Locality

Just over half (57%) of AlexRenew’s workforce live in Virginia (depicted in dark blue below) and twelve percent (12%) live in the City of Alexandria. The remainder live in Washington DC (3%) or in surrounding states such as Maryland.

**Employee Address by Locality**



# Parity Debt Service Fund Statement

The Parity Debt Service Fund includes the amounts due in FY 2023 to pay principal and interest on outstanding and projected 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) as well as through the federal Water Infrastructure Financing and Innovation Act (WIFIA) loan program. Within the context of the Indenture, capital funding in this manner is deemed parity debt.

During FY 2021, AlexRenew issued two new sewer revenue bonds to fund construction associated with the RiverRenew capital program – a loan of up to \$185.6 million from the CWRLF and a loan of up to \$320.9 million from the WIFIA program. In total, the FY 2023 budget assumes that AlexRenew funds \$118 million of its capital spending through debt or grants.

The debt service schedules below make certain assumptions about the pace of spending the debt proceeds and the repayment schedules shown for the Series 2021 CWRLF and WIFIA Bonds may vary (but will not exceed) the levels shown below. AlexRenew’s outstanding bonds bear interest at fixed interest rates; the Series 2021 CWRLF Bonds at 1.35%, the Series 2021 WIFIA Bonds at a 1.88% and the Series 2019 Bonds at a 1.10%. Repayment of the Series 2021 CWRLF Bonds begins in the upcoming FY 2023 while the Series 2021 WIFIA Bond payments begin in FY 2025. AlexRenew is also working with its financial advisor and the CWRLF to reset the rate on its Series 2011 Bonds for net present value savings, which are not yet reflected in the figures below.

AlexRenew also currently maintains a \$30 million line of credit with a commercial bank to provide cash flow flexibility. AlexRenew fully drew on the facility in FY 2021 to fund RiverRenew construction and expects to repay the line with bond proceeds in the future. The line of credit bears interest at a variable rate. The line of credit is considered subordinate debt under the Indenture and as such, projected interest and fees associated with it are budgeted as an operating expense rather than included in the Parity Debt Service fund.

| Parity Debt Service Fund       | Adopted FY2022       | Adopted FY2023       | Estimated FY2024     | Estimated FY2025     | Estimated FY2026     | Estimated FY2027     |
|--------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <b>REVENUES</b>                |                      |                      |                      |                      |                      |                      |
| Beginning Balance              | \$ 12,365            | \$ 0                 | \$ 0                 | \$ (0)               | \$ (0)               | \$ 0                 |
| Transfer from Revenue Fund     | 13,817,255           | 14,649,508           | 16,358,494           | 19,036,687           | 21,257,774           | 21,405,144           |
| Interest Income                | 90,000               | 90,000               | 90,000               | 90,000               | 90,000               | 90,000               |
| <b>Total Revenue</b>           | <b>13,919,620</b>    | <b>14,739,508</b>    | <b>16,448,494</b>    | <b>19,126,687</b>    | <b>21,347,774</b>    | <b>21,495,144</b>    |
| <b>EXPENDITURES</b>            |                      |                      |                      |                      |                      |                      |
| VRA BOND SERIES 00B INTEREST   | \$ 345,827           | \$ 77,464            | \$ -                 | \$ -                 | \$ -                 | \$ -                 |
| VRA BOND SERIES 00B PRINCIPAL  | 6,589,727            | 4,024,113            | -                    | -                    | -                    | -                    |
| VRA BOND SERIES 04 INTEREST    | 45,433               | 31,609               | 17,646               | 3,543                | -                    | -                    |
| VRA BOND SERIES 04 PRINCIPAL   | 1,378,979            | 1,392,803            | 1,406,766            | 708,669              | -                    | -                    |
| VRA BOND SERIES 06 INTEREST    | 48,246               | 39,187               | 30,038               | 20,798               | 12,979               | 5,589                |
| VRA BOND SERIES 06 PRINCIPAL   | 903,561              | 912,620              | 921,769              | 830,185              | 737,180              | 744,570              |
| VRA BOND SERIES 09 INTEREST    | 197,438              | 175,299              | 152,554              | 129,186              | 105,178              | 80,512               |
| VRA BOND SERIES 09 PRINCIPAL   | 808,439              | 830,578              | 853,324              | 876,692              | 900,700              | 925,366              |
| VRA BOND SERIES 11 INTEREST    | 129,590              | 120,332              | 110,856              | 101,157              | 91,277               | 81,063               |
| VRA BOND SERIES 11 PRINCIPAL   | 391,620              | 400,877              | 410,353              | 420,053              | 429,982              | 440,146              |
| VRA BOND SERIES 14A INTEREST   | 120,112              | 112,361              | 104,513              | 96,566               | 88,520               | 80,373               |
| VRA BOND SERIES 14A PRINCIPAL  | 618,159              | 625,910              | 633,758              | 641,705              | 649,751              | 657,899              |
| VRA BOND SERIES 14B INTEREST   | 22,362               | 20,857               | 19,333               | 17,792               | 16,231               | 14,652               |
| VRA BOND SERIES 14B PRINCIPAL  | 125,062              | 126,567              | 128,117              | 128,859              | 130,410              | 132,771              |
| VRA BOND SERIES 14C INTEREST   | 855,463              | 841,625              | 827,019              | 811,772              | 795,756              | 775,714              |
| VRA BOND SERIES 14C PRINCIPAL  | 260,000              | 280,000              | 290,000              | 305,000              | 320,000              | 490,000              |
| VRA BOND SERIES 17A INTEREST   | 907,506              | 892,772              | 862,534              | 830,759              | 797,319              | 762,084              |
| VRA BOND SERIES 17A PRINCIPAL  | -                    | 575,000              | 605,000              | 635,000              | 670,000              | 705,000              |
| VRA BOND SERIES 19 INTEREST    | 167,096              | 114,070              | 112,970              | 111,870              | 110,220              | 107,470              |
| VRA BOND SERIES 19 PRINCIPAL   | 5,000                | 100,000              | 100,000              | 100,000              | 300,000              | 100,000              |
| VRA BOND SERIES 21 INTEREST    | -                    | 3,045,463            | 3,597,117            | 8,867,258            | 2,293,042            | 2,234,383            |
| VRA BOND SERIES 21 PRINCIPAL   | -                    | -                    | 5,264,825            | 2,442,336            | 6,514,011            | 6,572,670            |
| WIFIA BOND SERIES 21 INTEREST  | -                    | -                    | -                    | 1,047,488            | 6,284,926            | 6,284,098            |
| WIFIA BOND SERIES 21 PRINCIPAL | -                    | -                    | -                    | -                    | 100,291              | 300,784              |
| <b>TOTAL EXPENSES</b>          | <b>\$ 13,919,620</b> | <b>\$ 14,739,509</b> | <b>\$ 16,448,494</b> | <b>\$ 19,126,687</b> | <b>\$ 21,347,774</b> | <b>\$ 21,495,144</b> |
| Total Interest                 | 2,839,073            | 5,471,040            | 5,834,582            | 12,038,188           | 10,595,449           | 10,425,938           |
| Total Principal                | 11,080,547           | 9,268,468            | 10,613,912           | 7,088,499            | 10,752,325           | 11,069,206           |

# 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 the 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 joint capital asset value for FY 2023. Fairfax County’s portion of the total contribution is also based on the allocation percentages detailed on page 16 and affirmed in the Agreement.

Planned spending in the IRR program is expected to increase in the upcoming FY 2023 to provide funding for smaller projects in broad, treatment-process-based categories (e.g., preliminary/primary, secondary, solids, tertiary), as well as several new projects (e.g., UV system rehabilitation, warehouse upgrades, network upgrades, SCADA/PLC work) and ongoing investments in cybersecurity.

| IRR Fund - Joint Use Facilities Account | Adopted FY2022       | Adopted FY2023       | VAR %      | Estimated FY2024    | Estimated FY2025    | Estimated FY2026    | Estimated FY2027    |
|---|----------------------|----------------------|------------|---------------------|---------------------|---------------------|---------------------|
| <b>REVENUES</b>                         |                      |                      |            |                     |                     |                     |                     |
| Revenue Fund Transfer                   | \$ 2,319,561         | \$ 2,410,801         | 4%         | \$ 2,581,223        | \$ 2,704,353        | \$ 2,704,353        | \$ 2,879,101        |
| Fairfax County Contribution             | 3,346,197            | 3,477,819            | 4%         | 3,477,819           | 3,723,670           | 3,901,297           | 4,153,388           |
| <b>Total Revenues</b>                   | <b>\$ 5,665,758</b>  | <b>\$ 5,888,619</b>  | <b>4%</b>  | <b>\$ 6,059,042</b> | <b>\$ 6,428,023</b> | <b>\$ 6,605,649</b> | <b>\$ 7,032,489</b> |
| <b>EXPENSES</b>                         |                      |                      |            |                     |                     |                     |                     |
| Campus Digital Signage                  | \$ -                 | \$ -                 | -          | \$ -                | \$ -                | \$ 140,000          | \$ -                |
| Campus Wide Projects                    | 315,600              | 1,178,756            | 273%       | 1,101,944           | 1,200,000           | 1,200,000           | 2,281,699           |
| Collection System Projects              | 15,000               | 15,000               | 0%         | 15,000              | 15,000              | 15,000              | 15,000              |
| Compliance Laboratory                   | -                    | 45,500               | 100%       | 50,000              | 20,000              | -                   | 20,000              |
| Information Technology Projects         | 1,350,000            | 3,000,000            | 122%       | 2,000,000           | 1,800,000           | 1,000,000           | 500,000             |
| Preliminary / Primary Infrastructure    | 80,000               | 80,800               | 1%         | 85,648              | 86,504              | 87,370              | 34,948              |
| PLC Equipment and Network Upgrades      | -                    | 300,000              | 100%       | 300,000             | 300,000             | 300,000             | 300,000             |
| Safety and Security                     | -                    | 355,000              | 100%       | 355,000             | -                   | -                   | -                   |
| Secondary Infrastructure                | 1,638,000            | 1,737,099            | 6%         | 1,754,470           | 1,772,015           | 1,789,735           | 1,807,633           |
| Solids Infrastructure                   | 1,635,500            | 1,000,000            | -39%       | 750,000             | 750,000             | 1,000,000           | 1,000,000           |
| Tertiary Infrastructure                 | 633,000              | 2,240,700            | 254%       | 2,252,100           | 1,763,900           | 1,776,000           | 683,500             |
| UV System Rehabilitation                | -                    | 225,000              | 100%       | -                   | -                   | 325,810             | -                   |
| Warehouse and Inventory Upgrades        | -                    | 150,000              | 100%       | 500,000             | 500,000             | 150,000             | 25,000              |
| WRRF Fire Alarm Upgrade                 | -                    | -                    | -          | -                   | 50,000              | 300,000             | 1,000,000           |
| Joint IRR Expenses                      | <b>\$ 5,667,100</b>  | <b>\$ 10,327,856</b> | <b>82%</b> | <b>\$ 9,164,163</b> | <b>\$ 8,257,420</b> | <b>\$ 8,083,916</b> | <b>\$ 7,667,781</b> |
| <b>FUND BALANCE - Beginning</b>         | <b>\$ 12,445,000</b> | <b>\$ 11,545,464</b> |            | <b>\$ 7,106,227</b> | <b>\$ 4,001,106</b> | <b>\$ 2,171,710</b> | <b>\$ 693,443</b>   |
| <b>FUND BALANCE - Ending</b>            | <b>\$ 11,545,464</b> | <b>\$ 7,106,227</b>  |            | <b>\$ 4,001,106</b> | <b>\$ 2,171,710</b> | <b>\$ 693,443</b>   | <b>\$ 58,151</b>    |

# 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 the 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 the facility.

The Alex-only IRR program increased year-over-year to accommodate the procurement and implementation of a new customer information system that is required by January 2024 and maintains funding levels for collection system and Alex-only campus needs.

| IRR Fund - General Account              | Adopted<br>FY2022 | Adopted<br>FY2023 | VAR %       | Estimated<br>FY2024 | Estimated<br>FY2025 | Estimated<br>FY2026 | Estimated<br>FY2027 |
|---|-------------------|-------------------|-------------|---------------------|---------------------|---------------------|---------------------|
| <b>Revenues</b>                         |                   |                   |             |                     |                     |                     |                     |
| Revenue Fund Transfer                   | \$ 124,400        | \$ 689,475        |             | \$ 2,077,725        | \$ 191,000          | \$ 166,000          | \$ 166,000          |
| <b>Total Revenue</b>                    | <b>\$ 124,400</b> | <b>\$ 689,475</b> | <b>454%</b> | <b>\$ 2,077,725</b> | <b>\$ 191,000</b>   | <b>\$ 166,000</b>   | <b>\$ 166,000</b>   |
| <b>Expenses</b>                         |                   |                   |             |                     |                     |                     |                     |
| Billing and Customer Information System | \$ -              | \$ 523,475        | -           | \$ 1,728,725        | \$ 25,000           | \$ -                | \$ -                |
| Campus Wide Projects                    | 21,000            | 22,000            | 5%          | 205,000             | 22,000              | 22,000              | 22,000              |
| Collection System Projects              | 103,400           | 144,000           | 39%         | 144,000             | 144,000             | 144,000             | 144,000             |
| <b>Total Expenses</b>                   | <b>\$ 124,400</b> | <b>\$ 689,475</b> | <b>454%</b> | <b>\$ 2,077,725</b> | <b>\$ 191,000</b>   | <b>\$ 166,000</b>   | <b>\$ 166,000</b>   |



# General Fund Statement



The General Fund is the repository of funds remaining after deposits to all other Funds are made and may be used for any lawful purpose of AlexRenew. AlexRenew uses the General Fund to finance City-only capital improvements, contribute PAYGO (cash) funding to the Joint capital program, manage unanticipated expenditures, and maintain sufficient reserves to promote ongoing financial strength.

The General Fund balance is projected to decrease slightly (by \$1.2 million or 3%) through FY 2023 but remain strong at fiscal year-end, with a projected balance of over \$35 million.

| General Fund                                 | Adopted FY2022        | Adopted FY2023        | VAR %       | Estimated FY2024      | Estimated FY2025      | Estimated FY2026      | Estimated FY2027      |
|--|-----------------------|-----------------------|-------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>REVENUES</b>                              |                       |                       |             |                       |                       |                       |                       |
| Revenue Fund Transfer                        | \$ 13,961,638         | \$ 14,096,447         | 1%          | \$ 13,153,254         | \$ 14,336,093         | \$ 14,318,434         | \$ 14,735,220         |
| Interest Income                              | 15,000                | 15,000                | 0%          | 15,000                | 15,000                | 15,000                | 15,000                |
| <b>Total Revenues</b>                        | <b>\$ 13,976,638</b>  | <b>\$ 14,111,447</b>  | <b>1%</b>   | <b>\$ 13,168,254</b>  | <b>\$ 14,351,093</b>  | <b>\$ 14,333,434</b>  | <b>\$ 14,750,220</b>  |
| <b>EXPENSES</b>                              |                       |                       |             |                       |                       |                       |                       |
| Alex-only General Capital Expenses           | \$ 4,532,005          | \$ 3,481,290          | -23%        | \$ 5,629,800          | \$ 6,366,008          | \$ 5,096,386          | \$ 3,667,740          |
| Transfer to Joint CIP Project Fund           | 17,527,058            | 11,886,206            | -32%        | 7,017,043             | 12,687,119            | 0                     | 0                     |
| <b>Total Expenses</b>                        | <b>\$ 22,059,063</b>  | <b>\$ 15,367,496</b>  | <b>-30%</b> | <b>\$ 12,646,843</b>  | <b>\$ 19,053,127</b>  | <b>\$ 5,096,386</b>   | <b>\$ 3,667,740</b>   |
| <b>Fund Balance Increase (Decrease)</b>      | <b>\$ (8,082,424)</b> | <b>\$ (1,256,049)</b> |             | <b>\$ 521,411</b>     | <b>\$ (4,702,034)</b> | <b>\$ 9,237,048</b>   | <b>\$ 11,082,480</b>  |
| <b>Fund Balance - Beginning</b>              | <b>\$ 45,046,760</b>  | <b>\$ 42,250,354</b>  |             | <b>\$ 36,964,336</b>  | <b>\$ 37,485,746</b>  | <b>\$ 37,485,746</b>  | <b>\$ 32,783,713</b>  |
| <b>Fund Balance - Ending</b>                 | <b>\$ 36,964,336</b>  | <b>\$ 40,994,305</b>  |             | <b>\$ 37,485,746</b>  | <b>\$ 32,783,713</b>  | <b>\$ 46,722,794</b>  | <b>\$ 43,866,193</b>  |
| <b>General Reserve sub-Fund <sup>1</sup></b> | <b>\$ (4,666,355)</b> | <b>\$ (5,004,327)</b> |             | <b>\$ (5,154,457)</b> | <b>\$ (5,309,090)</b> | <b>\$ (5,309,090)</b> | <b>\$ (5,415,272)</b> |
| <b>Available Balance</b>                     | <b>\$ 32,297,981</b>  | <b>\$ 35,989,978</b>  | <b>11%</b>  | <b>\$ 32,331,290</b>  | <b>\$ 27,474,622</b>  | <b>\$ 41,413,704</b>  | <b>\$ 38,450,921</b>  |

<sup>1</sup> Additional Operating Reserve Requirement of 60 days cash per Board-approved Financial Policies

# Capital Improvement Program

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## Capital Improvement Program

AlexRenew manages its capital outlay for both Joint Use and City only infrastructure and equipment through its Capital Improvement Program (CIP). The CIP is summarized in the 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 FY 2023 – FY 2032 CIP includes project cost assumptions for all capital projects, including the RiverRenew program, as well as the Improvement, Renewal and Replacement program.

While the CIP provides a long-term roadmap for planned capital expenditures, AlexRenew retains the ability to defer projects if needed, and may elect to defer certain new capital projects, depending on revenue performance throughout the fiscal year.

## 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

Potential 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), Commonwealth of Virginia Grant programs, Water Infrastructure Finance and Innovation Act (WIFIA) loans, revenue bond issues, bank loans and lines of credit, grants, and AlexRenew cash and reserves, also called pay-as-you-go (PAYGO) funds. To comply with its Board-adopted Financial Policies, AlexRenew funds at least 15% of the annual CIP with PAYGO funds.

## Alex-Only CIP

Capital projects that are the responsibility of AlexRenew only are funded from General Fund resources and/or using various financing instruments. Costs associated with the Alex-only CIP are detailed on page 32 and specific project information is provided on pages 33-49.

## Joint-Use CIP

Capital projects for which AlexRenew and Fairfax County share joint responsibility are funded pay-as-you-go from General Fund resources and/or using various financing instruments. Costs associated with the Joint Use Facilities CIP are detailed on pages 50-51 and project information is found on pages 52-109.

## Capital Budget Overview

AlexRenew is proposing a FY 2023 capital budget of \$175.8 million and a total 10-year capital budget of \$678.6 million. Based on current project spending projections, the capital spend in FY 2023 is expected to be similar to the year prior and remain at a similarly elevated level until the RiverRenew Tunnel System project concludes. The total 10-year budgeted CIP expenditures decreased year-over-year as the first major year of Tunnel System spend was completed in the prior FY 2022.

In addition to RiverRenew, highlights of the FY 2023 CIP include:

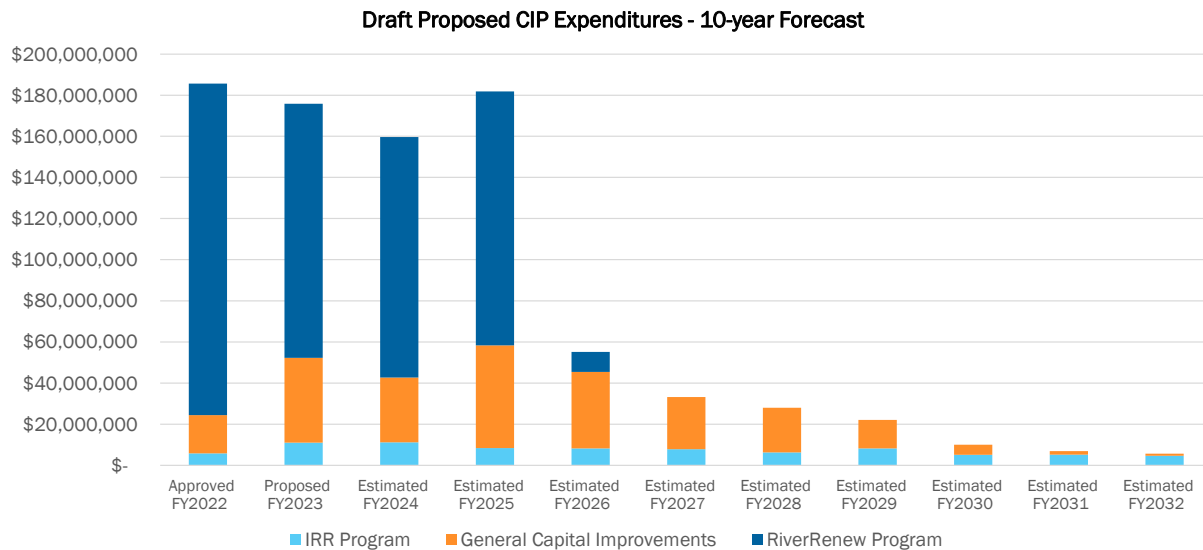
- Funding for City-only projects such as improvements to the Potomac Yard and Four Mile Run Pump Stations and design and construction of the Innovation District Pump Station
- Continued funding for ongoing Joint CIP projects such as Preliminary/Primary System Upgrades, Tertiary Filter Repairs, W3 System Improvements, and Solids Master Planning work
- New funding for CIP projects that grew out of IRR work related to the Preliminary Settling Tanks and Secondary Settling Tanks
- New funding to track study drivers in areas such as regulatory strategy, sustainability and resilience

# Capital Improvement Program

Highlights of the 10-year plan include:

- Continued funding for the RiverRenew Tunnel System project through 2025
- Continued funding for Preliminary Primary System upgrades through 2026
- Increased investments for IT systems and infrastructure and care of existing digital assets
- Funding for future Solids Management projects to come from master planning initiative through 2029
- Continued capital contributions to Arlington County
- Periodic plant and external systems odor control system upgrades
- Contingency based on overall capital spend

The graph below illustrates the planned capital spending over the 10-year period including the significant increase in capital spend for RiverRenew through 2025.



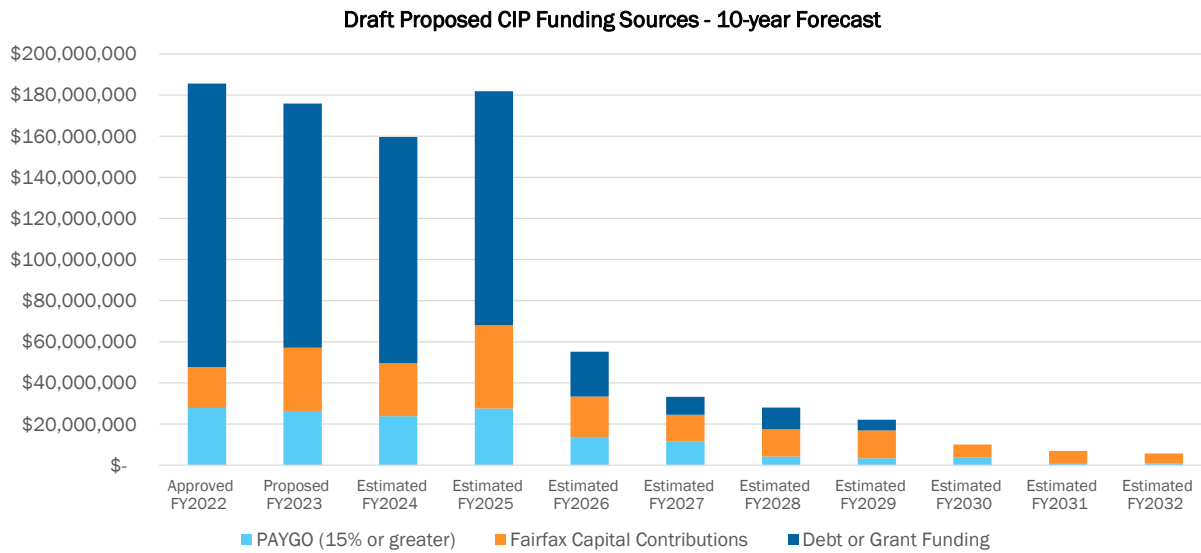
The specific funding sources for the CIP include PAYGO (cash contributions from AlexRenew’s operations and reserves), capital contributions from Fairfax County (which are determined according to negotiated percentages for the relevant project), and debt or grant funding. Per AlexRenew’s Financial Policies, at least 15% of the CIP is funded from PAYGO each fiscal year.

Expected debt and grant funding sources include proceeds from four existing AlexRenew loans – its Series 2017, Series 2019 and Series 2021 Bonds issued through the Virginia Clean Water Revolving Loan Fund (CWRLF) and the Series 2021 WIFIA loan. Additional details on the loans can be found on pages 23-24 under the detailed Parity Debt Service Fund statement.

Although funding from the debt facilities is projected to be sufficient to fund the capital plan, AlexRenew has also pursued grant funding to support the RiverRenew program; to the extent additional grant proceeds are available in the coming fiscal years, a like amount less debt would be utilized to fund capital work that year. The graph on the following page illustrates the planned capital funding sources over the 10-year period including the significant debt financing to be utilized in the next several fiscal years to fund the high level of ongoing RiverRenew construction.

# Capital Improvement Program

The CIP and related funding strategies comply with all relevant AlexRenew financial policies including the required 15% PAYGO funding requirement and sufficient projected net revenues to produce coverage of debt service requirements in excess of the 1.5x policy minimum.



The pages to follow provide additional detail on the specific funding levels for each project over each of the next ten fiscal years, as well as a project sheet for each major project detailing the project’s description, justification, benefits, milestones, useful life, and impact to the community.

# FY23 10-year Capital Improvement Program - Summary

## SUMMARY OF ESTIMATED EXPENDITURES

|  | Adopted FY2022       | Adopted FY2023       | Estimated FY2024     | Estimated FY2025     | Estimated FY2026     | Estimated FY2027     | Estimated FY2028     | Estimated FY2029     | Estimated FY2030     | Estimated FY2031    | Estimated FY2032    | Project Totals FY23-32 |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|------------------------|
| <b>IRR Program</b>                     |                      |                      |                      |                      |                      |                      |                      |                      |                      |                     |                     |                        |
| Alex-only IRR                          | \$ 124,400           | \$ 689,475           | \$ 2,077,725         | \$ 191,000           | \$ 166,000           | \$ 166,000           | \$ 899,000           | \$ 1,966,000         | \$ 206,000           | \$ 166,000          | \$ 166,000          | \$ 6,693,200           |
| Joint IRR                              | \$ 5,667,100         | \$ 10,327,855        | \$ 9,164,162         | \$ 8,257,419         | \$ 8,083,915         | \$ 7,667,780         | \$ 5,411,922         | \$ 6,210,677         | \$ 4,897,077         | \$ 5,082,033        | \$ 4,443,275        | \$ 69,546,115          |
| <b>IRR Program Subtotal</b>            | \$ 5,791,500         | \$ 11,017,330        | \$ 11,241,887        | \$ 8,448,419         | \$ 8,249,915         | \$ 7,833,780         | \$ 6,310,922         | \$ 8,176,677         | \$ 5,103,077         | \$ 5,248,033        | \$ 4,609,275        | \$ 76,239,315          |
| <b>General CIP</b>                     |                      |                      |                      |                      |                      |                      |                      |                      |                      |                     |                     |                        |
| Alex-only Capital Improvement Projects | \$ 4,532,005         | \$ 3,481,290         | \$ 5,471,040         | \$ 5,414,440         | \$ 4,097,240         | \$ 3,667,740         | \$ 3,479,000         | \$ 4,513,040         | \$ 870,000           | \$ 460,000          | \$ 460,000          | \$ 31,913,790          |
| Joint Capital Improvement Projects     | \$ 14,169,213        | \$ 37,800,225        | \$ 25,958,390        | \$ 44,497,459        | \$ 33,109,146        | \$ 21,705,517        | \$ 18,229,410        | \$ 9,430,910         | \$ 4,053,910         | \$ 1,247,910        | \$ 642,632          | \$ 196,675,509         |
| <b>General CIP Subtotal</b>            | \$ 18,701,218        | \$ 41,281,515        | \$ 31,429,430        | \$ 49,911,899        | \$ 37,206,386        | \$ 25,373,257        | \$ 21,708,410        | \$ 13,943,950        | \$ 4,923,910         | \$ 1,707,910        | \$ 1,102,632        | \$ 228,589,299         |
| <b>RiverRenew Program</b>              |                      |                      |                      |                      |                      |                      |                      |                      |                      |                     |                     |                        |
| RiverRenew Bdg J Fac. Reloc. & Decom.  | \$ 100,000           | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                   |
| RiverRenew Tunnel System               | \$ 161,077,699       | \$ 123,600,000       | \$ 117,000,000       | \$ 123,500,000       | \$ 9,700,000         | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 373,800,000         |
| <b>RiverRenew Subtotal</b>             | \$ 161,177,699       | \$ 123,600,000       | \$ 117,000,000       | \$ 123,500,000       | \$ 9,700,000         | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 373,800,000         |
| <b>Total CIP Expenditures</b>          | <b>\$185,670,417</b> | <b>\$175,898,845</b> | <b>\$159,671,317</b> | <b>\$181,860,318</b> | <b>\$ 55,156,301</b> | <b>\$ 33,207,037</b> | <b>\$ 28,019,332</b> | <b>\$ 22,120,627</b> | <b>\$ 10,026,987</b> | <b>\$ 6,955,943</b> | <b>\$ 5,711,907</b> | <b>\$678,628,614</b>   |

## SUMMARY OF ESTIMATED FUNDING SOURCES

|                                       | Adopted FY2022       | Adopted FY2023       | Estimated FY2024     | Estimated FY2025     | Estimated FY2026     | Estimated FY2027     | Estimated FY2028     | Estimated FY2029     | Estimated FY2030     | Estimated FY2031    | Estimated FY2032    | Project Totals FY23-32 |
|---------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|------------------------|
| <b>Joint IRR Fund</b>                 | \$ 5,667,100         | \$ 10,327,855        | \$ 9,164,162         | \$ 8,257,419         | \$ 8,083,915         | \$ 7,667,780         | \$ 5,411,922         | \$ 6,210,677         | \$ 4,897,077         | \$ 5,082,033        | \$ 4,443,275        | \$ 69,546,115          |
| <b>General Fund PAYGO</b>             | \$ 22,183,463        | \$ 16,056,971        | \$ 14,565,808        | \$ 18,292,559        | \$ 4,263,240         | \$ 3,833,740         | \$ 4,378,000         | \$ 6,479,040         | \$ 1,076,000         | \$ 626,000          | \$ 626,000          | \$ 70,197,358          |
| <b>Fairfax Capital Contributions</b>  | \$ 19,851,158        | \$ 30,699,887        | \$ 25,621,744        | \$ 40,558,539        | \$ 20,050,409        | \$ 13,023,000        | \$ 13,413,690        | \$ 5,658,546         | \$ 2,432,346         | \$ 748,746          | \$ 385,579          | \$ 152,592,486         |
| <b>Known Grant Funding</b>            | \$ 25,000,000        | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                   |
| Series 2019 CWRLF Bonds               | \$ 301,200           | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                   |
| Series 2021 CWRLF Bonds               | \$ 112,667,496       | \$ 72,982,504        | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 72,982,504          |
| Series 2021 WIFIA Bonds               | \$ -                 | \$ 45,831,628        | \$ 110,319,603       | \$ 114,751,801       | \$ 22,758,737        | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 293,661,769         |
| Future Debt                           | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ 8,682,517         | \$ 4,815,720         | \$ 3,772,364         | \$ 1,621,564         | \$ 499,164          | \$ 257,053          | \$ 19,648,382          |
| <b>Debt or Grant Funding Subtotal</b> | \$ 137,968,696       | \$ 118,814,132       | \$ 110,319,603       | \$ 114,751,801       | \$ 22,758,737        | \$ 8,682,517         | \$ 4,815,720         | \$ 3,772,364         | \$ 1,621,564         | \$ 499,164          | \$ 257,053          | \$ 386,292,655         |
| <b>Total Estimated CIP Funding</b>    | <b>\$185,670,417</b> | <b>\$175,898,845</b> | <b>\$159,671,317</b> | <b>\$181,860,318</b> | <b>\$ 55,156,301</b> | <b>\$ 33,207,037</b> | <b>\$ 28,019,332</b> | <b>\$ 22,120,627</b> | <b>\$ 10,026,987</b> | <b>\$ 6,955,943</b> | <b>\$ 5,711,907</b> | <b>\$678,628,614</b>   |

# FY23 10-year Capital Improvement Program – Detailed Expenditures

## FY23 10-YEAR CAPITAL IMPROVEMENT PROGRAM

|   | Adopted FY2022       | Adopted FY2023       | Estimated FY2024     | Estimated FY2025     | Estimated FY2026    | Estimated FY2027    | Estimated FY2028    | Estimated FY2029    | Estimated FY2030    | Estimated FY2031  | Estimated FY2032  | Project Totals FY23-32 |
|---|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------|-------------------|------------------------|
| <b>Alex-Only Capital Improvement Program</b>                                |                      |                      |                      |                      |                     |                     |                     |                     |                     |                   |                   |                        |
| <b>Interceptor/ Trunk Sewers Rehabilitation Program</b>                     |                      |                      |                      |                      |                     |                     |                     |                     |                     |                   |                   |                        |
| Commonwealth Interceptor Rehabilitation                                     | \$ -                 | \$ -                 | \$ -                 | \$ 313,000           | \$ -                | \$ -                | \$ -                | \$ -                | \$ 385,000          | \$ -              | \$ -              | \$ 698,000             |
| Potomac Interceptor Rehabilitation  | \$ -                 | \$ -                 | \$ -                 | \$ 540,000           | \$ 1,200,000        | \$ 1,800,000        | \$ 1,800,000        | \$ 3,590,000        | \$ -                | \$ -              | \$ -              | \$ 8,930,000           |
| <b>Improvement, Renewal &amp; Replacement Program</b>                       |                      |                      |                      |                      |                     |                     |                     |                     |                     |                   |                   |                        |
| IRR: Billing and Customer Information System                                | \$ -                 | \$ 523,475           | \$ 1,728,725         | \$ 25,000            | \$ -                | \$ -                | \$ 550,000          | \$ 1,800,000        | \$ 40,000           | \$ -              | \$ -              | \$ 4,667,200           |
| IRR: Campus Wide Projects   | \$ 21,000            | \$ 22,000            | \$ 205,000           | \$ 22,000            | \$ 22,000           | \$ 22,000           | \$ 205,000          | \$ 22,000           | \$ 22,000           | \$ 22,000         | \$ 22,000         | \$ 586,000             |
| IRR: Collection System Projects   | \$ 103,400           | \$ 144,000           | \$ 144,000           | \$ 144,000           | \$ 144,000          | \$ 144,000          | \$ 144,000          | \$ 144,000          | \$ 144,000          | \$ 144,000        | \$ 144,000        | \$ 1,440,000           |
| <b>RiverRenew Program</b>   |                      |                      |                      |                      |                     |                     |                     |                     |                     |                   |                   |                        |
| RiverRenew Tunnel System - Category 1, City-only Portion                    | \$ 67,857,050        | \$ 65,800,000        | \$ 43,300,000        | \$ 32,600,000        | \$ 400,000          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              | \$ 142,100,000         |
| <b>Service Chambers and Pump Stations Upgrade Program</b>                   |                      |                      |                      |                      |                     |                     |                     |                     |                     |                   |                   |                        |
| Bush Hill Service Chamber   | \$ -                 | \$ -                 | \$ 155,000           | \$ 310,000           | \$ 775,000          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              | \$ 1,240,000           |
| Four Mile Run Pump Station Modifications                                    | \$ -                 | \$ 850,000           | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              | \$ 850,000             |
| Innovation District Pumping Station Design and Construction                 | \$ 125,000           | \$ 86,900            | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              | \$ 86,900              |
| Mark Center Pump Station Study  | \$ -                 | \$ -                 | \$ 260,000           | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              | \$ 260,000             |
| Potomac Yards PS: Odor Control and Ventilation System Upgrade               | \$ 2,042,065         | \$ 240,000           | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              | \$ 2,400,000           |
| <b>WRRF Improvements Program</b>  |                      |                      |                      |                      |                     |                     |                     |                     |                     |                   |                   |                        |
| 4 MGD WRRF Expansion Facility Plan  | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ 1,000,000        | \$ 1,000,000        | \$ -                | \$ -                | \$ -              | \$ -              | \$ 2,000,000           |
| NMF Wet Well Elimination Study and Preliminary Design                       | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ 100,000          | \$ 200,000          | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              | \$ 300,000             |
| <b>Other Capital</b>  |                      |                      |                      |                      |                     |                     |                     |                     |                     |                   |                   |                        |
| Arlington County Capital Contributions                                      | \$ 1,817,000         | \$ 1,613,000         | \$ 4,334,000         | \$ 3,493,000         | \$ 1,318,000        | \$ 205,000          | \$ 204,000          | \$ 211,000          | \$ 210,000          | \$ 210,000        | \$ 210,000        | \$ 12,008,000          |
| Capital Financing Fees  | \$ 250,000           | \$ 250,000           | \$ 250,000           | \$ 250,000           | \$ 250,000          | \$ 150,000          | \$ 150,000          | \$ 150,000          | \$ 150,000          | \$ 150,000        | \$ 150,000        | \$ 1,900,000           |
| <b>CONTINGENCY</b>  |                      |                      |                      |                      |                     |                     |                     |                     |                     |                   |                   |                        |
| Contingency on Alex-Only Funding Excluding RiverRenew                       | \$ 297,940           | \$ 441,390           | \$ 472,040           | \$ 508,440           | \$ 454,240          | \$ 312,740          | \$ 325,000          | \$ 562,040          | \$ 125,000          | \$ 100,000        | \$ 100,000        | \$ 3,400,890           |
| <b>Alex-Only Capital Project Subtotal</b>                                   | <b>\$ 72,513,455</b> | <b>\$ 69,970,765</b> | <b>\$ 50,848,765</b> | <b>\$ 38,205,440</b> | <b>\$ 4,663,240</b> | <b>\$ 3,833,740</b> | <b>\$ 4,378,000</b> | <b>\$ 6,479,040</b> | <b>\$ 1,076,000</b> | <b>\$ 626,000</b> | <b>\$ 626,000</b> | <b>\$ 180,706,990</b>  |
| <b>Joint-Use Capital Improvement Program</b>                                |                      |                      |                      |                      |                     |                     |                     |                     |                     |                   |                   |                        |
| <b>Interceptor/ Trunk Sewers Rehabilitation Program</b>                     |                      |                      |                      |                      |                     |                     |                     |                     |                     |                   |                   |                        |
| Commonwealth Interceptor Pile Intrusion                                     | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ 225,000          | \$ 750,000          | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              | \$ 975,000             |
| Upper Holmes Run Trunk Sewer Rehabilitation                                 | \$ 40,000            | \$ -                 | \$ 880,000           | \$ 1,760,000         | \$ 1,320,000        | \$ 440,000          | \$ 100,000          | \$ 55,000           | \$ -                | \$ -              | \$ -              | \$ 4,555,000           |
| <b>Improvement, Renewal &amp; Replacement Program</b>                       |                      |                      |                      |                      |                     |                     |                     |                     |                     |                   |                   |                        |
| IRR: Campus Digital Signage   | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ 140,000          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              | \$ 140,000             |
| IRR: Campus Wide Projects   | \$ 315,600           | \$ 1,178,756         | \$ 1,101,944         | \$ 1,200,000         | \$ 1,200,000        | \$ 2,281,699        | \$ 484,516          | \$ 487,361          | \$ 490,235          | \$ 493,137        | \$ 496,068        | \$ 9,413,716           |
| IRR: Collection System Projects   | \$ 15,000            | \$ 15,000            | \$ 15,000            | \$ 15,000            | \$ 15,000           | \$ 15,000           | \$ 15,000           | \$ 15,000           | \$ 15,000           | \$ 15,000         | \$ 15,000         | \$ 150,000             |
| IRR: Compliance Laboratory  | \$ -                 | \$ 45,500            | \$ 50,000            | \$ 20,000            | \$ -                | \$ 20,000           | \$ -                | \$ 20,000           | \$ -                | \$ 20,000         | \$ -              | \$ 175,500             |
| IRR: Information Technology Projects  | \$ 1,350,000         | \$ 3,000,000         | \$ 2,000,000         | \$ 1,800,000         | \$ 1,000,000        | \$ 500,000          | \$ 500,000          | \$ 1,500,000        | \$ -                | \$ 500,000        | \$ -              | \$ 10,800,000          |
| IRR: Preliminary/Primary Infrastructure                                     | \$ 80,000            | \$ 80,800            | \$ 85,648            | \$ 86,504            | \$ 87,370           | \$ 34,948           | \$ 35,297           | \$ 35,650           | \$ 36,007           | \$ 36,367         | \$ 36,367         | \$ 554,958             |
| IRR: PLC Equipment and Network Upgrades                                     | \$ 1,635,500         | \$ 300,000           | \$ 300,000           | \$ 300,000           | \$ 300,000          | \$ 300,000          | \$ 300,000          | \$ 300,000          | \$ 300,000          | \$ 300,000        | \$ 300,000        | \$ 3,000,000           |
| IRR: Safety and Security  | \$ -                 | \$ 355,000           | \$ 355,000           | \$ -                 | \$ -                | \$ -                | \$ 355,000          | \$ 355,000          | \$ -                | \$ -              | \$ -              | \$ 1,420,000           |
| IRR: Secondary Infrastructure   | \$ 1,638,000         | \$ 1,737,099         | \$ 1,754,470         | \$ 1,772,015         | \$ 1,789,735        | \$ 1,807,633        | \$ 1,825,709        | \$ 1,843,966        | \$ 1,862,406        | \$ 1,881,029      | \$ 1,899,840      | \$ 18,173,902          |
| IRR: Solids Infrastructure  | \$ 1,635,500         | \$ 1,000,000         | \$ 750,000           | \$ 750,000           | \$ 1,000,000        | \$ 1,000,000        | \$ 1,200,000        | \$ 1,200,000        | \$ 1,200,000        | \$ 1,200,000      | \$ 1,200,000      | \$ 10,500,000          |
| IRR: Tertiary Infrastructure  | \$ 392,000           | \$ 2,240,700         | \$ 2,252,100         | \$ 1,763,900         | \$ 1,776,000        | \$ 683,500          | \$ 696,400          | \$ 453,700          | \$ 597,400          | \$ 611,500        | \$ 496,000        | \$ 11,571,200          |
| IRR: UV System Rehabilitation   | \$ 675,000           | \$ 225,000           | \$ -                 | \$ -                 | \$ 325,810          | \$ -                | \$ -                | \$ -                | \$ 396,029          | \$ -              | \$ -              | \$ 946,839             |
| IRR: Warehouse and Inventory Upgrades                                       | \$ -                 | \$ 150,000           | \$ 500,000           | \$ 500,000           | \$ 150,000          | \$ 25,000           | \$ -                | \$ -                | \$ -                | \$ 25,000         | \$ -              | \$ 1,350,000           |
| IRR: WRRF Fire Alarm Upgrade  | \$ -                 | \$ -                 | \$ -                 | \$ 50,000            | \$ 300,000          | \$ 1,000,000        | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              | \$ 1,350,000           |
| <b>Non-Process Facilities Program</b>                                       |                      |                      |                      |                      |                     |                     |                     |                     |                     |                   |                   |                        |
| Environmental Center: 5th/6th Floor Modifications, Carpet and HVAC Upgrades | \$ 1,000,000         | \$ 500,000           | \$ 150,000           | \$ 150,000           | \$ 1,200,000        | \$ -                | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              | \$ 2,000,000           |
| Environmental Center: Outdoor Exhibit Upgrade                               | \$ 50,000            | \$ 150,000           | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              | \$ 150,000             |
| Holland Lane Pavement Reconstruction  | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ 300,000          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              | \$ 300,000             |
| South Carlyle Partnership   | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ 700,000          | \$ 400,000          | \$ 300,000          | \$ 100,000          | \$ -                | \$ -              | \$ -              | \$ 1,500,000           |
| WRRF HVAC Automation System Upgrade   | \$ -                 | \$ 50,000            | \$ -                 | \$ -                 | \$ -                | \$ 500,000          | \$ 500,000          | \$ -                | \$ -                | \$ -              | \$ -              | \$ 1,050,000           |

Continued on following page

# FY23 10-year Capital Improvement Program – Detailed Expenditures (continued)



Continued from previous page

|   | Adopted<br>FY2022     | Adopted<br>FY2023     | Estimated<br>FY2024   | Estimated<br>FY2025   | Estimated<br>FY2026  | Estimated<br>FY2027  | Estimated<br>FY2028  | Estimated<br>FY2029  | Estimated<br>FY2030  | Estimated<br>FY2031 | Estimated<br>FY2032 | Project Totals<br>FY23-32 |
|---|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|---------------------------|
| <b>RiverRenew Program</b>   |                       |                       |                       |                       |                      |                      |                      |                      |                      |                     |                     |                           |
| RiverRenew Bdg J Fac. Reloc. & Decom.                               | \$ 100,000            | \$ -                  | \$ -                  | \$ -                  | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                      |
| RiverRenew Tunnel System - Joint Use                                | \$ 93,220,649         | \$ 57,800,000         | \$ 73,700,000         | \$ 90,900,000         | \$ 9,300,000         | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 231,700,000            |
| <b>Regulatory Strategy Program</b>                                  |                       |                       |                       |                       |                      |                      |                      |                      |                      |                     |                     |                           |
| Coliphage Study   | \$ -                  | \$ -                  | \$ 50,000             | \$ 50,000             | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 100,000                |
| Emerging Contaminant Analysis                                       | \$ -                  | \$ 50,000             | \$ 50,000             | \$ 100,000            | \$ 100,000           | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 300,000                |
| Total Nitrogen Limit Compliance Study                               | \$ -                  | \$ -                  | \$ 75,000             | \$ 250,000            | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 325,000                |
| <b>Sustainability and Resilience Program</b>                        |                       |                       |                       |                       |                      |                      |                      |                      |                      |                     |                     |                           |
| Climate Resilience Initiatives                                      | \$ -                  | \$ 133,000            | \$ 243,000            | \$ 489,000            | \$ 150,000           | \$ 445,000           | \$ 325,000           | \$ 95,000            | \$ 500,000           | \$ -                | \$ -                | \$ 2,380,000              |
| Stormwater System - Struct./Nonstruct. Best Management Practices    | \$ -                  | \$ -                  | \$ -                  | \$ 50,000             | \$ 400,000           | \$ 400,000           | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 850,000                |
| <b>WRRF Improvements Program</b>                                    |                       |                       |                       |                       |                      |                      |                      |                      |                      |                     |                     |                           |
| Campus-Wide Electrical Upgrade Sub-Program                          | \$ -                  | \$ -                  | \$ -                  | \$ -                  | \$ 781,000           | \$ 3,334,000         | \$ 3,278,000         | \$ 4,301,000         | \$ 2,652,000         | \$ 646,000          | \$ -                | \$ 14,992,000             |
| Centrate Pretreatment Facility Improvements                         | \$ 258,000            | \$ 500,000            | \$ 5,000,000          | \$ 7,000,000          | \$ 6,000,000         | \$ 200,000           | \$ 200,000           | \$ 200,000           | \$ 200,000           | \$ 200,000          | \$ 200,000          | \$ 19,700,000             |
| Building 22: Primary Weir Observation House                         | \$ -                  | \$ 660,000            | \$ 990,000            | \$ 1,980,000          | \$ 990,000           | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 4,620,000              |
| Building G/4: Tertiary Filter Repairs                               | \$ -                  | \$ 2,520,000          | \$ 2,713,375          | \$ 2,541,500          | \$ 330,000           | \$ 2,200,000         | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 10,304,875             |
| Building F: Plant Effluent Water (W3) System Improvements           | \$ -                  | \$ 1,027,425          | \$ 906,255            | \$ 1,710,391          | \$ -                 | \$ 31,907            | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ 40,722           | \$ 3,716,700              |
| Building L: Centrifuge Replacement                                  | \$ -                  | \$ -                  | \$ -                  | \$ 1,461,000          | \$ 1,461,000         | \$ 4,591,000         | \$ 4,591,000         | \$ 1,531,000         | \$ -                 | \$ -                | \$ -                | \$ 13,635,000             |
| HMI Upgrade   | \$ 1,336,425          | \$ 1,600,000          | \$ 1,200,000          | \$ 250,000            | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 3,050,000              |
| Main Campus Galleries Improvements                                  | \$ -                  | \$ -                  | \$ -                  | \$ -                  | \$ -                 | \$ -                 | \$ 500,000           | \$ 500,000           | \$ 300,000           | \$ -                | \$ -                | \$ 1,300,000              |
| Odor Control System Upgrade   | \$ -                  | \$ -                  | \$ -                  | \$ 500,000            | \$ -                 | \$ -                 | \$ 1,000,000         | \$ 1,000,000         | \$ -                 | \$ -                | \$ -                | \$ 2,500,000              |
| Power Distribution Monitors   | \$ -                  | \$ 50,000             | \$ 100,000            | \$ 250,000            | \$ 100,000           | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 500,000                |
| Preliminary /Primary System Upgrades                                | \$ 8,249,270          | \$ 9,110,800          | \$ 9,350,000          | \$ 18,690,000         | \$ 9,350,000         | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 46,500,800             |
| Process Air Compressor (PAC) System Upgrade                         | \$ 743,314            | \$ -                  | \$ -                  | \$ -                  | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                      |
| Primary Settling Tank Rehabilitation                                | \$ -                  | \$ 5,000,000          | \$ -                  | \$ -                  | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 5,000,000              |
| Purified Water System Upgrade                                       | \$ -                  | \$ -                  | \$ 158,760            | \$ 951,568            | \$ 999,146           | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 2,109,474              |
| Secondary Settling Tanks Refurbishment                              | \$ 1,638,000          | \$ 7,500,000          | \$ 25,000             | \$ 25,000             | \$ 25,000            | \$ 25,000            | \$ 25,000            | \$ 25,000            | \$ 25,000            | \$ 25,000           | \$ 25,000           | \$ 7,725,000              |
| Security Services During Construction                               | \$ 400,000            | \$ 400,000            | \$ 400,000            | \$ 400,000            | \$ 400,000           | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 1,600,000              |
| Solids Management: Solids Master Plan                               | \$ 750,000            | \$ 700,000            | \$ 250,000            | \$ -                  | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 950,000                |
| Solids Management: Building 55: Additional Cooling for Digesters    | \$ -                  | \$ 3,276,100          | \$ 218,400            | \$ -                  | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 3,494,500              |
| Solids Management: Building 55: Replace Valves on W3 Cooling System | \$ -                  | \$ 21,500             | \$ -                  | \$ -                  | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 21,500                 |
| Solids Management: Building 55: Solids Screen Replacement           | \$ -                  | \$ 533,400            | \$ 348,600            | \$ -                  | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 882,000                |
| Solids Management: Solids/Resource Recovery Upgrades                | \$ -                  | \$ -                  | \$ -                  | \$ 3,039,000          | \$ 5,628,000         | \$ 5,628,000         | \$ 5,628,000         | \$ 901,000           | \$ -                 | \$ -                | \$ -                | \$ 20,824,000             |
| Solids Management: Pre-Pasteurization System Improvements           | \$ -                  | \$ 18,000             | \$ -                  | \$ -                  | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ 18,000                 |
| <b>CONTINGENCY</b>  |                       |                       |                       |                       |                      |                      |                      |                      |                      |                     |                     |                           |
| Contingency on Joint Funding Excluding RiverRenew                   | \$ 1,304,896          | \$ 4,000,000          | \$ 2,850,000          | \$ 2,850,000          | \$ 2,650,000         | \$ 2,760,610         | \$ 1,782,410         | \$ 722,910           | \$ 376,910           | \$ 376,910          | \$ 376,910          | \$ 18,746,660             |
| <b>Joint Capital Project Subtotal</b>                               | <b>\$ 116,827,154</b> | <b>\$ 105,928,080</b> | <b>\$ 108,822,552</b> | <b>\$ 143,654,878</b> | <b>\$ 50,493,061</b> | <b>\$ 29,373,297</b> | <b>\$ 23,641,332</b> | <b>\$ 15,641,587</b> | <b>\$ 8,950,987</b>  | <b>\$ 6,329,943</b> | <b>\$ 5,085,907</b> | <b>\$ 497,921,624</b>     |
| <b>ALEXRENEW 10-YEAR CIP TOTAL</b>                                  | <b>\$ 189,340,609</b> | <b>\$ 175,898,845</b> | <b>\$ 159,671,317</b> | <b>\$ 181,860,318</b> | <b>\$ 55,156,301</b> | <b>\$ 33,207,037</b> | <b>\$ 28,019,332</b> | <b>\$ 22,120,627</b> | <b>\$ 10,026,987</b> | <b>\$ 6,955,943</b> | <b>\$ 5,711,907</b> | <b>\$ 678,628,614</b>     |

# Alexandria-Only CIP Project Details

The table below details the FY 2023 – FY 2032 (10-year) 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.

## 10-year Capital Improvement Program – Alexandria Only

| Projects  | Watershed Stewardship | Operational Excellence | Adaptive Culture | Public Engagement and Trust | Effective Financial Stewardship |
|---|-----------------------|------------------------|------------------|-----------------------------|---------------------------------|
| Commonwealth Interceptor Rehabilitation                       |                       | ●                      |                  |                             |                                 |
| Potomac Interceptor Rehabilitation                            |                       | ●                      |                  |                             |                                 |
| IRR: Billing and Customer Information System                  |                       |                        |                  | ●                           |                                 |
| IRR: Campus Wide Projects                                     |                       | ●                      |                  |                             |                                 |
| IRR: Collection System Projects                               |                       | ●                      |                  |                             |                                 |
| RiverRenew Tunnel System - Category 1, City-only Portion      | ●                     |                        |                  |                             |                                 |
| Bush Hill Service Chamber                                     |                       | ●                      |                  |                             |                                 |
| Four Mile Run Pump Station Modifications                      |                       | ●                      |                  |                             |                                 |
| Innovation District Pumping Station Design and Construction   | ●                     |                        |                  |                             |                                 |
| Mark Center Pump Station Study                                |                       | ●                      |                  |                             |                                 |
| Potomac Yards PS: Odor Control and Ventilation System Upgrade |                       |                        |                  | ●                           |                                 |
| 4 MGD WRRF Expansion Facility Plan                            |                       | ●                      |                  |                             |                                 |
| NMF Wet Well Elimination Study and Preliminary Design         |                       | ●                      |                  |                             |                                 |
| Arlington County Capital Contributions                        | ●                     |                        |                  |                             |                                 |
| Capital Financing Fees  |                       |                        |                  |                             | ●                               |



## Commonwealth Interceptor Rehabilitation

| Managing Department and Champion   |            | Project Location    |         |           |         | Program and Project Category  |         |         | Estimated Useful Life |         |         | Lifetime Budget    |
|--|------------|---------------------|---------|-----------|---------|---|---------|---------|-----------------------|---------|---------|--------------------|
| Engineering  |            | Commonwealth Avenue |         |           |         | Interceptor/ Trunk Sewers Rehab.<br><input checked="" type="checkbox"/> Alexandria Only<br><input type="checkbox"/> Joint Use   |         |         | 20-30 years           |         |         | \$698,000          |
|  |            |                     |         |           |         |   |         |         |                       |         |         | Grant/Debt Funded? |
|  |            |                     |         |           |         |   |         |         |                       |         |         | Undetermined       |
| Expenditure  | Prior Year | FY 2023             | FY 2024 | FY 2025   | FY 2026 | FY 2027   | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total       |
| Total  | \$0        | \$0                 | \$0     | \$313,000 | \$0     | \$0   | \$0     | \$0     | \$385,000             | \$0     | \$0     | \$698,000          |
| Financing  |            |                     |         |           |         |   |         |         |                       |         |         |                    |
| AlexRenew  | \$0        | \$0                 | \$0     | \$313,000 | \$0     | \$0   | \$0     | \$0     | \$385,000             | \$0     | \$0     | \$698,000          |
| Fairfax  | \$0        | \$0                 | \$0     | \$0       | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$0                |
| Project Description and Justification  |            |                     |         |           |         |   |         |         |                       |         |         |                    |
| <p><b>Need:</b> Monitoring items identified in 2018 cleaning and potential rehabilitation</p> <p><b>Background:</b> 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.</p> <p><b>Project Components:</b> Monitor items in three areas of the Commonwealth to minimize degradation of the pipe</p> |            |                     |         |           |         |   |         |         |                       |         |         |                    |
| Benefits   |            |                     |         |           |         | Strategic Outcome Area  |         |         |                       |         |         |                    |
| <ul style="list-style-type: none"> <li>Appropriate minor repairs and maintenance activities maximize asset life.</li> </ul>  |            |                     |         |           |         | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>  |         |         |                       |         |         |                    |
| Key Milestones for FY 23   |            |                     |         |           |         | Impact on Operations or Community   |         |         |                       |         |         |                    |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>  |            |                     |         |           |         | <ul style="list-style-type: none"> <li>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.</li> <li>Citizens are to be notified if contractor equipment will be in their neighborhood.</li> </ul> |         |         |                       |         |         |                    |
| External or Internal Adopted Plan or Recommendation  |            |                     |         |           |         | Changes from Prior Year CIP   |         |         |                       |         |         |                    |
| <ul style="list-style-type: none"> <li>Draft Sept. 2018 Greeley &amp; Hansen Report "Commonwealth Interceptor Condition Assessment"</li> </ul>   |            |                     |         |           |         | <ul style="list-style-type: none"> <li>Moving to start in FY25 to avoid conflict with work on Hooffs Run Interceptor (CI south of Duke Street). Costs escalated by 3% from \$270,000 spent in 2018</li> </ul>   |         |         |                       |         |         |                    |

## Potomac Interceptor Rehabilitation

| Managing Department and Champion |            | Project Location                      |         |           |             | Program and Project Category  |             |             | Estimated Useful Life |         |         | Lifetime Budget                    |
|----------------------------------|------------|---------------------------------------|---------|-----------|-------------|---|-------------|-------------|-----------------------|---------|---------|------------------------------------|
| Engineering                      |            | East Alexandria<br>(Jones Point Park) |         |           |             | Interceptor/ Trunk Sewers Rehab.<br><input checked="" type="checkbox"/> Alexandria Only<br><input type="checkbox"/> Joint Use |             |             | 20-30 years           |         |         | \$8,930,000                        |
|                                  |            |                                       |         |           |             |   |             |             |                       |         |         | Grant/Debt Funded?<br>Undetermined |
| Expenditure                      | Prior Year | FY 2023                               | FY 2024 | FY 2025   | FY 2026     | FY 2027   | FY 2028     | FY 2029     | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total                       |
| Total                            | \$0        | \$0                                   | \$0     | \$540,000 | \$1,200,000 | \$1,800,000   | \$1,800,000 | \$3,590,000 | \$0                   | \$0     | \$0     | \$8,930,000                        |
| <b>Financing</b>                 |            |                                       |         |           |             |   |             |             |                       |         |         |                                    |
| AlexRenew                        | \$0        | \$0                                   | \$0     | \$540,000 | \$1,200,000 | \$1,800,000   | \$1,800,000 | \$3,590,000 | \$0                   | \$0     | \$0     | \$8,930,000                        |
| Fairfax                          | \$0        | \$0                                   | \$0     | \$0       | \$0         | \$0   | \$0         | \$0         | \$0                   | \$0     | \$0     | \$0                                |

### Project Description and Justification

**Need:** To inspect, replace and/or rehabilitate the Potomac Interceptor (PI).

**Background:** Parts of the Potomac Interceptor were CCTV inspected in 2015/2016. Age related concerns were noted throughout the length of the pipe. Due to RiverRenew, all work prior to FY2025 has been postponed. Work in FY2025 includes phased lining of the entire length and associated manhole upgrades.

**Project Components:** CCTV, planning, design, and construction for issues identified in 2017 Report

- Replace the 1,450 linear feet of 42-inch pipe within Jones Point Park (Permits required for work in the National Park Service jurisdiction)
- Rehabilitate all 26 manholes of Potomac Interceptor
- Clean and/or Re-inspect the entire length of the Potomac Interceptor (City Permit required) segments

**Procurement Method:** Undetermined

| Benefits   | Strategic Outcome Area   |
|--|--|
| <ul style="list-style-type: none"> <li>• Maximizes asset life.</li> </ul>  | <ul style="list-style-type: none"> <li>• Operational Excellence</li> </ul>   |
| Key Milestones for FY 23   | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>• N/A</li> </ul>  | <ul style="list-style-type: none"> <li>• Improve reliability and longevity of the PI.</li> <li>• Traffic and parking impacts possible due to pipe cleaning/inspection and/or pipe repair/rehab activities</li> <li>• Presence/storage of contractor equipment possible in City neighborhoods.</li> </ul> |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>• 2017 Greeley and Hansen Report, "Potomac Interceptor Condition Assessment Summary and Recommendations"</li> </ul> | <ul style="list-style-type: none"> <li>• None</li> </ul>   |

## IRR: Billing and Customer Information System (Alexandria Only)

| Managing Department and Champion |            | Project Location |             |          |         | Program and Project Category   |           |             | Estimated Useful Life |         |         | Lifetime Budget    |
|----------------------------------|------------|------------------|-------------|----------|---------|--|-----------|-------------|-----------------------|---------|---------|--------------------|
| Finance                          |            | Various          |             |          |         | Alex-only IRR<br><input checked="" type="checkbox"/> Alexandria Only<br><input type="checkbox"/> Joint Use |           |             | 5 years               |         |         | \$4,745,400        |
|                                  |            |                  |             |          |         |  |           |             |                       |         |         | Grant/Debt Funded? |
|                                  |            |                  |             |          |         |  |           |             |                       |         |         | No                 |
| Expenditure                      | Prior Year | FY 2023          | FY 2024     | FY 2025  | FY 2026 | FY 2027  | FY 2028   | FY 2029     | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total       |
| Total                            | \$0        | \$523,475        | \$1,728,725 | \$25,000 | \$0     | \$0  | \$550,000 | \$1,800,000 | \$40,000              | \$0     | \$0     | \$4,667,200        |
| <b>Financing</b>                 |            |                  |             |          |         |  |           |             |                       |         |         |                    |
| AlexRenew                        | \$0        | \$523,475        | \$1,728,725 | \$25,000 | \$0     | \$0  | \$550,000 | \$1,800,000 | \$40,000              | \$0     | \$0     | \$4,667,200        |
| Fairfax                          | \$0        | \$0              | \$0         | \$0      | \$0     | \$0  | \$0       | \$0         | \$0                   | \$0     | \$0     | \$0                |

### Project Description and Justification

**Need:** AlexRenew is planning for a transition in its billing and customer information systems. The third party currently providing these services is exiting the business and will no longer provide services after January 2024, upon contract expiration. AlexRenew will need to have implemented a new billing and customer information system along with managing changing business processes and customer service practices by January 2024.

**Background:** AlexRenew has engaged a professional consulting firm to provide advisory services including a needs assessment, providing guidance through the procurement phase, and supporting AlexRenew through the expected implementation in Fiscal Years 2023-24. It is expected that the system would require upgrading approximately every 5 years.

**Project Components:** This project includes a new Billing and Customer Information System, creating updated business processes for billing needs such as managing meter reads and payment plans, procuring new contracts for activities such as collections and payment processing, enabling a new contact center solution, and designing in quality control measures for accurate billing.

**Procurement Method:** Professional consulting services were procured via an existing cooperative contract. A formal procurement such as a Request for Proposal(s) will likely be issued in the future for the system, its implementation, and potentially other elements of the project.

| Benefits  | Strategic Outcome Area  |
|---|---|
| <ul style="list-style-type: none"> <li>Secure, accurate billing is critical to building trust with customers</li> <li>City customers increasingly expect technology-forward, convenient payment options, such as AlexRenew's existing customer portal, and features like paperless billing</li> <li>Customer information systems can also be used to better communicate with customers (for example, using email or text to promote customer assistance)</li> </ul> | <ul style="list-style-type: none"> <li>Public Engagement &amp; Trust</li> </ul> |

| Key Milestones for FY 23  | Impact on Operations or Community  |
|---|--|
| <ul style="list-style-type: none"> <li>Release formal procurement and develop firm implementation schedule</li> </ul>                                 | <ul style="list-style-type: none"> <li>Billing implementations often do involve customer impacts, such as requiring re-registration or affirming a payment method, though the project team will minimize customer impacts to the extent feasible</li> <li>A communications campaign will accompany the implementation and clearly communicate any required customer actions</li> </ul> |
| External or Internal Adopted Plan or Recommendation   | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>Recommendations based on Phase 1 Billing Transition Support Services Report dated November 29, 2021</li> </ul> | <ul style="list-style-type: none"> <li>New project established in June 2021 based on notification that existing contract would end January 2024</li> </ul>   |

## IRR: Campus Wide Projects (Alexandria Only)

| Managing Department and Champion |            | Project Location     |           |          |          | Program and Project Category   |           |          | Estimated Useful Life                             |          |          | Lifetime Budget           |           |
|----------------------------------|------------|----------------------|-----------|----------|----------|--|-----------|----------|---|----------|----------|---------------------------|-----------|
| Various                          |            | Main and West Campus |           |          |          | Alex-only IRR<br><input checked="" type="checkbox"/> Alexandria Only<br><input type="checkbox"/> Joint Use |           |          | 10 years for Data Center and Network Improvements |          |          | \$607,000                 |           |
|                                  |            |                      |           |          |          |  |           |          |   |          |          | <b>Grant/Debt Funded.</b> |           |
|                                  |            |                      |           |          |          |  |           |          |   |          |          | No                        |           |
| Expenditure                      | Prior Year | FY 2023              | FY 2024   | FY 2025  | FY 2026  | FY 2027  | FY 2028   | FY 2029  | FY 2030   | FY 2031  | FY 2032  | 10 Yr. Total              |           |
| Total                            | \$21,000   | \$22,000             | \$205,000 | \$22,000 | \$22,000 | \$22,000   | \$205,000 | \$22,000 | \$22,000  | \$22,000 | \$22,000 | \$22,000                  | \$586,000 |
| <b>Financing</b>                 |            |                      |           |          |          |  |           |          |   |          |          |                           |           |
| AlexRenew                        | \$21,000   | \$22,000             | \$205,000 | \$22,000 | \$22,000 | \$22,000   | \$205,000 | \$22,000 | \$22,000  | \$22,000 | \$22,000 | \$586,000                 |           |
| Fairfax                          | \$0        | \$0                  | \$0       | \$0      | \$0      | \$0  | \$0       | \$0      | \$0   | \$0      | \$0      | \$0                       |           |

### Project Description and Justification

**Need:** Funds are required to maintain this subprogram to the main Improvement, Rehabilitation/Renewal and Replacement program (IRR) for Alexandria only projects.

**Background:** This subprogram covers Alexandria-only projects that have impacts broadly across the campus including certain Information Technology projects related to information and data storage security, required records retention, and periodic updates to the AlexRenew website.

**Project Components:** Infrastructure and network enhancements to minimize outages; monitoring and securing AlexRenew environment; updates to the emergency notification system; records retention and Sharepoint enhancements

**Procurement Method:** Varies as appropriate

| Benefits   | Strategic Outcome Area   |
|--|--|
| <ul style="list-style-type: none"> <li>24/7 near real time security monitoring and incident response.</li> <li>Ensure and improve compliance with federal, state and local regulatory recordkeeping directives</li> <li>Allowing for 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,</li> <li>Prevention of technological obsolesces</li> <li>Reduce physical storage space and staff resources required to maintain paper records, and support continued and on-going awareness of staff recordkeeping responsibilities through the use of training.</li> <li>Up to date security patching for critical assets.</li> <li>And upgrading the emergency notification systems.</li> <li>Vulnerability management and monitoring of network and hosts</li> </ul> | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul> |

| Key Milestones for FY 23   | Impact on Operations or Community   |
|--|---|
| <ul style="list-style-type: none"> <li>• Development of detailed roadmap and roll out plan</li> <li>• Security Event Monitoring and Incident Response</li> </ul>   | <ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• Cybersecurity Assessment completed by Achilles Shield, including assessment of vulnerabilities and hacker exploitation; and a physical security assessment</li> <li>• Electronic Records Management (ERM) As-Is Observation Report</li> </ul> | <ul style="list-style-type: none"> <li>• None</li> </ul>  |

## IRR: Collection System Projects (Alexandria Only)

| Managing Department and Champion |            |           | Project Location                               |           |           |           | Program and Project Category   |           |           | Estimated Useful Life          |           |              | Lifetime Budget                    |
|----------------------------------|------------|-----------|--|-----------|-----------|-----------|--|-----------|-----------|--------------------------------|-----------|--------------|------------------------------------|
| Operations & Maintenance         |            |           | AlexRenew and Multiple Locations in Alexandria |           |           |           | Improve., Rehab., Replacement<br><input checked="" type="checkbox"/> Alexandria Only<br><input type="checkbox"/> Joint Use |           |           | 3 years for pumps and grinders |           |              | \$1,440,000                        |
|                                  |            |           |  |           |           |           |  |           |           |                                |           |              | Grant/Debt Funded?<br>Undetermined |
| Expenditure                      | Prior Year | FY 2023   | FY 2024  | FY 2025   | FY 2026   | FY 2027   | FY 2028  | FY 2029   | FY 2030   | FY 2031                        | FY 2032   | 10 Yr. Total |                                    |
| Total                            | \$103,400  | \$144,000 | \$144,000                                      | \$144,000 | \$144,000 | \$144,000 | \$144,000  | \$144,000 | \$144,000 | \$144,000                      | \$144,000 | \$144,000    | \$1,440,000                        |
| <b>Financing</b>                 |            |           |  |           |           |           |  |           |           |                                |           |              |                                    |
| AlexRenew                        | \$103,400  | \$144,000 | \$144,000                                      | \$144,000 | \$144,000 | \$144,000 | \$144,000  | \$144,000 | \$144,000 | \$144,000                      | \$144,000 | \$144,000    | \$1,440,000                        |
| Fairfax                          | \$0        | \$0       | \$0  | \$0       | \$0       | \$0       | \$0  | \$0       | \$0       | \$0                            | \$0       | \$0          |                                    |

### Project Description and Justification

**Need:** Continued improvement, rehabilitation, and replacement of Alexandria-only-funded AlexRenew assets.

**Background:** This subprogram covers all improvement, rehabilitation and replacement projects associated with the pump stations, service chambers, and outfalls that are for city only use.

**Project Components:** Improvements to Interceptors, Pumping Stations, Service Chambers, and Outfalls

**Procurement Method:** Undetermined

| Benefits  | Strategic Outcome Area   |
|---|--|
| <ul style="list-style-type: none"> <li>• Full redundancy and reliability of all assets</li> </ul> | <ul style="list-style-type: none"> <li>• Operational Excellence</li> </ul>                                 |
| Key Milestones for FY 23  | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>• N/A</li> </ul>   | <ul style="list-style-type: none"> <li>• Coordination with O&amp;M for any work</li> </ul>                 |
| External or Internal Adopted Plan or Recommendation   | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>• N/A</li> </ul>   | <ul style="list-style-type: none"> <li>• Costs updated to \$144,000 yearly from FY2023 - FY2032</li> </ul> |

## RiverRenew Tunnel System (Alexandria Only)

| Managing Department and Champion |              | Project Location                               |              |              |           | Program and Project Category  |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|--------------|--|--------------|--------------|-----------|---|---------|---------|-----------------------|---------|---------|---------------------------|
| RiverRenew                       |              | AlexRenew and Multiple Locations in Alexandria |              |              |           | RiverRenew<br><input checked="" type="checkbox"/> Alexandria Only<br><input type="checkbox"/> Joint Use |         |         | Tunnel - 100 years    |         |         | \$223,200,000             |
|                                  |              |  |              |              |           |   |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|                                  |              |  |              |              |           |   |         |         |                       |         |         | Yes                       |
| Expenditure                      | Prior Year   | FY 2023  | FY 2024      | FY 2025      | FY 2026   | FY 2027   | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$67,857,050 | \$65,800,000                                   | \$43,300,000 | \$32,600,000 | \$400,000 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$142,100,000             |
| <b>Financing</b>                 |              |  |              |              |           |   |         |         |                       |         |         |                           |
| AlexRenew                        | \$67,857,050 | \$65,800,000                                   | \$43,300,000 | \$32,600,000 | \$400,000 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$142,100,000             |
| Fairfax                          | \$0          | \$0  | \$0          | \$0          | \$0       | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$0                       |

### Project Description and Justification

**Need:** In April 2017, a Virginia law was passed that required Alexandria’s four existing combined sewer outfalls be brought into compliance by July 1, 2025.

**Background:** In June 2018, the Virginia Department of Environmental Quality approved a Plan that complied with the new law through the design and construction of a tunnel system to capture and convey combined sewage to AlexRenew for treatment. In July 2018, the Plan was re-branded as RiverRenew.

**Project Components:** The RiverRenew Tunnel System includes:

- Waterfront Tunnel: 2-mile long, 12’-0” diameter segmentally lined tunnel.
- Hooffs Run Interceptor: 2,700-foot long, 6’-0” open-cut sewer.
- Four diversion chambers to direct combined sewer flows to the Waterfront Tunnel and Hooffs Run Interceptor.
- Four shafts ranging from 35-feet to 65-feet in diameter.
- Tunnel Dewatering and Wet Weather Pumping Station: 20-mgd tunnel dewatering and 130-mgd wet weather pumping station, including a new superstructure at AlexRenew.

**Procurement Method:** In November 2020, AlexRenew awarded a fixed-price design-build contract to Traylor-Shea Joint Venture in the amount of \$454.4 million following a 2-step (RFQ/RFP) procurement process.

| Benefits   | Strategic Outcome Area   |
|--|--|
| <ul style="list-style-type: none"> <li>• Significant reduction of CSOs to local waterways</li> <li>• Site restoration includes community amenities in two locations</li> </ul> | <ul style="list-style-type: none"> <li>• Watershed Stewardship</li> </ul>  |
| Key Milestones for FY 23   | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>• Major design submittals complete</li> <li>• Tunnel mining begins</li> </ul>   | <ul style="list-style-type: none"> <li>• Coordination with O&amp;M and the community during construction</li> <li>• O&amp;M will operate and maintain pumping station once system is operational.</li> </ul> |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>• Long Term Control Plan Update, Approved 2018</li> </ul>   | <ul style="list-style-type: none"> <li>• Updated costs</li> </ul>  |



## Bush Hill Service Chamber

| Managing Department and Champion |            | Project Location |           |           |           | Program and Project Category  |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|------------|------------------|-----------|-----------|-----------|---|---------|---------|-----------------------|---------|---------|---------------------------|
| Engineering                      |            | Bush Hill        |           |           |           | Service Chambers and PS Upgrades<br><input checked="" type="checkbox"/> Alexandria Only<br><input type="checkbox"/> Joint Use |         |         | 20 years              |         |         | \$1,240,000               |
|                                  |            |                  |           |           |           |   |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|                                  |            |                  |           |           |           |   |         |         |                       |         |         | Undetermined              |
| Expenditure                      | Prior Year | FY 2023          | FY 2024   | FY 2025   | FY 2026   | FY 2027   | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$0        | \$0              | \$155,000 | \$310,000 | \$775,000 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$1,240,000               |
| <b>Financing</b>                 |            |                  |           |           |           |   |         |         |                       |         |         |                           |
| AlexRenew                        | \$0        | \$0              | \$155,000 | \$310,000 | \$775,000 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$1,240,000               |
| Fairfax                          | \$0        | \$0              | \$0       | \$0       | \$0       | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$0                       |

### Project Description and Justification

**Need:** Perform a condition assessment of the pump station and rehabilitate the system as needed based on the assessment.

**Background:** The BHSC was constructed in November 2002 to service the Holiday Inn located at 2460 Eisenhower Avenue. This project is a condition assessment of the BHSC followed by asset rehabilitation or replacement, as needed. As part of this project, a retrofit of the BHSC inflow orifice with a bar screen will be considered.

**Project Components:** Condition assessment and identified rehabilitation/replacement.

**Procurement Method:** Undetermined

| Benefits  | Strategic Outcome Area   |
|---|--|
| <ul style="list-style-type: none"> <li>Maximizes asset performance and life.</li> </ul>   | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>   |
| Key Milestones for FY 23  | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>   | <ul style="list-style-type: none"> <li>Improves asset performance and reliability</li> </ul>                       |
| External or Internal Adopted Plan or Recommendation   | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>Bar screen portion: August 2017 Greeley &amp; Hansen Condition Assessment Summary and Recommendations</li> </ul> | <ul style="list-style-type: none"> <li>Start of project moved to FY24. Costs each year escalated at 3%.</li> </ul> |

## Four Mile Run Pump Station Modifications

| Managing Department and Champion |            | Project Location |         |         |         | Program and Project Category  |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|------------|------------------|---------|---------|---------|---|---------|---------|-----------------------|---------|---------|---------------------------|
| Engineering                      |            | Four Mile Run PS |         |         |         | Service Chambers & PS Upgrades<br><input checked="" type="checkbox"/> Alexandria Only<br><input type="checkbox"/> Joint Use |         |         | 20-30 years           |         |         | \$1,000,000               |
|                                  |            |                  |         |         |         |   |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|                                  |            |                  |         |         |         |   |         |         |                       |         |         | Undetermined              |
| Expenditure                      | Prior Year | FY 2023          | FY 2024 | FY 2025 | FY 2026 | FY 2027   | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$150,000  | \$850,000        | \$0     | \$0     | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$850,000                 |
| <b>Financing</b>                 |            |                  |         |         |         |   |         |         |                       |         |         |                           |
| AlexRenew                        | \$150,000  | \$850,000        | \$0     | \$0     | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$850,000                 |
| Fairfax                          | \$0        | \$0              | \$0     | \$0     | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$0                       |

### Project Description and Justification

**Need:** The proposed pump station modifications are to manage excess flows caused by inflow and infiltration at the station to prevent overflow conditions.

**Background:** Four Mile Run Pumping Station continues to experience excess infiltration and inflow, causing sanitary sewer overflows. Modifications are needed to automate the pump over, sending flows more than 9.4MGD to the Potomac Yard Trunk Sewer. Preliminary design is underway, with design and permitting expected in FY22 and construction in FY23.

**Project Components:** Piping and valve modifications, SCADA programming.

**Procurement Method:** Design-Bid-Build

| Benefits  | Strategic Outcome Area  |
|---|---|
| <ul style="list-style-type: none"> <li>Reduce manual operation of pump over.</li> </ul>                           | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>                                      |
| Key Milestones for FY 23  | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>Complete construction</li> </ul>   | <ul style="list-style-type: none"> <li>Construction work will need to be coordinated with O&amp;M.</li> </ul> |
| External or Internal Adopted Plan or Recommendation   | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>Preliminary Engineering Report is underway as of December 2021.</li> </ul> | <ul style="list-style-type: none"> <li>New project</li> </ul>   |

## Innovation District Pumping Station Design & Construction

| Managing Department and Champion |            | Project Location |         |         |         | Program and Project Category  |         |         | Estimated Useful Life |         |         | Lifetime Budget    |
|----------------------------------|------------|------------------|---------|---------|---------|---|---------|---------|-----------------------|---------|---------|--------------------|
| Engineering                      |            | Various          |         |         |         | Service Chambers & PS Upgrades<br><input checked="" type="checkbox"/> Alexandria Only<br><input type="checkbox"/> Joint Use |         |         | 20 years              |         |         | \$339,416          |
|                                  |            |                  |         |         |         |   |         |         |                       |         |         | Grant/Debt Funded? |
|                                  |            |                  |         |         |         |   |         |         |                       |         |         | No                 |
| Expenditure                      | Prior Year | FY 2023          | FY 2024 | FY 2025 | FY 2026 | FY 2027   | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total       |
| Total                            | \$125,000  | \$86,900         | \$0     | \$0     | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$86,900           |
| Financing                        |            |                  |         |         |         |   |         |         |                       |         |         |                    |
| AlexRenew                        | \$125,000  | \$86,900         | \$0     | \$0     | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$86,900           |
| Fairfax                          | \$0        | \$0              | \$0     | \$0     | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$0                |

### Project Description and Justification

**Purpose:** To participate in the design and construction of the Innovation District Pumping Station (IDPS).

**Background:** The Innovation District Pumping Station is being built to serve new developments in the city brought on by the arrival of the Virginia Tech (VT) Campus. AlexRenew has been collaborating with the city and the Developer on the pump station's design, sewer impacts and related infrastructure improvements.

**Project Components:** Review Permit, Design, and Construction submittals

**Procurement Method:** Part of existing consultant contract

| Benefits  | Strategic Outcome Area  |
|---|---|
| <ul style="list-style-type: none"> <li>Ensures that new IDPS is constructed in accordance with the design specifications and AlexRenew's requirements.</li> </ul> | <ul style="list-style-type: none"> <li>Watershed Stewardship</li> </ul>                   |
| Key Milestones for FY 23  | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>To participate in/provide services related to the design and construction of the new facility.</li> </ul>                  | <ul style="list-style-type: none"> <li>Supports the City's partnership with VT</li> </ul> |
| External or Internal Adopted Plan or Recommendation   | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>   | <ul style="list-style-type: none"> <li>None</li> </ul>                                    |

## Mark Center Pump Station Study

| Managing Department and Champion |            | Project Location         |           |         |         | Program and Project Category  |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|------------|--------------------------|-----------|---------|---------|---|---------|---------|-----------------------|---------|---------|---------------------------|
| Engineering                      |            | Mark Center Pump Station |           |         |         | Service Chambers & PS Upgrades<br><input checked="" type="checkbox"/> Alexandria Only<br><input type="checkbox"/> Joint Use |         |         | N/A                   |         |         | \$260,000                 |
|                                  |            |                          |           |         |         |   |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|                                  |            |                          |           |         |         |   |         |         |                       |         |         | Undetermined              |
| Expenditure                      | Prior Year | FY 2023                  | FY 2024   | FY 2025 | FY 2026 | FY 2027   | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$0        | \$0                      | \$260,000 | \$0     | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$260,000                 |
| <b>Financing</b>                 |            |                          |           |         |         |   |         |         |                       |         |         |                           |
| AlexRenew                        | \$0        | \$0                      | \$260,000 | \$0     | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$260,000                 |
| Fairfax                          | \$0        | \$0                      | \$0       | \$0     | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$0                       |

### Project Description and Justification

**Need:** Evaluate the Mark Center (also known as Washington Headquarters) Pump Station (MCPS).

**Background:** Commission a study to evaluate the MCPS including MCPS reliability and redundancy.

**Project Components:** Reliability/redundancy study

**Procurement Method:** Undetermined

| Benefits  | Strategic Outcome Area   |
|---|--|
| <ul style="list-style-type: none"> <li>Maximizes asset performance and life.</li> </ul> | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>                             |
| Key Milestones for FY 23  | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>                                   | <ul style="list-style-type: none"> <li>Improves PS performance and reliability.</li> </ul>           |
| External or Internal Adopted Plan or Recommendation                                     | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>                                   | <ul style="list-style-type: none"> <li>Project moved to FY24. Costs were escalated by 3%.</li> </ul> |

## Potomac Yards Pump Station – Odor Control and Ventilation System Upgrade Project

| Managing Department and Champion |             | Project Location           |         |         |         | Program and Project Category  |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|-------------|----------------------------|---------|---------|---------|---|---------|---------|-----------------------|---------|---------|---------------------------|
| Engineering                      |             | Potomac Yards Pump Station |         |         |         | Service Chambers and PS Upgrades<br><input checked="" type="checkbox"/> Alexandria Only<br><input type="checkbox"/> Joint Use |         |         | 20 years              |         |         | \$1,134,920               |
|                                  |             |                            |         |         |         |   |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|                                  |             |                            |         |         |         |   |         |         |                       |         |         | No                        |
| Expenditure                      | Prior Year  | FY 2023                    | FY 2024 | FY 2025 | FY 2026 | FY 2027   | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$2,042,065 | 240,000                    | \$0     | \$0     | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$240,000                 |
| Financing                        |             |                            |         |         |         |   |         |         |                       |         |         |                           |
| AlexRenew                        | \$2,042,065 | \$240,000                  | \$0     | \$0     | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$240,000                 |
| Fairfax                          | \$0         | \$0                        | \$0     | \$0     | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$0                       |

### Project Description and Justification

**Need:** Minimize odors from the Potomac Yards Pumping Station (PS) and improve its internal ventilation system.

**Background:** The Potomac Yards Pumping Station was installed by a developer in 2009 and officially transferred to AlexRenew in 2018. The Potomac Yards Pumping Station has been experiencing odor issues. The work proposed under this project will improve the odor control system and the PS ventilation system, declassifying (in accordance with NFPA 820) specific PS areas to protect operation and maintenance staff from potential sewer gas.

**Project Components:** This project includes the installation of a new odor control system and modification of the PS ventilation systems and declassify the occupied spaces.

**Procurement Method:** Design-bid-build, Awarded in November 2021

| Benefits   | Strategic Outcome Area  |
|--|---|
| <ul style="list-style-type: none"> <li>Minimizes PS odors and protects operations and maintenance staff from potential sewer gas</li> </ul>  | <ul style="list-style-type: none"> <li>Public Engagement and Trust</li> </ul>   |
| Key Milestones for FY 23   | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>Complete construction of the ventilation and odor control improvements</li> </ul>                     | <ul style="list-style-type: none"> <li>Reduction in objectionable odors from the Potomac Yards Pumping Station</li> </ul>   |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>Recommendations from the Potomac Yards Pump Station Basis of Design Report, March 26, 2021</li> </ul> | <ul style="list-style-type: none"> <li>Projects were shown as two different projects in FY22 – merged for FY23.</li> <li>Project awarded to Clark Construction in November 2021 for \$830,000. Costs updated to reflect construction cost.</li> </ul> |

## 4MGD Water Resource Recovery Facility (WRRF) Expansion Facility Plan

| Managing Department and Champion |            | Project Location |         |         |         | Program and Project Category   |             |         | Estimated Useful Life |         |         | Lifetime Budget                    |
|----------------------------------|------------|------------------|---------|---------|---------|--|-------------|---------|-----------------------|---------|---------|------------------------------------|
| Engineering                      |            | WRRF             |         |         |         | WRRF Improvements Program<br><input checked="" type="checkbox"/> Alexandria Only<br><input type="checkbox"/> Joint Use |             |         | 40 years              |         |         | \$2,000,000                        |
|                                  |            |                  |         |         |         |  |             |         |                       |         |         | Grant/Debt Funded?<br>Undetermined |
| Expenditure                      | Prior Year | FY 2023          | FY 2024 | FY 2025 | FY 2026 | FY 2027  | FY 2028     | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total                       |
| Total                            | \$0        | \$0              | \$0     | \$0     | \$0     | \$1,000,000  | \$1,000,000 | \$0     | \$0                   | \$0     | \$0     | \$2,000,000                        |
| <b>Financing</b>                 |            |                  |         |         |         |  |             |         |                       |         |         |                                    |
| AlexRenew                        | \$0        | \$0              | \$0     | \$0     | \$0     | \$1,000,000  | \$1,000,000 | \$0     | \$0                   | \$0     | \$0     | \$2,000,000                        |
| Fairfax                          | \$0        | \$0              | \$0     | \$0     | \$0     | \$0  | \$0         | \$0     | \$0                   | \$0     | \$0     | \$0                                |

### Project Description and Justification

**Need:** Facility plan to potentially increase the capacity of the plant by 4MGD (from 54MGD to 58MGD) to accommodate additional city flows.

**Background:** Development in Alexandria is expected to continue resulting in additional flows conveyed to the plant. City expects to exceed allocated for pre-planning.

**Project Components:** Facility plan. No design or construction included.

**Procurement Method:** Undetermined

| Benefits  | Strategic Outcome Area   |
|---|--|
| <ul style="list-style-type: none"> <li>Necessary to accommodate anticipated flows and support growth in the City</li> </ul> | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>                                     |
| Key Milestones for FY 23  | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>   | <ul style="list-style-type: none"> <li>Anticipate impacts to plant operations during construction</li> </ul> |
| External or Internal Adopted Plan or Recommendation   | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>City of Alexandria Sanitary Sewer Master Plan (approved October 2021)</li> </ul>     | <ul style="list-style-type: none"> <li>New Project</li> </ul>  |

## Nutrient Management Facility (NMF) Wet Well Elimination Study and Preliminary Design

| Managing Department and Champion |            | Project Location  |         |         |           | Program and Project Category   |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|------------|-------------------|---------|---------|-----------|--|---------|---------|-----------------------|---------|---------|---------------------------|
| Engineering                      |            | Building 60 (NMF) |         |         |           | WRRF Improvements<br><input checked="" type="checkbox"/> Alexandria Only<br><input type="checkbox"/> Joint Use |         |         | N/A                   |         |         | \$300,000                 |
|                                  |            |                   |         |         |           |  |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|                                  |            |                   |         |         |           |  |         |         |                       |         |         | Undetermined              |
| Expenditure                      | Prior Year | FY 2023           | FY 2024 | FY 2025 | FY 2026   | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$0        | \$0               | \$0     | \$0     | \$100,000 | \$200,000  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$300,000                 |
| <b>Financing</b>                 |            |                   |         |         |           |  |         |         |                       |         |         |                           |
| AlexRenew                        | \$0        | \$0               | \$0     | \$0     | \$100,000 | \$200,000  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$300,000                 |
| Fairfax                          | \$0        | \$0               | \$0     | \$0     | \$0       | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$0                       |

### Project Description and Justification

**Need:** To study and conduct preliminary design for eliminating/re-purposing the Nutrient Management Facility (NMF) wet well and reduce NMF pump vibration and harmonics.

**Background:** The NMF wet well was designed to function as part of the wet weather pumping station (WWPS) associated with the tunnel system. As the location of the WWPS has changed, the NMF wet well is no longer needed. Work is needed to address observed higher than desired NMF pump harmonics. As the extent of the construction costs are unknown, the budget only reflects the costs for an engineering study and preliminary design.

**Project Components:** A study and preliminary design

**Procurement Method:** Undetermined

| Benefits   | Strategic Outcome Area  |
|--|---|
| <ul style="list-style-type: none"> <li>Eliminates/re-purposes an unused structure and maximizes asset life.</li> </ul>   | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>                          |
| Key Milestones for FY 23   | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>  | <ul style="list-style-type: none"> <li>Decrease future O&amp;M costs</li> </ul>                   |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>Commission study to explore vibration dampening measures and best way to eliminate/re-purpose the existing wet well.</li> </ul> | <ul style="list-style-type: none"> <li>Costs updated to be split as joint use project.</li> </ul> |

## Arlington County Capital Contributions

| Managing Department and Champion |             | Project Location |             |             |             | Program and Project Category  |           |           | Estimated Useful Life |           |           | Lifetime Budget    |
|----------------------------------|-------------|------------------|-------------|-------------|-------------|---|-----------|-----------|-----------------------|-----------|-----------|--------------------|
| Finance                          |             | Various          |             |             |             | Other Capital   |           |           | 20 years              |           |           | Ongoing            |
|                                  |             |                  |             |             |             | <input checked="" type="checkbox"/> Alexandria Only<br><input type="checkbox"/> Joint Use |           |           |                       |           |           | Grant/Debt Funded? |
|                                  |             |                  |             |             |             |   |           |           |                       |           |           | No                 |
| Expenditure                      | Prior Year  | FY 2023          | FY 2024     | FY 2025     | FY 2026     | FY 2027   | FY 2028   | FY 2029   | FY 2030               | FY 2031   | FY 2032   | 10 Yr. Total       |
| Total                            | \$1,817,000 | \$3,226,000      | \$4,334,000 | \$3,493,000 | \$1,318,000 | \$205,000   | \$204,000 | \$211,000 | \$210,000             | \$210,000 | \$210,000 | \$13,621,000       |
| Financing                        |             |                  |             |             |             |   |           |           |                       |           |           |                    |
| AlexRenew                        | \$1,817,000 | \$3,226,000      | \$4,334,000 | \$3,493,000 | \$1,318,000 | \$205,000   | \$204,000 | \$211,000 | \$210,000             | \$210,000 | \$210,000 | \$13,621,000       |
| Fairfax                          | \$0         | \$0              | \$0         | \$0         | \$0         | \$0   | \$0       | \$0       | \$0                   | \$0       | \$0       | \$0                |

### Project Description and Justification

**Need:** Per its service agreement with Arlington County and the City, AlexRenew provides funding for designated allocable portions of capital improvements at the Arlington County Water Pollution Control Plant. AlexRenew’s capital contributions to the County are billed quarterly and the County manages procurement and execution of project work.

**Background:** The City of Alexandria maintains 3MGD in capacity rights for the Arlington County Water Pollution Control Plant. Per the service agreement with the County and City, AlexRenew makes annual contributions to the County on behalf of the city sewer users to Arlington to fund allocable portions of capital improvements at the Arlington wastewater and conveyance facilities.

**Project Components:** Current capital projects to which AlexRenew has budgeted contributions include: Improvement 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), 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) and the relining of the Four Mile Run Interceptor

| Benefits  | Strategic Outcome Area  |
|---|---|
| <ul style="list-style-type: none"> <li>Ensures the Arlington plant remains in good condition to accommodate AlexRenew’s capacity rights</li> </ul>  | <ul style="list-style-type: none"> <li>Watershed Stewardship</li> </ul>                                       |
| Key Milestones for FY 23  | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>While these milestones are the County’s to manage, work is expected to continue on Non-Expansion Capital, Technology enhancements and secondary clarifiers, along with continued planning for the County’s solids improvements program.</li> </ul> | <ul style="list-style-type: none"> <li>Results in operational efficiencies for the Arlington plant</li> </ul> |
| External or Internal Adopted Plan or Recommendation   | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>   | <ul style="list-style-type: none"> <li>Minor cost updates</li> </ul>  |



## Capital Financing Fees

| Managing Department and Champion |            | Project Location |           |           |           | Program and Project Category   |           |           | Estimated Useful Life |           |           | Lifetime Budget           |
|----------------------------------|------------|------------------|-----------|-----------|-----------|--|-----------|-----------|-----------------------|-----------|-----------|---------------------------|
| Finance                          |            | Various          |           |           |           | Other Capital<br><input checked="" type="checkbox"/> Alexandria Only<br><input type="checkbox"/> Joint Use |           |           | 20 years              |           |           | Ongoing                   |
|                                  |            |                  |           |           |           |  |           |           |                       |           |           | <b>Grant/Debt Funded.</b> |
|                                  |            |                  |           |           |           |  |           |           |                       |           |           | Yes                       |
| Expenditure                      | Prior Year | FY 2023          | FY 2024   | FY 2025   | FY 2026   | FY 2027  | FY 2028   | FY 2029   | FY 2030               | FY 2031   | FY 2032   | 10 Yr. Total              |
| Total                            | \$250,000  | \$250,000        | \$250,000 | \$250,000 | \$250,000 | \$150,000  | \$150,000 | \$150,000 | \$150,000             | \$150,000 | \$150,000 | \$1,900,000               |
| <b>Financing</b>                 |            |                  |           |           |           |  |           |           |                       |           |           |                           |
| AlexRenew                        | \$250,000  | \$250,000        | \$250,000 | \$250,000 | \$250,000 | \$150,000  | \$150,000 | \$150,000 | \$150,000             | \$150,000 | \$150,000 | \$1,900,000               |
| Fairfax                          | \$0        | \$0              | \$0       | \$0       | \$0       | \$0  | \$0       | \$0       | \$0                   | \$0       | \$0       | \$0                       |

### Project Description and Justification

**Need:** Funds needed in the capital budget to accommodate fees associated with the financing of the Capital program.

**Background:** The financial advisory fees relate to structuring of debt to fund both the General CIP and 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. To accommodate these fees, funds allocation in the capital budget is required. Certain ongoing fees are required during the RiverRenew construction period to maintain AlexRenew's \$321 million Water Infrastructure Finance and Innovation Act (WIFIA) Loan.

**Project Components:** Financial advisory fees, legal fees, rate consultant work, and loan application and servicing fees.

**Procurement Method:** Varies depending upon service received

| Benefits   | Strategic Outcome Area   |
|--|--|
| <ul style="list-style-type: none"> <li>Investing in capital finance fees helps ensure that capital financing is executed in the most efficient manner</li> </ul> | <ul style="list-style-type: none"> <li>Effective Financial Stewardship</li> </ul>  |
| Key Milestones for FY 23   | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>Maintain ongoing WIFIA portfolio management process</li> <li>Maintain public rating</li> </ul>                            | <ul style="list-style-type: none"> <li>Efficient execution of Capital Financing helps to minimize rate impacts.</li> </ul>                             |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>Per Board guidance on capital and debt planning</li> </ul>  | <ul style="list-style-type: none"> <li>Budget decreased to reflect execution of loans and payment of upfront ratings and WIFIA fees in FY22</li> </ul> |

# Joint Use CIP Project Details

The table below and on the following page detail the FY 2023 – FY 2032 (10-year) 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.

## 10-year Capital Improvement Program – Joint Use

| Projects  | Watershed Stewardship | Operational Excellence | Adaptive Culture | Public Engagement and Trust | Effective Financial Stewardship |
|---|-----------------------|------------------------|------------------|-----------------------------|---------------------------------|
| Commonwealth Interceptor Pile Intrusion                                     |                       | ●                      |                  |                             |                                 |
| Upper Holmes Run Trunk Sewer Rehabilitation                                 |                       | ●                      |                  |                             |                                 |
| IRR: Campus Digital Signage   |                       |                        | ●                |                             |                                 |
| IRR: Campus Wide Projects   |                       | ●                      |                  |                             |                                 |
| IRR: Collection System Projects   |                       | ●                      |                  |                             |                                 |
| IRR: Compliance Laboratory  |                       | ●                      |                  |                             |                                 |
| IRR: Information Technology Projects  |                       | ●                      |                  |                             |                                 |
| IRR: Preliminary/Primary Infrastructure                                     |                       | ●                      |                  |                             |                                 |
| IRR: PLC Equipment and Network Upgrades                                     |                       | ●                      |                  |                             |                                 |
| IRR: Safety and Security  |                       | ●                      |                  |                             |                                 |
| IRR: Secondary Infrastructure   |                       | ●                      |                  |                             |                                 |
| IRR: Solids Infrastructure  |                       | ●                      |                  |                             |                                 |
| IRR: Tertiary Infrastructure  |                       | ●                      |                  |                             |                                 |
| IRR: UV System Rehabilitation   |                       | ●                      |                  |                             |                                 |
| IRR: Warehouse and Inventory Upgrades                                       |                       |                        |                  |                             | ●                               |
| IRR: WRRF Fire Alarm Upgrade  |                       |                        | ●                |                             |                                 |
| Environmental Center: 5th/6th Floor Modifications, Carpet and HVAC Upgrades |                       |                        |                  | ●                           |                                 |
| Environmental Center: Outdoor Exhibit Upgrade                               |                       |                        |                  | ●                           |                                 |
| Holland Lane Pavement Reconstruction  | ●                     |                        |                  |                             |                                 |
| South Carlyle Partnership   | ●                     |                        |                  |                             |                                 |
| WRRF HVAC Automation System Upgrade   |                       | ●                      |                  |                             |                                 |
| RiverRenew Tunnel System - Joint Use  | ●                     |                        |                  |                             |                                 |
| Coliphage Study   |                       | ●                      |                  |                             |                                 |
| Emerging Contaminant Analysis   | ●                     |                        |                  |                             |                                 |
| Total Nitrogen Limit Compliance Study                                       |                       | ●                      |                  |                             |                                 |
| Climate Resilience Initiatives  | ●                     |                        |                  |                             |                                 |
| Stormwater System - Structural/Nonstructural Best Management Practices      | ●                     |                        |                  |                             |                                 |
| Campus-Wide Electrical Upgrade Sub-Program                                  |                       |                        |                  |                             | ●                               |
| Centrate Pretreatment Facility Improvements                                 |                       | ●                      |                  |                             |                                 |

Continued on following page

# Joint Use CIP Project Details



Continued from previous page

| Projects  | Watershed Stewardship | Operational Excellence | Adaptive Culture | Public Engagement and Trust | Effective Financial Stewardship |
|---|-----------------------|------------------------|------------------|-----------------------------|---------------------------------|
| Building 22: Primary Weir Observation House                         |                       | ●                      |                  |                             |                                 |
| Building G/4: Tertiary Filter Repairs                               |                       | ●                      |                  |                             |                                 |
| Building F: Plant Effluent Water (W3) System Improvements           |                       | ●                      |                  |                             |                                 |
| Building L: Centrifuge Replacement                                  |                       | ●                      |                  |                             |                                 |
| HMI Upgrade   |                       | ●                      |                  |                             |                                 |
| Main Campus Galleries Improvements                                  |                       | ●                      |                  |                             |                                 |
| Odor Control System Upgrade   |                       |                        |                  | ●                           |                                 |
| Purified Water System Upgrade                                       |                       | ●                      |                  |                             |                                 |
| Power Distribution Monitors   |                       | ●                      |                  |                             |                                 |
| Preliminary /Primary System Upgrades                                |                       | ●                      |                  |                             |                                 |
| Preliminary Settling Tank Rehabilitation                            |                       | ●                      |                  |                             |                                 |
| Secondary Settling Tanks Refurbishment                              |                       | ●                      |                  |                             |                                 |
| Security Services During Construction                               |                       |                        |                  | ●                           |                                 |
| Solids Management: Solids Master Plan                               |                       |                        |                  |                             | ●                               |
| Solids Management: Building 55: Additional Cooling for Digesters    |                       | ●                      |                  |                             |                                 |
| Solids Management: Building 55: Replace Valves on W3 Cooling System |                       | ●                      |                  |                             |                                 |
| Solids Management: Building 55: Solids Screen Replacement           |                       | ●                      |                  |                             |                                 |
| Solids Management: Solids/Resource Recovery Upgrades                |                       |                        |                  |                             | ●                               |
| Solids Management: Pre-Pasteurization System Improvements           |                       | ●                      |                  |                             |                                 |

## Commonwealth Interceptor Pile Intrusion

| Managing Department and Champion |            |         | Project Location                         |         |           | Program and Project Category   |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|------------|---------|--|---------|-----------|--|---------|---------|-----------------------|---------|---------|---------------------------|
| Engineering                      |            |         | WRRF<br>88 feet south of Junction Box 34 |         |           | Interceptor/ Trunk Sewer Rehab.<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |         |         | 40 years              |         |         | \$975,000                 |
|                                  |            |         |  |         |           |  |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|                                  |            |         |  |         |           |  |         |         |                       |         |         | Undetermined              |
| Expenditure                      | Prior Year | FY 2023 | FY 2024                                  | FY 2025 | FY 2026   | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$0        | \$0     | \$0                                      | \$0     | \$225,000 | \$750,000  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$975,000                 |
| <b>Financing</b>                 |            |         |  |         |           |  |         |         |                       |         |         |                           |
| AlexRenew                        | \$0        | \$0     | \$0                                      | \$0     | \$90,000  | \$300,000  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$390,800                 |
| Fairfax                          | \$0        | \$0     | \$0                                      | \$0     | \$135,000 | \$450,000  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$585,200                 |

### Project Description and Justification

**Need:** Eliminate a pile intrusion in the Commonwealth Interceptor between Buildings L and A.

**Background:** 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, installed in 1996.

**Project Components:** Design and construction of one of the options presented in the 2014 report.

**Procurement Method:** Undetermined

| Benefits   | Strategic Outcome Area   |
|--|--|
| <ul style="list-style-type: none"> <li>More than 80% of the dry weather flow treated at AlexRenew is conveyed by the CI. Although being monitored, the pipe requires rehabilitation to ensure extended, reliable performance.</li> </ul> | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>                               |
| Key Milestones for FY 23   | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>  | <ul style="list-style-type: none"> <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  |
| <ul style="list-style-type: none"> <li>2014 Greeley and Hansen Report "72 Inch Commonwealth Interceptor Repair Plan"</li> </ul>  | <ul style="list-style-type: none"> <li>Cost escalated to construction mid-point.</li> </ul>            |

## Upper Holmes Run Trunk Sewer Rehabilitation

| Managing Department and Champion |            | Project Location |           |             |             | Program and Project Category  |           |          | Estimated Useful Life |         |         | Lifetime Budget                    |
|----------------------------------|------------|------------------|-----------|-------------|-------------|---|-----------|----------|-----------------------|---------|---------|------------------------------------|
| Engineering                      |            | West Alexandria  |           |             |             | Interceptor/ Trunk Sewers Rehab.<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |           |          | 20-30 years           |         |         | \$4,555,000                        |
|                                  |            |                  |           |             |             |   |           |          |                       |         |         | Grant/Debt Funded?<br>Undetermined |
| Expenditure                      | Prior Year | FY 2023          | FY 2024   | FY 2025     | FY 2026     | FY 2027   | FY 2028   | FY 2029  | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total                       |
| Total                            | \$40,000   | \$0              | \$880,000 | \$1,760,000 | \$1,320,000 | \$440,000   | \$100,000 | \$55,000 | \$0                   | \$0     | \$0     | \$4,555,000                        |
| <b>Financing</b>                 |            |                  |           |             |             |   |           |          |                       |         |         |                                    |
| AlexRenew                        | \$16,000   | \$0              | \$352,000 | \$704,000   | \$528,000   | \$176,000   | \$40,000  | \$22,000 | \$0                   | \$0     | \$0     | \$1,822,000                        |
| Fairfax                          | \$24,000   | \$0              | \$528,000 | \$1,056,000 | \$792,000   | \$264,000   | \$60,000  | \$33,000 | \$0                   | \$0     | \$0     | \$2,733,000                        |

### Project Description and Justification

**Need:** To line a portion of the Upper Holmes Run Trunk Sewer (HRTS) to improve capacity and pipe conditions.

**Background:** As part of the July 2015 report titled, Wet Weather Management Evaluation Update, a recommendation to line a portion of the Upper HRTS to improve conveyance was identified. An additional condition assessment was performed in 2017 to assess other portions of HRTS and additional recommendations for rehabilitation were identified.

**Project Components:** Relining to address capacity issues and rehabilitation to address other condition issues. The projects can be performed under one contract or separated.

- Improve Conveyance: Rehabilitate 30"/36" pipe in Reach 8 and 9 from the Reach 7 to Dowden Terrance (~ approximately 5,700 feet). (This work was previously included in the CIP for FY2016, to address capacity limitations, but work has not yet begun; re-inspection is necessary.) Design is scheduled for FY24-25. Construction is scheduled for FY26-27.
- Address Condition Issues: 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". Design and construction in FY28-29.

**Procurement Method:** Undetermined

| Benefits  | Strategic Outcome Area   |
|---|--|
| <ul style="list-style-type: none"> <li>• Minor Repairs and maintenance activities to maximize asset life</li> </ul> | <ul style="list-style-type: none"> <li>• Operational Excellence</li> </ul>   |
| Key Milestones for FY 23  | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>• N/A</li> </ul>   | <ul style="list-style-type: none"> <li>• Improve reliability and longevity of the HRTS.</li> <li>• Traffic and parking impacts possible due to pipe cleaning/inspection and/or pipe repair/rehab activities</li> <li>• Presence/storage of contractor equipment possible in City neighborhoods.</li> </ul> |

| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP  |
|--|--|
| <ul style="list-style-type: none"> <li>• Wet Weather Management Evaluation Update (Task Order 16-2005), 2015</li> <li>• Last inspection of reach 8 &amp; 9 was in 2009, per the 2017 Greeley and Hansen report, “Holmes Run Trunk Interceptor System Condition Assessment.”</li> <li>• Last inspection of reaches 4 &amp; 5 were in 2016.</li> </ul> | <ul style="list-style-type: none"> <li>• Costs for Upper HRTS provided in 2016 report – escalated to FY25 and clarified project drivers</li> </ul> |

## IRR: Campus Digital Signage (Joint Use)

| Managing Department and Champion |            | Project Location     |         |         |           | Program and Project Category  |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|------------|----------------------|---------|---------|-----------|---|---------|---------|-----------------------|---------|---------|---------------------------|
| Communications                   |            | Environmental Center |         |         |           | Non-Process Facilities  |         |         | 10 years              |         |         | \$140,000                 |
|                                  |            |                      |         |         |           | <input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|                                  |            |                      |         |         |           |   |         |         |                       |         |         | Undetermined              |
| Expenditure                      | Prior Year | FY 2023              | FY 2024 | FY 2025 | FY 2026   | FY 2027   | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$0        | \$0                  | \$0     | \$0     | \$140,000 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$140,000                 |
| Financing                        |            |                      |         |         |           |   |         |         |                       |         |         |                           |
| AlexRenew                        | \$0        | \$0                  | \$0     | \$0     | \$56,000  | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$56,000                  |
| Fairfax                          | \$0        | \$0                  | \$0     | \$0     | \$84,000  | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$84,000                  |

### Project Description and Justification

**Need:** This project will upgrade the digital signage across campus.

**Background:** AlexRenew has five digital signs that communicate information to staff across the campus. Upgrading these digital signs will enable more comprehensive and informative communications across campus to all staff simultaneously. It will include the digital signs, software, installation, programming, and training. Annual maintenance will also be required.

**Project Components:** Software and hardware installation, programming, and training

**Procurement Method:** Undetermined

| Benefits   | Strategic Outcome Area  |
|--|---|
| <ul style="list-style-type: none"> <li>Allows for fast and efficient communications with AlexRenew staff.</li> <li>The upgrade will also allow for more dynamic and static content to be used on the signs.</li> </ul> | <ul style="list-style-type: none"> <li>Adaptive Culture</li> </ul>                                      |
| Key Milestones for FY 23   | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>  | <ul style="list-style-type: none"> <li>Increased value to community and usage of facilities.</li> </ul> |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>  | <ul style="list-style-type: none"> <li>No change</li> </ul>   |

## IRR: Campus Wide Projects (Joint Use)

| Managing Department and Champion |            | Project Location |             |             |             | Program and Project Category   |           |           | Estimated Useful Life   |           |           | Lifetime Budget           |
|----------------------------------|------------|------------------|-------------|-------------|-------------|--|-----------|-----------|---|-----------|-----------|---------------------------|
| Operations and Maintenance       |            | WRRF             |             |             |             | Improve., Rehab., Replacement<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |           |           | 4 years for odor media<br>6 years for cranes<br>10 years for vehicles<br>10 years for NMF media<br>15 year for odor scrubber and piping |           |           | \$18,282,894              |
|                                  |            |                  |             |             |             |  |           |           |   |           |           | <b>Grant/Debt Funded.</b> |
|                                  |            |                  |             |             |             |  |           |           |   |           |           | No                        |
| Expenditure                      | Prior Year | FY 2023          | FY 2024     | FY 2025     | FY 2026     | FY 2027  | FY 2028   | FY 2029   | FY 2030   | FY 2031   | FY 2032   | 10 Yr. Total              |
| Total                            | \$315,600  | \$1,178,756      | \$1,101,944 | \$1,200,000 | \$1,200,000 | \$2,281,699  | \$484,516 | \$487,361 | \$490,235   | \$493,137 | \$496,068 | \$9,413,716               |
| Financing                        |            |                  |             |             |             |  |           |           |   |           |           |                           |
| AlexRenew                        | \$126,240  | \$471,502        | \$440,778   | \$720,000   | \$720,000   | \$912,680  | \$193,806 | \$194,944 | \$196,094   | \$197,255 | \$198,427 | \$3,765,486               |
| Fairfax                          | \$300,360  | \$707,254        | \$601,166   | \$480,000   | \$480,000   | \$1,369,019  | \$290,710 | \$292,417 | \$294,141   | \$295,882 | \$297,641 | \$5,648,230               |

### Project Description and Justification

**Need:** Funds are required for improvement, rehabilitation and replacement of Campus Wide Projects that are associated with non-process facilities work at WRRF.

**Background:** This subprogram covers all improvement, rehabilitation and replacement projects associated with non-process facilities work at the WRRF. This includes, but is not limited to roof, concrete, HVAC, purified water system, vehicles, odor control repairs/replacement, truck scale, light fixtures, sump pump pits, heat detector, smoke sensors, C-Building MCC, switch gear, Methanol foam fire suppression system, Air Compressor, and flares. This subprogram also includes the maintenance of the fountain and aquarium.

**Project Components:** Roof, concrete, HVAC, purified water system. Vehicles, odor control repair/replacement, AlexRenew's website, truck scale, light fixtures, sump pump pits, heat detector, smoke sensors, C-Building MCC, switch gear, Methanol foam fire suppression system, Air Compressor, flares, fountain, Aquarium

**Procurement Method:** Varies as appropriate

| Benefits  | Strategic Outcome Area   |
|---|--|
| <ul style="list-style-type: none"> <li>Full optimization of the Methane Gas supply generation using the Absorption Chillers</li> <li>Maintain AlexRenew's odor quality control</li> <li>Maintain reliability and effectiveness of the steam, chiller, odor control, plant air, and HVAC systems</li> <li>Maintain the availability and integrity of the cranes and buildings</li> <li>More efficient and reliable vehicles for employee transportation</li> <li>Reduce carbon emissions</li> <li>Use of purified water allows for AlexRenew to reduce water usage</li> <li>Improve reliability in measurement of Biosolids leaving WRRF</li> <li>Improve overall safety of Employee working conditions at the WRRF</li> <li>Maintenance of the overall aesthetics of the EC Building and Outside.</li> <li>Reduce the overall consumption of natural gas at Buildings A and 55</li> </ul> | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul> |



| Key Milestones for FY 23  | Impact on Operations or Community  |
|---|--|
| <ul style="list-style-type: none"> <li>• New transportation vehicles</li> <li>• Complete plant air system, chiller, HVAC system and crane repairs</li> <li>• Complete rebuilt/replace of one (1) Odor Scrubber</li> <li>• Complete review of valve exercising program</li> <li>• Complete roof and drain replacements</li> <li>• Pass boiler inspection</li> <li>• Complete Plant Air System repairs</li> <li>• Replace front entry doors for reliability</li> <li>• Start purified water system testing</li> <li>• Transition EC systems (including irrigation) to utilize purified water</li> <li>• Complete assessment and repair work for flare systems</li> <li>• Address concerns regarding Methanol Fire Suppression System</li> <li>• Replace the G-Building Air Compressor.</li> </ul> | <ul style="list-style-type: none"> <li>• Environmental Air Quality Control</li> <li>• Increase availability of purified water.</li> <li>• Increase equipment availability for process and high flow events</li> <li>• Increase equipment reliability for future RiverRenew Project</li> <li>• Lessen the carbon footprint</li> <li>• Maintain proper air change in Class I DIV II environments</li> <li>• Maintain roof integrity to prevent equipment damage.</li> <li>• Maintain safety for crane operators</li> <li>• Maintain the esthetic of the plant to blend in the surrounding community</li> <li>• Enhances safety of working personnel inside the WRRF</li> </ul> |
| External or Internal Adopted Plan or Recommendation   | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>• SOP-X-NMF Odor Control System Carbon Replacement (by CH2M 12/30/15)</li> <li>• Website Reinvention Business Case (12/19/17)</li> <li>• GHD Site Visit report from 06/14/2018</li> </ul>  | <ul style="list-style-type: none"> <li>• Updated to reflect rehabilitation timing changes.</li> </ul>  |

## IRR: Collection System Projects (Joint Use)

| Managing Department and Champion |            | Project Location |          |          |          | Program and Project Category   |          |          | Estimated Useful Life |          |          | Lifetime Budget                    |
|----------------------------------|------------|------------------|----------|----------|----------|--|----------|----------|-----------------------|----------|----------|------------------------------------|
| Operations & Maintenance         |            | Various          |          |          |          | Improve., Rehab., Replacement<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |          |          | 20-50 years           |          |          | \$165,000                          |
|                                  |            |                  |          |          |          |  |          |          |                       |          |          | Grant/Debt Funded?<br>Undetermined |
| Expenditure                      | Prior Year | FY 2023          | FY 2024  | FY 2025  | FY 2026  | FY 2027  | FY 2028  | FY 2029  | FY 2030               | FY 2031  | FY 2032  | 10 Yr. Total                       |
| Total                            | \$15,000   | \$15,000         | \$15,000 | \$15,000 | \$15,000 | \$15,000   | \$15,000 | \$15,000 | \$15,000              | \$15,000 | \$15,000 | \$150,000                          |
| Financing                        |            |                  |          |          |          |  |          |          |                       |          |          |                                    |
| AlexRenew                        | \$6,000    | \$6,000          | \$6,000  | \$6,000  | \$6,000  | \$6,000  | \$6,000  | \$6,000  | \$6,000               | \$6,000  | \$6,000  | \$60,000                           |
| Fairfax                          | \$9,000    | \$9,000          | \$9,000  | \$9,000  | \$9,000  | \$9,000  | \$9,000  | \$9,000  | \$9,000               | \$9,000  | \$9,000  | \$90,000                           |

### Project Description and Justification

**Need:** Continued improvement, rehabilitation, and replacement of joint use collection system assets.

**Background:** This subprogram covers all improvement, rehabilitation and replacement needs for collection system assets that serve both the City and Fairfax County to maintain their useful life.

**Project Components:** Undetermined

**Procurement Method:** Undetermined

| Benefits  | Strategic Outcome Area   |
|---|--|
| <ul style="list-style-type: none"> <li>• Full redundancy and reliability of all assets</li> </ul> | <ul style="list-style-type: none"> <li>• Operational Excellence</li> </ul>                 |
| Key Milestones for FY 23  | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>• N/A</li> </ul>   | <ul style="list-style-type: none"> <li>• Coordination with O&amp;M for any work</li> </ul> |
| External or Internal Adopted Plan or Recommendation   | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>• N/A</li> </ul>   | <ul style="list-style-type: none"> <li>• Costs updated</li> </ul>                          |

## IRR: Compliance Laboratory (Joint Use)

| Managing Department and Champion |            | Project Location |          |          |         | Program and Project Category   |         |          | Estimated Useful Life |          |         | Lifetime Budget           |
|----------------------------------|------------|------------------|----------|----------|---------|--|---------|----------|-----------------------|----------|---------|---------------------------|
| Laboratory                       |            | G2 - Laboratory  |          |          |         | Improve., Rehab., Replacement<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |         |          | 5-15 years            |          |         | \$175,500                 |
|                                  |            |                  |          |          |         |  |         |          |                       |          |         | <b>Grant/Debt Funded?</b> |
|                                  |            |                  |          |          |         |  |         |          |                       |          |         | Undetermined              |
| Expenditure                      | Prior Year | FY 2023          | FY 2024  | FY 2025  | FY 2026 | FY 2027  | FY 2028 | FY 2029  | FY 2030               | FY 2031  | FY 2032 | 10 Yr. Total              |
| Total                            | \$0        | \$45,500         | \$50,000 | \$20,000 | \$0     | \$20,000   | \$0     | \$20,000 | \$0                   | \$20,000 | \$0     | \$175,500                 |
| <b>Financing</b>                 |            |                  |          |          |         |  |         |          |                       |          |         |                           |
| AlexRenew                        | \$0        | \$18,200         | \$20,000 | \$8,000  | \$0     | \$8,000  | \$0     | \$8,000  | \$0                   | \$8,000  | \$0     | \$70,200                  |
| Fairfax                          | \$0        | \$27,300         | \$30,000 | \$12,000 | \$0     | \$12,000   | \$0     | \$12,000 | \$0                   | \$12,000 | \$0     | \$105,300                 |

### Project Description and Justification

**Need:** To replace existing old instruments, equipment, and upgrade to technologically advanced model

**Background:** This will replace the existing older equipment because of its age, model, and parts no longer being manufactured. Replacement instrumentation or equipment will normally correspond to the best available proven technology.

**Project Components:** pH meter, DO meter, Balance, Detectors for auto analyzer instruments, Ion chromatography (IC), automatic titrator, Steam scrubber dishwasher, Flask scrubber dishwasher, Refrigerator, Digital camera (for microscope), and Uninterruptible power supply (UPS).

**Procurement Method:** Varies as appropriate

| Benefits  | Strategic Outcome Area  |
|---|---|
| <ul style="list-style-type: none"> <li>Improves/maintains laboratory performance and efficiency</li> <li>This equipment will improve sample throughput, reproducibility of regulatory analyses, process optimization, and enhance the quality of ongoing regulatory and research programs through instrument modernization, computerization and automation.</li> <li>For reliability and redundancy</li> <li>Provide valuable information about the condition of microorganisms in the various phases of the treatment process</li> </ul> | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>                            |
| Key Milestones for FY 23  | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>Replacement of pH meter, DO meter</li> <li>Replacement of Dishwasher and Refrigerator</li> </ul>   | <ul style="list-style-type: none"> <li>Improves/maintains lab performance and efficiency</li> </ul> |
| External or Internal Adopted Plan or Recommendation   | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>   | <ul style="list-style-type: none"> <li>New project</li> </ul>                                       |

## IRR: Information Technology Projects (Joint Use)

| Managing Department and Champion   |             | Project Location |             |             |             | Program and Project Category   |           |             | Estimated Useful Life |           |         | Lifetime Budget           |
|--|-------------|------------------|-------------|-------------|-------------|--|-----------|-------------|-----------------------|-----------|---------|---------------------------|
| Information Technology   |             | Various          |             |             |             | Improve., Rehab., Replacement  |           |             | 5 years               |           |         | \$13,100,000              |
|  |             |                  |             |             |             | <input type="checkbox"/> Alexandria Only   |           |             |                       |           |         | <b>Grant/Debt Funded?</b> |
|  |             |                  |             |             |             | <input checked="" type="checkbox"/> Joint Use  |           |             |                       |           |         | No                        |
| Expenditure  | Prior Year  | FY 2023          | FY 2024     | FY 2025     | FY 2026     | FY 2027  | FY 2028   | FY 2029     | FY 2030               | FY 2031   | FY 2032 | 10 Yr. Total              |
| Total  | \$1,350,000 | \$3,000,000      | \$2,000,000 | \$1,800,000 | \$1,000,000 | \$500,000  | \$500,000 | \$1,500,000 | \$0                   | \$500,000 | \$0     | \$10,800,000              |
| <b>Financing</b>   |             |                  |             |             |             |  |           |             |                       |           |         |                           |
| AlexRenew  | \$540,000   | \$1,200,000      | \$800,000   | \$720,000   | \$400,000   | \$200,000  | \$200,000 | \$600,000   | \$0                   | \$200,000 | \$0     | \$4,320,000               |
| Fairfax  | \$810,000   | \$1,800,000      | \$1,200,000 | \$1,080,000 | \$600,000   | \$300,000  | \$300,000 | \$900,000   | \$0                   | \$300,000 | \$0     | \$6,480,000               |
| Project Description and Justification  |             |                  |             |             |             |  |           |             |                       |           |         |                           |
| <p><b>Need:</b> Centralized budget that funds ongoing lifecycle replacement and expansion of information technology assets.</p> <p><b>Background:</b> AlexRenew's infrastructure assets are approaching end of life and will no longer be supported by vendor.</p> <p><b>Project Components:</b> Application upgrades like CMMS, LIMS, HVAC, SCADA. Hardware upgrades of switches, routers, access points, servers, and general infrastructure. Telecom and communication upgrades like VOIP, Call Managers, audio/video conferencing. Battery and UPS replacements along with workstations and end user devices. Storage including primary and backup datacenters. Cyber security enhancements.</p> <p><b>Procurement Method:</b> Various cooperative contracts</p> |             |                  |             |             |             |  |           |             |                       |           |         |                           |
| Benefits   |             |                  |             |             |             | Strategic Outcome Area   |           |             |                       |           |         |                           |
| <ul style="list-style-type: none"> <li>• Increased cybersecurity</li> <li>• Upgrades to supported versions of hardware and software</li> </ul>   |             |                  |             |             |             | <ul style="list-style-type: none"> <li>• Operational excellence</li> </ul>   |           |             |                       |           |         |                           |
| Key Milestones for FY 23   |             |                  |             |             |             | Impact on Operations or Community  |           |             |                       |           |         |                           |
| <ul style="list-style-type: none"> <li>• Upgrade datacenters (primary, secondary, off site)</li> <li>• Upgrade applications</li> <li>• Upgrade SCADA systems</li> <li>• Upgrade networking</li> </ul>  |             |                  |             |             |             | <ul style="list-style-type: none"> <li>• Increased stability of environment</li> <li>• Increased network security</li> <li>• Increased productivity</li> </ul> |           |             |                       |           |         |                           |
| External or Internal Adopted Plan or Recommendation  |             |                  |             |             |             | Changes from Prior Year CIP  |           |             |                       |           |         |                           |
| <ul style="list-style-type: none"> <li>• Upgrades are underway as of December 2021</li> </ul>  |             |                  |             |             |             | <ul style="list-style-type: none"> <li>• New project established December 2021 to support upgrades of the environment</li> </ul>                               |           |             |                       |           |         |                           |

## IRR: Preliminary/Primary Infrastructure (Joint Use)

| Managing Department and Champion   |            | Project Location |          |          |          | Program and Project Category   |          |          | Estimated Useful Life  |          |          | Lifetime Budget |
|--|------------|------------------|----------|----------|----------|--|----------|----------|--|----------|----------|-----------------|
| Operations and Maintenance   |            | WRRF             |          |          |          | Improve., Rehab., Replacement<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use                                       |          |          | 6 Years for raw sewage pump<br>Yearly for probes and instruments<br>10 years for >100 Hp Motors<br>10 years for Large VFDs |          |          | \$1,799,069     |
| <b>Grant/Debt Funded?</b>  |            |                  |          |          |          |  |          |          |  |          |          |                 |
| No   |            |                  |          |          |          |  |          |          |  |          |          |                 |
| Expenditure  | Prior Year | FY 2023          | FY 2024  | FY 2025  | FY 2026  | FY 2027  | FY 2028  | FY 2029  | FY 2030  | FY 2031  | FY 2032  | 10 Yr. Total    |
| Total  | \$80,000   | \$80,800         | \$85,648 | \$86,504 | \$87,370 | \$34,948   | \$35,297 | \$35,650 | \$36,007   | \$36,367 | \$36,730 | \$554,958       |
| <b>Financing</b>   |            |                  |          |          |          |  |          |          |  |          |          |                 |
| AlexRenew  | \$32,000   | \$32,320         | \$34,259 | \$34,602 | \$34,948 | \$13,979   | \$14,119 | \$14,260 | \$14,403   | \$14,547 | \$14,692 | \$222,129       |
| Fairfax  | \$48,000   | \$48,480         | \$51,389 | \$51,903 | \$52,422 | \$20,969   | \$21,178 | \$21,390 | \$21,604   | \$21,820 | \$22,038 | \$333,193       |
| <b>Project Description and Justification</b>   |            |                  |          |          |          |  |          |          |  |          |          |                 |
| <p><b>Need:</b> To maintain the full functionality of the preliminary and primary treatment processes.</p> <p><b>Background:</b> This subprogram covers all improvement, rehabilitation and replacement projects associated with liquid unit processes in preliminary and primary facilities.</p> <p><b>Project Components:</b> This includes, but is not limited to settling tanks, probes, motors, pumps and instrumentation.</p> <p><b>Procurement Method:</b> Undetermined</p> |            |                  |          |          |          |  |          |          |  |          |          |                 |
| <b>Benefits</b>  |            |                  |          |          |          | <b>Strategic Outcome Area</b>  |          |          |  |          |          |                 |
| <ul style="list-style-type: none"> <li>• Reliability of the preliminary/primary infrastructure</li> <li>• Improve accuracy on flow, level, pressure, etc.</li> <li>• Improved and advanced automation</li> </ul>   |            |                  |          |          |          | <ul style="list-style-type: none"> <li>• Operational Excellence</li> </ul>   |          |          |  |          |          |                 |
| <b>Key Milestones for FY 23</b>  |            |                  |          |          |          | <b>Impact on Operations or Community</b>   |          |          |  |          |          |                 |
| <ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• Decreases future O&amp;M costs</li> <li>• Reduces risk</li> <li>• Increase equipment availability to process</li> </ul> |          |          |  |          |          |                 |
| <b>External or Internal Adopted Plan or Recommendation</b>   |            |                  |          |          |          | <b>Changes from Prior Year CIP</b>   |          |          |  |          |          |                 |
| <ul style="list-style-type: none"> <li>• N/A</li> </ul>  |            |                  |          |          |          | <ul style="list-style-type: none"> <li>• PST rehabilitation moved to separate project</li> </ul>   |          |          |  |          |          |                 |

## IRR: PLC Equipment and Network Upgrades (Joint Use)

| Managing Department and Champion |            | Project Location |           |           |           | Program and Project Category                  |           |           | Estimated Useful Life |           |           | Lifetime Budget    |  |  |
|----------------------------------|------------|------------------|-----------|-----------|-----------|---|-----------|-----------|-----------------------|-----------|-----------|--------------------|--|--|
| Engineering<br>IT                |            | Various          |           |           |           | Improve., Rehab., Replacement                 |           |           | 5 years               |           |           | \$3,000,000        |  |  |
|                                  |            |                  |           |           |           | <input type="checkbox"/> Alexandria Only      |           |           |                       |           |           | Grant/Debt Funded? |  |  |
|                                  |            |                  |           |           |           | <input checked="" type="checkbox"/> Joint Use |           |           |                       |           |           | No                 |  |  |
| Expenditure                      | Prior Year | FY 2023          | FY 2024   | FY 2025   | FY 2026   | FY 2027                                       | FY 2028   | FY 2029   | FY 2030               | FY 2031   | FY 2032   | 10 Yr. Total       |  |  |
| Total                            | \$0        | \$300,000        | \$300,000 | \$300,000 | \$300,000 | \$300,000                                     | \$300,000 | \$300,000 | \$300,000             | \$300,000 | \$300,000 | \$3,000,000        |  |  |
| <b>Financing</b>                 |            |                  |           |           |           |   |           |           |                       |           |           |                    |  |  |
| AlexRenew                        | \$0        | \$120,000        | \$120,000 | \$120,000 | \$120,000 | \$120,000                                     | \$120,000 | \$120,000 | \$120,000             | \$120,000 | \$120,000 | \$1,200,000        |  |  |
| Fairfax                          | \$0        | \$180,000        | \$180,000 | \$180,000 | \$180,000 | \$180,000                                     | \$180,000 | \$180,000 | \$180,000             | \$180,000 | \$180,000 | \$1,800,000        |  |  |

### Project Description and Justification

**Need:** To replace PLCs with modern hardware and associated appurtenances as they become obsolete.

**Background:** PLCs need to be replaced as they reach the end of their useful lives and/or are no longer supported by the manufacturer. The next series of PLCs will require continuous renewal as technology continues to change rapidly. This upgrade will provide for ongoing, phased renewal of the PLCs assets as they age.

**Project Components:** PLC hardware and programming

**Procurement Method:** TBD

| Benefits   | Strategic Outcome Area  |
|--|---|
| Installing new PLC hardware as needed will ensure the plant control system remains operational and hardware remains supported by the manufacturer. | <ul style="list-style-type: none"> <li>• Operational Excellence</li> </ul>                            |
| Key Milestones for FY 23   | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>• Replace 1-2 ageing/obsolete PLCs</li> </ul>   | <ul style="list-style-type: none"> <li>• Will require process outages for each PLC upgrade</li> </ul> |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>• N/A</li> </ul>  | <ul style="list-style-type: none"> <li>• N/A</li> </ul>   |

## IRR: Safety and Security (Joint Use)

| Managing Department and Champion  |            | Project Location |           |         |         | Program and Project Category   |           |           | Estimated Useful Life |         |         | Lifetime Budget    |
|---|------------|------------------|-----------|---------|---------|--|-----------|-----------|-----------------------|---------|---------|--------------------|
| Human Resources   |            | Various          |           |         |         | Improve., Rehab., Replacement<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use               |           |           | N/A                   |         |         | \$1,420,000        |
|   |            |                  |           |         |         |  |           |           |                       |         |         | Grant/Debt Funded. |
|   |            |                  |           |         |         |  |           |           |                       |         |         | No                 |
| Expenditure   | Prior Year | FY 2023          | FY 2024   | FY 2025 | FY 2026 | FY 2027  | FY 2028   | FY 2029   | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total       |
| Total   | \$0        | \$355,000        | \$355,000 | \$0     | \$0     | \$0  | \$355,000 | \$355,000 | \$0                   | \$0     | \$0     | \$1,420,000        |
| <b>Financing</b>  |            |                  |           |         |         |  |           |           |                       |         |         |                    |
| AlexRenew   | \$0        | \$142,000        | \$142,000 | \$0     | \$0     | \$0  | \$142,000 | \$142,000 | \$0                   | \$0     | \$0     | \$568,000          |
| Fairfax   | \$0        | \$213,000        | \$213,000 | \$0     | \$0     | \$0  | \$213,000 | \$213,000 | \$0                   | \$0     | \$0     | \$852,000          |
| <b>Project Description and Justification</b>  |            |                  |           |         |         |  |           |           |                       |         |         |                    |
| <p><b>Need:</b> Continue to improve the overall safety and security of AlexRenew Employee, Vendors, Contractors, and other visitors at the Plant.</p> <p><b>Background:</b> Safety committee conducts monthly inspection around the Plant and provides recommendation of measures that need to be implemented/adopted to enhance safety and security at the Plant. Funds are required for implementation of measures that are essential for the overall safety and security of the Plant employee and functioning of the Plant.</p> <p><b>Project Components:</b> Engineering studies to evaluate options, system upgrades such as Fire Panels</p> <p><b>Procurement Method:</b> Varies as needed</p> |            |                  |           |         |         |  |           |           |                       |         |         |                    |
| <b>Benefits</b>   |            |                  |           |         |         | <b>Strategic Outcome Area</b>  |           |           |                       |         |         |                    |
| <ul style="list-style-type: none"> <li>• Enhanced Safety and Well-being of the Plant employee</li> <li>• Fewer reportable injuries at worksite</li> <li>• Lower workers compensation</li> <li>• Site security during construction to prevent injuries, thefts, etc.</li> </ul>  |            |                  |           |         |         | <ul style="list-style-type: none"> <li>• Operational Excellence</li> </ul>   |           |           |                       |         |         |                    |
| <b>Key Milestones for FY 23</b>   |            |                  |           |         |         | <b>Impact on Operations or Community</b>   |           |           |                       |         |         |                    |
| <ul style="list-style-type: none"> <li>• Address and implement safety recommendations</li> </ul>  |            |                  |           |         |         | <ul style="list-style-type: none"> <li>• Enhanced security measures at the Plant and safety/well-being of the Plant employees</li> </ul> |           |           |                       |         |         |                    |
| <b>External or Internal Adopted Plan or Recommendation</b>  |            |                  |           |         |         | <b>Changes from Prior Year CIP</b>   |           |           |                       |         |         |                    |
| <ul style="list-style-type: none"> <li>• N/A</li> </ul>   |            |                  |           |         |         | <ul style="list-style-type: none"> <li>• New project</li> </ul>  |           |           |                       |         |         |                    |

### IRR: Secondary Infrastructure (Joint Use)

| Managing Department and Champion |             | Project Location |             |             |             | Program and Project Category   |             |             | Estimated Useful Life   |             |             | Lifetime Budget                                  |
|----------------------------------|-------------|------------------|-------------|-------------|-------------|--|-------------|-------------|---|-------------|-------------|--|
| Engineering                      |             | WRRF             |             |             |             | Improve., Rehab., Replacement<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |             |             | 12 years - BRB actuators<br>5 years - large BRB mixers<br>10 years - small BRB mixers<br>5 years - RAS pumps<br>10 years - VFDs<br>15 years - NMF actuators<br>6 years - BRB mix liquor pumps |             |             | \$18,173,899<br><br>Grant/Debt Funded.<br><br>No |
| Expenditure                      | Prior Year  | FY 2023          | FY 2024     | FY 2025     | FY 2026     | FY 2027  | FY 2028     | FY 2029     | FY 2030   | FY 2031     | FY 2032     | 10 Yr. Total                                     |
| Total                            | \$1,638,000 | \$1,737,099      | \$1,754,470 | \$1,772,015 | \$1,789,735 | \$1,807,633  | \$1,825,709 | \$1,843,965 | \$1,862,405   | \$1,881,029 | \$1,899,840 | \$18,173,902                                     |
| Financing                        |             |                  |             |             |             |  |             |             |   |             |             |  |
| AlexRenew                        | \$655,200   | \$694,840        | \$701,788   | \$708,806   | \$715,894   | \$723,053  | \$730,284   | \$737,586   | \$744,962   | \$752,411   | \$759,936   | \$7,269,561                                      |
| Fairfax                          | \$982,800   | \$1,042,259      | \$1,052,682 | \$1,063,209 | \$1,073,841 | \$1,084,580  | \$1,095,425 | \$1,106,379 | \$1,117,443   | \$1,128,618 | \$1,139,904 | \$10,904,340                                     |

#### Project Description and Justification

**Need:** Funds are needed to cover costs for all improvement, rehabilitation and replacement projects associated with liquid unit processes in secondary facilities.

**Background:** This subprogram covers all improvement, rehabilitation, and replacement projects associated with liquid unit processes in secondary facilities.

**Project Components:** BRB AUMA actuators, NMF actuators, BRB mixers, VFDs, motors, pumps and instrumentation repair and replacement, air flow monitoring in SST channels

**Procurement Method:** Undetermined

| Benefits   | Strategic Outcome Area   |
|--|--|
| <ul style="list-style-type: none"> <li>Improve accuracy on flow, level, pressure, etc.</li> <li>Reliable diversion and transfer of flow using NMF</li> <li>Reliability and efficiency of the secondary infrastructure</li> </ul>   | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>   |
| Key Milestones for FY 23   | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>Complete rebuilt or replacement of Low Speed (1) and Compact Mixer (15) for the BRB</li> <li>Complete rebuilt or replacement of 1 Mixed Liquor Pump and high/Low Capacity Drain Pumps</li> <li>Complete replacement of all actuators for one (1) BRB Tank</li> <li>Complete replacement or repair of process instruments</li> <li>One NMF Actuator to be installed, tested and online</li> <li>Replace 4 of the 12 RAS pumps</li> <li>Robicon VFDs replacement to be completed</li> </ul> | <ul style="list-style-type: none"> <li>Increase equipment availability to process</li> <li>Increase equipment availability for high flow events</li> </ul> |



| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP   |
|--|---|
| <ul style="list-style-type: none"><li>Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2-2019-3, Task 4)</li></ul> | <ul style="list-style-type: none"><li>Change in funding to meet new replacement/rehabilitation schedule</li></ul> |

## IRR: Solids Infrastructure (Joint Use)

| Managing Department and Champion |             | Project Location |             |             |             | Program and Project Category             |             |             | Estimated Useful Life   |             |             | Lifetime Budget                               |                           |
|----------------------------------|-------------|------------------|-------------|-------------|-------------|--|-------------|-------------|---|-------------|-------------|---|---------------------------|
| Operations and Maintenance       |             | WRRF             |             |             |             | Improv., Rehab., Replacement             |             |             | Yearly for probes<br>2 years for screen presses<br>12 years for heat exchanger actuators<br>10 years for >100 hp motors |             |             | \$11,000,000                                  |                           |
|                                  |             |                  |             |             |             | <input type="checkbox"/> Alexandria Only |             |             |   |             |             | <input checked="" type="checkbox"/> Joint Use | <b>Grant/Debt Funded?</b> |
|                                  |             |                  |             |             |             |  |             |             |   |             |             | No  | <b>10 Yr. Total</b>       |
| Expenditure                      | Prior Year  | FY 2023          | FY 2024     | FY 2025     | FY 2026     | FY 2027                                  | FY 2028     | FY 2029     | FY 2030   | FY 2031     | FY 2032     | 10 Yr. Total                                  |                           |
| Total                            | \$1,635,500 | \$1,000,000      | \$1,000,000 | \$1,000,000 | \$1,000,000 | \$1,000,000                              | \$1,200,000 | \$1,200,000 | \$1,200,000   | \$1,200,000 | \$1,200,000 | \$11,000,000                                  |                           |
| <b>Financing</b>                 |             |                  |             |             |             |  |             |             |   |             |             |   |                           |
| AlexRenew                        | \$654,200   | \$400,000        | \$400,000   | \$400,000   | \$400,000   | \$400,000                                | \$480,000   | \$480,000   | \$480,000   | \$480,000   | \$480,000   | \$4,400,000                                   |                           |
| Fairfax                          | \$981,300   | \$600,000        | \$600,000   | \$600,000   | \$600,000   | \$600,000                                | \$720,000   | \$720,000   | \$720,000   | \$720,000   | \$720,000   | \$6,600,000                                   |                           |

### Project Description and Justification

**Need:** To maintain the full functionality of solids treatment processes

**Background:** This subprogram covers all improvement, rehabilitation and replacement projects associated with the solids processing flow train.

**Project Components:** Project components include, but not limited to, digesters, actuators, motors, screen presses, pumps, probes and instrumentation

**Procurement Method:** Undetermined

| Benefits  | Strategic Outcome Area   |
|---|--|
| <ul style="list-style-type: none"> <li>Full redundancy and reliability of the solids processing equipment</li> <li>Maintain AlexRenew Bio-solids Class A output</li> <li>Extended equipment life associated with polymer feed</li> <li>Maintain consistent solids percentage</li> <li>Full optimization of the Methane Gas supply generation</li> <li>Reduce Carbon Emissions</li> <li>Reduced pump maintenance due to excessive ragging</li> <li>Reduced pump and pipe maintenance due to excessive ragging</li> </ul> | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul> |

| Key Milestones for FY 23   | Impact on Operations or Community   |
|--|---|
| <ul style="list-style-type: none"> <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 one (1) TCEN</li> <li>Complete rebuild of one (1) DCEN</li> </ul> | <ul style="list-style-type: none"> <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> <li>Requires DMR reporting at sample point of compliance and evaluating process equipment to ensure no negative impacts to process or equipment from Pre-</li> </ul> |

| <ul style="list-style-type: none"> <li>• Complete rehab of one (1) digester tank</li> <li>• Complete replacement of all actuators for one (1) Pre-Past Heat Exchanger</li> <li>• Delivery of 4 new and rebuilt Seepex Pumps</li> <li>• Complete rebuilt of two 30HP Explosion Proof Heat Exchangers motor</li> <li>• Complete rehab of one (1) Thickening Tank</li> <li>• Complete replacement of one (1) Centrate Recycle pump</li> <li>• Complete investigation on maintaining AlexRenew Bio-solids Class A output</li> <li>• Complete replacement or repair of process instruments</li> <li>• Replace 1 dewatering centrifuge feed pump</li> <li>• Rebuild 2 dewatering centrifuge pump</li> <li>• Replace 14 centrifuge air actuated diverter gate</li> </ul> | <p>Pasteurization temperatures.</p>   |
|---|---|
| <p><b>External or Internal Adopted Plan or Recommendation</b></p>   | <p><b>Changes from Prior Year CIP</b></p>   |
| <ul style="list-style-type: none"> <li>• Biosolids testing/sampling action plan approved October 2019 Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2 2019-3, Task 4)</li> </ul>   | <ul style="list-style-type: none"> <li>• Change in rehabilitation/replacement timing</li> </ul> |

## IRR: Tertiary Infrastructure (Joint Use)

| Managing Department and Champion |            | Project Location |             |             |             | Program and Project Category  |           |           | Estimated Useful Life  |           |           | Lifetime Budget           |
|----------------------------------|------------|------------------|-------------|-------------|-------------|---|-----------|-----------|--|-----------|-----------|---------------------------|
| Operations and Maintenance       |            | WRRF             |             |             |             | Improv., Rehab., and Replacement<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |           |           | 6 years for UV system parts<br>Yearly for probes<br>10 years for >100 Hp motors<br>10 years for Inter. PS pumps<br>10 years for VFD replacements |           |           | \$11,571,200              |
|                                  |            |                  |             |             |             |   |           |           |  |           |           | <b>Grant/Debt Funded?</b> |
|                                  |            |                  |             |             |             |   |           |           |  |           |           | No                        |
| Expenditure                      | Prior Year | FY 2023          | FY 2024     | FY 2025     | FY 2026     | FY 2027   | FY 2028   | FY 2029   | FY 2030  | FY 2031   | FY 2032   | 10 Yr. Total              |
| Total                            | \$358,000  | \$2,240,700      | \$2,252,100 | \$1,763,900 | \$1,776,000 | \$683,500   | \$696,400 | \$453,700 | \$597,400  | \$611,500 | \$496,000 | 11,571,200                |
| Financing                        |            |                  |             |             |             |   |           |           |  |           |           |                           |
| AlexRenew                        | \$143,200  | \$896,280        | \$900,840   | \$705,560   | \$710,400   | \$273,400   | \$278,560 | \$181,480 | \$238,960  | \$244,600 | \$198,400 | \$4,628,480               |
| Fairfax                          | \$214,800  | \$1,344,420      | \$1,351,260 | \$1,058,340 | \$1,065,600 | \$410,100   | \$417,840 | \$272,220 | \$358,440  | \$366,900 | \$297,600 | \$6,942,720               |

### Project Description and Justification

**Need:** To maintain the full functionality of tertiary treatment process

**Background:** This subprogram covers all improvement, rehabilitation 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.

**Project Components:** Various

**Procurement Method:** Undetermined

| Benefits   | Strategic Outcome Area   |
|--|--|
| <ul style="list-style-type: none"> <li>Redundancy and reliability of the tertiary and disinfection systems</li> <li>Improve accuracy on flow, level, pressure, etc.</li> <li>Improved and advanced automation</li> </ul> | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul> |

| Key Milestones for FY 23   | Impact on Operations or Community  |
|--|--|
| <ul style="list-style-type: none"> <li>Building G/3: Install TST Solids Meters</li> <li>Building G/3: Pilot Program for New Solids Meters</li> <li>Complete rebuilt or replacement of an Intermediate Pump</li> <li>Complete rebuilt or replacement of equipment for a Tertiary Tank</li> <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> <li>Replace or rebuild 1 wash water pump</li> <li>Replace or rebuild 1 waste wash water pump</li> </ul> | <ul style="list-style-type: none"> <li>Increase equipment availability to process</li> <li>Increase equipment reliability for future high flow events</li> </ul> |

| <ul style="list-style-type: none"> <li>• Replace or rebuild filter backwash waste pumps</li> <li>• Replace Sludge pumps</li> <li>• Replace Gear boxes for mixers</li> <li>• Replace 4 MCC (motor control center)</li> <li>• Replace 1 discharge valves for intermediate pumps</li> </ul> |   |
|--|---|
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>• Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2-2019-3, Task 4)</li> </ul>   | <ul style="list-style-type: none"> <li>• Projects delayed due to Covid. New components added due to change in rehabilitation/replacement timing.</li> </ul> |

## IRR: UV System Rehabilitation (Joint Use)

| Managing Department and Champion   |            | Project Location |         |         |           | Program and Project Category  |         |         | Estimated Useful Life             |         |         | Lifetime Budget           |
|--|------------|------------------|---------|---------|-----------|---|---------|---------|-----------------------------------|---------|---------|---------------------------|
| Operations and Maintenance   |            | Building N       |         |         |           | WRRF System Improvements<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use   |         |         | 4-5 years (Lamps and Peripherals) |         |         | \$1,621,839               |
|  |            |                  |         |         |           |   |         |         |                                   |         |         | <b>Grant/Debt Funded?</b> |
|  |            |                  |         |         |           |   |         |         |                                   |         |         | No                        |
| Expenditure  | Prior Year | FY 2023          | FY 2024 | FY 2025 | FY 2026   | FY 2027   | FY 2028 | FY 2029 | FY 2030                           | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total  | \$675,000  | \$225,000        | \$0     | \$0     | \$325,810 | \$0   | \$0     | \$0     | \$396,029                         | \$0     | \$0     | \$946,839                 |
| Financing  |            |                  |         |         |           |   |         |         |                                   |         |         |                           |
| AlexRenew  | \$270,000  | \$90,000         | \$0     | \$0     | \$130,324 | \$0   | \$0     | \$0     | \$158,412                         | \$0     | \$0     | \$378,736                 |
| Fairfax  | \$405,000  | \$135,000        | \$0     | \$0     | \$195,486 | \$0   | \$0     | \$0     | \$237,617                         | \$0     | \$0     | \$568,103                 |
| Project Description and Justification  |            |                  |         |         |           |   |         |         |                                   |         |         |                           |
| <p><b>Need:</b> AlexRenew's Main Plant Ultraviolet (UV) Disinfection System needs replacements of consumable equipment (UV lamps and related items) and repairs/maintenance to continue to provide reliable operation and performance.</p> <p><b>Background:</b> AlexRenew's Main Plant UV System serves to disinfect the Water Resources Recovery Facility (WRRF) effluent flow, prior to discharge. The lamps and other equipment items are reaching the end of their useful life and need to be replaced.</p> <p><b>Project Components:</b> Engineering &amp; SCADA Support, UV System OEM replacement parts (lamps and peripherals, sensors and modules, ballasts, wiper cannisters, and probes), Installation &amp; Startup/Commissioning. Note that the lamps have a projected 4-year life under normal operation. Replacement of the lamps is therefore shown every 4-5 years.</p> <p><b>Procurement Method:</b> Undetermined</p> |            |                  |         |         |           |   |         |         |                                   |         |         |                           |
| Benefits   |            |                  |         |         |           | Strategic Outcome Area  |         |         |                                   |         |         |                           |
| <ul style="list-style-type: none"> <li>Replacement of consumable equipment to ensure reliable disinfection performance</li> </ul>  |            |                  |         |         |           | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>  |         |         |                                   |         |         |                           |
| Key Milestones for FY 23   |            |                  |         |         |           | Impact on Operations or Community   |         |         |                                   |         |         |                           |
| <ul style="list-style-type: none"> <li>Completion of equipment replacements and startup/commissioning</li> </ul>   |            |                  |         |         |           | <ul style="list-style-type: none"> <li>Equipment replacements and additional SCADA enhancements will ensure performance (discharge water quality) and reduce current O&amp;M burden due to aging equipment</li> </ul> |         |         |                                   |         |         |                           |
| External or Internal Adopted Plan or Recommendation  |            |                  |         |         |           | Changes from Prior Year CIP   |         |         |                                   |         |         |                           |
| <ul style="list-style-type: none"> <li>TBD</li> </ul>  |            |                  |         |         |           | <ul style="list-style-type: none"> <li>New project</li> </ul>   |         |         |                                   |         |         |                           |

## IRR: Warehouse and Inventory Upgrades (Joint Use)

| Managing Department and Champion |            | Project Location  |           |           |           | Program and Project Category   |         |         | Estimated Useful Life |          |         | Lifetime Budget           |
|----------------------------------|------------|---|-----------|-----------|-----------|--|---------|---------|-----------------------|----------|---------|---------------------------|
| Finance                          |            | Existing Warehouse, Building G<br>Potential Space, Building F |           |           |           | Improve., Rehab., Replacement<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |         |         | 25-30 years           |          |         | \$1,350,000               |
|                                  |            |   |           |           |           |  |         |         |                       |          |         | <b>Grant/Debt Funded?</b> |
|                                  |            |   |           |           |           |  |         |         |                       |          |         | No                        |
| Expenditure                      | Prior Year | FY 2023   | FY 2024   | FY 2025   | FY 2026   | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031  | FY 2032 | 10 Yr. Total              |
| Total                            | \$0        | \$150,000   | \$500,000 | \$500,000 | \$150,000 | \$25,000   | \$0     | \$0     | \$0                   | \$25,000 | \$0     | \$1,350,000               |
| Financing                        |            |   |           |           |           |  |         |         |                       |          |         |                           |
| AlexRenew                        | \$0        | \$60,000  | \$200,000 | \$200,000 | \$60,000  | \$10,000   | \$0     | \$0     | \$0                   | \$10,000 | \$0     | \$540,000                 |
| Fairfax                          | \$0        | \$90,000  | \$300,000 | \$300,000 | \$90,000  | \$15,000   | \$0     | \$0     | \$0                   | \$15,000 | \$0     | \$810,000                 |

### Project Description and Justification

**Need:** AlexRenew currently maintains a warehouse in Building G that houses small, often used parts, with an inventory valued at approximately \$290,000 as of June 30, 2021. Larger, critical parts and assets are housed in a variety of other locations around the facility. AlexRenew desires to bring all inventory into one central location, with the appropriate security and climate control needed for often used as well as critical and long lead time asset management.

**Background:** Space in Building F has been identified as a potential area for warehouse consolidation. An engineering/architectural firm will be retained to define the warehousing requirements, review the current structure and code requirements of Bldg. F and ensure the space can be designed to meet them. Operations and Maintenance are the clients and will be consulted regarding regularly used parts and critical and long lead time assets critical to maintaining permit compliance.

**Project Components:** Design and Installation/Construction of the new space; upgrading of existing Bldg F to accommodate people and secure, climate controlled equipment storage and transition of old space; Security Enhancements; Procuring and Stocking Inventory; Training and Business Processes (such as economic reorder points and pick lists); Documenting in Computerized Maintenance Management System (CMMS)

**Procurement Method:** Various; Engineering and design services may be procured from existing contracts while parts and equipment may be procured as small purchases or under a variety of existing or future competitively bid contracts as appropriate.

| Benefits   | Strategic Outcome Area   |
|--|--|
| <ul style="list-style-type: none"> <li>Ensures AlexRenew has the parts and equipment it needs in a timely manner to maintain the facility's assets appropriately</li> <li>Supports effective operations of future assets by cataloguing and safeguarding spare parts until they are needed</li> <li>Providing space and processes for staging parts and equipment contributes to more effective planning, scheduling, and execution of work</li> <li>A well-organized warehouse can help streamline repetitive jobs</li> </ul> | <ul style="list-style-type: none"> <li>Effective Financial Stewardship</li> </ul>  |
| Key Milestones for FY 23   | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>Establish location; space plan and needed renovations for storage, people and code requirements</li> <li>Prioritize list of inventory enhancements and place orders as appropriate</li> </ul>   | <ul style="list-style-type: none"> <li>Effective warehousing is central to the maintenance of AlexRenew's assets and supports the core mission of cleaning water to protect public health and the environment</li> </ul> |

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Incorporate warehousing plans with implementation of CMMS</li> <li>• Enhance security and other physical safeguards as appropriate</li> <li>• Enhance process for incorporation of spare parts for capital projects into inventory</li> </ul> |   |
| <b>External or Internal Adopted Plan or Recommendation</b>   | <b>Changes from Prior Year CIP</b>  |
| <ul style="list-style-type: none"> <li>• N/A</li> </ul>  | <ul style="list-style-type: none"> <li>• New project based on emerging needs</li> </ul> |



### IRR: WRRF Fire Alarm Upgrade (Joint Use)

| Managing Department and Champion |            | Project Location |         |          |           | Program and Project Category   |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|------------|------------------|---------|----------|-----------|--|---------|---------|-----------------------|---------|---------|---------------------------|
| Safety                           |            | WRRF             |         |          |           | Improve., Rehab., Replacement<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |         |         | 15 years              |         |         | \$1,550,000               |
|                                  |            |                  |         |          |           |  |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|                                  |            |                  |         |          |           |  |         |         |                       |         |         | Undetermined              |
| Expenditure                      | Prior Year | FY 2023          | FY 2024 | FY 2025  | FY 2026   | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$0        | \$0              | \$0     | \$50,000 | \$300,000 | \$1,000,000  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$1,350,000               |
| <b>Financing</b>                 |            |                  |         |          |           |  |         |         |                       |         |         |                           |
| AlexRenew                        | \$0        | \$0              | \$0     | \$20,000 | \$120,000 | \$400,000  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$540,000                 |
| Fairfax                          | \$0        | \$0              | \$0     | \$30,000 | \$180,000 | \$600,000  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$810,000                 |

#### Project Description and Justification

**Need:** The WRRF Fire Alarm System needs upgrades.

**Background:** The WRRF Fire Alarm System was scheduled to be upgraded in FY18/19, but was delayed. Some panels are obsolete, and parts availability is becoming difficult.

**Project Components:** TBD

**Procurement Method:** AlexRenew has an existing NJPA contract vehicle to use for future work.

| Benefits  | Strategic Outcome Area   |
|---|--|
| <ul style="list-style-type: none"> <li>Full redundancy and reliability of the WRRF Fire Alarm System</li> </ul> | <ul style="list-style-type: none"> <li>Adaptive Culture</li> </ul>   |
| Key Milestones for FY 23  | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>Complete upgrade of the WRRF Fire Alarm System</li> </ul>                | <ul style="list-style-type: none"> <li>Increase employee safety within the campus buildings and grounds</li> </ul> |
| External or Internal Adopted Plan or Recommendation   | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>Johnson Controls' Memo on existing panels being obsolete.</li> </ul>     | <ul style="list-style-type: none"> <li>Project moved to start in FY2024 from FY2026</li> </ul>                     |

## Environmental Center – Upgrades and 5<sup>th</sup>/6<sup>th</sup> Floor Modifications

| Managing Department and Champion   |             | Project Location     |           |           |             | Program and Project Category  |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|--|-------------|----------------------|-----------|-----------|-------------|---|---------|---------|-----------------------|---------|---------|---------------------------|
| Strategy and Policy  |             | Environmental Center |           |           |             | Non-Process Facilities  |         |         | 40 years              |         |         | \$1,450,000               |
|  |             |                      |           |           |             | <input type="checkbox"/> Alexandria Only  |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|  |             |                      |           |           |             | <input checked="" type="checkbox"/> Joint Use   |         |         |                       |         |         | Undetermined              |
| Expenditure  | Prior Year  | FY 2023              | FY 2024   | FY 2025   | FY 2026     | FY 2027   | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total  | \$1,000,000 | \$500,000            | \$150,000 | \$150,000 | \$1,200,000 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$2,000,000               |
| <b>Financing</b>   |             |                      |           |           |             |   |         |         |                       |         |         |                           |
| AlexRenew  | \$510,000   | \$255,000            | \$76,500  | \$76,500  | \$612,000   | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$1,020,000               |
| Fairfax  | \$490,000   | \$245,000            | \$73,500  | \$73,500  | \$588,000   | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$980,000                 |
| Project Description and Justification  |             |                      |           |           |             |   |         |         |                       |         |         |                           |
| <p><b>Need:</b> When the EC was built, the 5<sup>th</sup> floor was not built out to provide flexibility for future needs. The COVID-19 pandemic has created a need to upgrade A/V equipment on the 6<sup>th</sup> floor for hybrid meetings. The EC also requires general renewals as it ages.</p> <p><b>Background:</b> AlexRenew’s EC Facilities are used by the local community for meetings and trainings. AlexRenew hosts many educational programs each year. Renewals are needed to manage aging related wear and tear.</p> <p><b>Project Components:</b> 5<sup>th</sup> floor design and engineering, 6<sup>th</sup> floor AV evaluation, construction, and equipment installation</p> <p><b>Procurement Method:</b> Undetermined</p> |             |                      |           |           |             |   |         |         |                       |         |         |                           |
| Benefits   |             |                      |           |           |             | Strategic Outcome Area  |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>• Optimize use of existing infrastructure and community benefits</li> </ul>   |             |                      |           |           |             | <ul style="list-style-type: none"> <li>• Public Engagement &amp; Trust</li> </ul>                         |         |         |                       |         |         |                           |
| Key Milestones for FY 23   |             |                      |           |           |             | Impact on Operations or Community   |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>• 6<sup>th</sup> floor AV design and upgrade</li> <li>• HVAC system review and maintenance</li> </ul>   |             |                      |           |           |             | <ul style="list-style-type: none"> <li>• Increased value to community and usage of facilities.</li> </ul> |         |         |                       |         |         |                           |
| External or Internal Adopted Plan or Recommendation  |             |                      |           |           |             | Changes from Prior Year CIP   |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>• N/A</li> </ul>  |             |                      |           |           |             | <ul style="list-style-type: none"> <li>• Change in project time</li> </ul>                                |         |         |                       |         |         |                           |

## Environmental Center – Outdoor Exhibit Upgrade

| Managing Department and Champion |            | Project Location     |         |         |         | Program and Project Category   |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|------------|----------------------|---------|---------|---------|--|---------|---------|-----------------------|---------|---------|---------------------------|
| Communications                   |            | Environmental Center |         |         |         | Non-Process Facilities   |         |         | 10 years              |         |         | \$200,000                 |
|                                  |            |                      |         |         |         | <input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use (49% to Fairfax) |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|                                  |            |                      |         |         |         |  |         |         |                       |         |         | No                        |
| Expenditure                      | Prior Year | FY 2023              | FY 2024 | FY 2025 | FY 2026 | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$50,000   | \$150,000            | \$0     | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$150,000                 |
| <b>Financing</b>                 |            |                      |         |         |         |  |         |         |                       |         |         |                           |
| AlexRenew                        | \$25,500   | \$76,500             | \$0     | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$76,500                  |
| Fairfax                          | \$24,500   | \$73,500             | \$0     | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$73,500                  |

### Project Description and Justification

**Need:** Update indoor and outdoor educational exhibits about AlexRenew as its mission has expanded with RiverRenew.

**Background:** The Environmental Center’s educational exhibits in the lobby have been a highly used space at educating visitors about the important work AlexRenew does. Updating these static exhibits and extending them to the outdoors provides more educational opportunities for community members.

**Project Components:** Final design, permitting, and installation of exhibits

**Procurement Method:** Under development

| Benefits  | Strategic Outcome Area  |
|---|---|
| <ul style="list-style-type: none"> <li>Expands outdoor educational exhibits for community members to engage with AlexRenew’s mission</li> </ul> | <ul style="list-style-type: none"> <li>Public Engagement &amp; Trust</li> </ul>                         |
| Key Milestones for FY 23  | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>Complete installation of educational exhibits</li> </ul>   | <ul style="list-style-type: none"> <li>Increased value to community and usage of facilities.</li> </ul> |
| External or Internal Adopted Plan or Recommendation   | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>   | <ul style="list-style-type: none"> <li>New project</li> </ul>   |

## Holland Lane Pavement Reconstruction

| Managing Department and Champion |            | Project Location |         |         |           | Program and Project Category  |         |         | Estimated Useful Life |         |         | Lifetime Budget                    |
|----------------------------------|------------|------------------|---------|---------|-----------|---|---------|---------|-----------------------|---------|---------|------------------------------------|
| Engineering                      |            | Holland Lane     |         |         |           | Non-Process Facilities<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |         |         | N/A                   |         |         | \$300,000                          |
|                                  |            |                  |         |         |           |   |         |         |                       |         |         | Grant/Debt Funded?<br>Undetermined |
| Expenditure                      | Prior Year | FY 2023          | FY 2024 | FY 2025 | FY 2026   | FY 2027   | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total                       |
| Total                            | \$0        | \$0              | \$0     | \$0     | \$300,000 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$300,000                          |
| <b>Financing</b>                 |            |                  |         |         |           |   |         |         |                       |         |         |                                    |
| AlexRenew                        | \$0        | \$0              | \$0     | \$0     | \$120,000 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$120,000                          |
| Fairfax                          | \$0        | \$0              | \$0     | \$0     | \$180,000 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$180,000                          |

### Project Description and Justification

**Need:** Holland Lane needs to be upgraded to comply with City of Alexandria roadway standards.

**Background:** Holland Lane was installed as part of the EC's construction. It currently does not comply with updated City of Alexandria roadway standards and changes in future uses and needs to be reconstructed.

**Project Components:** Reconstruction is being planned to occur following the construction of the RiverRenew Tunnel Project.

**Procurement Method:** Undetermined

| Benefits  | Strategic Outcome Area   |
|---|--|
| <ul style="list-style-type: none"> <li>Compliance with roadway standards</li> </ul> | <ul style="list-style-type: none"> <li>Watershed Stewardship</li> </ul>  |
| Key Milestones for FY 23  | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>                               | <ul style="list-style-type: none"> <li>Project is being coordinated to take place following RiverRenew.</li> </ul> |
| External or Internal Adopted Plan or Recommendation                                 | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>                               | <ul style="list-style-type: none"> <li>None</li> </ul>   |

## South Carlyle Partnership

| Managing Department and Champion  |            | Project Location               |         |         |           | Program and Project Category   |           |           | Estimated Useful Life |         |         | Lifetime Budget    |  |  |
|---|------------|--------------------------------|---------|---------|-----------|--|-----------|-----------|-----------------------|---------|---------|--------------------|--|--|
| Engineering   |            | AlexRenew Environmental Center |         |         |           | Non-Process Facilities   |           |           | 40 years              |         |         | \$1,500,000        |  |  |
|   |            |                                |         |         |           | <input type="checkbox"/> Alexandria Only   |           |           |                       |         |         | Grant/Debt Funded? |  |  |
|   |            |                                |         |         |           | <input checked="" type="checkbox"/> Joint Use  |           |           |                       |         |         | Undetermined       |  |  |
| Expenditure   | Prior Year | FY 2023                        | FY 2024 | FY 2025 | FY 2026   | FY 2027  | FY 2028   | FY 2029   | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total       |  |  |
| Total   | \$0        | \$0                            | \$0     | \$0     | \$700,000 | \$400,000  | \$300,000 | \$100,000 | \$0                   | \$0     | \$0     | \$1,500,000        |  |  |
| <b>Financing</b>  |            |                                |         |         |           |  |           |           |                       |         |         |                    |  |  |
| AlexRenew   | \$0        | \$0                            | \$0     | \$0     | \$476,000 | \$272,000  | \$204,000 | \$68,000  | \$0                   | \$0     | \$0     | \$1,020,000        |  |  |
| Fairfax   | \$0        | \$0                            | \$0     | \$0     | \$224,000 | \$128,000  | \$96,000  | \$32,000  | \$0                   | \$0     | \$0     | \$480,000          |  |  |
| Project Description and Justification   |            |                                |         |         |           |  |           |           |                       |         |         |                    |  |  |
| <p><b>Need:</b> Engineering services and inspection and design and construction for any structural modifications affiliated with coordinating Carlyle Plaza II's construction as it builds the connections to the EC.</p> <p><b>Background:</b> The Environmental Center (EC) was designed in coordination with the future development planned for the site on the north of Limerick St. The plan provides additional public park space and supports with the Eisenhower East Small Area Plan for connecting open spaces. The site is currently in use by the RiverRenew Tunnel Project but is planned for development following AlexRenew's use. The design includes a park and playground that connects into the green roof about the EC's garage.</p> <p><b>Project Components:</b> Deck Connector and other structural modifications</p> <p><b>Procurement Method:</b> Undetermined</p> |            |                                |         |         |           |  |           |           |                       |         |         |                    |  |  |
| Benefits  |            |                                |         |         |           | Strategic Outcome Area   |           |           |                       |         |         |                    |  |  |
| <ul style="list-style-type: none"> <li>This ensures proper coordination and physical connections to AlexRenew infrastructure.</li> </ul>  |            |                                |         |         |           | <ul style="list-style-type: none"> <li>Watershed Stewardship</li> </ul>  |           |           |                       |         |         |                    |  |  |
| Key Milestones for FY 23  |            |                                |         |         |           | Impact on Operations or Community  |           |           |                       |         |         |                    |  |  |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>   |            |                                |         |         |           | <ul style="list-style-type: none"> <li>Project ensures protection of AlexRenew structures and connection of open spaces.</li> </ul>      |           |           |                       |         |         |                    |  |  |
| External or Internal Adopted Plan or Recommendation   |            |                                |         |         |           | Changes from Prior Year CIP  |           |           |                       |         |         |                    |  |  |
| <ul style="list-style-type: none"> <li>Eisenhower East Small Area Plan</li> </ul>   |            |                                |         |         |           | <ul style="list-style-type: none"> <li>Consideration of potential structural modifications necessary to complete development.</li> </ul> |           |           |                       |         |         |                    |  |  |

## WRRF: HVAC Automation System Upgrade

| Managing Department and Champion  |            | Project Location |         |         |         | Program and Project Category   |           |         | Estimated Useful Life |         |         | Lifetime Budget           |
|---|------------|------------------|---------|---------|---------|--|-----------|---------|-----------------------|---------|---------|---------------------------|
| Engineering   |            | WRRF             |         |         |         | Non-Process Facilities   |           |         | N/A                   |         |         | \$1,000,000               |
|   |            |                  |         |         |         | <input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use    |           |         |                       |         |         | <b>Grant/Debt Funded.</b> |
|   |            |                  |         |         |         |  |           |         |                       |         |         | No                        |
| Expenditure   | Prior Year | FY 2023          | FY 2024 | FY 2025 | FY 2026 | FY 2027  | FY 2028   | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total   | \$0        | \$50,000         | \$0     | \$0     | \$0     | \$500,000  | \$500,000 | \$0     | \$0                   | \$0     | \$0     | \$1,050,000               |
| <b>Financing</b>  |            |                  |         |         |         |  |           |         |                       |         |         |                           |
| AlexRenew   | \$0        | \$20,000         | \$0     | \$0     | \$0     | \$200,000  | \$200,000 | \$0     | \$0                   | \$0     | \$0     | \$420,000                 |
| Fairfax   | \$0        | \$30,000         | \$0     | \$0     | \$0     | \$300,000  | \$300,000 | \$0     | \$0                   | \$0     | \$0     | \$630,000                 |
| Project Description and Justification   |            |                  |         |         |         |  |           |         |                       |         |         |                           |
| <p><b>Need:</b> To fund a study for evaluating all HVAC units campus wide and recommend measures to improve their efficiency/performance.</p> <p><b>Background:</b> The project goal is to upgrade the WRRF HVAC system. A study is needed to evaluate the HVAC system elements and recommend improvements. An upgrade is required to consolidate/upgrade and optimizing the HVAC controls. The upgrade process needs to incorporate the requirements of the RiverRenew HVAC system (operation starts in 2025).</p> <p><b>Project Components:</b> HVAC system computer software, field devices</p> <p><b>Procurement Method:</b> Undetermined</p> |            |                  |         |         |         |  |           |         |                       |         |         |                           |
| Benefits  |            |                  |         |         |         | Strategic Outcome Area   |           |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>Full redundancy and reliability of the HVAC System</li> </ul>  |            |                  |         |         |         | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>                     |           |         |                       |         |         |                           |
| Key Milestones for FY 23  |            |                  |         |         |         | Impact on Operations or Community  |           |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>   |            |                  |         |         |         | <ul style="list-style-type: none"> <li>Increase equipment availability to process</li> </ul> |           |         |                       |         |         |                           |
| External or Internal Adopted Plan or Recommendation   |            |                  |         |         |         | Changes from Prior Year CIP  |           |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>   |            |                  |         |         |         | <ul style="list-style-type: none"> <li>None</li> </ul>                                       |           |         |                       |         |         |                           |

## RiverRenew Tunnel Project – Joint Use

| Managing Department and Champion |              |              | Project Location                               |              |             | Program and Project Category  |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|--------------|--------------|--|--------------|-------------|---|---------|---------|-----------------------|---------|---------|---------------------------|
| RiverRenew                       |              |              | AlexRenew and Multiple Locations in Alexandria |              |             | RiverRenew<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |         |         | Tunnel - 100 years    |         |         | \$391,600,000             |
|                                  |              |              |  |              |             |   |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|                                  |              |              |  |              |             |   |         |         |                       |         |         | Yes                       |
| Expenditure                      | Prior Year   | FY 2023      | FY 2024  | FY 2025      | FY 2026     | FY 2027   | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$93,220,649 | \$57,800,000 | \$73,700,000                                   | \$90,900,000 | \$9,300,000 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$231,700,000             |
| <b>Financing</b>                 |              |              |  |              |             |   |         |         |                       |         |         |                           |
| AlexRenew                        | \$81,816,958 | \$49,400,000 | \$63,500,000                                   | \$76,300,000 | \$8,500,000 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$197,700,000             |
| Fairfax                          | \$11,403,691 | \$8,400,000  | \$10,200,000                                   | \$14,600,000 | \$800,000   | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$34,000,000              |

### Project Description and Justification

**Need:** In April 2017, a Virginia law was passed that required Alexandria’s four existing combined sewer outfalls be brought into compliance by July 1, 2025.

**Background:** In June 2018, the Virginia Department of Environmental Quality approved a Plan that complied with the new law through the design and construction of a tunnel system to capture and convey combined sewage to AlexRenew for treatment. In July 2018, the Plan was re-branded as RiverRenew.

**Project Components:** The RiverRenew Tunnel System includes:

- Waterfront Tunnel: 2-mile long, 12'-0" diameter segmentally lined tunnel.
- Hooffs Run Interceptor: 2,700-foot long, 6'-0" open-cut sewer.
- Four diversion chambers to direct combined sewer flows to the Waterfront Tunnel and Hooffs Run Interceptor.
- Four shafts ranging from 35-feet to 65-feet in diameter.
- Tunnel Dewatering and Wet Weather Pumping Station: 20-mgd tunnel dewatering and 130-mgd wet weather pumping station, including a new superstructure at AlexRenew.

**Procurement Method:** In November 2020, AlexRenew awarded a fixed-price design-build contract to Traylor-Shea Joint Venture in the amount of \$454.4 million following a 2-step (RFQ/RFP) procurement process.

| Benefits   | Strategic Outcome Area   |
|--|--|
| <ul style="list-style-type: none"> <li>• Significant reduction of CSOs to local waterways</li> <li>• Site restoration includes community amenities in two locations</li> </ul> | <ul style="list-style-type: none"> <li>• Watershed Stewardship</li> </ul>  |
| Key Milestones for FY 23   | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>• Major design submittals complete</li> <li>• Tunnel mining begins</li> </ul>   | <ul style="list-style-type: none"> <li>• Coordination with O&amp;M and the community during construction</li> <li>• O&amp;M will operate and maintain pumping station once system is operational.</li> </ul> |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>• Long Term Control Plan Update, Approved 2018</li> </ul>   | <ul style="list-style-type: none"> <li>• Updated costs</li> </ul>  |

## Coliphage Study

| Managing Department and Champion   |            | Project Location |          |          |         | Program and Project Category   |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|--|------------|------------------|----------|----------|---------|--|---------|---------|-----------------------|---------|---------|---------------------------|
| Strategy and Policy  |            | Various          |          |          |         | Regulatory Compliance  |         |         | 15-20 years           |         |         | \$100,000                 |
|  |            |                  |          |          |         | <input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use  |         |         |                       |         |         | <b>Grant/Debt Funded.</b> |
|  |            |                  |          |          |         |  |         |         |                       |         |         | No                        |
| Expenditure  | Prior Year | FY 2023          | FY 2024  | FY 2025  | FY 2026 | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total  | \$0        | \$0              | \$50,000 | \$50,000 | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$100,000                 |
| <b>Financing</b>   |            |                  |          |          |         |  |         |         |                       |         |         |                           |
| AlexRenew  | \$0        | \$0              | \$20,000 | \$20,000 | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$40,000                  |
| Fairfax  | \$0        | \$0              | \$30,000 | \$30,000 | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$60,000                  |
| Project Description and Justification  |            |                  |          |          |         |  |         |         |                       |         |         |                           |
| <p><b>Need:</b> To comply with potential regulatory drivers.</p> <p><b>Background:</b> EPA is researching disinfection markers; studies have indicated that coliphage is a better indicator of potential human health impacts from wastewater exposure than E.coli. Based on this research the EPA has published draft methods and may publish draft updates for comment to the 2012 Recreational Water Quality Indicators in Spring 2022. Once these criteria are made final, Virginia can elect to adopt them, and will then include the new criteria in new VPDES permits.</p> <p><b>Project Components:</b> Organizational Readiness Assessment: Laboratory Feasibility Analysis, Process/Engineering Analysis, UV Disinfection Testing</p> <p><b>Procurement Method:</b> Undetermined</p> |            |                  |          |          |         |  |         |         |                       |         |         |                           |
| Benefits   |            |                  |          |          |         | Strategic Outcome Area   |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>Will allow for an organized transition to coliphage as disinfection indicator as triggered by regulatory processes</li> </ul>   |            |                  |          |          |         | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>   |         |         |                       |         |         |                           |
| Key Milestones for FY 23   |            |                  |          |          |         | Impact on Operations or Community  |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>EPA publishes draft Criteria Update</li> </ul>  |            |                  |          |          |         | <ul style="list-style-type: none"> <li>Improved water quality and designated use attainment for local impaired waters</li> </ul> |         |         |                       |         |         |                           |
| External or Internal Adopted Plan or Recommendation  |            |                  |          |          |         | Changes from Prior Year CIP  |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>In Progress</li> </ul>  |            |                  |          |          |         | <ul style="list-style-type: none"> <li>New project</li> </ul>  |         |         |                       |         |         |                           |



## Emerging Contaminant Analysis

| Managing Department and Champion |            | Project Location |          |           |           | Program and Project Category   |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|------------|------------------|----------|-----------|-----------|--|---------|---------|-----------------------|---------|---------|---------------------------|
| Engineering                      |            | Various          |          |           |           | Regulatory Compliance<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |         |         | 10 years              |         |         | \$300,000                 |
|                                  |            |                  |          |           |           |  |         |         |                       |         |         | <b>Grant/Debt Funded.</b> |
|                                  |            |                  |          |           |           |  |         |         |                       |         |         | Yes                       |
| Expenditure                      | Prior Year | FY 2023          | FY 2024  | FY 2025   | FY 2026   | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$0        | \$50,000         | \$50,000 | \$100,000 | \$100,000 | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$300,000                 |
| Financing                        |            |                  |          |           |           |  |         |         |                       |         |         |                           |
| AlexRenew                        | \$0        | \$50,000         | \$50,000 | \$100,000 | \$100,000 | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$300,000                 |
| Fairfax                          | \$0        | \$0              | \$0      | \$0       | \$0       | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$0                       |

### Project Description and Justification

**Need:** Funds are required to perform research and analysis regarding potential regulations on emerging contaminants in wastewater

**Background:** EPA is currently in the process of conducting scientific studies to better understand emerging contaminants and suggest alternatives/strategies to eliminate them.

**Project Components:** EPA/State regulations, Treatment technology, Design and Construction/Implementation, Operation, and Maintenance

**Procurement Method:** Request For Proposal

| Benefits   | Strategic Outcome Area   |
|--|--|
| <ul style="list-style-type: none"> <li>Protection of aquatic life and human health from effects of emerging contaminants</li> </ul>                  | <ul style="list-style-type: none"> <li>Watershed Stewardship</li> </ul>                    |
| Key Milestones for FY 23   | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>Formulate a plan that will define research objectives and steps to accomplish these specific goals</li> </ul> | <ul style="list-style-type: none"> <li>This will directly benefit human health.</li> </ul> |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>  | <ul style="list-style-type: none"> <li>New project</li> </ul>                              |

## Total Nitrogen Limits Compliance Study

| Managing Department and Champion |            | Project Location |          |           |         | Program and Project Category  |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|------------|------------------|----------|-----------|---------|---|---------|---------|-----------------------|---------|---------|---------------------------|
| Strategy and Policy              |            | Various          |          |           |         | Regulatory Compliance   |         |         | 15-20 years           |         |         | \$325,000                 |
|                                  |            |                  |          |           |         | <input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |         |         |                       |         |         | <b>Grant/Debt Funded.</b> |
|                                  |            |                  |          |           |         |   |         |         |                       |         |         | No                        |
| Expenditure                      | Prior Year | FY 2023          | FY 2024  | FY 2025   | FY 2026 | FY 2027   | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$0        | \$0              | \$75,000 | \$250,000 | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$325,000                 |
| <b>Financing</b>                 |            |                  |          |           |         |   |         |         |                       |         |         |                           |
| AlexRenew                        | \$0        | \$0              | \$30,000 | \$100,000 | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$130,000                 |
| Fairfax                          | \$0        | \$0              | \$45,000 | \$150,000 | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$195,000                 |

### Project Description and Justification

**Need:** To comply with potential regulatory drivers

**Background:** To comply with future regulatory drivers from the Chesapeake TMDL, AlexRenew needs to potential future nitrogen discharge reductions. AlexRenew’s VPDES next permit will be renewed in 2026; this program will evaluate the impact of RiverRenew on nutrient removal and capped limits and the ability to treat the city’s additional capacity cost effectively.

**Project Components:** Feasibility, Process/Engineering Analysis, Rate Impact Analysis, Human Capital Analysis

**Procurement Method:** Undetermined

| Benefits   | Strategic Outcome Area  |
|--|---|
| <ul style="list-style-type: none"> <li>This project will prepare the organization contingent event of meeting more stringent nitrogen discharge standards</li> <li>Improve effluent quality</li> </ul> | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>  |
| Key Milestones for FY 23   | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>  | <ul style="list-style-type: none"> <li>Need for Operations training to achieve increased nitrogen reductions</li> <li>Potential for water quality improvements</li> </ul> |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>  | <ul style="list-style-type: none"> <li>New Project</li> </ul>   |

## Climate Resilience Initiatives

| Managing Department and Champion |            | Project Location |           |           |           | Program and Project Category  |           |          | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|------------|------------------|-----------|-----------|-----------|---|-----------|----------|-----------------------|---------|---------|---------------------------|
| Strategy and Policy              |            | WRRF             |           |           |           | Sustainability & Resilience   |           |          | 20 years              |         |         | \$2,380,000               |
|                                  |            |                  |           |           |           | <input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |           |          |                       |         |         | <b>Grant/Debt Funded?</b> |
|                                  |            |                  |           |           |           |   |           |          |                       |         |         | Undetermined              |
| Expenditure                      | Prior Year | FY 2023          | FY 2024   | FY 2025   | FY 2026   | FY 2027   | FY 2028   | FY 2029  | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$0        | \$133,000        | \$243,000 | \$489,000 | \$150,000 | \$445,000   | \$325,000 | \$95,000 | \$500,000             | \$0     | \$0     | \$2,380,000               |
| <b>Financing</b>                 |            |                  |           |           |           |   |           |          |                       |         |         |                           |
| AlexRenew                        | \$0        | \$53,200         | \$97,200  | \$195,600 | \$60,000  | \$178,000   | \$130,000 | \$38,000 | \$200,000             | \$0     | \$0     | \$952,000                 |
| Fairfax                          | \$0        | \$79,800         | \$145,800 | \$293,400 | \$90,000  | \$267,000   | \$195,000 | \$57,000 | \$300,000             | \$0     | \$0     | \$1,428,000               |

### Project Description and Justification

**Need:** AlexRenew must reduce energy consumption and greenhouse gas emissions to meet city sustainability goals.

**Background:** AlexRenew is working to reducing energy use by 25% by 2025 and reducing greenhouse gas emissions by 50% by 2050 over the 2005 baseline. To achieve these goals, AlexRenew will focus on projects to increase energy efficiency, generate renewable energy, reduce emissions from operations, and bolster administrative processes supporting these projects.

**Project Components:** Increase efficiency of WRRF systems through infrastructure upgrades/replacements, identify and address sources of energy and water waste, invest in innovative technologies to maximize energy efficiency or generate renewable energy, replace the vehicle fleet with electric/hybrid models where applicable and associated charging infrastructure, and ensure energy management and GHG accounting systems are accurate, comprehensive, and well-documented.

| Benefits   | Strategic Outcome Area  |
|--|---|
| <ul style="list-style-type: none"> <li>Make progress towards renewable energy use and GHG reduction goals</li> <li>Increases resilience, reliability, and operability of AlexRenew facilities</li> </ul>   | <ul style="list-style-type: none"> <li>Watershed Stewardship</li> </ul>   |
| Key Milestones for FY 23   | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>Reprogramming HVAC Control Systems</li> <li>Weather stripping on exterior doors and windows</li> <li>Replace one gas-powered AlexRenew vehicle with an electric model and install an electric vehicle charging station onsite</li> <li>Conducting all-hazards vulnerability assessment</li> </ul> | <ul style="list-style-type: none"> <li>Supports AlexRenew’s sustainability initiatives and commitment to environmental stewardship</li> <li>Demonstrates leadership among water utilities</li> <li>Ensures accountability for AlexRenew operations</li> </ul> |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>City of Alexandria Environmental Action Plan 2040</li> <li>DOE Better Plants Challenge</li> <li>DOE Better Buildings Challenge</li> <li>AlexRenew Building Energy Analysis (CH2M, 2016)</li> </ul>  | <ul style="list-style-type: none"> <li>New project</li> </ul>   |

## Stormwater System - Structural and Nonstructural Best Management Practices

| Managing Department and Champion   |            | Project Location |         |          |           | Program and Project Category   |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|--|------------|------------------|---------|----------|-----------|--|---------|---------|-----------------------|---------|---------|---------------------------|
| Engineering Strategy and Policy  |            | WRRF             |         |          |           | Sustainability & Resilience<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use   |         |         | 40 years              |         |         | \$850,000                 |
|  |            |                  |         |          |           |  |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|  |            |                  |         |          |           |  |         |         |                       |         |         | Undetermined              |
| Expenditure  | Prior Year | FY 2023          | FY 2024 | FY 2025  | FY 2026   | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total  | \$0        | \$0              | \$0     | \$50,000 | \$400,000 | \$400,000  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$850,000                 |
| Financing  |            |                  |         |          |           |  |         |         |                       |         |         |                           |
| AlexRenew  | \$0        | \$0              | \$0     | \$20,000 | \$160,000 | \$160,000  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$370,000                 |
| Fairfax  | \$0        | \$0              | \$0     | \$30,000 | \$240,000 | \$240,000  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$480,000                 |
| Project Description and Justification  |            |                  |         |          |           |  |         |         |                       |         |         |                           |
| <p><b>Need:</b> AlexRenew has a permitted stormwater system on its plant site and will continue to add stormwater best management practices (BMPs) to meet water quality and quantity needs.</p> <p><b>Background:</b> The AlexRenew WRRF storm sewer system is subdivided into seven drainage areas that discharge directly to Hooff's Run, to the Virginia Department of Transportation (VDOT) Municipal Separate Storm Sewer System (MS4), and to the City of Alexandria MS4. Given the expectations of more frequent and severe precipitation events, AlexRenew will continue to invest in sound stormwater management on its sites. This project involves an updated study and design to accommodate infrastructure changes since the original study 2016 and the cost of construction and maintenance of stormwater BMPs.</p> <p><b>Project Components:</b> Studies, design and construction of stormwater BMP's and regular maintenance/cleaning.</p> |            |                  |         |          |           |  |         |         |                       |         |         |                           |
| Benefits   |            |                  |         |          |           | Strategic Outcome Area   |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>Alternative treatment facilities to support AlexRenew's sustainability initiatives and commitment to environmental stewardship.</li> </ul>  |            |                  |         |          |           | <ul style="list-style-type: none"> <li>Watershed Stewardship</li> </ul>  |         |         |                       |         |         |                           |
| Key Milestones for FY 23   |            |                  |         |          |           | Impact on Operations or Community  |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>  |            |                  |         |          |           | <ul style="list-style-type: none"> <li>Potential to increase O&amp;M costs to annual cost of approx. 5% of construction costs</li> <li>Results in reduction of pollutant loading of permitted stormwater conveyed</li> </ul> |         |         |                       |         |         |                           |
| External or Internal Adopted Plan or Recommendation  |            |                  |         |          |           | Changes from Prior Year CIP  |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>Stormwater Improvement Analysis Report for Alexandria Renew Enterprises (URS Corp, 2016)</li> </ul>   |            |                  |         |          |           | <ul style="list-style-type: none"> <li>Costs updated</li> </ul>  |         |         |                       |         |         |                           |

## Centrate Pretreatment Facility Improvements

| Managing Department and Champion  |            | Project Location |             |             |             | Program and Project Category  |           |           | Estimated Useful Life |           |           | Lifetime Budget           |
|---|------------|------------------|-------------|-------------|-------------|---|-----------|-----------|-----------------------|-----------|-----------|---------------------------|
| Operations and Maintenance  |            | WRRF             |             |             |             | WRRF Improvements   |           |           | N/A                   |           |           | \$21,400,000              |
|   |            |                  |             |             |             | <input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use   |           |           |                       |           |           | <b>Grant/Debt Funded?</b> |
|   |            |                  |             |             |             |   |           |           |                       |           |           | No                        |
| Expenditure   | Prior Year | FY 2023          | FY 2024     | FY 2025     | FY 2026     | FY 2027   | FY 2028   | FY 2029   | FY 2030               | FY 2031   | FY 2032   | 10 Yr. Total              |
| Total   | \$258,000  | \$500,000        | \$5,000,000 | \$7,000,000 | \$6,000,000 | \$200,000   | \$200,000 | \$200,000 | \$200,000             | \$200,000 | \$200,000 | \$19,700,000              |
| <b>Financing</b>  |            |                  |             |             |             |   |           |           |                       |           |           |                           |
| AlexRenew   | \$103,200  | \$200,000        | \$2,000,000 | \$2,800,000 | \$2,400,000 | \$80,000  | \$80,000  | \$80,000  | \$80,000              | \$80,000  | \$80,000  | \$7,880,000               |
| Fairfax   | \$154,800  | \$300,000        | \$3,000,000 | \$4,200,000 | \$3,600,000 | \$120,000   | \$120,000 | \$120,000 | \$120,000             | \$120,000 | \$120,000 | \$11,820,000              |
| Project Description and Justification   |            |                  |             |             |             |   |           |           |                       |           |           |                           |
| <p><b>Need:</b> To restart Centrate Pretreatment Process</p> <p><b>Background:</b> 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. Improvements are needed for efficiency include replacing the existing cyclone feed pumps and implementing some modifications to the centrate transfer piping.</p> <p><b>Project Components:</b> Undetermined</p> <p><b>Procurement Method:</b> The project is proposed to be procured through a Design-Bid-Build method with AlexRenew using on-call contractors. Some of the work will be done by the blower vendor (Neuros) on their equipment.</p> |            |                  |             |             |             |   |           |           |                       |           |           |                           |
| Benefits  |            |                  |             |             |             | Strategic Outcome Area  |           |           |                       |           |           |                           |
| <ul style="list-style-type: none"> <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>  |            |                  |             |             |             | <ul style="list-style-type: none"> <li>• Operational Excellence</li> </ul>  |           |           |                       |           |           |                           |
| Key Milestones for FY 23  |            |                  |             |             |             | Impact on Operations or Community   |           |           |                       |           |           |                           |
| <ul style="list-style-type: none"> <li>• Have all CPT vendors come on-site to complete assessment of equipment associated with CPT</li> <li>• Procure all existing equipment that is missing, damaged, needs to be replaced to get CPT running</li> <li>• Look into engineering and design concerns with CPT</li> <li>• Replace equipment</li> </ul>  |            |                  |             |             |             | <ul style="list-style-type: none"> <li>• Improving capture of dirty centrate away from the CPT system would reduce the amount of manual cleaning that has to be performed on the strainers and the pumps by plant personnel.</li> <li>• Automating the blower operation would reduce/eliminate the need for manual cycling/exercising of the blowers and improve air flow control and process performance.</li> <li>• Operations and maintenance personnel should be engaged in identifying possible solutions and selecting alternatives to be implemented.</li> </ul> |           |           |                       |           |           |                           |

| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP  |
|--|--|
| <ul style="list-style-type: none"> <li>• Centrate Pre-Treatment Recycle Pumps Performance Deterioration TM (CH2M, May 2016)</li> <li>• Summary of Centrate Pre-Treatment Blower Failure Investigation,</li> <li>• Evaluation and Recommendations TM (CH2M, February 2017)</li> </ul> | <ul style="list-style-type: none"> <li>• New project to restart CPT</li> </ul> |

## Building 22: Primary Weir Observation House

| Managing Department and Champion |                   | Project Location |                |                |                | Program and Project Category   |                |                | Estimated Useful Life |                |                | Lifetime Budget           |
|----------------------------------|-------------------|------------------|----------------|----------------|----------------|--|----------------|----------------|-----------------------|----------------|----------------|---------------------------|
| Engineering                      |                   | Building 22      |                |                |                | WRRF Improvements<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |                |                | 20 years              |                |                | \$4,620,000               |
|                                  |                   |                  |                |                |                |  |                |                |                       |                |                | <b>Grant/Debt Funded?</b> |
|                                  |                   |                  |                |                |                |  |                |                |                       |                |                | No                        |
| <b>Expenditure</b>               | <b>Prior Year</b> | <b>FY 2023</b>   | <b>FY 2024</b> | <b>FY 2025</b> | <b>FY 2026</b> | <b>FY 2027</b>   | <b>FY 2028</b> | <b>FY 2029</b> | <b>FY 2030</b>        | <b>FY 2031</b> | <b>FY 2032</b> | <b>10 Yr. Total</b>       |
| Total                            | \$0               | \$660,000        | \$990,000      | \$1,980,000    | \$990,000      | \$0  | \$0            | \$0            | \$0                   | \$0            | \$0            | \$4,620,000               |
| <b>Financing</b>                 |                   |                  |                |                |                |  |                |                |                       |                |                |                           |
| AlexRenew                        | \$0               | \$264,000        | \$396,000      | \$792,000      | \$396,000      | \$0  | \$0            | \$0            | \$0                   | \$0            | \$0            | \$1,848,000               |
| Fairfax                          | \$0               | \$396,000        | \$594,000      | \$1,188,000    | \$594,000      | \$0  | \$0            | \$0            | \$0                   | \$0            | \$0            | \$2,772,000               |

### Project Description and Justification

**Need:** Rehabilitation of the Primary Weir Observation House to address deterioration of building components due to corrosion. Project also addresses scum removal deficiencies within the Primary Settling Tanks.

**Background:** The Primary Weir Observation House has experienced deterioration of building components due to the corrosive nature of the space. The project consists of rehabilitating various building components and a new exterior walkway. The rotating scum collectors have operational challenges and were also studied during the PPSU Project and need replacement.

**Project Components:** New roof panels, sandblasting and repainting of deteriorated steel supports, replacement of various lighting components, electrical panels, and conduit, new exterior walkway for access to scum collectors, and new scum collector equipment.

**Procurement Method:** Scope and procurement strategy will be confirmed during the Program Definition Phase of the PPSU project

| Benefits   | Strategic Outcome Area   |
|--|--|
| <ul style="list-style-type: none"> <li>Maintains functionality of the Primary Weir Observation House.</li> <li>Increases lifetime of existing asset</li> </ul> | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>                                       |
| Key Milestones for FY 23   | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>Complete final design</li> </ul>  | <ul style="list-style-type: none"> <li>Maintains operational efficiencies/improves operator safety.</li> </ul> |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>  | <ul style="list-style-type: none"> <li>Budget updated to reflect recommendations from PPSU project</li> </ul>  |

## Building G/4: Tertiary Filter Repairs

| Managing Department and Champion |            | Project Location |             |             |           | Program and Project Category   |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|------------|------------------|-------------|-------------|-----------|--|---------|---------|-----------------------|---------|---------|---------------------------|
| Engineering                      |            | Building G/4     |             |             |           | WRRF Improvements<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |         |         | 20 years              |         |         | \$10,304,875              |
|                                  |            |                  |             |             |           |  |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|                                  |            |                  |             |             |           |  |         |         |                       |         |         | No                        |
| Expenditure                      | Prior Year | FY 2023          | FY 2024     | FY 2025     | FY 2026   | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$0        | \$2,520,000      | \$2,713,375 | \$2,541,500 | \$330,000 | \$2,200,000  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$10,304,875              |
| Financing                        |            |                  |             |             |           |  |         |         |                       |         |         |                           |
| AlexRenew                        | \$0        | \$1,008,000      | \$1,085,350 | \$1,016,600 | \$132,000 | \$880,000  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$4,121,950               |
| Fairfax                          | \$0        | \$1,512,000      | \$1,628,025 | \$1,524,900 | \$198,000 | \$1,320,000  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$6,182,925               |

### Project Description and Justification

**Need:** Maintain efficient and effective tertiary filter system.

**Background:** The Condition Assessment and Proposed Repair Plan Technical Memorandum was completed in FY22, which identified several aspects of tertiary filters 1-12 that are either damaged or beyond their useful life. The filter media was also found to be in poor condition.

**Project Components:** Design and construction for removing and replacing filter media, repairing concrete surfaces, replacing valves, and repairing air piping in one filter at a time to maintain plant operations.

**Procurement Method:** Undetermined

| Benefits   | Strategic Outcome Area  |
|--|---|
| <ul style="list-style-type: none"> <li>• Improves/maintains filter performance.</li> </ul>   | <ul style="list-style-type: none"> <li>• Operational Excellence</li> </ul>                          |
| Key Milestones for FY 23   | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>• Design media replacement and structural rehabilitation plan for filters 1-12</li> <li>• Design structural repair and replacement of filter troughs and valves</li> </ul>  | <ul style="list-style-type: none"> <li>• Improves/maintains filter performance</li> </ul>           |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>• Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2-2019-3, Task 4)</li> <li>• Condition Assessment and Proposed Repair Plan Technical Memorandum: AlexRenew Effluent Filters and Primary Settling Tank Effluent Channel (BOA 20-001B-01, Task 3)</li> </ul> | <ul style="list-style-type: none"> <li>• Scope/timeline has moved up to begin in FY 2023</li> </ul> |



## Building F: Plant Effluent Water (W3) System Improvements

| Managing Department and Champion  |            | Project Location |           |             |         | Program and Project Category   |         |         | Estimated Useful Life |         |          | Lifetime Budget    |
|---|------------|------------------|-----------|-------------|---------|--|---------|---------|-----------------------|---------|----------|--------------------|
| Engineering   |            | Building F       |           |             |         | WRRF Improvements Program  |         |         | TBD                   |         |          | \$3,716,700        |
|   |            |                  |           |             |         | <input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use  |         |         |                       |         |          | Grant/Debt Funded? |
|   |            |                  |           |             |         |  |         |         |                       |         |          | No                 |
| Expenditure   | Prior Year | FY 2023          | FY 2024   | FY 2025     | FY 2026 | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032  | 10 Yr. Total       |
| Total   | \$0        | \$1,027,425      | \$906,255 | \$1,710,391 | \$0     | \$31,907   | \$0     | \$0     | \$0                   | \$0     | \$40,722 | \$3,716,700        |
| <b>Financing</b>  |            |                  |           |             |         |  |         |         |                       |         |          |                    |
| AlexRenew   | \$0        | \$410,970        | \$362,502 | \$684,156   | \$0     | \$12,763   | \$0     | \$0     | \$0                   | \$0     | \$16,289 | \$1,486,680        |
| Fairfax   | \$0        | \$616,455        | \$543,753 | \$1,026,235 | \$0     | \$19,144   | \$0     | \$0     | \$0                   | \$0     | \$24,433 | \$2,230,020        |
| Project Description and Justification   |            |                  |           |             |         |  |         |         |                       |         |          |                    |
| <p><b>Need:</b> Components of AlexRenew’s plant effluent water (W3) system needs upgrading.</p> <p><b>Background:</b> An evaluation of the RW and W3 systems recommended improvements to the system to increase efficiency. These recommendations include operational changes, additional studies, and system upgrades. This project will address the recommended additional studies and system upgrades.</p> <p><b>Project Components:</b> Pressure monitoring equipment, booster pump enhancements, automated valves &amp; switches, SCADA-integrated flow meters, testing of meters and pumps, isolation valves, future condition assessments, and pump system upgrades</p> <p><b>Procurement Method:</b> Undetermined</p> |            |                  |           |             |         |  |         |         |                       |         |          |                    |
| Benefits  |            |                  |           |             |         | Strategic Outcome Area   |         |         |                       |         |          |                    |
| <ul style="list-style-type: none"> <li>Increased reliability and efficiency of AlexRenew’s W3 system</li> </ul>   |            |                  |           |             |         | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>                   |         |         |                       |         |          |                    |
| Key Milestones for FY 23  |            |                  |           |             |         | Impact on Operations or Community  |         |         |                       |         |          |                    |
| <ul style="list-style-type: none"> <li>Install pressure monitoring equipment on W3 line entering methanol building and in W3 loop</li> <li>Conduct Performance Testing for W3 Pumps</li> <li>Automate BRB spray headers</li> <li>Install W3 header flow meters</li> </ul>   |            |                  |           |             |         | <ul style="list-style-type: none"> <li>Reduced maintenance and operations needs</li> </ul> |         |         |                       |         |          |                    |
| External or Internal Adopted Plan or Recommendation   |            |                  |           |             |         | Changes from Prior Year CIP  |         |         |                       |         |          |                    |
| <ul style="list-style-type: none"> <li>W3/RW System Performance Evaluation - Existing &amp; Planned Demands Through 2025 (BOA 20-001-D_05, DRAFT)</li> </ul>  |            |                  |           |             |         | <ul style="list-style-type: none"> <li>New project</li> </ul>                              |         |         |                       |         |          |                    |

## Building L: Centrifuge Replacement

| Managing Department and Champion |            | Project Location |         |             |             | Program and Project Category                  |             |             | Estimated Useful Life |         |         | Lifetime Budget    |  |  |
|----------------------------------|------------|------------------|---------|-------------|-------------|---|-------------|-------------|-----------------------|---------|---------|--------------------|--|--|
| Engineering                      |            | Building L       |         |             |             | WRRF Improvements                             |             |             | N/A                   |         |         | \$13,635,000       |  |  |
|                                  |            |                  |         |             |             | <input type="checkbox"/> Alexandria Only      |             |             |                       |         |         | Grant/Debt Funded? |  |  |
|                                  |            |                  |         |             |             | <input checked="" type="checkbox"/> Joint Use |             |             |                       |         |         | No                 |  |  |
| Expenditure                      | Prior Year | FY 2023          | FY 2024 | FY 2025     | FY 2026     | FY 2027                                       | FY 2028     | FY 2029     | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total       |  |  |
| Total                            | \$0        | \$0              | \$0     | \$1,461,000 | \$1,461,000 | \$4,591,000                                   | \$4,591,000 | \$1,531,000 | \$0                   | \$0     | \$0     | \$13,635,000       |  |  |
| <b>Financing</b>                 |            |                  |         |             |             |   |             |             |                       |         |         |                    |  |  |
| AlexRenew                        | \$0        | \$0              | \$0     | \$584,400   | \$584,400   | \$1,836,400                                   | \$1,836,400 | \$612,400   | \$0                   | \$0     | \$0     | \$5,454,000        |  |  |
| Fairfax                          | \$0        | \$0              | \$0     | \$876,600   | \$876,600   | \$2,754,600                                   | \$2,754,600 | \$918,600   | \$0                   | \$0     | \$0     | \$8,181,000        |  |  |

### Project Description and Justification

**Need:** To replace the existing dewatering & thickening centrifuges.

**Background:** Four thickening centrifuges (two duty, two standby) are used to thicken WAS and three dewatering centrifuges (two duty, one standby) are used to dewater digested sludge. Both systems are part of the WRRF's solids handling process and were placed into service in 2003. Both systems are expected to reach the end of their useful lives in the next few years.

**Project Components:** Centrifuges and associated appurtenances.

**Procurement Method:** Undetermined

| Benefits  | Strategic Outcome Area  |
|---|---|
| <ul style="list-style-type: none"> <li>Maintains solids process performance.</li> </ul> | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>                |
| Key Milestones for FY 23  | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>None</li> </ul>                                  | <ul style="list-style-type: none"> <li>Maintains solids process performance.</li> </ul> |
| External or Internal Adopted Plan or Recommendation                                     | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>Planned equipment replacement.</li> </ul>        | <ul style="list-style-type: none"> <li>None</li> </ul>                                  |

## Campus-Wide Electrical Upgrade Sub-Program

| Managing Department and Champion  |            | Project Location |         |         |           | Program and Project Category  |             |             | Estimated Useful Life |           |         | Lifetime Budget    |
|---|------------|------------------|---------|---------|-----------|---|-------------|-------------|-----------------------|-----------|---------|--------------------|
| Engineering   |            | WRRF             |         |         |           | WRRF Improvements<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use                |             |             | 10 years              |           |         | \$14,992,000       |
|   |            |                  |         |         |           |   |             |             |                       |           |         | Grant/Debt Funded? |
|   |            |                  |         |         |           |   |             |             |                       |           |         | No                 |
| Expenditure   | Prior Year | FY 2023          | FY 2024 | FY 2025 | FY 2026   | FY 2027   | FY 2028     | FY 2029     | FY 2030               | FY 2031   | FY 2032 | 10 Yr. Total       |
| Total   | \$0        | \$0              | \$0     | \$0     | \$781,000 | \$3,334,000   | \$3,278,000 | \$4,301,000 | \$2,652,000           | \$646,000 | \$0     | \$14,992,000       |
| <b>Financing</b>  |            |                  |         |         |           |   |             |             |                       |           |         |                    |
| AlexRenew   | \$0        | \$0              | \$0     | \$0     | \$312,400 | \$1,333,600   | \$1,333,600 | \$1,720,400 | \$1,060,800           | \$258,400 | \$0     | \$5,996,800        |
| Fairfax   | \$0        | \$0              | \$0     | \$0     | \$468,600 | \$2,000,400   | \$2,000,400 | \$2,580,600 | \$1,591,200           | \$387,600 | \$0     | \$8,995,200        |
| Project Description and Justification   |            |                  |         |         |           |   |             |             |                       |           |         |                    |
| <p><b>Need:</b> To support plant reliability and safety of the plant’s electrical grid.</p> <p><b>Background:</b> This project involves recommended rehabilitation tasks previously identified during the process of evaluating energy use on campus.</p> <p><b>Project Components:</b> Switchgear replacements and other upgrades related to electrical systems</p> <p><b>Procurement Method:</b> Undetermined</p> |            |                  |         |         |           |   |             |             |                       |           |         |                    |
| Benefits  |            |                  |         |         |           | Strategic Outcome Area  |             |             |                       |           |         |                    |
| <ul style="list-style-type: none"> <li>To ensure aging infrastructure does not compromise electrical reliability</li> </ul>   |            |                  |         |         |           | <ul style="list-style-type: none"> <li>Effective Financial Stewardship</li> </ul>   |             |             |                       |           |         |                    |
| Key Milestones for FY 23  |            |                  |         |         |           | Impact on Operations or Community   |             |             |                       |           |         |                    |
| <ul style="list-style-type: none"> <li>None</li> </ul>  |            |                  |         |         |           | <ul style="list-style-type: none"> <li>This project will reduce future maintenance costs and renew existing assets</li> </ul> |             |             |                       |           |         |                    |
| External or Internal Adopted Plan or Recommendation   |            |                  |         |         |           | Changes from Prior Year CIP   |             |             |                       |           |         |                    |
| <ul style="list-style-type: none"> <li>None</li> </ul>  |            |                  |         |         |           | <ul style="list-style-type: none"> <li>Project has been delayed until after tunnel construction is complete</li> </ul>        |             |             |                       |           |         |                    |

## HMI Upgrade

| Managing Department and Champion  |             | Project Location |             |           |         | Program and Project Category  |         |         | Estimated Useful Life |         |         | Lifetime Budget       |
|---|-------------|------------------|-------------|-----------|---------|---|---------|---------|-----------------------|---------|---------|-----------------------|
| Engineering<br>IT   |             | Various          |             |           |         | Improve., Rehab., Replacement<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use  |         |         | 5 years               |         |         | \$4,216,273           |
|   |             |                  |             |           |         |   |         |         |                       |         |         | Grant/Debt<br>Funded? |
|   |             |                  |             |           |         |   |         |         |                       |         |         | No                    |
| Expenditure   | Prior Year  | FY 2023          | FY 2024     | FY 2025   | FY 2026 | FY 2027   | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total          |
| Total   | \$1,336,425 | \$1,600,000      | \$1,200,000 | \$250,000 | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$3,050,000           |
| <b>Financing</b>  |             |                  |             |           |         |   |         |         |                       |         |         |                       |
| AlexRenew   | \$540,000   | \$640,000        | \$480,000   | \$100,000 | \$      | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$1,220,000           |
| Fairfax   | \$810,000   | \$960,000        | \$720,000   | \$150,000 | \$0     | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$1,830,000           |
| Project Description and Justification   |             |                  |             |           |         |   |         |         |                       |         |         |                       |
| <p><b>Need:</b> Upgrade and modification of the Human Machine Interface (HMI) technology associated with the WRRF Control System.</p> <p><b>Background:</b> The current HMI needs upgrades.</p> <p><b>Project Components:</b> Replacement of WinCC with Factory Talk View SE. Update of HMI Screens and PLC code to meet new standards.</p> <p><b>Procurement Method:</b> Existing Contract</p> |             |                  |             |           |         |   |         |         |                       |         |         |                       |
| Benefits  |             |                  |             |           |         | Strategic Outcome Area  |         |         |                       |         |         |                       |
| <ul style="list-style-type: none"> <li>Reduce the number of HMI screens to provide concise graphical information</li> <li>Reduce the number of ghost alarms</li> <li>Eliminate stability issues inherent to WinCC</li> <li>Develop scalable control system to meet future demands</li> <li>Improve fault tolerance</li> </ul>   |             |                  |             |           |         | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>  |         |         |                       |         |         |                       |
| Key Milestones for FY 23  |             |                  |             |           |         | Impact on Operations or Community   |         |         |                       |         |         |                       |
| <ul style="list-style-type: none"> <li>Modify the HMI associated with the PLCs that were upgraded as part of the PLC Upgrade/Replacement Project</li> </ul>   |             |                  |             |           |         | <ul style="list-style-type: none"> <li>Increased operational efficiency through improved user experience</li> <li>Increased system reliability</li> <li>Reduced ghost alarms</li> </ul> |         |         |                       |         |         |                       |
| External or Internal Adopted Plan or Recommendation   |             |                  |             |           |         | Changes from Prior Year CIP   |         |         |                       |         |         |                       |
| <ul style="list-style-type: none"> <li>2016 SCADA Master Plan</li> </ul>  |             |                  |             |           |         | <ul style="list-style-type: none"> <li>Project schedule extended (re: Covid19 impacts).</li> </ul>  |         |         |                       |         |         |                       |

## Main Campus Galleries Improvements

| Managing Department and Champion |            |         | Project Location |         |         | Program and Project Category   |           |           | Estimated Useful Life |         |         | Lifetime Budget           |
|----------------------------------|------------|---------|------------------|---------|---------|--|-----------|-----------|-----------------------|---------|---------|---------------------------|
| Engineering                      |            |         | WRRF             |         |         | WRRF Improvements<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |           |           | 10 years              |         |         | \$1,300,000               |
|                                  |            |         |                  |         |         |  |           |           |                       |         |         | <b>Grant/Debt Funded?</b> |
|                                  |            |         |                  |         |         |  |           |           |                       |         |         | No                        |
| Expenditure                      | Prior Year | FY 2023 | FY 2024          | FY 2025 | FY 2026 | FY 2027  | FY 2028   | FY 2029   | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$0        | \$0     | \$0              | \$0     | \$0     | \$500,000  | \$500,000 | \$300,000 | \$0                   | \$0     | \$0     | \$1,300,000               |
| <b>Financing</b>                 |            |         |                  |         |         |  |           |           |                       |         |         |                           |
| AlexRenew                        | \$0        | \$0     | \$0              | \$0     | \$0     | \$200,000  | \$200,000 | \$120,000 | \$0                   | \$0     | \$0     | \$520,000                 |
| Fairfax                          | \$0        | \$0     | \$0              | \$0     | \$0     | \$300,000  | \$300,000 | \$180,000 | \$0                   | \$0     | \$0     | \$780,000                 |

### Project Description and Justification

**Need:** AlexRenew's walkable gallery system, some of which was constructed as early as the 1950s, houses mechanical and electrical utilities and piping and needs updating.

**Background:** This project involves recommended rehabilitation tasks previously identified during the process of creating a unified map of utilities within the system.

**Project Components:** Undetermined

**Procurement Method:** Undetermined

| Benefits  | Strategic Outcome Area  |
|---|---|
| <ul style="list-style-type: none"> <li>This project will help better identify, quantify and maintain existing assets</li> </ul> | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>  |
| Key Milestones for FY 23  | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>None</li> </ul>  | <ul style="list-style-type: none"> <li>This project will reduce future maintenance costs and renew existing assets</li> </ul> |
| External or Internal Adopted Plan or Recommendation   | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>None</li> </ul>  | <ul style="list-style-type: none"> <li>Project delayed 2 years</li> </ul>   |

## Odor Control System Upgrade

| Managing Department and Champion |            | Project Location |         |           |         | Program and Project Category  |             |             | Estimated Useful Life |         |         | Lifetime Budget                    |
|----------------------------------|------------|------------------|---------|-----------|---------|---|-------------|-------------|-----------------------|---------|---------|------------------------------------|
| Engineering                      |            | WRRF             |         |           |         | WRRF Improvement Program<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |             |             | TBD                   |         |         | \$2,500,000                        |
|                                  |            |                  |         |           |         |   |             |             |                       |         |         | Grant/Debt Funded?<br>Undetermined |
| Expenditure                      | Prior Year | FY 2023          | FY 2024 | FY 2025   | FY 2026 | FY 2027   | FY 2028     | FY 2029     | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total                       |
| Total                            | \$0        | \$0              | \$0     | \$500,000 | \$0     | \$0   | \$1,000,000 | \$1,000,000 | \$0                   | \$0     | \$0     | \$2,500,000                        |
| <b>Financing</b>                 |            |                  |         |           |         |   |             |             |                       |         |         |                                    |
| AlexRenew                        | \$0        | \$0              | \$0     | \$200,000 | \$0     | \$0   | \$400,000   | \$400,000   | \$0                   | \$0     | \$0     | \$1,000,000                        |
| Fairfax                          | \$0        | \$0              | \$0     | \$300,000 | \$0     | \$0   | \$600,000   | \$600,000   | \$0                   | \$0     | \$0     | \$1,500,000                        |

### Project Description and Justification

**Need:** To assess the plant odor control system and identify capital improvement needs.

**Background:** This project involves the assessment of the odor control system and identification of needs for new capital improvements to ensure AlexRenew is minimizing odors leaving the plant. Includes study in FY25 and any resulting work in FY28-29. Will incorporate needs from RiverRenew.

**Project Components:**

- Analyze entire system (confirm air loads/ventilation rates)
- Update dispersion modeling
- Re-balance entire system

**Procurement Method:** Undetermined

| Benefits   | Strategic Outcome Area  |
|--|---|
| <ul style="list-style-type: none"> <li>• Minimizes the likelihood of receiving odor complaints.</li> </ul> | <ul style="list-style-type: none"> <li>• Public Engagement &amp; Trust</li> </ul>   |
| Key Milestones for FY 23   | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>• None</li> </ul>   | <ul style="list-style-type: none"> <li>• This project will ensure AlexRenew remains a good neighbor by minimizing the likelihood of customers experiencing odors near the facility</li> </ul> |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>• None</li> </ul>   | <ul style="list-style-type: none"> <li>• None</li> </ul>  |

## Purified Water System Upgrade

| Managing Department and Champion |            | Project Location |           |           |           | Program and Project Category                  |         |         | Estimated Useful Life |         |         | Lifetime Budget    |  |  |
|----------------------------------|------------|------------------|-----------|-----------|-----------|---|---------|---------|-----------------------|---------|---------|--------------------|--|--|
| Strategy and Policy              |            | Building F       |           |           |           | WRRF System Improvements                      |         |         | TBD                   |         |         | \$2,109,474        |  |  |
|                                  |            |                  |           |           |           | <input type="checkbox"/> Alexandria Only      |         |         |                       |         |         | Grant/Debt Funded? |  |  |
|                                  |            |                  |           |           |           | <input checked="" type="checkbox"/> Joint Use |         |         |                       |         |         | No                 |  |  |
| Expenditure                      | Prior Year | FY 2023          | FY 2024   | FY 2025   | FY 2026   | FY 2027                                       | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total       |  |  |
| Total                            | \$0        | \$0              | \$158,760 | \$951,568 | \$999,146 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$2,109,474        |  |  |
| <b>Financing</b>                 |            |                  |           |           |           |   |         |         |                       |         |         |                    |  |  |
| AlexRenew                        | \$0        | \$0              | \$158,760 | \$951,568 | \$999,146 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$2,109,474        |  |  |
| Fairfax                          | \$0        | \$0              | \$0       | \$0       | \$0       | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$0                |  |  |

### Project Description and Justification

**Need:** AlexRenew’s purified water system is in need of upgrades.

**Background:** AlexRenew’s existing purified water system is designed to treat a maximum of 2.0 MGD. It was placed into service in 2015 and needs updating. The evaluation of this system with use projections through 2031 is in progress.

**Project Components:** Project components include new pumps, motors, drives, upgraded UV and booster systems, instrumentation, and related improvements.

**Procurement Method:** Undetermined

| Benefits   | Strategic Outcome Area  |
|--|---|
| <ul style="list-style-type: none"> <li>Increases purified water system capacity to meet demands</li> </ul> | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>  |
| Key Milestones for FY 23   | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>None</li> </ul>   | <ul style="list-style-type: none"> <li>An increase in purified water supply will allow additional use of purified water in the surrounding community and enable potential revenue source</li> </ul> |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>TBD</li> </ul>  | <ul style="list-style-type: none"> <li>New project</li> </ul>   |

## Power Distribution Monitors

| Managing Department and Champion   |            | Project Location |           |           |           | Program and Project Category  |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|--|------------|------------------|-----------|-----------|-----------|---|---------|---------|-----------------------|---------|---------|---------------------------|
| Engineering  |            | WRRF             |           |           |           | WRRF Improvements   |         |         | 10 years              |         |         | \$500,000                 |
|  |            |                  |           |           |           | <input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use   |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|  |            |                  |           |           |           |   |         |         |                       |         |         | Undetermined              |
| Expenditure  | Prior Year | FY 2023          | FY 2024   | FY 2025   | FY 2026   | FY 2027   | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total  | \$0        | \$50,000         | \$100,000 | \$250,000 | \$100,000 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$500,000                 |
| Financing  |            |                  |           |           |           |   |         |         |                       |         |         |                           |
| AlexRenew  | \$0        | \$20,000         | \$40,000  | \$100,000 | \$40,000  | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$200,000                 |
| Fairfax  | \$0        | \$30,000         | \$60,000  | \$150,000 | \$60,000  | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$300,000                 |
| Project Description and Justification  |            |                  |           |           |           |   |         |         |                       |         |         |                           |
| <p><b>Need:</b> Replacement of existing power monitors with Ethernet connectivity and network replacement of DH+ with Ethernet.</p> <p><b>Background:</b> AlexRenew’s SCADA system is equipped with electrical power monitors designed to provide real-time and historical electricity consumption data for unit systems throughout the plant. The current power distribution monitors are obsolete and rely on proprietary communication technology. Power monitor audit will begin in FY 2025 and the results will determine the number and location of additional monitors needed.</p> <p><b>Project Components:</b> Phased approach: programming and testing new modules, installing network infrastructure, updating reference documents, and updating the SCADA dashboard with energy usage data.</p> <p><b>Procurement Method:</b> Undetermined</p> |            |                  |           |           |           |   |         |         |                       |         |         |                           |
| Benefits   |            |                  |           |           |           | Strategic Outcome Area  |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>Enhance the system so that data interpretation can be used to make operational changes.</li> <li>Enhance understanding of resource consumption</li> </ul>   |            |                  |           |           |           | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>  |         |         |                       |         |         |                           |
| Key Milestones for FY 23   |            |                  |           |           |           | Impact on Operations or Community   |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>Develop a plan for phased power monitor updates based on data needs for sustainability and O&amp;M.</li> <li>Conduct proof of concept conditioning. Initial concept would include upgrade of up to 5 power monitors for high-energy consuming systems.</li> </ul>   |            |                  |           |           |           | <ul style="list-style-type: none"> <li>A series of outages will be necessary to transition every device onto the new system.</li> <li>Identification of cost savings opportunities in terms of power consumption</li> </ul> |         |         |                       |         |         |                           |
| External or Internal Adopted Plan or Recommendation  |            |                  |           |           |           | Changes from Prior Year CIP   |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>SCADA Master Plan</li> </ul>  |            |                  |           |           |           | <ul style="list-style-type: none"> <li>New project</li> </ul>   |         |         |                       |         |         |                           |



## Preliminary/Primary System Upgrades

| Managing Department and Champion |             | Project Location         |             |              |             | Program and Project Category                  |         |         | Estimated Useful Life |         |         | Lifetime Budget    |  |  |
|----------------------------------|-------------|--------------------------|-------------|--------------|-------------|---|---------|---------|-----------------------|---------|---------|--------------------|--|--|
| Engineering                      |             | Building A<br>Building K |             |              |             | WRRF Improvements                             |         |         | 20 years              |         |         | \$51,869,270       |  |  |
|                                  |             |                          |             |              |             | <input type="checkbox"/> Alexandria Only      |         |         |                       |         |         | Grant/Debt Funded? |  |  |
|                                  |             |                          |             |              |             | <input checked="" type="checkbox"/> Joint Use |         |         |                       |         |         | No                 |  |  |
| Expenditure                      | Prior Year  | FY 2023                  | FY 2024     | FY 2025      | FY 2026     | FY 2027                                       | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total       |  |  |
| Total                            | \$8,249,270 | \$9,110,000              | \$9,350,000 | \$18,690,000 | \$9,350,000 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$46,520,000       |  |  |
| <b>Financing</b>                 |             |                          |             |              |             |   |         |         |                       |         |         |                    |  |  |
| AlexRenew                        | \$3,299,708 | \$3,644,000              | \$3,740,000 | \$7,476,000  | \$3,740,000 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$18,608,000       |  |  |
| Fairfax                          | \$4,949,562 | \$5,466,000              | \$5,610,000 | \$11,214,000 | \$5,610,000 | \$0   | \$0     | \$0     | \$0                   | \$0     | \$0     | \$27,912,000       |  |  |

### Project Description and Justification

**Need:** Many of the system components of the Preliminary and Primary Treatment Systems have reached the end of their useful life. The completion of the RiverRenew Tunnel System will increase combined sewer flows to the head of the plant and will have impacts to system performance.

**Background:** The Program Definition Phase of the PPSU project identified several needed updates to the preliminary and primary treatment systems. The updates needed include but are not limited to coarse screening updates, improved access to coarse screening components, raw sewage pump flow capacity, condition assessments of suction and discharge conduits, improvements to fine screening and grit removal equipment, improvements to grit and screening loading system, improvements to scum concentration system, and replacement of the primary sludge pumping equipment,

**Procurement Method:** Undetermined

| Benefits   | Strategic Outcome Area   |
|--|--|
| <ul style="list-style-type: none"> <li>• Enhance the system so that data interpretation can be used to make operational changes.</li> <li>• Enhance understanding of resource consumption</li> </ul> | <ul style="list-style-type: none"> <li>• Operational Excellence</li> </ul>                                       |
| Key Milestones for FY 23   | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>• Complete final design</li> </ul>  | <ul style="list-style-type: none"> <li>• Maintains operational efficiencies/improves operator safety.</li> </ul> |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>• TBD</li> </ul>  | <ul style="list-style-type: none"> <li>• Costs updated</li> </ul>  |

## Primary Settling Tank Rehabilitation

| Managing Department and Champion  |            | Project Location                   |         |         |         | Program and Project Category   |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|---|------------|------------------------------------|---------|---------|---------|--|---------|---------|-----------------------|---------|---------|---------------------------|
| Engineering   |            | Primary Settling Tanks 1 through 8 |         |         |         | WRRF Improvements  |         |         | 20 years              |         |         | \$5,000,000               |
|   |            |                                    |         |         |         | <input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use  |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|   |            |                                    |         |         |         |  |         |         |                       |         |         | No                        |
| Expenditure   | Prior Year | FY 2023                            | FY 2024 | FY 2025 | FY 2026 | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total   | \$0        | \$5,000,000                        | \$0     | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$5,000,000               |
| <b>Financing</b>  |            |                                    |         |         |         |  |         |         |                       |         |         |                           |
| AlexRenew   | \$0        | \$2,000,000                        | \$0     | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$2,000,000               |
| Fairfax   | \$0        | \$3,000,000                        | \$0     | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$3,000,000               |
| Project Description and Justification   |            |                                    |         |         |         |  |         |         |                       |         |         |                           |
| <p><b>Need:</b> To replace equipment within Primary Settling Tanks 1 through 8 that is beyond its service lifetime.</p> <p><b>Background:</b> The equipment is heavily used and is at its useful life. It is also a critical component to successful operation of the new RiverRenew infrastructure.</p> <p><b>Project Components:</b> New drive chain, new longitudinal &amp; cross collector mechanisms, new drive units, new sprocket motion monitoring system, new control stations for PST 5-8, and other miscellaneous parts replacements. Project also includes necessary electrical and structural modifications, engineering support, SCADA integration, and associated startup, certification, training, etc.</p> <p><b>Procurement Method:</b> Equipment will be procured by AlexRenew directly from supplier. Installation work will be separately procured by AlexRenew via existing on-call contract.</p> |            |                                    |         |         |         |  |         |         |                       |         |         |                           |
| Benefits  |            |                                    |         |         |         | Strategic Outcome Area   |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>• Improved reliability of the primary settling tank infrastructure</li> <li>• Improved treatment performance</li> </ul>  |            |                                    |         |         |         | <ul style="list-style-type: none"> <li>• Operational Excellence</li> </ul>   |         |         |                       |         |         |                           |
| Key Milestones for FY 23  |            |                                    |         |         |         | Impact on Operations or Community  |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>• Equipment fabrication, delivery, and installation.</li> </ul>  |            |                                    |         |         |         | <ul style="list-style-type: none"> <li>• Decreases future O&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  |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>• N/A</li> </ul>   |            |                                    |         |         |         | <ul style="list-style-type: none"> <li>• New project</li> </ul>  |         |         |                       |         |         |                           |

## Secondary Settling Tanks Refurbishment

| Managing Department and Champion |            | Project Location                     |          |          |          | Program and Project Category  |          |          | Estimated Useful Life |          |          | Lifetime Budget           |
|----------------------------------|------------|--------------------------------------|----------|----------|----------|---|----------|----------|-----------------------|----------|----------|---------------------------|
| Operations and Maintenance       |            | Secondary Settling Tanks 1 through 6 |          |          |          | WRRF Improvements   |          |          | 20 years              |          |          | \$7,725,000               |
|                                  |            |                                      |          |          |          | <input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |          |          |                       |          |          | <b>Grant/Debt Funded.</b> |
|                                  |            |                                      |          |          |          |   |          |          |                       |          |          | No                        |
| Expenditure                      | Prior Year | FY 2023                              | FY 2024  | FY 2025  | FY 2026  | FY 2027   | FY 2028  | FY 2029  | FY 2030               | FY 2031  | FY 2032  | 10 Yr. Total              |
| Total                            | \$0        | \$7,500,000                          | \$25,000 | \$25,000 | \$25,000 | \$25,000  | \$25,000 | \$25,000 | \$25,000              | \$25,000 | \$25,000 | \$7,725,000               |
| Financing                        |            |                                      |          |          |          |   |          |          |                       |          |          |                           |
| AlexRenew                        | \$0        | \$3,000,000                          | \$10,000 | \$10,000 | \$10,000 | \$10,000  | \$10,000 | \$10,000 | \$10,000              | \$10,000 | \$10,000 | \$3,090,000               |
| Fairfax                          | \$0        | \$4,500,000                          | \$15,000 | \$15,000 | \$15,000 | \$15,000  | \$15,000 | \$15,000 | \$15,000              | \$15,000 | \$15,000 | \$4,635,000               |

### Project Description and Justification

**Need:** Funds are needed to replace Chain and Flight Equipment in Secondary Settling Tanks

**Background:** There are six (6) secondary settling tanks consisting of four (4) cells each. The existing Chain and Flight Equipment has reached the end of its useful life. This equipment is critical in the proper processing of sediment/scum from bottom of the secondary settling tanks and is a key factor for the operational excellence of the overall wastewater treatment process.

**Project Components:** Secondary Settling Tanks, Chain and Flight Equipment

**Procurement Method:** Undetermined

| Benefits  | Strategic Outcome Area  |
|---|---|
| <ul style="list-style-type: none"> <li>Improve the overall performance of the secondary settling tanks</li> <li>Reliability and efficiency of the secondary infrastructure</li> </ul> | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>  |
| Key Milestones for FY 23  | Impact on Operations or Community   |
| <ul style="list-style-type: none"> <li>Complete replacement of the existing Polychem Chain and Flight Equipment in all the 24 cells of the secondary settling tanks</li> </ul>        | <ul style="list-style-type: none"> <li>Improve the overall performance of the treatment process</li> <li>It leads to overall improvement of Operational Excellence</li> </ul> |
| External or Internal Adopted Plan or Recommendation   | Changes from Prior Year CIP   |
| <ul style="list-style-type: none"> <li>N/A</li> </ul>   | <ul style="list-style-type: none"> <li>New project</li> </ul>   |

## Security Services During Construction

| Managing Department and Champion  |            | Project Location |           |           |           | Program and Project Category   |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|---|------------|------------------|-----------|-----------|-----------|--|---------|---------|-----------------------|---------|---------|---------------------------|
| Safety  |            | WRRF             |           |           |           | WRRF Improvements<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use                         |         |         | 5 years               |         |         | \$2,000,000               |
|   |            |                  |           |           |           |  |         |         |                       |         |         | <b>Grant/Debt Funded.</b> |
|   |            |                  |           |           |           |  |         |         |                       |         |         | Yes                       |
| Expenditure   | Prior Year | FY 2023          | FY 2024   | FY 2025   | FY 2026   | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total   | \$400,000  | \$400,000        | \$400,000 | \$400,000 | \$400,000 | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$1,600,000               |
| <b>Financing</b>  |            |                  |           |           |           |  |         |         |                       |         |         |                           |
| AlexRenew   | \$160,000  | \$160,000        | \$160,000 | \$160,000 | \$160,000 | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$640,000                 |
| Fairfax   | \$240,000  | \$240,000        | \$240,000 | \$240,000 | \$240,000 | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$960,000                 |
| Project Description and Justification   |            |                  |           |           |           |  |         |         |                       |         |         |                           |
| <p><b>Need:</b> Funds are needed to maintain stringent security measures during the ongoing RiverRenew Tunnel Project.</p> <p><b>Background:</b> Stringent security measures are required during the ongoing RiverRenew Tunnel project to provide a safe, secure and reliable work environment for AlexRenew employees and all the contractors.</p> <p><b>Project Components:</b> Infrastructure improvements and security measures to enhance security at the WRRF and AlexRenew construction sites.</p> <p><b>Procurement Method:</b> Invitation to Bid</p> |            |                  |           |           |           |  |         |         |                       |         |         |                           |
| Benefits  |            |                  |           |           |           | Strategic Outcome Area   |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>• Maintenance of safety and security during the ongoing RiverRenew Tunnel Project</li> <li>• A safe and reliable work environment for all employees</li> </ul>   |            |                  |           |           |           | <ul style="list-style-type: none"> <li>• Public Engagement &amp; Trust</li> </ul>  |         |         |                       |         |         |                           |
| Key Milestones for FY 23  |            |                  |           |           |           | Impact on Operations or Community  |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>• Maintain efficient security services during the start of tunnel boring activities at the WRRF.</li> </ul>  |            |                  |           |           |           | <ul style="list-style-type: none"> <li>• Enhances safety and security for staff, contractors, and the surrounding community</li> </ul> |         |         |                       |         |         |                           |
| External or Internal Adopted Plan or Recommendation   |            |                  |           |           |           | Changes from Prior Year CIP  |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>• N/A</li> </ul>   |            |                  |           |           |           | <ul style="list-style-type: none"> <li>• N/A</li> </ul>  |         |         |                       |         |         |                           |

## Solids Management: Solids Master Plan

| Managing Department and Champion |            |           | Project Location          |         |         | Program and Project Category   |         |         | Estimated Useful Life |         |         | Lifetime Budget          |
|----------------------------------|------------|-----------|---------------------------|---------|---------|--|---------|---------|-----------------------|---------|---------|--------------------------|
| Engineering                      |            |           | Building L<br>Building 55 |         |         | WRRF Improvements<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |         |         | N/A                   |         |         | \$1,000,000              |
|                                  |            |           |                           |         |         |  |         |         |                       |         |         | Grant/Debt Funded?<br>No |
| Expenditure                      | Prior Year | FY 2023   | FY 2024                   | FY 2025 | FY 2026 | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total             |
| Total                            | \$750,000  | \$700,000 | \$250,000                 | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$950,000                |
| <b>Financing</b>                 |            |           |                           |         |         |  |         |         |                       |         |         |                          |
| AlexRenew                        | \$300,000  | \$280,000 | \$100,000                 | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$380,000                |
| Fairfax                          | \$450,000  | \$420,000 | \$150,000                 | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$570,000                |

### Project Description and Justification

**Need:** To create a master plan for solids handling at AlexRenew’s WRRF.

**Background:** Components of the WRRF biosolids process have been evaluated in the recent past. This program provides a holistic study of the system. Solids management, to include solids handling, disposal and volume reduction options, will be explored in the context of sustainability and regulatory drivers, available technologies, and best practices. The following CIP/IRR projects may be affected by the results of the plan:

- Solids Management: Building 55: Additional Cooling for Digesters
- Solids Management: Building 55: Replace Valves on W3 Cooling System
- Solids Management: Solids/Resource Recovery
- Odor Control System Upgrade
- Pre-Pasteurization System Improvements

**Project Components:** Undetermined

**Procurement Method:** Request for Proposal

| Benefits   | Strategic Outcome Area   |
|--|--|
| <ul style="list-style-type: none"> <li>• Creates a written plan outlining the measures needed to ensure the longevity and performance of the WRRF biosolids system.</li> </ul> | <ul style="list-style-type: none"> <li>• Effective Financial Stewardship</li> </ul>                                |
| Key Milestones for FY 23   | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>• Solids Master Plan kick off</li> </ul>  | <ul style="list-style-type: none"> <li>• Ensure reliability and longevity of the WRRF biosolids system.</li> </ul> |

| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP  |
|--|--|
| <ul style="list-style-type: none"> <li>• Solids Handling and Energy Optimization Update to the Long Range Plan (CH2M, January 2017)</li> <li>• AlexRenew BOA 14-017-2 Task Order WA2-2015-4, Pre-pasteurization System Evaluation, Heat Exchangers Recommendations – Draft, January 2016</li> <li>• AlexRenew BOA 14-017-2 Task Order WA2-2015-4, Pre-pasteurization Tank Exhaust System Replacement, Preliminary Design, December 2015</li> <li>• Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2 2019-3, Task 4)</li> </ul> | <ul style="list-style-type: none"> <li>• Costs extended to FY24</li> </ul> |

## Solids Management: Building 55 - Additional Cooling for Digesters

| Managing Department and Champion  |            | Project Location |           |         |         | Program and Project Category   |         |         | Estimated Useful Life |         |         | Lifetime Budget    |  |  |
|---|------------|------------------|-----------|---------|---------|--|---------|---------|-----------------------|---------|---------|--------------------|--|--|
| Engineering   |            | Building 55      |           |         |         | WRRF Improvements  |         |         | TBD                   |         |         | \$3,494,500        |  |  |
|   |            |                  |           |         |         | <input type="checkbox"/> Alexandria Only   |         |         |                       |         |         | Grant/Debt Funded? |  |  |
|   |            |                  |           |         |         | <input checked="" type="checkbox"/> Joint Use  |         |         |                       |         |         | No                 |  |  |
| Expenditure   | Prior Year | FY 2023          | FY 2024   | FY 2025 | FY 2026 | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total       |  |  |
| Total   | \$0        | \$3,276,100      | \$218,400 | 0       | 0       | 0  | 0       | 0       | 0                     | 0       | 0       | \$3,494,500        |  |  |
| <b>Financing</b>  |            |                  |           |         |         |  |         |         |                       |         |         |                    |  |  |
| AlexRenew   | \$0        | \$1,310,440      | \$87,360  | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$1,397,800        |  |  |
| Fairfax   | \$0        | \$1,965,660      | \$131,040 | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$2,096,700        |  |  |
| Project Description and Justification   |            |                  |           |         |         |  |         |         |                       |         |         |                    |  |  |
| <p><b>Need:</b> This project will install a new chiller system, pumps, and a heat exchange to increase the cooling capacity in the summer. The need for this project will be further confirmed under the Solids Master Plan project.</p> <p><b>Background:</b> Historically, the heat exchangers have used plant effluent water and have been unable to cool the pasteurized sludge to mesophilic anaerobic digestion temperatures (95° F) during summer months. Digester upset will occur if the digesters operate above the healthy digester operating range.</p> <p><b>Project Components:</b> A new chiller system, pumps, and a heat exchanger.</p> <p><b>Procurement Method:</b> Undetermined</p> |            |                  |           |         |         |  |         |         |                       |         |         |                    |  |  |
| Benefits  |            |                  |           |         |         | Strategic Outcome Area   |         |         |                       |         |         |                    |  |  |
| <ul style="list-style-type: none"> <li>• Improves digester performance during summer months.</li> <li>• Minimizes risk of digester upset.</li> </ul>  |            |                  |           |         |         | <ul style="list-style-type: none"> <li>• Operational Excellence</li> </ul>                           |         |         |                       |         |         |                    |  |  |
| Key Milestones for FY 23  |            |                  |           |         |         | Impact on Operations or Community  |         |         |                       |         |         |                    |  |  |
| <ul style="list-style-type: none"> <li>• Install a new chiller system, pumps, and a heat exchange</li> </ul>  |            |                  |           |         |         | <ul style="list-style-type: none"> <li>• Improved solids operations during summer months.</li> </ul> |         |         |                       |         |         |                    |  |  |
| External or Internal Adopted Plan or Recommendation   |            |                  |           |         |         | Changes from Prior Year CIP  |         |         |                       |         |         |                    |  |  |
| <ul style="list-style-type: none"> <li>• Solids Handling and Energy Optimization Update to the Long Range Plan (CH2M, January 2017)</li> <li>• Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2 2019-3, Task 4)</li> </ul>  |            |                  |           |         |         | <ul style="list-style-type: none"> <li>• Budget increased based on inflation and scope</li> </ul>    |         |         |                       |         |         |                    |  |  |

## Solids Management: Building 55 - Replace Valves on W3 Cooling System

| Managing Department and Champion   |            | Project Location |         |         |         | Program and Project Category   |         |         | Estimated Useful Life |         |         | Lifetime Budget    |
|--|------------|------------------|---------|---------|---------|--|---------|---------|-----------------------|---------|---------|--------------------|
| Engineering  |            | Building 55      |         |         |         | WRRF Improvements<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |         |         | 10 years              |         |         | \$21,500           |
|  |            |                  |         |         |         |  |         |         |                       |         |         | Grant/Debt Funded? |
|  |            |                  |         |         |         |  |         |         |                       |         |         | No                 |
| Expenditure  | Prior Year | FY 2023          | FY 2024 | FY 2025 | FY 2026 | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total       |
| Total  | \$0        | \$21,500         | \$0     | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$21,500           |
| <b>Financing</b>   |            |                  |         |         |         |  |         |         |                       |         |         |                    |
| AlexRenew  | \$0        | \$8,600          | \$0     | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$8,600            |
| Fairfax  | \$0        | \$12,900         | \$0     | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$12,900           |
| Project Description and Justification  |            |                  |         |         |         |  |         |         |                       |         |         |                    |
| <p><b>Need:</b> To replace the pressure regulating valves on the pre-pasteurization system and establish their performance settings. The need for this project will be confirmed under the Solids Master Plan project.</p> <p><b>Background:</b> Pre-pasteurization heat exchanges have not been able to cool sludge to the desired temperature in summer.</p> <p><b>Project Components:</b> Pressure regulating valves</p> <p><b>Procurement Method:</b> Undetermined</p> |            |                  |         |         |         |  |         |         |                       |         |         |                    |
| Benefits   |            |                  |         |         |         | Strategic Outcome Area   |         |         |                       |         |         |                    |
| <ul style="list-style-type: none"> <li>Improves pre-pasteurization system performance.</li> </ul>  |            |                  |         |         |         | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>                                       |         |         |                       |         |         |                    |
| Key Milestones for FY 23   |            |                  |         |         |         | Impact on Operations or Community  |         |         |                       |         |         |                    |
| <ul style="list-style-type: none"> <li>Replace the pressure regulating valves on the pre-pasteurization system</li> <li>Establish their performance settings</li> </ul>  |            |                  |         |         |         | <ul style="list-style-type: none"> <li>Increased operational efficiency.</li> </ul>                            |         |         |                       |         |         |                    |
| External or Internal Adopted Plan or Recommendation  |            |                  |         |         |         | Changes from Prior Year CIP  |         |         |                       |         |         |                    |
| <ul style="list-style-type: none"> <li>Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2-2019-3, Task 4</li> </ul>  |            |                  |         |         |         | <ul style="list-style-type: none"> <li>Adopted from FY 22. Budget adjusted with inflation.</li> </ul>          |         |         |                       |         |         |                    |



## Solids Management: Building 55 - Solids Screen Replacement

| Managing Department and Champion   |            | Project Location |           |         |         | Program and Project Category   |         |         | Estimated Useful Life |         |         | Lifetime Budget           |
|--|------------|------------------|-----------|---------|---------|--|---------|---------|-----------------------|---------|---------|---------------------------|
| Engineering  |            | Building 55      |           |         |         | WRRF Improvements<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |         |         | 10 years              |         |         | \$882,000                 |
|  |            |                  |           |         |         |  |         |         |                       |         |         | <b>Grant/Debt Funded?</b> |
|  |            |                  |           |         |         |  |         |         |                       |         |         | No                        |
| Expenditure  | Prior Year | FY 2023          | FY 2024   | FY 2025 | FY 2026 | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total  | \$0        | \$533,400        | \$348,600 | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$882,000                 |
| <b>Financing</b>   |            |                  |           |         |         |  |         |         |                       |         |         |                           |
| AlexRenew  | \$0        | \$213,360        | \$139,440 | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$352,800                 |
| Fairfax  | \$0        | \$320,040        | \$209,160 | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$529,200                 |
| <b>Project Description and Justification</b>   |            |                  |           |         |         |  |         |         |                       |         |         |                           |
| <p><b>Need:</b> To replace the existing solids screens with a new technology to improve solids capture. The need for this project will be confirmed under the Solids Master Plan project.</p> <p><b>Background:</b> The thickened sludge screens are required to operate the pre-pasteurization system and are undersized for when operated at full flows.</p> <p><b>Project Components:</b> Solid screen</p> <p><b>Procurement Method:</b> Undetermined</p> |            |                  |           |         |         |  |         |         |                       |         |         |                           |
| <b>Benefits</b>  |            |                  |           |         |         | <b>Strategic Outcome Area</b>  |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>Improves solids system performance.</li> </ul>  |            |                  |           |         |         | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>                                       |         |         |                       |         |         |                           |
| <b>Key Milestones for FY 23</b>  |            |                  |           |         |         | <b>Impact on Operations or Community</b>   |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>Replacement of the current solid screen</li> </ul>  |            |                  |           |         |         | <ul style="list-style-type: none"> <li>Increased operational efficiency.</li> </ul>                            |         |         |                       |         |         |                           |
| <b>External or Internal Adopted Plan or Recommendation</b>   |            |                  |           |         |         | <b>Changes from Prior Year CIP</b>   |         |         |                       |         |         |                           |
| <ul style="list-style-type: none"> <li>Solids Handling and Energy Optimization Update to the Long-Range Plan (CH2M, January 2017)</li> <li>Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2-2019-3, Task 4)</li> </ul>   |            |                  |           |         |         | <ul style="list-style-type: none"> <li>Budget adjusted with inflation and scope</li> </ul>                     |         |         |                       |         |         |                           |

## Solids Management: Solids/Resource Recovery Upgrades

| Managing Department and Champion |            | Project Location                       |         |             |             | Program and Project Category   |             |           | Estimated Useful Life  |         |         | Lifetime Budget           |
|----------------------------------|------------|--|---------|-------------|-------------|--|-------------|-----------|------------------------|---------|---------|---------------------------|
| Engineering                      |            | Building L<br>Building A<br>Building C |         |             |             | WRRF Improvements Program<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |             |           | 20 Years for Equipment |         |         | \$20,824,000              |
|                                  |            |  |         |             |             |  |             |           |                        |         |         | <b>Grant/Debt Funded?</b> |
|                                  |            |  |         |             |             |  |             |           |                        |         |         | No                        |
| Expenditure                      | Prior Year | FY 2023                                | FY 2024 | FY 2025     | FY 2026     | FY 2027  | FY 2028     | FY 2029   | FY 2030                | FY 2031 | FY 2032 | 10 Yr. Total              |
| Total                            | \$0        | \$0                                    | \$0     | \$3,039,000 | \$5,628,000 | \$5,628,000  | \$5,628,000 | \$901,000 | \$0                    | \$0     | \$0     | \$20,824,000              |
| Financing                        |            |  |         |             |             |  |             |           |                        |         |         |                           |
| AlexRenew                        | \$0        | \$0                                    | \$0     | \$1,215,600 | \$2,251,200 | \$2,251,200  | \$2,251,200 | \$360,400 | \$0                    | \$0     | \$0     | \$8,329,600               |
| Fairfax                          | \$0        | \$0                                    | \$0     | \$1,823,400 | \$3,376,800 | \$3,376,800  | \$3,376,800 | \$540,600 | \$0                    | \$0     | \$0     | \$12,494,400              |

### Project Description and Justification

**Need:** To implement recommendations related to improved carbon utilization and resource recovery at the WRRF.

**Background:** In FY2017, an update to the Long-Range Plan (LRP) was performed for the WRRF solids handling processes. The following studies and evaluations were recommended in the LRP Update:

- Gravity Thickener Evaluation
- Digestion Evaluation
- Combined Heat and Power (CHP) Study
- Co-Digestion FOG Evaluation

**Project Components:** To be developed as part of Solids Master Planning effort underway.

**Procurement Method:** Undetermined

| Benefits   | Strategic Outcome Area   |
|--|--|
| <ul style="list-style-type: none"> <li>• Explores measures needed to ensure the longevity and performance of Sub-processes within the WRRF solids system.</li> </ul> | <ul style="list-style-type: none"> <li>• Effective Financial Stewardship</li> </ul>    |
| Key Milestones for FY 23   | Impact on Operations or Community  |
| <ul style="list-style-type: none"> <li>• N/A</li> </ul>  | <ul style="list-style-type: none"> <li>• Improved solids system performance</li> </ul> |
| External or Internal Adopted Plan or Recommendation  | Changes from Prior Year CIP  |
| <ul style="list-style-type: none"> <li>• Solids Handling and Energy Optimization Update to the Long Range Plan, CH2M January (2017)</li> </ul>                       | <ul style="list-style-type: none"> <li>• None</li> </ul>                               |

## Solids Management: Pre-Pasteurization System Improvements

| Managing Department and Champion  |            | Project Location |         |         |         | Program and Project Category   |         |         | Estimated Useful Life |         |         | Lifetime Budget          |
|---|------------|------------------|---------|---------|---------|--|---------|---------|-----------------------|---------|---------|--------------------------|
| Engineering   |            | Building 55      |         |         |         | WRRF Improvements Program<br><input type="checkbox"/> Alexandria Only<br><input checked="" type="checkbox"/> Joint Use |         |         | N/A                   |         |         | \$18,000                 |
|   |            |                  |         |         |         |  |         |         |                       |         |         | Grant/Debt Funded?<br>No |
| Expenditure   | Prior Year | FY 2023          | FY 2024 | FY 2025 | FY 2026 | FY 2027  | FY 2028 | FY 2029 | FY 2030               | FY 2031 | FY 2032 | 10 Yr. Total             |
| Total   | \$0        | \$18,000         | \$0     | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$18,000                 |
| <b>Financing</b>  |            |                  |         |         |         |  |         |         |                       |         |         |                          |
| AlexRenew   | \$0        | \$7,200          | \$0     | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$7,200                  |
| Fairfax   | \$0        | \$10,800         | \$0     | \$0     | \$0     | \$0  | \$0     | \$0     | \$0                   | \$0     | \$0     | \$10,800                 |
| Project Description and Justification   |            |                  |         |         |         |  |         |         |                       |         |         |                          |
| <p><b>Need:</b> This project will adjust controls in the pre-pasteurization system to allow all three heat exchangers to operate simultaneously at a lower capacity per unit. The system would operate without redundancy in this condition.</p> <p><b>Background:</b> Pre-pasteurization provides the pathogen reduction required to produce Class A solids by heating and holding the sludge to a set temperature (158° F).Pre-pasteurization capacity is currently limited by the number of heat exchanger units that can be operated simultaneously in auto-mode.</p> <p><b>Project Components:</b> Undetermined</p> <p><b>Procurement Method:</b> Undetermined</p> |            |                  |         |         |         |  |         |         |                       |         |         |                          |
| Benefits  |            |                  |         |         |         | Strategic Outcome Area   |         |         |                       |         |         |                          |
| <ul style="list-style-type: none"> <li>Improves pre-pasteurization system performance.</li> </ul>   |            |                  |         |         |         | <ul style="list-style-type: none"> <li>Operational Excellence</li> </ul>   |         |         |                       |         |         |                          |
| Key Milestones for FY 23  |            |                  |         |         |         | Impact on Operations or Community  |         |         |                       |         |         |                          |
| <ul style="list-style-type: none"> <li>TBD</li> </ul>   |            |                  |         |         |         | <ul style="list-style-type: none"> <li>Increased operational efficiency.</li> </ul>                                    |         |         |                       |         |         |                          |
| External or Internal Adopted Plan or Recommendation   |            |                  |         |         |         | Changes from Prior Year CIP  |         |         |                       |         |         |                          |
| <ul style="list-style-type: none"> <li>Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2-2019-3, Task 4)</li> </ul>  |            |                  |         |         |         | <ul style="list-style-type: none"> <li>New Project.</li> </ul>   |         |         |                       |         |         |                          |

# Indenture and Financial Policy Compliance

The schedule below demonstrates AlexRenew’s financial profile according to the budget projections, as measured by its two major financial metrics – cash reserves and debt service coverage.

As it relates to liquidity, AlexRenew’s Indenture requires it to maintain at least 60 days cash on hand in the Operating Fund and an additional 60 days cash on hand in the General Reserve sub-fund, for a total cash reserve requirement of at least 120 days of operating expenses. As it relates to debt service coverage, AlexRenew’s Indenture requires that net revenues cover annual debt service payments by 1.1x while the Financial Policies require a more stringent 1.5x. In both cases, the adopted FY23 budget forecasts compliance with these policies and indicate a healthy financial profile.

| Indenture and Financial Policy Compliance        | Adopted FY2022      | Adopted FY2023      | Estimated FY2024    | Estimated FY2025    | Estimated FY2026    | Estimated FY2027    |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>Cash Reserve Requirement</b>                  |                     |                     |                     |                     |                     |                     |
| <b>Operating Fund</b>                            |                     |                     |                     |                     |                     |                     |
| 60 Days Current Year Budgeted Expenses           | 4,666,355           | 5,004,327           | 5,154,457           | 5,309,090           | 5,415,272           | 5,523,577           |
| Projected Ending Balance                         | 4,666,355           | 5,004,327           | 5,154,457           | 5,309,090           | 5,415,272           | 5,523,577           |
| Excess (Deficiency)                              | -                   | -                   | -                   | -                   | -                   | -                   |
| <b>General Reserve sub-Fund</b>                  |                     |                     |                     |                     |                     |                     |
| 60 Days Current Year Budgeted Expenses           | 4,666,355           | 5,004,327           | 5,154,457           | 5,309,090           | 5,415,272           | 5,523,577           |
| Projected Ending Balance                         | 4,666,355           | 5,004,327           | 5,154,457           | 5,309,090           | 5,415,272           | 5,523,577           |
| Excess (Deficiency)                              | -                   | -                   | -                   | -                   | -                   | -                   |
| <b>Total Cash Reserve Requirement - 120 Days</b> | <b>9,332,710</b>    | <b>10,008,655</b>   | <b>10,308,914</b>   | <b>10,618,182</b>   | <b>10,830,545</b>   | <b>11,047,154</b>   |
| <b>Debt Service Coverage (DSC) Requirement</b>   |                     |                     |                     |                     |                     |                     |
| Wastewater Treatment Charges                     | \$ 47,814,540       | \$ 50,922,485       | \$ 53,621,377       | \$ 56,302,446       | \$ 59,004,963       | \$ 60,067,052       |
| Fairfax County Operating Expense Charge          | 10,785,305          | 11,694,706          | 12,045,729          | 12,407,287          | 12,655,433          | 12,910,752          |
| Interest Income                                  | 115,000             | 115,000             | 115,000             | 115,000             | 115,000             | 115,000             |
| Gross Revenue Available for Debt Service:        | \$ 58,714,845       | \$ 62,732,191       | \$ 65,782,106       | \$ 68,824,733       | \$ 71,775,396       | \$ 73,092,805       |
| Operating Expenses                               | \$ (28,386,991)     | \$ (30,442,988)     | \$ (31,356,278)     | \$ (32,296,966)     | \$ (32,942,905)     | \$ (33,601,763)     |
| Net Revenues Available for Debt Service          | \$ 29,827,854       | \$ 31,789,203       | \$ 33,925,828       | \$ 36,027,767       | \$ 38,332,490       | \$ 38,991,041       |
| Total Annual Debt Service                        | \$ 13,919,620       | \$ 14,739,509       | \$ 16,448,494       | \$ 19,126,687       | \$ 21,347,774       | \$ 21,495,144       |
| <b>All-in Debt Service Coverage</b>              | <b><u>2.15x</u></b> | <b><u>2.16x</u></b> | <b><u>2.07x</u></b> | <b><u>1.89x</u></b> | <b><u>1.80x</u></b> | <b><u>1.82x</u></b> |
| Financial Policy Target                          | <b>1.50x</b>        | <b>1.50x</b>        | <b>1.50x</b>        | <b>1.50x</b>        | <b>1.50x</b>        | <b>1.50x</b>        |
| Indenture Target                                 | <b>1.10x</b>        | <b>1.10x</b>        | <b>1.10x</b>        | <b>1.10x</b>        | <b>1.10x</b>        | <b>1.10x</b>        |

## Appendix A – Financial Policies

**Alexandria Sanitation Authority**  
**Financial Policies**  
**Adopted August 17, 2010**  
**Affirmed January 27, 2022**

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

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

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

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

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

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

**1. Debt Service Coverage**

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

**2. Reserves**

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

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

- b. ASA will maintain a balance equal to at least 120 days of the current years budgeted amount for operating and maintenance expenses. As required by the Bond Indenture, one sixth of the current year's budgeted amount for operating expenses (60 days) will be held in the Operating Fund. The remainder of the reserves will be held in the General Reserve Fund, a subfund of the General Fund. In the event the General Reserve Fund is used to provide funding for unanticipated expenses or otherwise drops below the policy level, the General Manager will submit a plan in writing to the Board that will restore the General Reserve Fund to the policy level over a period not to exceed four years.
- c. All other funds will be funded as required by the Bond Indenture, with a summary as follows:
  - i. Senior Debt Service Fund: An amount that will cause the balance on deposit to be sufficient to pay the principal and interest on the respective payment dates.
  - ii. Improvement, Renewal and Replacement Fund (IRR): An amount equal to the Alexandria portion (40%) of the annual calculation of the required contribution to the IRR Fund.
  - iii. General Fund: Any remaining amounts after the required deposits.
  - iv. Debt Service Reserve Fund: For senior debt, an amount equal to the Debt Service Reserve Fund Requirement as defined in the Bond Indenture. There is no Debt Service Reserve Fund Requirement for ASA's parity debt.
- d. When necessary and prudent, ASA may create additional accounts within the General Fund for specific purposes. These accounts could include accounts for capital projects, risk management and revenue stabilization, among others.

### **3. Budgetary Principles**

- a. Annual Operating Budget Proposals
  - i. Per Section 9.3 of the Bond Indenture, ASA is required to adopt a budget for the System for the ensuing fiscal year before the beginning of each fiscal year. The annual budget is required to be prepared in such a manner as to show in reasonable detail the estimated revenues, operating expenses, IRR amounts, debt service amounts, other costs and expenses and the amount of Net Revenues available to meet the Revenue Covenant per the Bond Indenture.
  - ii. In conjunction with the budget requirements in the Bond Indenture, the Board will strive to adopt an operating budget that:
    - 1. Is structurally balanced whereby current budgetary revenues are sufficient to meet current budgetary expenses (those that are ongoing in nature);
    - 2. Has fees and user charges at levels intended to support the direct and indirect cost of the activity;
    - 3. Sets fees and user charges with the intent to provide the lowest reasonable fees and user charges over time, not necessarily the lowest fees and user charges right now.
    - 4. Is at a level necessary to ensure the adequate maintenance and operations of the wastewater system;

5. Includes amounts necessary to maintain the required reserve balances as defined in these policies;
  6. Enables ASA to meet the debt service coverage policy defined herein; and
  7. Funds at least 15 percent of its capital improvement program in cash.
- iii. Capital Improvement Program (CIP)
    1. Each year ASA will adopt a ten-year CIP that identifies projects to be undertaken over next ten years to meet projected needs for infrastructure renewal, expansion, and replacing old or new facilities.
    2. The term of any debt financing will not exceed the aggregate useful lives of the related projects.
    3. The CIP will identify anticipated capital improvement costs and associated operating costs.
  - b. Long-Range Financial Forecast
    - i. Beginning with the planning for the FY2012 budget and in each fiscal year thereafter, the General Manager will submit to the Board at least a three year financial forecast of anticipated revenues and expenses.

#### 4. Debt Management

- a. ASA may issue long-term debt per the guidelines in this financial policy. Long-term borrowing will not be used to finance current operations. Long-term debt will be structured such that the term of financial obligations will not exceed the aggregate expected useful lives of the assets financed.
- b. Short-term borrowing may be utilized for the temporary funding of operational cash flow deficits or interim construction requirements.
- c. Permitted Debt by Type: ASA may issue the debt instruments described below. The most appropriate instrument for a proposed sale of debt shall be determined by financing needs and expected market conditions at the time of sale.
  - i. Lease Financing – ASA may use lease financing for equipment if (i) it can be demonstrated that this is the most cost effective or appropriate way to secure financing, or (ii) on projects that do not warrant entry into the bond market.
  - ii. Bond Anticipation Notes (BANs) - which include Commercial Paper, are typically an interim means of financing and, by their very nature, expose ASA to interest rate risk upon renewal. BANs may be used to (i) to finance projects until such time as the project or projects can be incorporated into a long-term bond sale, (ii) during times of high interest rates and when the expectation is that interest rates will stabilize in the future or trending downward, (iii) when market conditions are such that a BAN may be more readily received in the market than long-term debt, or (iv) on an interim basis during the construction period for a project until such time as the project is placed into service.
  - iii. Long-Term Revenue Bonds - ASA may issue long-term revenue bonds to fund capital projects. These bonds may be issued by ASA in a number of ways, including, but not limited to, those listed below. ASA will evaluate multiple methods for issuing long-term revenue bonds and use the method that is most advantageous to ASA.
    1. ASA may issue the bonds through a public sale under its own name in the capital markets.
    2. ASA may issue the bonds through a private placement under its own name.
    3. ASA may issue the bonds to the Virginia Resources Authority (VRA) under one of VRA's loan programs.



- iv. Revenue Anticipation Notes (RANs) - may be issued to meet ASA's operational cash flow needs.
  - v. Lines of Credit - may be considered as an alternative to other short-term borrowing options.
- d. Guidelines on Debt Issuance
- i. Bond Indenture – ASA will abide by the covenants contained in the Bond Indenture. ASA considers these covenants to be minimum requirements, and generally expects to exceed the requirements of each covenant.
  - ii. Authorization – Prior to the issuance of debt, the Board will pass a resolution authorizing the financing arrangements and setting appropriate limits and parameters for the anticipated financing in accordance with applicable laws.
  - iii. Lowest Cost Financing – ASA intends to pursue the lowest cost of financing within the parameters of these financial policies, the Bond Indenture and ASA's enabling legislation.
  - iv. Method of Issuance – Prior to each debt issuance, ASA will evaluate the available methods of issuance and pursue the method of issuance that is most advantageous to ASA, whether a stand-alone issue by ASA or use of a third party financing approach such as Revolving Fund Loans or pooled borrowing programs available through the Virginia Resources Authority (VRA). Some considerations for evaluating the method of issuance, particularly when determining whether to issue debt through VRA or under ASA's name, include:
    - 1. Financing Cost. This analysis should evaluate the overall cost of the financing, including borrowing rates, upfront fees (such as the cost of obtaining a credit rating), whether a Debt Service Reserve Fund is required, ongoing costs and any other costs of the financing.
    - 2. Permitted Uses of Funds. Some project costs are not eligible to be funded through certain financing programs. For example, land purchase costs are not eligible to be funded through the Department of Environmental Quality's Revolving Loan Fund program that ASA has used in the past.
    - 3. Structural Flexibility. When selecting a financing program, ASA will consider the flexibility of debt features available under each program. For example, ASA will consider how flexible repayment features, call provisions, and borrowing terms are under each program.
  - v. Project Costs Prior to Debt Issue – If project costs are incurred prior to the issuance of debt, the Board will pass a resolution documenting its intent to be reimbursed from bond proceeds as appropriate.
  - vi. Variable Rate Debt (VRD) – VRD carries inherent interest rate risk. Such securities historically have interest rates lower than long-term fixed rate securities and offer the potential for lower debt service costs over the term of the bond issue. ASA will consider using VRD when it: (i) Improves matching of assets and liabilities, (ii) potentially lowers debt service costs, (iii) adds flexibility to ASA's capital structure, or (iv) diversifies ASA's investor base.
    - 1. Debt service on VRD will be budgeted at a conservative rate based on historical fluctuations in interest activity and current market assumptions. Before issuing VRD, ASA will determine how potential spikes in the debt service will be funded and consider the impact of various interest rate scenarios on its financial position and on various debt ratios.
    - 2. ASA will not issue VRD in excess of 20 percent of its total debt portfolio. This limitation does not apply to other VRD which ASA has endeavored to offset with an operating investment portfolio intended to act as an economic hedge to interest rate fluctuations associated with the VRD.

This limitation also excludes any VRD that may be hedged through an appropriate derivative agreement, if such technique is approved by the ASA Board.

e. Method of Sale

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

f. Term of Debt

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

g. Debt Structure

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

consider refinancing bonds when the aggregate efficiency is equal to or greater than 70 percent.

- ix. In any refinancing transaction, ASA maintains a bias to not extend maturities.
- h. Escrow Structuring
  - i. ASA will utilize the least costly securities available in structuring refinancing escrows. Unless state and local government securities (SLGS) are used, a certificate will be provided by a third party agent stating that the securities were procured through an arms-length, competitive bid process (in the case of open market securities), and that the price paid for the securities was reasonable within federal guidelines.
  - ii. Under no circumstances will an underwriter, agent or financial advisor or ASA affiliates or affiliated accounts of an underwriter or financial advisor to ASA sell escrow securities to ASA from its own account.
- i. Hiring of Professionals – All members of the financial advisory team including underwriter, financial advisor, bond counsel, and other professionals will be selected in a manner consistent with ASA’s procurement policy for professional services.
  - i. Underwriter Selection
    - 1. Senior Manager Selection – ASA will select a senior manager for any proposed negotiated sale. The selection criteria will include but not be limited to the following:
      - a. The firm’s ability and experience in managing transactions similar to that contemplated by ASA.
      - b. Prior knowledge and experience with ASA.
      - c. The firm’s ability and willingness to risk capital and demonstration of the firm’s capital availability and underwriting of unsold balances.
      - d. Quality and experience of personnel assigned to ASA’s engagement.
      - e. Financing plan presented.
      - f. Cost including underwriting fees and anticipated
      - g. pricing.
    - 2. Co-Manager Selection – Co-manager may be selected on the same bases as the senior manager with the exception of underwriting fees, which are determined by the senior manager. In addition to their qualifications, co-managers appointed to specific transactions will be a function of transaction size and the necessity to ensure maximum distribution of ASA’s bonds.
    - 3. Underwriter’s Counsel – In any negotiated sale of ASA debt in which legal counsel is required to represent the underwriter, the appointment will be made by the Senior Manager with final approval from ASA.
    - 4. Underwriter’s Discount – ASA will evaluate the proposed underwriter’s discount against comparable issues in the market. If there are multiple underwriters in the transaction, ASA will determine the allocation of underwriting liability and management fees. The allocation of fees will be determined prior to the sale date. A cap on management fees, expenses and underwriter’s counsel fee will be established and communicated to all parties by ASA. The senior manager shall submit an itemized list of expenses.
    - 5. Evaluation of Underwriter Performance – ASA will evaluate each bond sale after completion to assess the following: costs of issuance including underwriters’ compensation, pricing of the bonds in terms of the overall

interest cost and on a maturity-by-maturity basis, and the distribution of bonds.

6. Syndicate Policies – For each negotiated transaction, ASA will establish syndicate policies that will describe the priority of orders and designation policies governing the upcoming sale.

ASA shall require the senior manager to:

- a. Fairly allocate bonds to other managers and selling group.
- b. Comply with the Municipal Securities Rulemaking Board's (MRSB) regulations governing the priority of orders and allocations.
- c. Within 10 working days after the sale date, submit to ASA a detail of orders, allocations and other relevant information pertaining to ASA's sale.

ii. Consultants

1. Financial Advisor – ASA will select a financial advisor to assist in its debt issuance and debt administration processes. Selection of the ASA's financial advisor will be based on, but not limited to, the following criteria:

- a. Experience in providing consulting services to entities
- b. similar to ASA.
- c. Knowledge and experience in structuring and
- d. analyzing bond issues.
- e. Experience and reputation of assigned personnel.
- f. 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 not enter into any financial derivative or swap until the following have occurred:
  - i. The Board has adopted a comprehensive derivatives/swaps policy outlining the following related to the use of derivatives/swaps:
    1. Approach and Objectives
      - a. Specific objectives for utilizing swaps
      - b. Prohibited swap features
    2. Legal Authority
    3. Permitted Instruments
    4. Procedure for Submission and Execution
    5. Swap Analysis and Participant Requirements
      - a. Swap risks
      - b. Counterparty risk assessment
      - c. Benefit expectation
    6. Legal and Contractual Requirements
      - a. Legal terms of swaps
      - b. Notional amount
      - c. Final maturity
      - d. Termination provisions
      - e. Collateral
    7. Ongoing Management
    8. Ongoing Reporting Requirements
    9. Acceptable Collateral
  - ii. The Board has approved the execution of the specific financial derivative or swap transaction.

## Appendix A – Definitions

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

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

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

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

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

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

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

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

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

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

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

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

**Expenses:** Compensates senior managers for out-of-pocket expenses including:

underwriters counsel; DTC charges, travel, syndicate expenses, dealer fees, overtime expenses, communication expenses, computer time and postage.

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

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

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

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

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

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

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

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

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

**Portfolio:** Collection of securities held by an investor.

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

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

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

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

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

**SIFMA:** The Securities Industry and Financial Markets Association is a high grade market index of 7-day variable rate demand notes that is produced by Municipal Market Data.

SIFMA is the benchmark swap floating index in the tax-exempt swap market.

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

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

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





### What's happening on the cover?

In 2021, AlexRenew finished preparations at our wastewater treatment plant for the RiverRenew Tunnel Project, a water quality project designed to prevent millions of gallons of combined sewer overflows from polluting Hooffs Run,

Hunting Creek, and the Potomac River. Use of our plant is essential to constructing and operating the Project. All tunnel mining will occur at AlexRenew, a commitment made to the community to minimize impacts. At completion, the tunnel will convey flows captured to AlexRenew for treatment. At the time of this report's issuance, construction on two 12-story-deep shafts needed to launch the machine that will build the tunnel was about to start, illustrated on the front cover. Use your phone's camera to scan the QR code on the left to discover how we'll begin Building for the Future of Alexandria's Waterways.



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