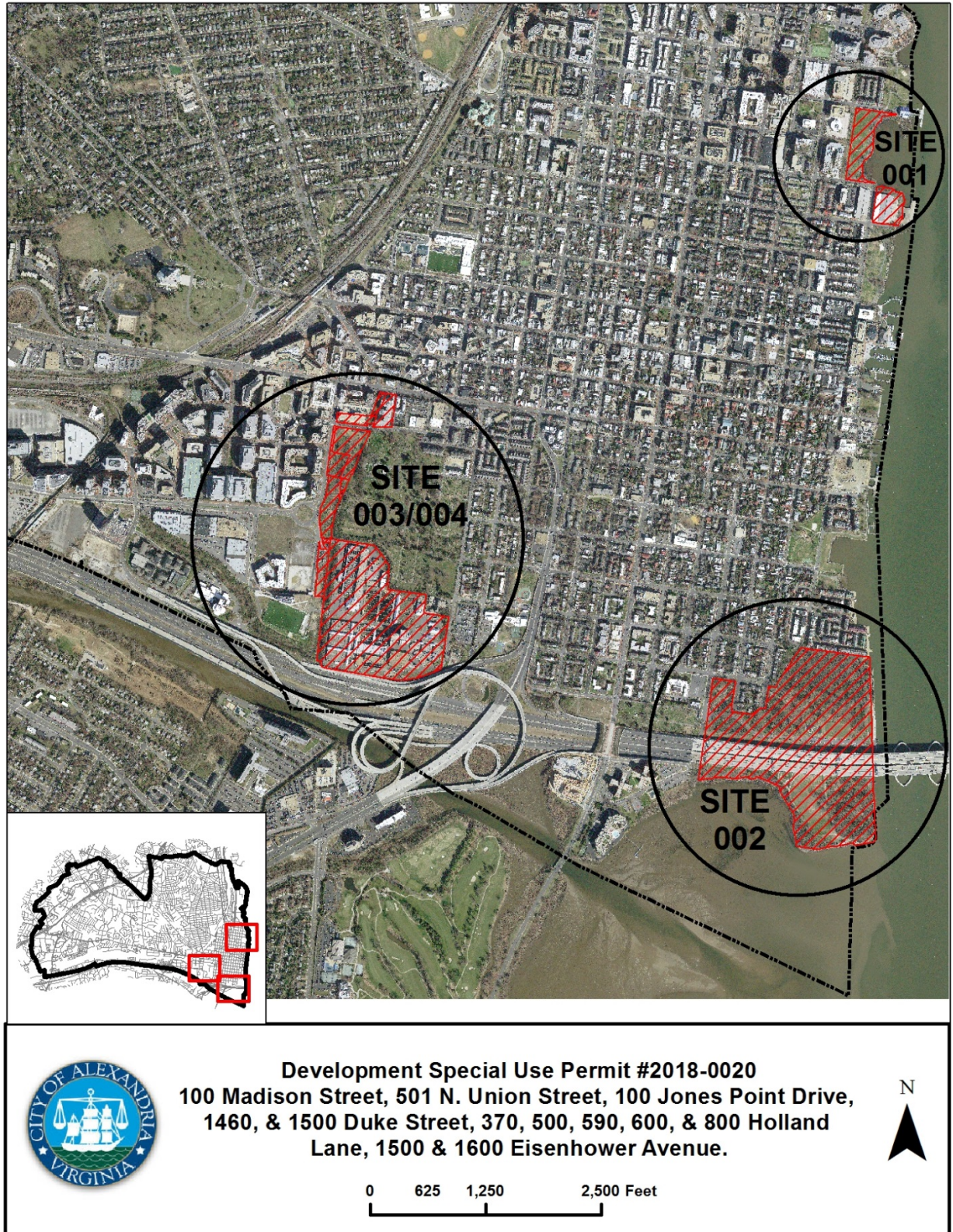


DOCKET ITEM #15
Development Special Use Permit #2018-0020
RiverRenew Tunnel System
(Combined Sewer Remediation Project)

Application	General Data	
Project Name: RiverRenew	PC Hearing:	June 25 th , 2019
	CC Hearing:	July 9 th , 2019
	If approved, DSUP Expiration:	July 9 th , 2022
Location: Multiple locations in Old Town and Eisenhower East	Zones:	Multiple Zoning Districts: W -1, WPR, CDD #1, RB, UT, OCH, CD, OCM100
	Proposed Use:	Special Use Utilities
	Approximate Limit of Surface Area Disturbance:	350,000sf to 675,000sf
Applicant: Alexandria Renew Enterprises	Small Area Plan:	Old Town North, Old Town, King Street Metro / Eisenhower Avenue, Eisenhower East and Southeast Quadrant.
	Historic District:	Not Applicable

Purpose of Application:
To construct new sewer infrastructure to mitigate the discharge of combined sewage to Alexandria's waterways.
Special Use Permits Requested:
Development Special Use Permit for <i>Special Use Utilities (Section 7-1202(A))</i> .

Staff Recommendation: APPROVAL WITH CONDITIONS
Staff Reviewers: Robert M. Kerns, Chief of Development, Department of Planning & Zoning Dirk H. Geratz, Principal Planner, Department of Planning & Zoning Abigail Harwell, Urban Planner, Department of Planning & Zoning RiverRenew Reviewers: Caitlin Feehan, PE, LEED AP, Program Manager Justin Carl, PE, Program Advisor Doug Chapin, PWS, CFM, LEED AP, Third Party Manager



PROJECT LOCATIONS MAP

I. SUMMARY

A. Recommendation

Staff recommends **approval** of the Development Special Use Permit (DSUP #2018-0020) for new sewer infrastructure and associated surface enhancements to remediate Alexandria's existing combined sewer system. Such an approval would result in the City authorizing multiple alternatives that are being analyzed in conjunction with the ongoing Environmental Assessment (EA) to support the program.

B. General Project Description

DSUP #2018-0020 includes new sewer infrastructure associated with RiverRenew, a major public-works program targeted at reducing discharges of combined sewage to the Potomac River, Hooffs Run, and Hunting Creek. RiverRenew is owned and managed by Alexandria Renew Enterprises (AlexRenew) who operates and maintains Alexandria's wastewater treatment facility. RiverRenew is in response to a 2017 Virginia Law that requires controls be in place to reduce discharges of the combined sewage from the existing combined sewer outfalls by July 1, 2025.

II. BACKGROUND

A. Combined Sewer Issue

The City of Alexandria has a combined sewer system, primarily in Old Town, dating back to the 1800's. About 540 acres of Alexandria is served by the combined sewer system, which was designed to carry sewage from homes and businesses and rainwater runoff from streets, rooftops, and parking lots in a single pipe—a combined sewer. A combined sewer system is one where only one pipe is designed for transporting both sewage and rainwater. In a normal operation when it is not raining, these combined sewer pipes transport the sewage for treatment to AlexRenew's treatment facility, known as the Water Resource Recovery Facility (WRRF).

On rainy days, the capacity of the combined sewer pipes is often exceeded. Instead of being transported and treated at AlexRenew's WRRF, sewage mixed with the rainwater overflows to Potomac River, Hooffs Run, and Hunting Creek, via four discharge points, or outfalls. In April of 2017, the Virginia General Assembly enacted a law requiring the remediation of these outfalls by July 1, 2025.

B. Proposed Solution

In response to the 2017 Virginia Law, a Long-Term Control Plan Update (LTCPU) was submitted to the Virginia Department of Environmental Quality (VDEQ) on May 4, 2018 by the City and AlexRenew that outlined a plan to remediate the outfalls by the 2025 legislative mandate. The LTCPU set forth a publicly vetted, preferred alternative referred to as Option B+

consisting of a tunnel system coupled with upgrades to AlexRenew's WRRF. The plan is predicted to achieve the water quality goals of the Hunting Creek Total Maximum Daily Load (TMDL) for Outfalls 002, 003 and 004 and the Presumption Approach for Outfall 001.

On June 29, 2018 VDEQ sent AlexRenew a letter stating VDEQ's concurrence that the expected performance levels of the proposed controls in the LTCPU will bring the outfalls into compliance with the Hunting Creek Bacteria TMDL requirements for Outfalls 002, 003, and 004 and the Presumption Approach requirements at Outfall 001.

Subsequent to the LTCPU, implementation of the recommended plan has been referred to as Alexandria's Wet Weather Program or Program. This "wet weather" moniker was intended to be a temporary placeholder until an overall brand for the Program was established. The recommended plan, Option B+, and the Wet Weather Program are now referred to as RiverRenew.

The City and AlexRenew recognized that many of the proposed RiverRenew facilities will be located on AlexRenew property and would require close operational oversight between the RiverRenew facilities and the WRRF to achieve the performance objectives of the approved LTCPU. Therefore, in July 2018, the City and AlexRenew executed an Outfall Transfer Agreement that transferred ownership of Outfalls 001, 002, 003, and 004, and the implementation of RiverRenew from the City to AlexRenew. The Outfall Transfer Agreement also established a framework to continue engagement of the City during the implementation of RiverRenew. This framework referred to as the "project team approach" established coordination meetings, a Regulatory Team, and a City Council/AlexRenew Board Workgroup.

In June 2018 the first Regulatory Team meeting was held between key staff from AlexRenew and various City departments including Planning & Zoning, Transportation and Environmental Services, Recreation, Parks & Cultural Activities, Code Administration and Project Implementation. This Regulatory Team has met bi-weekly to determine the review and approval approach to this complex program and provide a coordinated and open dialogue throughout the review process.

AlexRenew will implement RiverRenew over the next six (6) years, which consists of four (4) main projects that include:

- **Tunnel System Project:** a storage and conveyance tunnel system, pumping stations, and wet weather treatment (*subject of this DSUP application*)
- **WRRF Site Security and Access Project:** upgrades to AlexRenew's existing access points (gates) and site security system
- **108 to 116 MGD Expansion Project:** upgrades to AlexRenew's primary pumping capacity at the WRRF
- **Building J Facilities Relocation and Decommissioning Project:** relocation of facilities and decommissioning of AlexRenew's former administrative building

The schedule stipulated by the 2017 Virginia legislative mandate requires the combined sewer controls be in place by July 1, 2025, and an implementation schedule for each project is included as Figure 1 below. In order to meet the schedule, AlexRenew will begin construction at its WRRF starting in July 2019.

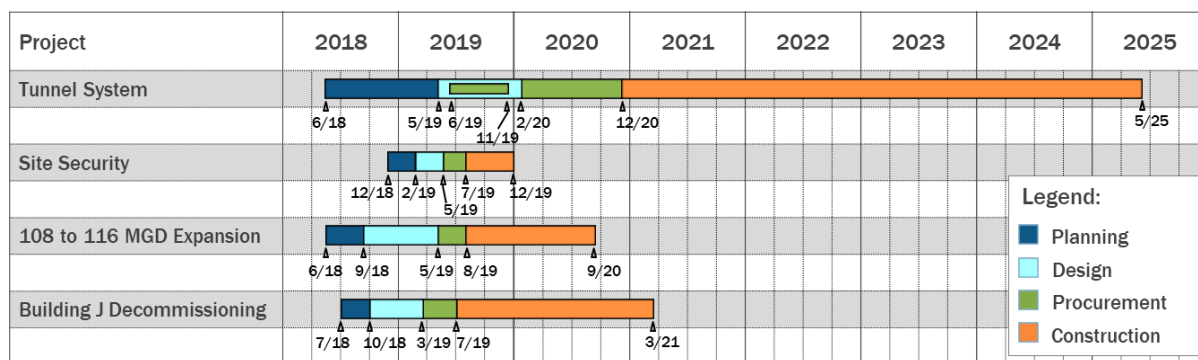


Figure 1. RiverRenew Implementation Schedule

With RiverRenew in place, it is estimated that the frequency of combined sewer discharges will be reduced from 60 to less than four (4) times per year, on average. Additionally, the volume of combined sewer discharges is anticipated to be reduced from 140 million gallons to less than 17 million gallons per year, on average. This reduction in the frequency and volume of discharges of sewage mixed with rainwater will limit the number of bacteria, trash, and other pollutants flowing into Alexandria's waterways.

C. Environmental Assessment

Pursuant to the National Environmental Policy Act of 1969 (NEPA), the National Park Service (NPS) and AlexRenew are preparing an Environmental Assessment (EA) to consider potential environmental, historical and cultural resources, and community impacts of the program. RiverRenew must comply with NEPA since it requires permits and approvals from the NPS to potentially construct within the Jones Point Park, within and below the Potomac River, and below the George Washington Memorial Parkway. Due to the accelerated timeline required to comply with the schedule mandated by the 2017 Virginia Law, the EA process is being conducted concurrently with the DSUP process and is estimated to be finalized in Summer 2019.

In order to maintain the integrity of the EA process, some RiverRenew components include more than one (1) alternative. Following the DSUP Concept Plan, several RiverRenew component alternatives were removed due to their potential impacts on the community and environment.

III. Detailed Project Description

The RiverRenew Tunnel System Project is proposed to capture and direct combined sewer discharges from the existing outfalls to the AlexRenew WRRF for treatment prior to discharge. The Tunnel System Project is illustrated in Figure 2 and includes the following major

components: Waterfront Tunnel, Hooffs Run Diversion Sewer, and Tunnel Dewatering/Wet Weather Pumping Station.



Figure 2. RiverRenew Tunnel System Project

A. Waterfront Tunnel

The Waterfront Tunnel is a soft ground tunnel that will commence at AlexRenew's WRRF (treatment facility) and terminate at Oronoco Bay as illustrated in Figure 2 above. The tunnel includes an east-west alignment largely under Church Street that bends to the north under Jones Point Park, and then is mainly aligned under the Potomac River until it reaches Oronoco Bay. The proposed tunnel will have a minimum inside diameter of 12 feet and maximum outside diameter of 19 feet. The 11,500 linear-foot tunnel will be located between 115 to 160 feet below the ground surface. The majority of the Waterfront Tunnel is anticipated to be within the Potomac Group soils consisting predominantly of thick deposits of clay and silt and is proposed to be constructed using an earth pressure balance tunnel boring machine (TBM).

In addition to the tunnel, diversion facilities are proposed near Outfalls 001 and 002. Diversion facilities include a diversion chamber, approach channel, drop shaft, and ventilation control vault, as illustrated in Figure 3. The new diversion chamber will direct flow from the existing

combined sewer to the approach channel and drop shaft, which will then convey flow vertically into the Waterfront Tunnel. The drop shafts are proposed to dissipate energy associated with the vertical drop and deaerate flow to minimize air entrainment in the tunnel. Ventilation control vaults are proposed to include radial flow activated carbon systems and ductwork to mitigate the potential for fugitive emissions from the tunnel system. Combined sewage captured by the system will be conveyed to AlexRenew's WRRF where it will be treated prior to discharge to Hunting Creek, a tributary of the Potomac River.

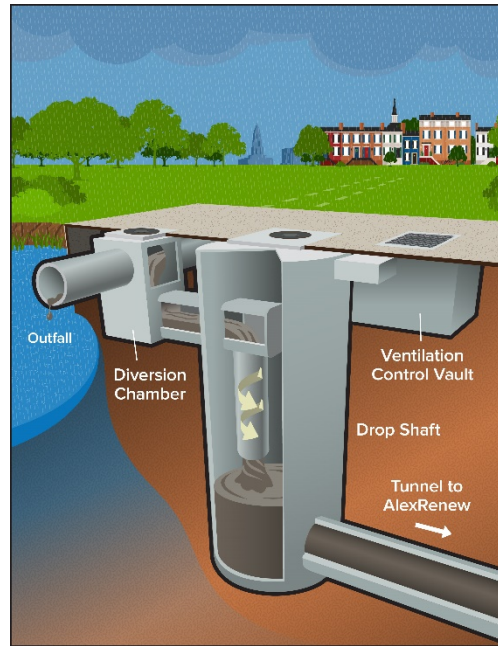


Figure 3. Schematic of a Typical Diversion Facility

B. Hooffs Run Diversion Sewer

The proposed Hooffs Run Diversion Sewer is designed to control discharges from Outfalls 003 and 004 and convey flows to WRRF for treatment. The Hooffs Run Diversion Sewer will also mitigate sewer flooding and basement backups along the Commonwealth Interceptor and Holmes Run Trunk Sewer. Components associated with the Hooffs Run Diversion Sewer are illustrated in Figure 4 and include:

- A diversion chamber at Outfall 004 near Duke Street;
- A six (6) foot diameter, 2,400-foot long open-cut diversion sewer between Duke Street and AlexRenew WRRF (10 to 20 feet deep);
- Hydraulic Grade Line Control Structure at AlexRenew WRRF; and
- The decommissioning of the existing Hooffs Run Junction Chamber.

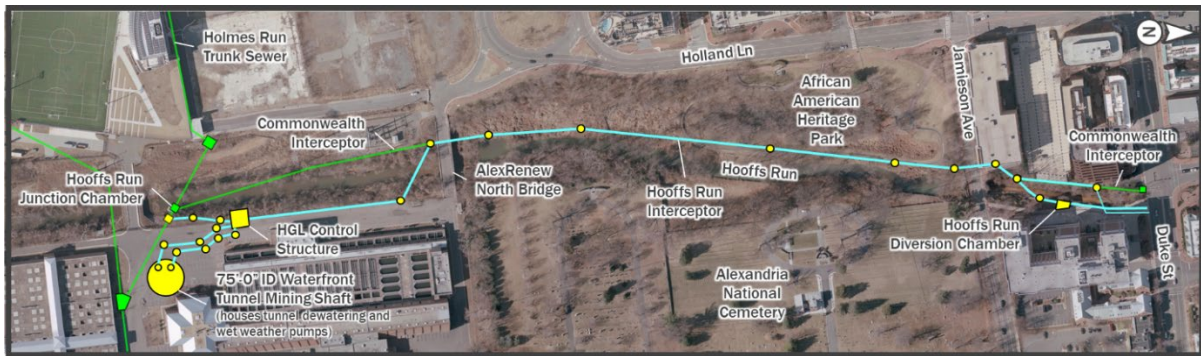


Figure 4. Schematic of Hooffs Run Diversion Sewer

C. Tunnel Dewatering and Wet Weather Pumping Station

The Tunnel Dewatering and Wet Weather Pumping Station (TD/WWPS) is proposed to be housed within the approximately 75-foot diameter, 130-foot deep Waterfront Tunnel Mining Shaft located at AlexRenew's WRRF. The components at the surface will be housed in a four-story superstructure with dedicated spaces for mechanical, electrical, and instrumentation facilities to support the pumping stations. The firm capacity of the tunnel dewatering and wet weather pumps is proposed to be 20 MGD and 130 MGD, respectively. The TD/WWPS will be authorized under a separate DSUP (2019-0013).

D. Components of DSUP 2018-0020

As described in a May 16, 2019 letter to the Applicant, the Director of the Department of Planning and Zoning, in coordination with the City Attorney, determined that the underground tunnels and diversion sewers are permitted uses as described in Zoning Ordinance Section 7-1201; however, the approval of a special use permit would be required for three outfall locations (Outfalls 001, 002, and 004) where there will be above-ground development and equipment access points. As such, DSUP 2018-0020 (subject of this report) includes the following components associated with the RiverRenew Tunnel System, which are described in further detail below:

- Outfall 001 Diversion Facility
- Outfall 002 Diversion Facility
- Outfall 004 Diversion Chamber

Outfall 001 Diversion Facility – Terminus of East Pendleton Street

Existing Outfall 001 is located at the eastern terminus of Pendleton Street at the Potomac River, and is subject to the Old Town North and Waterfront Plans. This location includes two diversion facility alternatives: Oronoco Bay Park East (OBE) and Robinson Terminal North (RTN). Both alternatives proposed for this site are included in this DSUP since the Environmental Assessment includes both alternatives.

OBE Alternative

The OBE alternative is located within the southern end of Oronoco Bay Park and would require work within the Pendleton Street and Union Street rights-of-way to tie into the existing combined sewer and divert flows to the deep tunnel. A layout of the OBE alternative is shown in Figure 5.

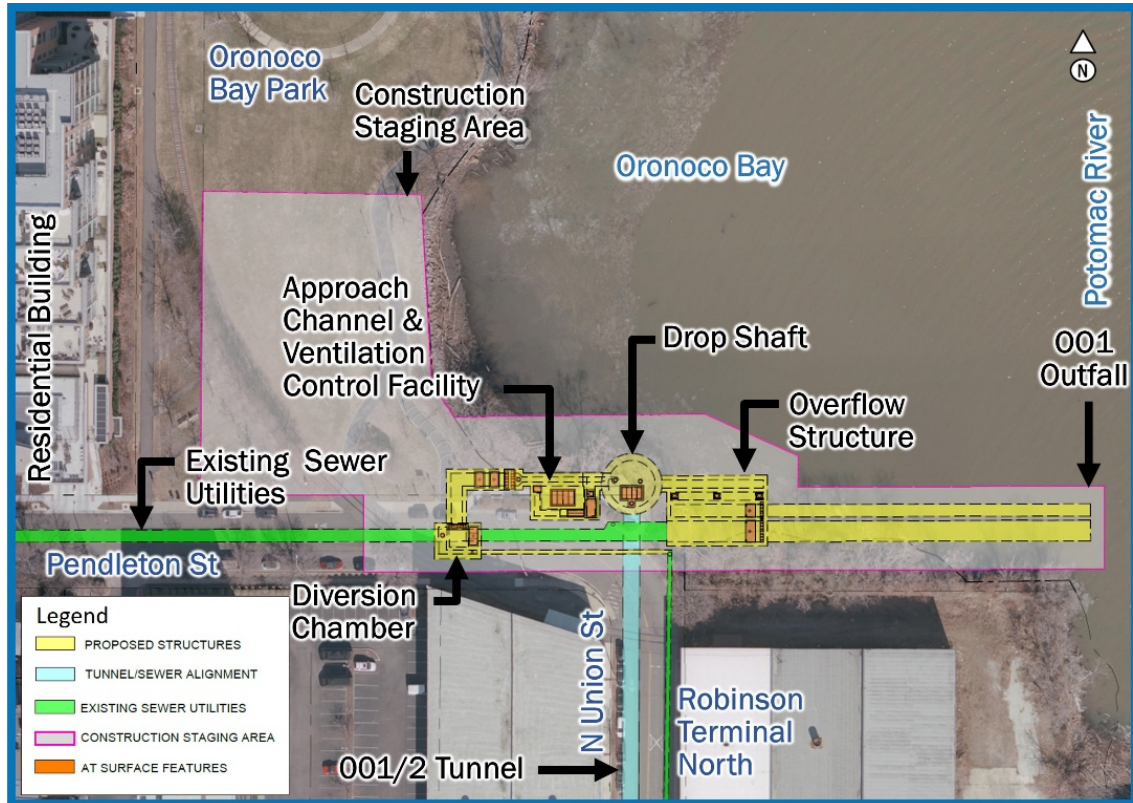


Figure 5. Outfall 001 Diversion Facility (OBE Alternative)

The anticipated construction staging area for the OBE alternative would total approximately 2 (two) acres, the majority of which would be within Oronoco Bay Park. Construction of the diversion facility and connection to the tunnel would take approximately 2.5 years. During this time, the southern portion of Oronoco Bay Park would be closed to the public. Site restoration would include a public promenade, which is discussed further in Section V.

RTN Alternative T

he RTN alternative is proposed on the Robinson Terminal North property, which is owned by a private property developer, and would limit the work required within City streets and Oronoco Bay Park. A layout of the RTN alternative is shown in Figure 6.

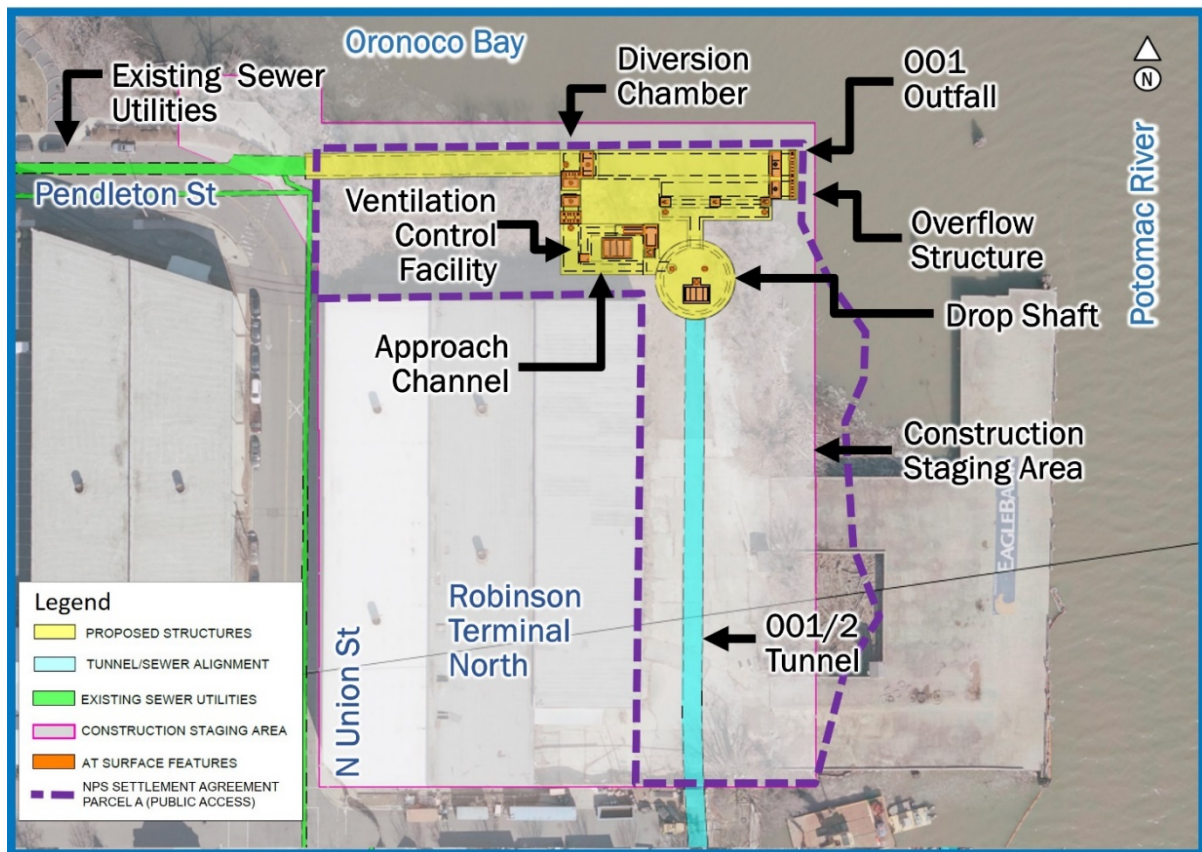


Figure 6. Outfall 001 Diversion Facility (RTN Alternative)

The anticipated construction staging area for the RTN alternative would total approximately three (3) acres, the majority of which would be on private property. The diversion facility structures on RTN property would be located within Parcel A of the 1983 settlement agreement with the NPS, which is designated to remain as an open space public park area. Thus, the proposed facilities would not conflict with any future development of the RTN site by the property owner. Site restoration for the RTN alternative would include a public promenade, which discussed in detail in Section V.

Both Outfall 001 Diversion Facility alternatives include the extension of the existing outfall from Oronoco Bay to the main channel of the Potomac River. In order to achieve operational requirements, provide resiliency, and plan for impacts associated with climate change, the ground surface associated with each alternative would be raised to approximately 14 feet above mean sea level.

Outfall 002 Diversion Facility – Terminus of South Royal Street

Existing Outfall 002 is located at the southern terminus of South Royal Street and is subject to the Old Town and Waterfront Small Area Plans. A new diversion facility is proposed to be located just south of Jones Point Drive and just east of the South Royal Street cul-de-sac. Much

of the diversion facility would be located within Jones Point Park, which is owned and operated by the NPS, but would require some work within the South Royal Street right-of-way to tie into the existing combined sewer. Site restoration and landscaping for the Outfall 002 Diversion Facility is discussed in Section V. A layout for this outfall is shown in Figure 7 below.



Figure 7. Outfall 002 Diversion Facility

Outfalls 003 & 004 Diversion Chamber

Existing Outfall 003 is located below the intersection of Duke Street and Daingerfield Road, while existing Outfall 004 is located within Hooffs Run between Duke Street and Jamieson Avenue. This submittal package originally considered two (2) alternatives for the placement of a diversion chamber to intercept Outfalls 003 and 004. As the DSUP review and additional engineering efforts progressed, AlexRenew determined that replacing its existing sewer asset along Hooffs Run was preferred due to the following factors:

- Work would be conducted within an already disturbed corridor, mitigating risk associated with cultural resources;
- Aging infrastructure could be renewed to serve multiple purposes;
- Operations and maintenance efforts would be significantly minimized;
- Community impacts could be minimized;
- Majority of Hooffs Run could be restored and improved as part of the work; and
- The hydraulic operation of the existing interceptor system could be enhanced.

The proposed facilities associated with the Hooffs Run Diversion Sewer near Outfall 004 include a diversion chamber to divert flows from the existing combined sewer system into a new six (6) foot diameter pipeline. Work at this location also includes the decommissioning of an existing sewer regulator and siphon under Hooffs Run. Installation of the new sewer under Jamieson Avenue would occur via open-cut or trenchless methods to the west of the Jamieson Bridge archway.

Most work associated with the Outfall 004 Diversion Chamber would be contained within Hooffs Run between Jamieson Avenue and Duke Street as illustrated in Figure 8. Some work would be located within the Duke Street right-of-way and just south of Duke Street within City property to connect into the existing sewer system. These construction areas are subject to the King Street Metro/Eisenhower Avenue and Eisenhower East Small Area Plans.



Figure 8. Diversion Chamber at Existing Outfalls 003 and 004 near Duke Street

E. Project Timeline

- June 2018:** VDEQ approves LTCPU for remediating existing combined sewer outfalls.
- July 2018:** VDEQ approves Outfall Transfer Agreement between City and AlexRenew.
- June 2019:** Issuance of Environmental Assessment (anticipated).
- Feb 2020:** Issuance of Tunnel System Project bid documents (anticipated).
- Dec 2020:** Notice to Proceed for Tunnel System Design-Build Contract (anticipated).
- July 2025:** Construction complete (anticipated).

IV. ZONING

Zoning:	The project area spans many zoning districts. The project interacts with the surface at three distinct areas as follows: <ul style="list-style-type: none"> ▪ Outfall 001: W-1 and WPR ▪ Outfall 002: WPR ▪ Outfalls 003/004: CCD#1, RB, UT, OCH, CD, OCM100
	Approximate areas where above grade work and improvements will be made: <ul style="list-style-type: none"> ▪ Outfall 001: Pendleton Street at Union Street (either in Oronoco Park or north end of Robinson Terminal Site) ▪ Outfall 002: South Royal Street at Jones Point Drive ▪ Outfalls: 003/004: Duke Street between Daingerfield Road and S. Peyton Street and along Hooffs Run from Duke Street to the AlexRenew treatment facility or along first block of Holland Lane from Duke Street to Jamieson Avenue.
Use:	Special Utility Uses
Bulk Standards:	Height, yard setbacks and Floor area ratio not applicable.

In accordance with Zoning Ordinance Section 7-1202, approval of a *special use permit* through a public hearing process, will be required for three outfall locations, identified as numbers 001, 002, and 004, where there will be above-ground development and equipment access points. These above-ground *utilities* have been determined to be similar to the uses identified in Section 7-1202(A) of the Zoning Ordinance and are the most impactful uses of the project to the greater community.

Furthermore, Outfalls 001, 002, and 004 will need site plans. Outfalls 001 and 004 need site plans under Section 11-403(A) of the Zoning Ordinance because of the construction of *structures* that are proposed at those locations. Outfall 002 requires a site plan under Section 11-403(C) of the Zoning Ordinance because there is a proposed *alteration of grade* at the location.

The underground tunnels and diversion sewers are *permitted uses* as described in Zoning Ordinance Section 7-1201. Since these uses are most similar to uses included in this section such as, but not limited to, *sewage collection and disposal systems and sewers*, a special use permit for those portions of the system are not required. Similarly, these elements of the remediation project also do not trigger a site plan.

The traditional building bulk regulations do not apply to this project because much of it is located below ground or at surface level in the form of manhole like covers, landscape features and amenities.

V. STAFF ANALYSIS

A. Impacted Soils and Groundwater

The project area has a history of infill and prior industrial uses with documented impacts to soil and groundwater. Excavation, grading, and/or dewatering activities are anticipated to encounter impacted soil and groundwater. Current and historic data were reviewed to identify potential environmental concerns (PECs) regarding soils and groundwater within the proposed construction sites. Additionally, environmental sampling associated with the RiverRenew boring program is ongoing to characterize soil and groundwater at the proposed construction sites.

Outfall 001 Diversion Facility

The proposed Outfall 001 Diversion Facility alternatives would be located within the vicinity of three (3) voluntary remediation program sites: the former Robinson Terminal North Site (VRP00673), the former Alexandria Town Gas Site (VRP00241), and 601 North Fairfax Street (VRP00594). PECs associated with the Outfall 001 Diversion Facility include: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), petroleum compounds, coal tar, pesticides and herbicides, arsenic, and a variety of metals. Arsenic concentrations are consistent with naturally occurring background levels in this area.

Outfall 002 Diversion Facility

The proposed Outfall 002 Diversion Facility would be located near the former Virginia Shipbuilding Company and former Trent Amalgam Coal Fuel Oil Company. PECs associated with the Outfall 002 Diversion Facility include: petroleum compounds and arsenic. Arsenic concentrations are consistent with naturally occurring background levels in this area.

Outfall 004 Diversion Chamber

Historic operations in the vicinity of the Outfalls 003/4 consisted primarily of railroads, associated with a former Southern Railway railyard (VAD988203550), as well as landfills, and former dry cleaners. Common contaminants associated with railyards include VOCs, SVOCs,

metals, and to lesser extent, chlorinated solvents. In addition to the railyard use, a total of 10 VRP sites were noted in the study area with potential additional PECs including PCBs, and methane gas. Most of the southern portion of the study area was previously a waterbody filled to create land in support of development. Urban fill material typically contains low levels of contaminants such as heavy metals, PAHs and petroleum compounds.

Investigation and Mitigation Actions

RiverRenew is currently conducting an environmental exploration and characterization program to further identify and analyze the concentration and location of PECs in the areas of proposed ground disturbance. In advance of construction, site specific health and safety plans would be developed to address risks to human health and safety posed by the presence of PECs, as appropriate. When working in areas with impacted soils and groundwater, exposure pathways to workers and the public would be minimized utilizing best management practices and other methods approved by the VDEQ.

B. Site Design

The Tunnel System Project is mainly comprised of a large diameter underground sewer tunnel constructed using a TBM. Therefore, surface disturbances associated with the project are located at the existing outfall sites where connections need to be made to the existing sewer system. Thus, site design improvements are not triggered in the same way as they would be in a more traditional site plan with a building. However, AlexRenew in cooperation with City staff have made a concerted effort to provide surface enhancements at all the locations where surface penetrations occur. The improvements fall into two primary categories, landscaping/environmental enhancements and pedestrian enhancements. Staff are very supportive of these enhancements and the positive impacts they will have on the built and natural environments.

Outfall 001 Diversion Facility

The OBE alternative restoration proposes a public promenade at the eastern terminus of Pendleton Street as shown in Figure 9. The promenade would tie into the improvements specified for Oronoco Bay Park in the Waterfront Small Area Plan and would include new landscaping and shoreline restoration along with significant tree planting. The promenade design includes materials and site furnishings included in the Alexandria Waterfront Common Elements Design Guidelines.

The promenade would be accessed from a ramp extending east from the end of Pendleton Street. There would be no other access or connectivity to any future waterfront improvements proposed along the Robinson Terminal North site. However, the promenade would offer great views of the Potomac River, Oronoco Bay, and the District of Columbia. Amenities associated with the platform include benches, new waterfront streetlights, bicycle racks, and natural shoreline restoration immediately north of the platform.

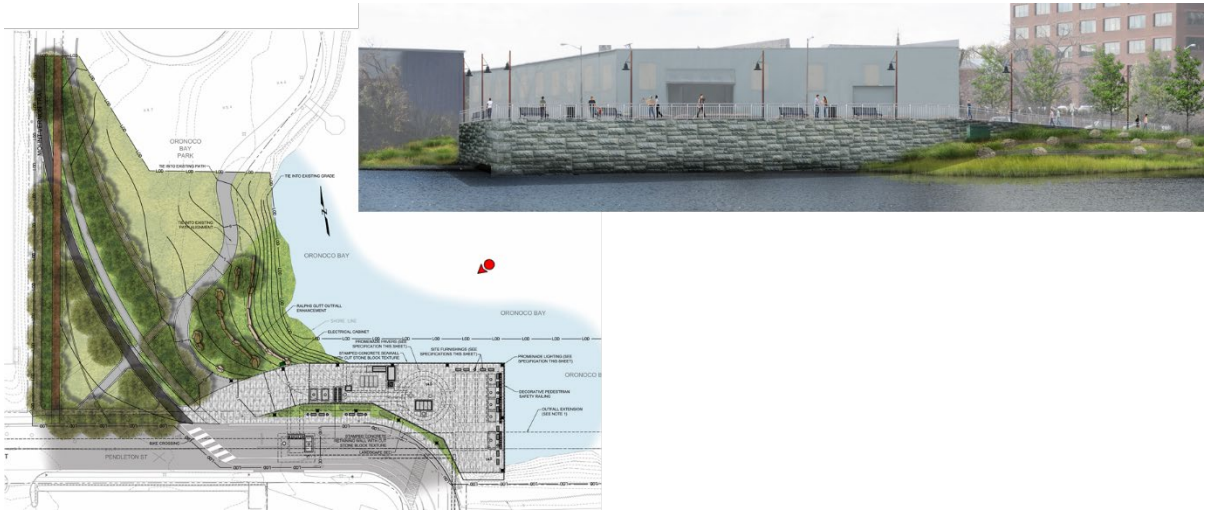


Figure 9. OBE Alternative Conceptual Landscape Plan and Rendering

The RTN alternative restoration, as shown in Figure 10, proposes a public promenade featuring many of the same design elements as the OBE alternative. The difference between this alternative and the OBE alternative is the creation of a segment of the waterfront promenade that was associated with the Waterfront Master Plan. The “L”-shaped promenade will stretch from the end of Pendleton Street to the Potomac River and extend approximately 125 feet south. The promenade will *not* connect to Oronoco Street until the remainder of the RTN site is developed. However, staff are very supportive of this design as it includes a broad promenade paved in the approved pavers and provides extensive views of the Potomac River and District of Columbia. The design of the promenade is planned to use materials and site furnishings included in the Alexandria Waterfront Common Elements Design Guidelines. Materials would include, but are not limited to, the railing design, promenade streetlight, and promenade paver materials and granite edging.

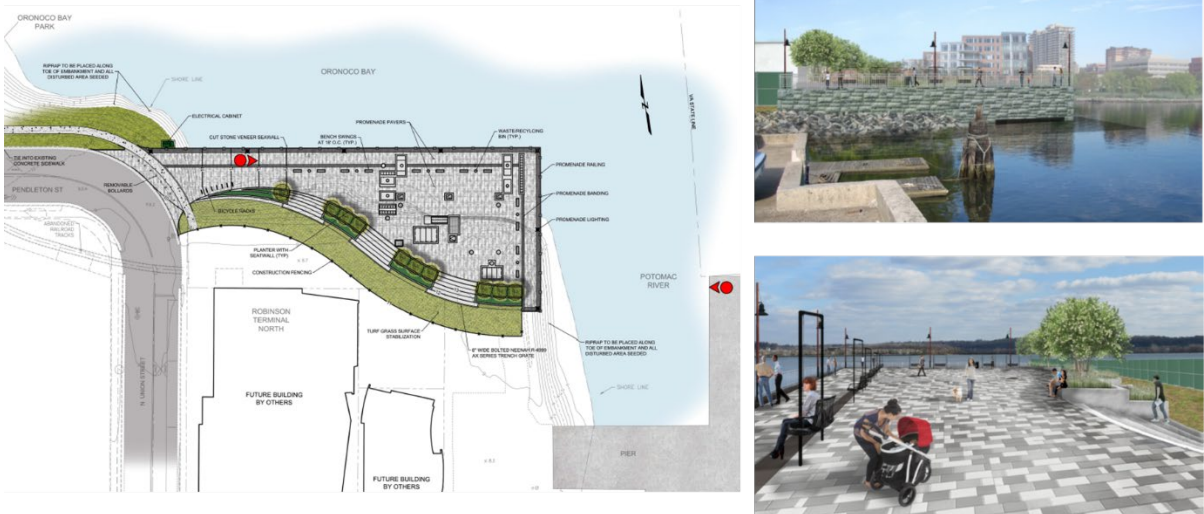


Figure 10. RTN Alternative Conceptual Landscape Plan and Renderings

Outfall 002 Diversion Facility

The Royal Street North Diversion Facility at Outfall 002, shown in Figure 11, is primarily proposed to be constructed within Jones Point Park, which is owned and operated by the NPS. The area proposed for the diversion facility is primarily utilized for passive recreation. Following construction of the diversion facility, a robust landscape restoration plan, invasive species removal, and wetlands enhancements are proposed for the park. New canopy trees and wetland and other ground cover plantings are proposed to maintain a natural setting around the diversion facility installation. This restoration is focused on providing a visual landscape that blends naturally into the adjacent park area.



Figure 11. Outfall 002 Diversion Facility Conceptual Landscape Plan and Rendering

Outfall 004 Diversion Chamber

The Hooffs Run Diversion Sewer alternative is proposed to include significant landscape and pedestrian enhancements along Hooffs Run. The proposed restoration is summarized below in three main areas: Jamieson Avenue to Duke Street, Eisenhower Circle to Jamieson Avenue, and AlexRenew WRRF.

The restoration of the section of Hooffs Run between Jamieson Avenue and Duke Street, as shown in Figure 12, is proposed to include the:

- Naturalization of the existing stream bed, which includes the conversion of the existing concrete culvert to a natural stream;
- East and west streambank stabilization and terracing;
- Removal of invasive species; and
- Installation of native plants.



Figure 12. Hooffs Run Conceptual Landscape Plan and Rendering (Jamieson Ave. to Duke Street)

The restoration of the section of Hooffs Run, shown in Figure 13, between Eisenhower Circle and Jamieson Avenue is proposed to include:

- West streambank stabilization and terracing;
- Wetlands enhancements;
- Removal of invasive species;
- Installation of native plants;
- Wildlife habitat creation with downed trees; and
- Installation of a pedestrian boardwalk from the existing African American Heritage Park walkway to Eisenhower Avenue.



Figure 13. Hooffs Run Conceptual Landscape Plan and Rendering (Eisenhower Avenue to Jamieson Avenue)

The restoration of the section of Hooffs Run within the AlexRenew WRRF (shown in Figure 14) is proposed to include:

- East and west streambank stabilization;
- Wetlands enhancements;
- Removal of invasive species; and
- Installation of native plants.



Figure 14. Hooffs Run Conceptual Landscape Plan (AlexRenew WRRF)

C. Fiscal Impact

RiverRenew is currently anticipated to cost between \$370 and \$555 million. This estimate is based on the current conceptual level of design for the tunnel system. As the wastewater agency for Alexandria and portions of Fairfax County, AlexRenew currently funds services and any improvements to infrastructure through wastewater bills and direct payments by Fairfax County. Ultimately, RiverRenew will be paid for through rate increases. AlexRenew will pay for RiverRenew primarily by securing loans, which will be paid off over many years, like a home mortgage. Rate increases will be incorporated to cover the debt assumed to build and implement the program. Additionally, AlexRenew and the City of Alexandria are working together to obtain federal and state funding to support the program.

AlexRenew will implement rate increases for the next two fiscal years, starting on July 1, 2019 and July 1, 2020, respectively. Residential customers will see an increase of approximately \$55 per year in their bills (a total of \$110 over two years), or just under \$5 per month for an average homeowner each year. AlexRenew created a rate estimator to estimate customer bills based on meter readings and can be viewed at: www.alexrenew.com/estimate-your-rate.

By 2025, sewer bills may be \$20 to \$40 per month higher in order to fund RiverRenew. Additional rate increases will be necessary in future years for equipment upgrades and

replacement. These rate increases will pay for updated and new infrastructure to create healthier waterways for our community, a safer environment for wildlife, and a cleaner community for future generations.

D. Section 9.06 Review

As AlexRenew is creating a new utility within the jurisdiction of the City of Alexandria compliance with Section 9.06 of the City's Charter. Section 9.06 requires that the Planning Commission approve any installation of a utility ensuring that such a project is consistent with the City's Master Plan. Thus, RiverRenew is subject to this review.

RiverRenew is proposed to be located within the boundaries of the following Small Area Plans (Chapters) of the Master Plan: Old Town North, Old Town, Waterfront Plan, and King Street/ Eisenhower Avenue. In addition to the Small Area Plans, the City's Master Plan addresses the sewer remediation project through the Water Quality Management Supplement (2001) and the City of Alexandria Sanitary Sewer Master Plan (2012). The primary purpose of the Water Quality Management Supplement is to bring the City into compliance with the comprehensive planning requirements of the Chesapeake Bay Preservation Area Designation and Management Regulations and describes measures the City implemented for controlling the combined sewer discharges. The Sanitary Sewer Master Plan provides the City with a framework for addressing projected wastewater flows, infrastructure upgrades, and regulatory drivers related to sanitary sewers.

Staff recommends to the Planning Commission that RiverRenew is consistent with Section 9.06 of the City Charter and with the City's Master Plan including specifically the Old Town North, Old Town and King Street Metro/Eisenhower Avenue Small Area Plans.

E. Construction Management Plan

Given the scale of work at each of the construction sites, and the state-imposed deadline for completing them, work is expected to impact the neighborhoods in the vicinity of the work. An increase in truck traffic will be realized due to the need to bring in materials and remove excavated soils at each site. There will also be pile driving required at some of the work sites. For the sites where pile driving will occur, the pile driving operation is not anticipated to span more than one year. The City is committed to mitigating construction related impacts as much as possible.

Haul Routes

Haul routes for the delivery and removal of materials and equipment are summarized in Table 1 and Figure 15. There are multiple construction sites along the proposed Hooffs Run Diversion Sewer due to the linear nature of the work. Therefore, each construction site is proposed to have an associated haul route which is reflected in Table 1.

Construction Site	Haul Route	
	Inbound	Outbound
Outfall 001	<ul style="list-style-type: none"> Henry Street to Pendleton Street Patrick Street to Pendleton Street 	<ul style="list-style-type: none"> Pendleton Street to Patrick Street Pendleton Street to Henry Street
Outfall 002	<ul style="list-style-type: none"> Patrick Street to Franklin Street to Royal Street 	<ul style="list-style-type: none"> Royal Street to Gibbon Street to Patrick Street
Outfalls 003/4		
Duke Street	<ul style="list-style-type: none"> Duke Street (eastbound) 	<ul style="list-style-type: none"> Duke Street to Patrick Street
Holland Lane	<ul style="list-style-type: none"> Duke Street (eastbound) to Holland Lane to Jamieson Avenue Eisenhower Avenue to Holland Lane to Jamieson Avenue 	<ul style="list-style-type: none"> Jamieson Avenue to Holland Lane to Duke Street to Patrick Street Jamieson Avenue to Holland Lane to Eisenhower Avenue
AlexRenew WRRF	<ul style="list-style-type: none"> Eisenhower Avenue to AlexRenew WRRF 	<ul style="list-style-type: none"> AlexRenew WRRF to Eisenhower Avenue

Table 1. Summary of Haul Routes

Trucks transporting excavated soils are proposed to be equipped with tied-down tarps to ensure materials leaving the site are fully contained. Trucks leaving the construction sites will also pass through wheel washes and be inspected prior to entering City streets. Additionally, street sweeping along proposed haul routes and adjacent to the construction sites will be conducted on a regularly occurring basis.

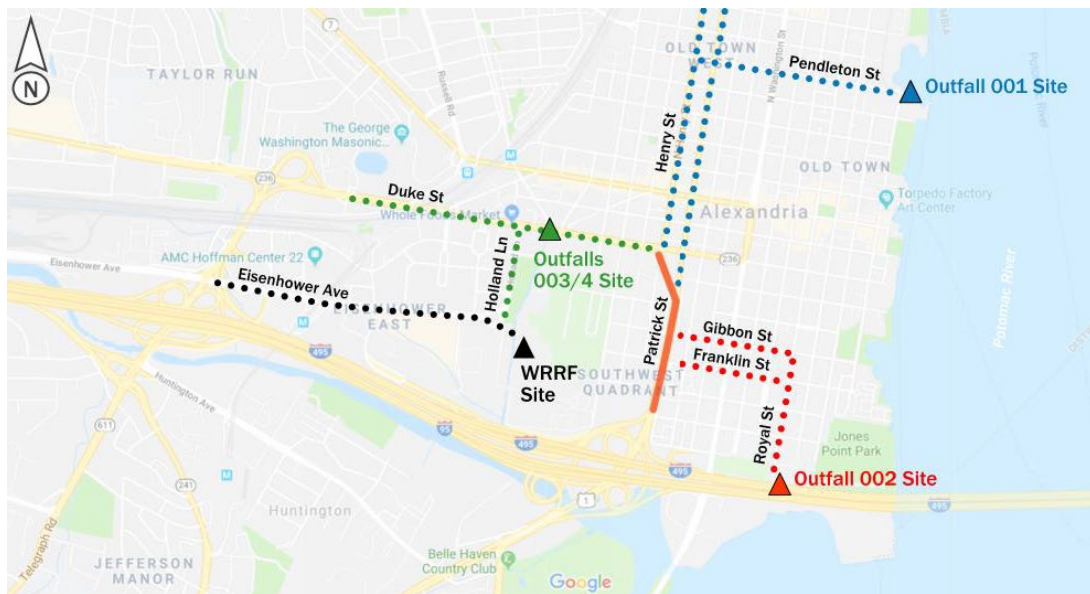


Figure 15. Summary of Construction Haul Routes

Construction Worker Parking

Construction workers will be prohibited from parking within public streets. Management of construction worker parking is the responsibility of the Design-Builder, which may use an off-site location or portions of the construction site(s).

Construction Hours

The use of construction devices and power equipment is permitted during the following hours:

- Monday–Friday: 7:00 a.m. to 6:00 p.m.
- Saturday: 9:00 a.m. to 6:00 p.m.
- Sunday: Prohibited

After hours construction work will be granted on a case by case basis as permitted by the City prior to operation outside of the permitted hours.

VI. COMMUNITY OUTREACH

Community Listening Sessions

As part of the EA process, AlexRenew held four listening sessions in September 2018, one of which served as the Scoping Meeting in compliance with the National Environmental Policy Act. These listening sessions sought input from the community and government agencies to guide analysis of the proposed alternatives and ensure that natural resources, cultural resources and community impacts were considered. Comments received from the community following the listening sessions were incorporated into the EA. AlexRenew will host four additional listening sessions following release of the EA to discuss the document with the public.

RiverRenew Stakeholder Advisory Group

In December 2018, AlexRenew and the City jointly created the RiverRenew Stakeholder Advisory Group (SAG) through City Council Resolution # 2850. The 13-member SAG represents a diverse group of citizens from Alexandria neighborhoods, businesses and environmental groups. The SAG was established as the key approach to engage with the public on this program. Selected volunteers serve as ambassadors, reaching out to neighbors and community groups to receive and share input. In particular, the SAG is charged with:

- Being an active and informed citizen group that provides diverse perspectives throughout various phases of RiverRenew’s implementation;
- Reviewing and monitoring program progress and provide diverse perspectives;
- Serving as spokespeople for RiverRenew in the community and leveraging existing networks to communicate progress;
- Receiving input from the public & representing community perspectives at meetings; and

- Providing recommendations regarding mitigation of community impacts.

The group has met three (3) times since convening in February 2019.

Additional Community Outreach Activities

- Over 40 presentations to City and community groups, such as the Waterfront Commission, Board of Architectural Review and targeted homeowner's associations;
- Over 20 events to inform the community about RiverRenew, such as AlexRenew's annual Water Discovery Day and Alexandria Earth Day;
- Open House to inform residents of the two-year annual rate increases to sewer bill;
- Launch of and continuous updates to RiverRenew.com, a dedicated program website;
- Launch of quarterly email newsletter to share program updates and news with 490+ subscribers;
- Door-to-door canvassing throughout Old Town in advance of soil sampling activities and upcoming community events; and
- Naming campaign to solicit community input in naming components of the system.

The community meetings and various other public meetings RiverRenew staff participated in to inform residents of the planned work is provided in a table (See Attachment 1).

VII. CONCLUSION

Staff recommends approval of the development special use permit with site plan subject to compliance with all applicable codes and the following staff recommendations.

VIII. STAFF RECOMMENDATIONS

1. The Final Development Special Use Permit shall be in substantial conformance with the preliminary site plan dated April 2019 and June 2019 and comply with the following conditions of approval.

A. SITE PLAN

2. Per Section 11-418 of the Zoning Ordinance, the development special use permit shall expire and become null and void, unless substantial construction of the project is commenced within 36 months after initial approval and such construction is thereafter pursued with due diligence. The applicant shall provide a written status report to staff 18 months after initial approval to update the City Council on the project status if substantial construction has not commenced at such time. The period of validity may be extended upon petition by the applicant and after adequate

notice and public hearing. If applicable, submit the plat and all applicable easements prior to the Final Site Plan submission. (P&Z)

3. The plat(s), if applicable, shall be approved prior to or concurrently with the release of the Final Site Plan. (P&Z) (T&ES) *
4. The plat shall be recorded, and a copy of the recorded plat, dedications and deeds shall be submitted with the first request for a building permit. (P&Z) (T&ES) **
5. Upon completion of the selected alternate at Outfall 001, AlexRenew will maintain all structural components related to the below-grade sewer infrastructure which include the outfall extension, outfall structure, diversion chamber, drop shaft, approach channel, and ventilation control vault. Additionally, AlexRenew will maintain the above-grade electrical cabinet, its connections to the ventilation control vault, and stone veneer of the seawall. The City will maintain the surface features which include the pavers, stairs, railings, planters and vegetation, and amenities such as trash cans, benches light fixtures as well as all operational maintenance not limited to cleaning and trash removal. City maintenance will begin upon approval of the as-built drawings. (P&Z) (T&ES) ***
6. Coordinate location of site utilities with other site conditions to the satisfaction of the Directors of P&Z and T&ES and in coordination with the National Park Service. These items include:
 - a. Location of site utilities including above grade service openings and required clearances for items such as transformers, telephone, HVAC units and cable boxes.
 - b. Minimize conflicts with plantings, pedestrian areas and major view sheds.
 - c. If applicable, all utilities shall be screened from the public ROW to the satisfaction of the Director of P&Z. (P&Z) (T&ES) (BAR)**
7. Provide a lighting plan with the Final Site Plan to verify that any proposed lighting meets City standards. The plan shall be to the satisfaction of the Directors of T&ES and/or P&Z in coordination with the requirements of the National Park Service and in consultation with the Chief of Police and shall include the following:
 - a. Clearly show location of all existing and proposed streetlights and site lights, shading back less relevant information.
 - b. Determine if existing lighting meets minimum standards within the City right-of-way adjacent to the site. If lighting does not meet minimum standards, additional lighting shall be provided to achieve City standards or to the satisfaction of the Director of T&ES.
 - c. A lighting schedule that identifies each type and number of all fixtures, mounting height, and strength of fixture in Lumens or Watts.
 - d. All proposed light fixtures in the City right of way shall be basic, approved Dominion LED light fixtures.

- e. Manufacturer's specifications and details for all proposed fixtures including site, landscape, pedestrian, sign(s) and security lighting.
 - f. A photometric plan with lighting calculations that include all existing and proposed light fixtures, including any existing streetlights, shall be provided at Outfall 001.
 - g. Detail information indicating proposed light pole and any footing in relationship to adjacent grade or pavement. All light pole foundations shall be concealed from view or light poles shall be direct bury.
 - h. The lighting for the areas not covered by the City of Alexandria's standards shall be designed to the satisfaction of Directors of T&ES and P&Z.
 - i. Provide numeric summary for various areas (i.e., roadway, walkway/sidewalk, alley, and parking lot, etc.) in the proposed development.
 - j. Full cut-off lighting shall be used, as applicable, at the development site to prevent light spill onto adjacent properties.
(P&Z) (T&ES) (Police)(BAR)(Code)*
8. The Emergency Vehicle Easement (EVE) shall not be painted. When an EVE is shared with a pedestrian walkway or consists of grasscrete or a similar surface treatment, the EVE shall be defined in a manner that is compatible with the surrounding ground plane. (P&Z) *
9. Provide a georeferenced CAD file in .dwg format of the at grade of this project. This information will be used to compile a master CAD reference to ensure all elements are correctly located and will connect. (P&Z) (DPI) *
10. The applicant shall work with the City for recycling and/or reuse of the existing building materials as part of the demolition process, including leftover, unused, and/or discarded building materials. (T&ES) (P&Z)
11. Provide bicycle parking as shown on the preliminary site plan. (T&ES) ***

OPEN SPACE/LANDSCAPING:

12. Develop, provide, install and maintain a Landscape Plan as proposed for the various outfall locations, as applicable, with the Final Site Plan that is coordinated with other associated site conditions to the satisfaction of the Director of P&Z in coordination with requirements of the National Park Service. Landscape plans shall be submitted in accordance with the City of Alexandria's Landscape Guidelines, available online at:
www.alexandriava.gov/uploadedFiles/recreation/ParkPlanning/LandscapeGuidelinesFinalv2Final.pdf (P&Z) *
13. Restore any area disturbed in Oronoco Bay Park consistent with the OLIN Plan to the satisfaction of the Directors of P&Z and RPCA. (P&Z) (RPCA) ***

14. Provide percolation tests to ensure sufficient subgrade drainage related to proposed planting locations. Test pits shall be a minimum of 2 feet in diameter and 2 feet deep from the bottom of the planting hole. Percolation test locations and rates shall be to the satisfaction of the Director of RP&CA, but the minimum acceptable rate shall be 2 inches per hour using potable water. Percolation tests shall be certified by a soil scientist / registered geotechnical engineer. (P&Z) (RP&CA) **
15. Provide the following modifications to the landscape plan and supporting drawings:
 - a. Site furnishings at the selected 001 Outfall location shall meet City standards as well as the *Alexandria Waterfront Common Elements Design Guidelines*, as amended, and may include benches, bicycle racks, trash and recycling receptacles, promenade railing design, light fixtures and other associated features. (P&Z) (T&ES) *
16. Provide material, finishes, and architectural details for all retaining walls, seat walls, decorative walls, and screen walls. Indicate methods for grade transitions, handrails, if required by code, directional changes, above grade conditions. Coordinate with adjacent conditions. Design and construction of all walls shall be to the satisfaction of the Directors of P&Z and T&ES in coordination with requirements of the National Park Service. (P&Z) (T&ES) (Code) *

TREE PROTECTION AND PRESERVATION:

17. Provide, implement and follow a *Tree and Vegetation Protection Plan* per the City of Alexandria Landscape Guidelines. (P&Z) (RP&CA) *, ***

ARCHAEOLOGY:

18. Hire an archaeological consultant to conduct the archaeological investigations. Complete an Archaeological Evaluation and Resource Management Plan, as outlined in the City of Alexandria Archaeological Standards and consistent with the adopted Old Town Historic Interpretation Guide. Preservation measures presented in the Resource Management Plan, as approved by the City Archaeologist, shall be implemented. The Archaeological Evaluation and implementation of the Resource Management Plan shall be completed prior to submission of the Final Site Plan unless archaeological work is required in concert with demolition and construction activities, which must be demonstrated to the satisfaction of the City Archaeologist. All work carried out under these conditions shall be completed in a manner that is consistent with and will not supersede or contradict the provisions of any agreement document executed for the project with any federal agency in accordance with the provisions of 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108) (Archaeology) *

19. The Final Site Plan, Grading Plan, or any other permits involving ground disturbing activities (such as coring, grading, filling, vegetation removal, undergrounding utilities, pile driving, landscaping and other excavations as defined in Section 2-151 of the Zoning Ordinance) shall not be released until the City archaeologist confirms that all archaeological field work has been completed or that an approved Archaeological Evaluation plan and any required Resource Management Plans will be implemented to recover significant resources before or in concert with construction activities. (Archaeology) *
20. Call Alexandria Archaeology (703-746-4399) two (2) weeks before the starting date of any ground disturbance so that an inspection or monitoring schedule for City archaeologists can be arranged. The language noted above shall be included on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology)*
21. Call Alexandria Archaeology immediately (703-746-4399) if any buried structural remains (wall foundations, wells, privies, cisterns, etc.) or concentrations of artifacts are discovered during development. Work must cease in the area of the discovery until a City archaeologist comes to the site and confirms appropriate recovery and / or documentation. The language noted above shall be included on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology)*
22. The applicant shall not allow any metal detection and/or artifact collection to be conducted on the property, unless authorized by Alexandria Archaeology. Failure to comply shall result in project delays. The language noted above shall be included on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology)*
23. The final site inspection shall not be completed until interpretive elements have been constructed, interpretive markers have been erected, and the final archaeological report has been received and approved by the City Archaeologist. (Archaeology) ***

PEDESTRIAN / STREETSCAPE:

24. Provide the following pedestrian improvements for the selected alternative to the satisfaction of the Directors of P&Z and T&ES:
 - a. Complete all pedestrian improvements shown on the Preliminary Site Plan prior to approval of the as-built drawings. ***
 - b. Install ADA accessible pedestrian crossings serving the site.
 - c. Construct all concrete sidewalks to City standards. The minimum unobstructed width of newly constructed sidewalks shall be 5 feet. For Outfall #001 – Robinson Terminal North alternate, provide sidewalk between the proposed promenade and the ADA ramps and crosswalks to the

- west and south. For either Outfall 001 alternates the paving material shall match what is shown on the preliminary plan.
- d. All brick sidewalks shall comply with the City's Memos to Industry 05-08 and 01-13.
 - e. Sidewalks shall be flush across all driveway crossings.
 - f. All newly constructed curb ramps in Alexandria shall be concrete with detectable warning and shall conform to current VDOT standards.
 - g. Provide separate curb ramps for each direction of crossing (i.e., two ramps per corner). Curb ramps shall be perpendicular to the street to minimize crossing distances. Any changes must be approved by the Director of T&ES.
 - h. Provide thermoplastic pedestrian crosswalks at all crossings at the proposed development, which must be designed to the satisfaction of the Director of T&ES.
 - i. All proposed crosswalks shall be high-visibility crosswalks [white, thermoplastic ladder crosswalks as shown in the Manual on Uniform Traffic Control Devices (MUTCD)]. All other crosswalk treatments must be approved by the Director of T&ES.
 - j. All below grade utilities placed within a City sidewalk shall be designed in such a manner as to integrate the overall design of the structure with the adjacent paving materials to minimize any potential visible impacts. (P&Z) (T&ES) ***
25. All on-street parking controls and restrictions within the project area shall be determined by the City. Any such controls and restrictions which the applicant desires shall be shown on the Final Site Plan. (P&Z) (T&ES) *

B. TRANSPORTATION

STREETS/TRAFFIC:

26. If the City's existing public infrastructure is damaged during construction, or patch work required for utility installation then the applicant shall be responsible for construction / installation or repair of the same as per the City of Alexandria standards and specifications, including matching of materials and to the satisfaction of Director, Transportation and Environmental Services. (T&ES) ***
27. A walk/survey of the site shall occur with Transportation and Environmental Services Construction & Inspection staff and Code Administration staff to document existing conditions prior to any land disturbing activities. (T&ES) (Code)
28. Asphalt patches larger than 20% of the total asphalt surface, measured along the length of the road adjacent to the property frontage and/or extending to the centerline of the street, will require full curb to curb restoration. (T&ES)

29. For Outfall 001 – Oronoco Bay East option if selected, provide a perpendicular, high visibility striped bike crossing across Pendleton Street at the location where the existing Mt. Vernon trail perpendicularly intersections with Pendleton Street and provide striped bike lane from crossing to Union Street intersection. (T&ES) ***

BUS STOPS AND BUS SHELTERS:

30. Show all existing and proposed bus stops, bus shelters (if existing, proposed, or conditioned), and bus stop benches in the vicinity of the selected alternative on the Final Site Plan. (T&ES) (Code) *
31. The applicant shall notify T&ES staff at least 30 days in advance if the five (5) on-street motor coach parking spaces on the east side of Union Street south of the intersection with Pendleton Street will be impacted by construction activities. (T&ES)

C. PUBLIC WORKS

UTILITIES:

32. Locate all private utilities without a franchise agreement outside of the public right-of-way and public utility easements. (T&ES)
33. No transformer and switch gears shall be located in the public right of way. (T&ES)

D. ENVIRONMENTAL

FLOODPLAIN MANAGEMENT:

34. Demonstrate compliance with flood plain ordinance Section 6-300 to Section 6-311 of Article VI Special and Overlay Zones. No final plan shall be approved until full compliance with flood plain ordinance has been demonstrated. (T&ES) *
35. All required information must appear on the final site plan submission (application) in order to be compliant with the City of Alexandria Floodplain Ordinance and allow for proper review of further compliance. Required items shall include, at a minimum, the following:
- a. The base flood elevation (BFE);
 - b. Topographic information showing existing and proposed ground elevations. (T&ES) *

36. Provide detailed computations of the impact of fill in the flood plain on the 100-year Water Surface Elevation (WSE) to the satisfaction of the Director of T&ES. Computations are to include backwater calculations starting at a downstream cross section to an upstream cross section. Computations shall be made by modifying the existing HEC-RAS model, as prepared by the U.S. Army Corps of Engineers, Baltimore District. Proposed fill placement shall not raise the 100-year water surface level at any location along the channel. A no rise certificate will be required. (T&ES)

STORMWATER MANAGEMENT:

37. Provide BMP narrative and complete pre and post development drainage maps that include areas outside that contribute surface runoff from beyond project boundaries to include adequate topographic information, locations of existing and proposed storm drainage systems affected by the development, all proposed BMPs and a completed Virginia Runoff Reduction Method (VRMM) worksheet showing project compliance. The project must use hydrologic soil group “D” in the spreadsheet unless a soils report from a soil scientist or geotechnical engineer delineates onsite soils otherwise. This project shall meet the state phosphorous removal requirement through a comprehensive stormwater master plan. The City’s Water Quality Volume Default requirement is considered satisfied through equivalency options due to the nature of the project as a combined sewer system project. (T&ES)
38. All stormwater Best Management Practices (BMPs) must be designed to comply with the most recent standards and specifications published in the Virginia Stormwater BMP Clearinghouse. Provide complete design details for all BMPs. This includes site specific plan views, cross sections, planting plans, and complete design calculations for each BMP. (T&ES)
39. Provide a BMP table with a separate listing for each individual BMP that includes the name of the practice, total area treated (acres), pervious area treated (acres), impervious area treated (acres), phosphorous removal efficiency (percentage), phosphorous removal efficiency (percentage), phosphorous removed by the practice (lbs.), and latitude and longitude in decimal degrees (NAD83). (T&ES)
40. Prior to the approval of the as-built drawings, the applicant is required to submit construction record drawings for permanent stormwater management facilities to the City. The drawings must be appropriately signed and sealed by a professional registered in the Commonwealth of Virginia and certify that the stormwater management facilities have been constructed in accordance approved plans and specifications. (T&ES) ***
41. The stormwater Best Management Practices (BMPs) required for this project shall be constructed and installed under the direct supervision of the design professional

or his designated representative. Prior to approval of the as-built drawing, the design professional shall submit a written certification to the Director of T&ES that the BMPs are:

- a. Constructed and installed as designed and in accordance with the released Final Site Plan.
 - b. Clean and free of debris, soil, and litter by either having been installed or brought into service after the site was stabilized. (T&ES) ***
42. Surface-installed stormwater Best Management Practice (BMP) measures, i.e. Bio-Retention Filters, Vegetated Swales, etc. that are employed for this site, require installation of descriptive signage to the satisfaction of the Director of T&ES. (T&ES)
43. Submit two (2) originals of the stormwater quality BMP Maintenance Agreement, to include the BMP Schedule and Guidelines Addendum with the City to be reviewed as part of the Final #2 Plan. The agreement must be executed and recorded with the Land Records Division of Alexandria Circuit Court prior to approval of the Final Site Plan. (T&ES) *
44. The Applicant/Owner shall be responsible for installing and maintaining stormwater Best Management Practices (BMPs), unless a separate maintenance agreement has been approved by the City. The Applicant/Owner shall execute a maintenance service contract with a qualified private contractor for a minimum of three (3) years and develop an Owner's Operation and Maintenance Manual for all Best Management Practices (BMPs) on the project. The manual shall include at a minimum: an explanation of the functions and operations of the BMP(s); drawings and diagrams of the BMP(s) and any supporting utilities; catalog cuts on maintenance requirements including mechanical or electrical equipment; manufacturer contact names and phone numbers; a copy of the executed maintenance service contract; and a copy of the maintenance agreement with the City. A copy of the contract shall also be placed in the BMP Operation and Maintenance Manual.
45. Prior to approval of the as-built drawing, a copy of the maintenance contract shall be submitted to the City. (T&ES) ***
46. Submit a copy of the Operation and Maintenance Manual to the T&ES Stormwater Management Division on digital media prior to approval of the as-built drawing. (T&ES) ***
47. Prior to approval of the as-built drawing, the applicant is required to submit a certification by a qualified professional to the satisfaction of the Director of T&ES that any existing stormwater management facilities adjacent to the project and associated conveyance systems were not adversely affected by construction operations. If maintenance of the facility or systems were required in order to make

this certification, provide a description of the maintenance measures performed.
(T&ES) ***

WATERSHED, WETLANDS, & RPAs:

48. Provide Environmental Site Assessment Notes that clearly delineate the individual components of the RPA (where applicable) as well as the total geographic extent of the RPA, to include the appropriate buffer, in a method approved by the Director of Transportation and Environmental Services. The Environmental Site Assessment shall also clearly describe, map or explain intermittent streams and associated buffer; highly erodible and highly permeable soils; steep slopes greater than 15 percent in grade; known areas of contamination; springs, seeps or related features; and a listing of all wetlands permits required by law. (T&ES)
49. Provide documentation regarding the source of onsite wetland delineation and a description of any actions to be taken to minimize and/or mitigate the impact of the development on existing wetlands as required by Article XIII of the City of Alexandria Zoning Ordinance. (T&ES)
50. The project is located within an existing RPA or mapped wetland area; therefore, the applicant shall prepare a Water Quality Impact Assessment in accordance with the provisions of Article XIII of the City of Alexandria Zoning Ordinance to the satisfaction of the Director of Transportation and Environmental Services. (T&ES)
51. Mitigate any impacts on water quality of the development by encroachment into and/or destruction of an existing resource protection areas (RPAs) and mapped wetland area by one or more of the following methods to the satisfaction of the Director of Transportation and Environmental Services:
 - a. Restoring streams subject to historic erosion damage.
 - b. Increasing vegetation onsite and/or performing offsite plantings.
 - c. Contribution to T&ES/DEQ funds to stream restoration / water quality projects.
 - d. These mitigation efforts shall be quantified and tabulated against encroachments as follows:
 - i. Wetlands destruction shall be mitigated at a ratio of 2:1 and offsite at 3:1.
 - ii. Resource Protection Area Encroachments shall be mitigated according to the guidelines suggested in the “Riparian Buffers Modification & Mitigation Guidance Manual” by the Chesapeake Bay Local Assistance Department. (T&ES)

CONTAMINATED LAND:

52. Indicate whether there is any known soil and groundwater contamination present on the plan. The applicant must submit supporting reports for associated

environmental investigations or assessments performed to substantiate this determination. (T&ES)

53. If environmental site assessments or investigations discover the presence of contamination on site, the final site plan shall not be released, and no construction activity shall take place until the following has been submitted and approved by the Director of T&ES:
- a. Submit a Site Characterization Report/Extent of Contamination Study detailing the location, applicable contaminants, and the estimated quantity of any contaminated soils and/or groundwater at or in the immediate vicinity of the site.
 - b. Submit a Risk Assessment indicating any risks associated with the contamination.
 - c. Submit a Remediation Plan detailing how any contaminated soils and/or groundwater will be dealt with, including plans to remediate utility corridors. Utility corridors in contaminated soil shall be over excavated by 2 feet and backfilled with “clean” soil. Include description of environmentally sound methods of off-site transport and disposal of contaminated soils and debris (including, but not limited to types of vehicles appropriate for handling specific materials and ensuring vehicle loads are covered).
 - d. Submit a Health and Safety Plan indicating measures to be taken during remediation and/or construction activities to minimize the potential risks to workers, the neighborhood, and the environment. Initial Air Monitoring may be required during site activities to demonstrate acceptable levels of volatiles and/or airborne particles. The determination whether air monitoring is needed must be adequately addressed in the Health and Safety Plan submitted for review.
 - e. The applicant shall screen for PCBs as part of the site characterization if any of the past uses are within the identified high risk category sites for potential sources of residual PCBs, which includes the following SICs: 26&27 (Paper and Allied Products), 30 (Rubber and Misc. Plastics), 33 (Primary Metal Industries), 34 (Fabricated Metal Products), 37 (Transportation Equipment), 49 (Electrical, Gas, and Sanitary Services), 5093 (Scrap Metal Recycling), and 1221&1222 (Bituminous Coal).
 - f. Applicant shall submit three (3) electronic and two (2) hard copies of the above. The remediation plan must be included in the Final Site Plan. (T&ES) *
54. Should any unanticipated contamination, underground storage tanks, drums or containers be encountered at the site during construction, the Applicant must immediately notify the City of Alexandria Department of Transportation and Environmental Services, Office of Environmental Quality. Should unanticipated conditions warrant, construction within the impacted area shall be stopped until the appropriate environmental reports identified in a. through f. above are submitted

and approved at the discretion of the Director of Transportation and Environmental Services. This shall be included as a note on the Final Site Plan. (T&ES) (Code)*

55. If warranted by a Site Characterization report, design and install a vapor barrier and ventilation system for buildings and parking areas in order to prevent the migration or accumulation of methane or other gases, or conduct a study and provide a report signed by a professional engineer showing that such measures are not required to the satisfaction of Directors of T&ES and Code Administration. The installed vapor barrier and ventilation system must include a passive ventilation system that can be converted to an active ventilation system if warranted. (T&ES)

NOISE:

56. Identify all noise and / or air pollution generating equipment and activities and submit plans for mitigating them for consideration and approval by the City prior to release of the final site plan. (T&ES) *

AIR POLLUTION:

57. Control odors and any other air pollution sources resulting from operations at the site and prevent them from leaving the property or becoming a nuisance to neighboring properties, as determined by the Director of Transportation and Environmental Services. (T&ES)

E. CONSTRUCTION MANAGEMENT

Construction Impact Assessment Report:

58. Prior to RiverRenew related construction activities, the applicant shall submit to the City, a Construction Impact Assessment Report(s) that includes, at a minimum, the following information:
- a. Planned Construction:
 - 1. A summary of the infrastructure to be constructed as part of the project.
 - b. Site and Geotechnical Conditions
 - 1. A summary of the existing site and geotechnical conditions.
 - c. Zone of Influence:
 - 1. An estimate of the horizontal extent, or “Influence Zone”, where the proposed construction activities may impact existing buildings, structures and underground utilities.
 - d. Existing Structures:
 - 1. Summary of all the buildings, structures, and underground utilities identified within the Influence Zone.

- e. Detailed Analysis:
 - 1. Geotechnical Analysis – provides the estimated ground response/deformation associated with excavation and construction activities.
 - 2. Structural Analysis – evaluates the impacts of the proposed construction activities to the buildings, structures, and underground utilities within the Influence Zone.
 - 3. Vibration Impact Assessment – evaluates the impacts of vibrations associated with the proposed construction activities on the buildings, structures, and underground utilities within the Influence Zone.
- f. Recommendations and Conclusions:
 - 1. Identify structures that warrant mitigation prior to the start of construction activities. Develop the geotechnical instrumentation monitoring plan to be performed during construction.

Monitoring Plan:

59. Applicant shall submit to the Directors of T&ES and Code Administration, a Geotechnical Instrumentation Monitoring Plan. The plan must address instrumentation and monitoring of buildings, structures, and underground utilities identified in the Contract Documents and the Construction Impact Assessment Report(s). The instruments shall monitor structure movement, vibration, and/or damage resulting directly from the construction activities. The Geotechnical Instrumentation Monitoring Plan shall include a baseline survey prior to commencement of construction, the data collection frequency of each instrument during construction.

At the completion of construction, a post-construction condition survey of existing structures shall be conducted. All properties within the Influence Zone, shall be afforded the opportunity to participate in the pre- and post-construction condition surveys.

Special Inspections, Trade and other Permits:

60. Coordinate with the Departments of Code Administration and Transportation and Environmental Services to obtain any required permits from the City for the project. Information requested may include, but is not limited to:
- a. Civil drawings
 - b. Geotechnical Data Report
 - c. Structure engineer certification for liability
 - d. Utility drawings (Excavation, lane closure, and sidewalk closure permits)
 - e. Instrumentation Monitoring Plan
 - f. Maintenance of Traffic (MOT) plans
 - g. Calculations

- h. Dewatering plan
- i. Sheet piling and shoring (support of excavation) plans

Construction Management:

- 61. Submit a construction management plan to the Directors of P&Z, T&ES and Code Administration prior to final site plan release. The plan shall:
 - a. Include an analysis as to whether temporary street or site lighting is needed for safety during the construction on the site and how it is to be installed.
 - b. Include an overall proposed schedule for construction;
 - c. Include soils management plan for import, export and stockpiling of fill during construction, including identifying control measures to control fugitive dust from leaving the site;
 - d. Include a plan for temporary pedestrian circulation;
 - e. Include a preliminary MOT as part of the construction management plan for informational purposes only, to include proposed controls for traffic movement, lane closures, construction entrances and storage of materials.
 - f. Copies of the plan shall be posted in the construction trailer and given to each subcontractor before they commence work. *
- 62. Submit a construction management plan to the Directors of P&Z, T&ES and Code Administration prior to final site plan release. The plan shall:
 - a. Include an analysis as to whether temporary street or site lighting is needed for safety during the construction on the site and how it is to be installed.
 - b. Include an overall proposed schedule for construction;
 - c. Include soils management plan for import, export and stockpiling of fill during construction, including identifying control measures to control fugitive dust from leaving the site;
 - d. Include a plan for temporary pedestrian circulation;
 - e. Include a preliminary MOT as part of the construction management plan for informational purposes only, to include proposed controls for traffic movement, lane closures, construction entrances and storage of materials.
 - f. Copies of the plan shall be posted in the construction trailer and given to each subcontractor before they commence work. *
- 63. The demolition debris, defined as residue from a building demolition, building debris accumulated as a result of building construction/reconstruction, and excavation material taken out of site shall be fully and securely covered to the satisfaction of the Director of T&ES, in order to haul in and out of the site, as applicable, to ensure that haulage of the material shall not create a nuisance or

adversely affect public health. The condition shall be applicable to all modes of haulage. (T&ES)

64. The demolition, building debris, and excavated soil shall be disposed of in accordance with all the local, state, and federal guidelines. (T&ES)
65. All mass fill material shall be conveyed to and from the site is subject to the following:
 - a. Demolition debris, construction materials and mass excavation may be conveyed to and from the site by truck, on routes specifically approved by director of T&ES.
 - b. Identify a person who will serve as a dedicated person to monitor truck stacking and compliance with all erosion and sediment control requirements throughout the duration of construction. The name and telephone number, including an emergency contact number, of this individual shall be provided in writing to the Directors of P&Z and T&ES.
66. Provide off-street parking for all construction workers without charge to the construction workers. The applicant shall be responsible for ensuring that all contractors use the off-street parking provided. For the construction workers who use Metro, DASH, or another form of mass transit to the site, the applicant shall subsidize a minimum of 50% of the fees for mass transit. Compliance with this condition shall be a component of the construction management plan, which shall be submitted to the Department of P&Z and T&ES prior to Final Site Plan release. This plan shall:
 - a. Establish the location of the parking to be provided at various stages of construction, how many spaces will be provided, how many construction workers will be assigned to the work site, and mechanisms which will be used to encourage the use of mass transit.
 - b. Provide for the location on the construction site at which information will be posted regarding Metro schedules and routes, bus schedules and routes.
 - c. If the off-street construction workers parking plan is found to be violated during construction, a correction notice will be issued to the developer. If the violation is not corrected within five (5) days, a "stop work order" will be issued, with construction halted until the violation has been corrected. (P&Z) (T&ES) *
67. Sidewalks adjacent to the site shall remain open during construction. If sidewalks must be closed, pedestrian access shall be maintained adjacent to the site per Memo to Industry #04-18 throughout the construction of the project. The plan for maintenance of pedestrian access shall be included in the Construction Management Plan for approval by T&ES. (T&ES)

68. Bicycle facilities adjacent to the site shall remain open during construction. If a bicycle facility must be closed, Bicycle access shall be maintained adjacent to the site per Memo to Industry #04-18 throughout the construction of the project. The plan for maintenance of bicycle access shall be included in the Construction Management Plan for approval by T&ES. (T&ES)
69. The applicant shall meet with T&ES to discuss construction staging activities prior to release of any permits for ground disturbing activities. A MOT and grading permit shall be obtained from the Director of T&ES for staging on or closure of City streets. (T&ES) **
70. Transit stops adjacent to the site shall remain open if feasible for the duration of construction. If construction forces the closure of a transit stop a temporary ADA accessible transit stop shall be installed. The exact temporary location shall be coordinated with the T&ES Office of Transit Services at 703-746-4075 as well as with the transit agency which provides service to the bus stop. Signs noting the bus stop closure and location of the temporary bus stop must be installed at all bus stops taken out of service due to construction. (T&ES)
71. Any structural elements that extend into the public right of way, including but not limited to footings, foundations, tie-backs etc., must be approved by the Director of T&ES as a part of the Sheeting and Shoring Permit. For tiebacks in the Right-of-Way, T&ES requires applicant to submit a profile showing the utilities. (T&ES)
72. A "Certified Land Disturber" (CLD) shall be named in a letter to the Division Chief of Construction Management & Inspection prior to any land disturbing activities. If the CLD changes during the project, that change must be noted in a letter to the Division Chief. A note to this effect shall be placed on the Phase I Erosion and Sediment Control sheets on the site plan. (T&ES)
73. Prior to commencing clearing and grading of the site, the applicant shall hold a meeting with notice to all adjoining property owners and civic associations to review the location of construction worker parking, plan for temporary pedestrian and vehicular circulation, and hours and overall schedule for construction. The Departments of P&Z and T&ES shall be notified a minimum of 14 calendar days prior to the meeting date, and the meeting must be held before any permits are issued. (P&Z) (T&ES)
74. Identify a person who will serve as a liaison to the community throughout the duration of construction. The name and telephone number, including an emergency contact number, of this individual shall be provided in writing to residents, property managers and business owners whose property abuts the site and shall be placed on the project sign, to the satisfaction of the Directors of P&Z, and/or and T&ES. (P&Z) (T&ES)

75. Install a temporary informational sign on the site prior to approval of the Final Site Plan for the project. The sign shall notify the public of the nature of the project and shall include the name and telephone number of the community liaison, including an emergency contact number for public questions regarding the project. The sign shall be displayed until construction is complete. (P&Z) (T&ES) *
76. Implement a waste and refuse control program during the construction phase of this development. This program shall control wastes such as discarded building materials, concrete truck washout, chemicals, litter or trash, trash generated by construction workers or mobile food vendor businesses serving them, and all sanitary waste at the construction site and prevent offsite migration that may cause adverse impacts to neighboring properties or to the environment to the satisfaction of Directors of T&ES and Code Administration. All wastes shall be properly disposed offsite in accordance with all applicable federal, state and local laws. Provide information on the program in construction management plan. If program is implemented in coordination with green building certification, include documentation as appropriate per the City's Green Building Policy and conditions herein. (T&ES)
77. Submit an as-built development site plan, pursuant to the requirements outlined in the site plan checklist to the Department of Transportation and Environmental Services. The as-built development site plan survey shall be prepared and sealed by a registered architect, engineer, or surveyor. The as-built drawing shall be submitted and approved by the City prior to the expiration of their contractors' performance bond. As a public authority, AlexRenew Enterprises, is required to obtain a contractors' performance and payment bond pursuant to Section 2.2-4337 of the Virginia Code. As such, a performance or other bonds for the benefit of the City may not be required. (P&Z) (T&ES) ***
78. Contractors shall not cause or permit vehicles to idle for more than 10 minutes when parked. (T&ES)

F. USES AND SIGNS

SIGNAGE:

79. Provide three wayfinding and directional signs. Two should be located at the African American Heritage Park and one two-arrowed sign at the Oronoco Bay Park or RTN location. The purpose of these signs is to provide direction with the design and wording of the signs to be determined during the Final Site Plan review and shall coordinate the location, scale, massing and character of the three signs to the satisfaction of the Director of T&ES. The signage shall comply with the Wayfinding System Design Guidelines Manual. * (T&ES)

IX. CITY DEPARTMENT CODE COMMENTS

Legend: C - Code Requirement R - Recommendation S - Suggestion F – Finding

Planning and Zoning (P&Z)

- C - 1 As-built documents for all landscape and irrigation installations are required to be submitted with the final site as-built. Refer to City of Alexandria Landscape Guidelines, Section III A & B. (P&Z) (T&ES) ***
- C - 2 Tree conservation and protection plans shall identify all trees to be removed, and all trees to be protected / preserved. Construction methods to reduce disturbance within driplines shall also be identified. An on-site inspection of existing conditions shall be held with the City Arborist and Natural Resources Division Staff prior to the preparation of the Tree Conservation and Protection Plan.
- C - 3 The landscape elements of this development shall be subject to inspections by City staff per City Code requirements, as applicable. A final inspection for landscaping is also required three (3) years after completion. (P&Z) (T&ES) ***

Code Administration (Building Code)

- F - 1. The review by Code Administration is a preliminary review only. Once the applicant has filed for a building permit, code requirements will be based upon the building permit plans. A preconstruction conference is recommended for large projects. If there are any questions, the applicant may contact the Code Administration Office, Plan Review Supervisor at 703-746-4200.
- C - 1 New construction or alterations to existing structures must comply with the current edition of the Uniform Statewide Building Code (USBC).
- C - 2 A soils report must be submitted with the building permit application for all new and existing building structures.

Archaeology

- F - 2. If this project is a federal undertaking or involves the use of any federal funding, the applicant shall comply with federal preservation laws, in particular, Section 106 of the National Historic Preservation Act of 1966. The applicant will coordinate with the Virginia Department of Historic Resources and the federal agency involved in the project, as well as with Alexandria Archaeology.
- C -1. All required archaeological preservation measures shall be completed in compliance with Section 11-411 of the Zoning Ordinance.

Transportation and Environmental Services (T&ES)

- F - 3. Since the record drawings, maps, and other documents of the City of Alexandria, State, and Federal agencies show the true north pointing upwards, therefore, the Site Plan shall show the true north arrow pointing upward as is customary; however, for the sake of putting the plan together and/or ease of understanding, the project north arrow pointing upward, preferably east, or west may be shown provided it is consistently shown in the same direction on all the sheets with no exception at all. The north arrow shall show the source of meridian. The project north arrow pointing downward will not be acceptable even if, it is shown consistently on all the sheets. (T&ES)
- F - 4. The Final Site Plan must be prepared per the requirements of Memorandum to Industry 02-09 dated December 3, 2009, Design Guidelines for Site Plan Preparation, which is available at the City's website:
<http://alexandriava.gov/uploadedFiles/tes/info/Memo%20to%20Industry%20No.%2002-09%20December%203,%202009.pdf> (T&ES) *
- F - 5. The plan shall show sanitary and storm sewer, and water line in plan and profile in the first final submission and cross reference the sheets on which the plan and profile is shown, if plan and profile is not shown on the same sheet. Clearly label the sanitary and storm sewer, or water line plans and profiles. Provide existing and proposed grade elevations along with the rim and invert elevations of all the existing and proposed sanitary and storm sewer at manholes, and water line piping at gate wells on the respective profiles. Use distinctive stationing for various sanitary and storm sewers (if applicable or required by the plan), and water line in plan and use the corresponding stationing in respective profiles. (T&ES)
- F - 6. The Plan shall include a dimension plan with all proposed features fully dimensioned and the property line clearly shown. (T&ES)
- F - 7. Include all symbols, abbreviations, and line types in the legend. (T&ES)
- F - 8. All storm sewers shall be constructed to the City of Alexandria standards and specifications. Minimum diameter for storm sewers shall be 18" in the public Right of Way (ROW) and the minimum size storm sewer catch basin lead is 15". The acceptable pipe materials will be Reinforced Concrete Pipe (RCP) ASTM C-76 Class IV. Alternatively, AWWA C-151 (ANSI A21.51) Class 52 may be used if approved by the Director of T&ES. For roof drainage system, Polyvinyl Chloride (PVC) ASTM D-3034-77 SDR 26 and ASTM 1785-76 Schedule 40 pipes will be acceptable. The acceptable minimum and maximum velocities will be 2.0 fps and 15 fps, respectively. The storm sewers immediately upstream of the first manhole in the public Right of Way shall be owned and maintained privately (i.e., all storm drains not shown within an easement or in a public Right of Way shall be owned and maintained privately). (T&ES)
All sanitary sewers shall be constructed to the City of Alexandria standards and specifications. Minimum diameter of sanitary sewers shall be 10 inches in the public Right of Way and sanitary lateral 6 inches for all commercial and institutional developments;

- however, a 4-inch sanitary lateral will be acceptable for single family residences. The acceptable pipe materials will be Polyvinyl Chloride (PVC) ASTM D-3034-77 SDR 26, ASTM 1785-76 Schedule 40, Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52, or reinforced concrete pipe ASTM C-76 Class IV (For 12 inch or larger diameters); Class III may be acceptable on private properties. The acceptable minimum and maximum velocities will be 2.5 fps and 10 fps, respectively. Laterals shall be connected to the sanitary sewer through a manufactured “Y” or “T” or approved sewer saddle. Where the laterals are being connected to existing Terracotta pipes, replace the section of main and provide manufactured “Y” or “T”, or else install a manhole. (T&ES)
- F - 9. Lateral Separation of Sewers and Water Mains: A horizontal separation of 10 feet (edge to edge) shall be provided between a storm or sanitary sewer and a water line; however, if this horizontal separation cannot be achieved then the sewer and water main shall be installed in separate trenches and the bottom of the water main shall be at least 18 inches above of the top of the sewer. If both the horizontal and vertical separations cannot be achieved, then the sewer pipe material shall be Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 and pressure tested in place without leakage prior to installation. (T&ES)
- F - 10. Crossing Water Main Over and Under a Sanitary or Storm Sewer: When a water main over crosses or under crosses a sanitary / storm sewer then the vertical separation between the bottom of one (i.e., sanitary / storm sewer or water main) to the top of the other (water main or sanitary / storm sewer) shall be at least 18 inches for sanitary sewer and 12 inches for storm sewer; however, if this cannot be achieved then both the water main and the sanitary / storm sewer shall be constructed of Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 with joints that are equivalent to water main standards for a distance of 10 feet on each side of the point of crossing. A section of water main pipe shall be centered at the point of crossing and the pipes shall be pressure tested in place without leakage prior to installation. Sewers crossing over the water main shall have adequate structural support (concrete pier support and/or concrete encasement) to prevent damage to the water main. Sanitary sewers under creeks and storm sewer pipe crossings with less than 6-inch clearance shall be encased in concrete. (T&ES)
- F - 11. No water main pipe shall pass through or come in contact with any part of sanitary / storm sewer manhole. Manholes shall be placed at least 10 feet horizontally from the water main whenever possible. When local conditions prohibit this horizontal separation, the manhole shall be of watertight construction and tested in place. (T&ES)
- F - 12. Crossing Existing or Proposed Utilities: Underground telephone, cable T.V., gas, and electrical duct banks shall be crossed maintaining a minimum of 12 inches of separation or clearance with water main, sanitary, or storm sewers. If this separation cannot be achieved, then the sewer pipe material shall be Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 for a distance of 10 feet on each side of the point of crossing and pressure tested in place without leakage prior to installation. Sanitary / storm sewers and water main

- crossing over the utilities shall have adequate structural support (pier support and/or concrete encasement) to prevent damage to the utilities. (T&ES)
- F - 13. The rip rap shall be designed as per the requirements of Virginia Erosion and Sediment Control Handbook, Latest Edition. (T&ES)
- F - 14. Show the drainage divide areas on the grading plan or on a sheet showing reasonable information on topography along with the structures where each sub-area drains. (T&ES)
- F - 15. Provide proposed elevations (contours and spot shots) in sufficient details on grading plan to clearly show the drainage patterns. (T&ES)
- F - 16. All the existing and proposed public and private utilities and easements shall be shown on the plan and a descriptive narration of various utilities shall be provided. (T&ES)
- F - 17. A Maintenance of Traffic Plan shall be provided within the Construction Management Plan and shall replicate the existing vehicular and pedestrian routes as nearly as practical. Pedestrian and bike access shall be maintained adjacent to the site per Memo to Industry #04-18. These sheets are to be provided as "Information Only." (T&ES)
- F - 18. The following notes shall be included on all Maintenance of Traffic Plan Sheets: (T&ES)
- a. The prepared drawings shall include a statement "FOR INFORMATION ONLY" on all MOT Sheets.
 - b. Sidewalk closures will not be permitted for the duration of the project. Temporary sidewalk closures are subject to separate approval from Transportation and Environmental Services (T&ES) at the time of permit application.
 - c. Contractor shall apply for all necessary permits for uses of the City Right of Way and shall submit MOT Plans with the T&ES Application for final approval at that time. *
- C - 1 Per the requirements of the City of Alexandria Zoning Ordinance Article XI, the applicant shall complete a drainage study and adequate outfall analysis for the total drainage area to the receiving sewer that serves the site. If the existing storm system is determined to be inadequate, then the applicant shall design and build on-site or off-site improvements to discharge to an adequate outfall; even if the post development stormwater flow from the site is reduced from the pre-development flow. The Plan shall demonstrate to the satisfaction of the Director of T&ES that a non-erosive stormwater outfall is present. (T&ES)
- C - 2 Per the requirements of the City of Alexandria Zoning Ordinance (AZO) Article XIII, Environmental Management Ordinance, the applicant shall comply with the stormwater quality and quantity requirements and provide channel protection and flood protection in accordance with these requirements. If combined uncontrolled and controlled stormwater outfall is proposed, the peak flow requirements of the Zoning Ordinance shall be met. If the project site lies within the Braddock-West watershed or known flooding area, then the

applicant shall provide an additional 10 percent storage of the pre-development flows in this watershed to meet detention requirements. (T&ES)

- C - 3 Per the requirements of Article 13-114 (f) of the AZO, all stormwater designs that require analysis of pressure hydraulic systems, including but not limited to the design of flow control structures and stormwater flow conveyance systems shall be signed and sealed by a professional engineer, registered in the Commonwealth of Virginia. The design of storm sewer shall include the adequate outfall, inlet, and hydraulic grade line (HGL) analyses that shall be completed to the satisfaction of the Director of T&ES. Provide appropriate reference and/or source used to complete these analyses. (T&ES)
- C - 4 The proposed development shall conform to all requirements and restrictions set forth in Section 6-300 (Flood plain District) of Article VI (Special and Overlay Zones) of the City of Alexandria Zoning Ordinance. (T&ES)
- C - 5 If it is determined that the site is not in compliance with Section 13-1-3 of the City Code, then the applicant shall make additional improvements to adjust lighting levels to the satisfaction of the Director of T&ES to comply with the Code. (T&ES)
- C - 6 (a) Per the requirements of Section 5-3-2, Article A, Chapter 3 of the City of Alexandria Code, all new customer utility services, extensions of existing customer utility services and existing overhead customer utility services supplied by any existing overhead facilities which are relocated underground shall, after October 15, 1971 be installed below the surface of the ground except otherwise exempted by the City Code and to the satisfaction of the Director, Department of Transportation and Environmental Services. (b) Per the requirements of Section 5-3-3, Article A, Chapter 3 of the City of Alexandria Code, all new installation or relocation of poles, towers, wires, lines, cables, conduits, pipes, mains, and appurtenances used or intended to be used to transmit or distribute any service such as electric current, telephone, telegraph, cable television, traffic control, fire alarm, police communication, gas, water, steam or petroleum, whether or not on the streets, alleys, or other public places of the City shall, after October 15, 1971, be installed below the surface of the ground or below the surface in the case of bridges and elevated highways except otherwise exempted by the City Code and to the satisfaction of Director, Department of Transportation and Environmental Services. (T&ES)
- C - 7 Per the requirements of Title 4, Chapter 2, Article B, Section 4-2-21, Appendix A, Section A 106(6), Figure A 106.1 Minimum Standards for Emergency Vehicle Access: provide a total turning radius of 25 feet to the satisfaction of Directors of T&ES and Office of Building and Fire Code Administration and show turning movements of standard vehicles in the parking lot as per the latest AASHTO vehicular guidelines. (T&ES)
- C - 8 Plans and profiles of utilities and roads in public easements and/or public Right of Way must be approved prior to release of the plan. (T&ES) *

- C - 9 Provide a phased erosion and sediment control plan consistent with grading and construction plan. (T&ES)
- C - 10 Per the Memorandum to Industry, dated July 20, 2005, the applicant is advised regarding a requirement that applicants provide as-built sewer data as part of the final as-built process. Upon consultation with engineering firms, it has been determined that initial site survey work and plans will need to be prepared using Virginia State Plane (North Zone) coordinates based on NAD 83 and NAVD 88. Control points/Benchmarks which were used to establish these coordinates should be referenced on the plans. To ensure that this requirement is achieved, the applicant is requested to prepare plans in this format including initial site survey work if necessary. (T&ES)
- C - 11 The thickness of sub-base, base, and wearing course shall be designed using “California Method” as set forth on page 3-76 of the second edition of a book entitled, “Data Book for Civil Engineers, Volume One, Design” written by Elwyn E. Seelye. Values of California Bearing Ratios used in the design shall be determined by field and/or laboratory tests. An alternate pavement section for Emergency Vehicle Easements (EVE) to support H-20 loading designed using California Bearing Ratio (CBR) determined through geotechnical investigation and using Virginia Department of Transportation (VDOT) method (Vaswani Method) and standard material specifications designed to the satisfaction of the Director of Transportation and Environmental Services (T&ES) will be acceptable. (T&ES)
- C - 12 All pedestrian, traffic, and way finding signage shall be provided in accordance with the Manual of Uniform Traffic Control Devices (MUTCD), latest edition to the satisfaction of the Director of T&ES. (T&ES)
- C - 13 No overhangs (decks, bays, columns, post or other obstructions) shall protrude into public Right of Ways, public easements, and pedestrian or vehicular travelways unless otherwise permitted by the City Code. (T&ES)
- C - 14 All driveway entrances, curbing, etc. in the public ROW or abutting public ROW shall meet City design standards. (T&ES)
- C - 15 All sanitary laterals and/or sewers not shown in the easements shall be owned and maintained privately. (T&ES)
- C - 16 The applicant shall comply with the City of Alexandria’s Noise Control Code, Title 11, Chapter 5, which sets the maximum permissible noise level as measured at the property line. (T&ES)
- C - 17 All construction activities must comply with the Alexandria Noise Control Code Title 11, Chapter 5, Section 11-5-4(b)(15), which permits construction activities to occur between the following hours:
 - a. Monday Through Friday from 7 AM to 6 PM and Saturdays from 9 AM to 6 PM. No construction activities are permitted on Sundays and holidays.

- b. Section 11-5-4(b)(19) further restricts the Pile Driving to the following hours:
 - i. Monday Through Friday from 9 AM To 6 PM and Saturdays from 10 AM To 4 PM
 - ii. No pile driving and sheeting / shoring is permitted on Sundays and holidays.
 - c. Section 11-5-109 restricts work in the right of way for excavation to the following:
 - ii. Monday through Saturday 7 AM to 5 pm
 - iii. No excavation in the right of way is permitted on Sundays. (T&ES)
- C - 18 The applicant shall comply with the Article XIII of the City of Alexandria Zoning Ordinance, which includes requirements for stormwater pollutant load reduction, treatment of the Alexandria Water Quality Volume Default and stormwater quantity management. (T&ES)
- C - 19 The applicant shall comply with the City of Alexandria, Erosion and Sediment Control Code, Section 5, Chapter 4. (T&ES)
- C - 20 All required permits from Virginia Department of Environmental Quality, Environmental Protection Agency, Army Corps of Engineers, and/or Virginia Marine Resources shall be in place for all project construction and mitigation work prior to release of the Final Site Plan. This includes the state requirement for a state General VPDES Permit for Discharges of Stormwater from Construction Activities (general permit) and associated Stormwater Pollution Prevention Plan (SWPPP)_for land disturbing activities equal to or greater than one acre. See memo to industry 08-14 which can be found on-line here: <http://alexandriava.gov/tes/info/default.aspx?id=3522>. (T&ES) *
- C - 21 The applicant must provide a Stormwater Pollution Prevention Plan (SWPPP) Book with the Final 1 submission. The project's stormwater management (SWM) plan and the erosion and sediment control (E&SC) plan must be approved prior to the SWPPP being deemed approved and processed to receive coverage under the VPDES Construction General Permit. Upon approval, an electronic copy of the approved SWPPP Book must be provided with the Mylar submission and the coverage letter must be copied onto the plan sheet containing the stormwater management calculations. An electronic copy and a hardcopy of the SWPPP Binder Book must be included in the released site plans, and the approved hardcopy SWPPP Binder Book must accompany the construction drawings onsite. Separate parcel owners will be required to seek separate VPDES Construction General Permit Coverage unless a blanket entity incorporated in Virginia has control of the entire project. (T&ES-Storm)

Fire Department

- F - 19. All new fire hydrants on private property shall be City owned and maintained with the appropriate easements granted to the City for access, inspection, testing, maintenance and service.

- R - 1. In the event an existing building will be razed, the Alexandria Fire Department would like the opportunity to explore utilizing the structure before demolition for training exercises. If such an agreement can be reached, conditions of use between the parties and a hold harmless agreement will be provided to the owner or their representative.

Police Department

Landscape Recommendations

- R - 1. The proposed shrubbery should have a natural growth height of no more than 2 ½ to 3 feet with a maximum height of 36 inches when it matures and should not hinder the unobstructed view of patrolling law enforcement vehicles.

Parks

- R - 2. It is recommended that the applicant choose a style bench that has an armrest in the middle of the bench to deter unwanted sleeping and skateboarding on the benches.

Asterisks denote the following:

- * Condition must be fulfilled prior to release of the Final Site Plan
- ** Condition must be fulfilled prior to release of the building permit
- *** Condition must be fulfilled prior to approval of an as-built drawing of the RiverRenew project.

X. ATTACHMENTS

Attachment 1: RiverRenew Community Meetings to Date

2018		2019	
1/10/2018	Combined Sewer System (CSS) Stakeholder Group Meeting #3	1/7/2019	Alexandria Federation of Civic Associations
1/29/2018	Nethergate HOA	1/31/2019	AlexRenew Board-City Council Workgroup
2/1/2018	CSS Stakeholder Group Meeting #4	2/20/2019	AlexRenew Board-City Council Workgroup
2/22/2018	CSS Stakeholder Group Meeting #5	2/27/2019	Stakeholder Advisory Group Meeting 1
3/19/2018	CSS Stakeholder Group Meeting #6	3/12/2019	Boulevard Condominiums
4/5/2018	CSS Long Term Control Plan Public Meeting	3/26/2019	Stakeholder Advisory Group Meeting 2
4/9/2018	Alexandria House/Rivergate HOA	4/2/2019	Goodwin House
6/14/2018	West Old Town Citizens Association	4/4/2019	Holmes Run Park Committee
6/19/2018	Historic Alexandria Resources Commission	4/8/2019	North Ridge Citizens Association
7/23/2018	AlexRenew Board-City Council Workgroup	4/24/2019	AlexRenew Board-City Council Workgroup
7/26/2018	Founders Park Community Association	4/27/2019	City of Alexandria Annual Earth Day Celebration
8/23/2018	Volunteer Alexandria	4/28/2019	AlexRenew Open House on Rate Adjustments
9/5/2018	AlexRenew Board-City Council Workgroup	5/1/2019	Stakeholder Advisory Group Meeting 3
9/17/2018	Community Listening Session 1	5/9/2019	Seminary Hill Association
9/20/2018	Community Listening Session 2	5/11/2019	AlexRenew Public Hearing on Rate Adjustments
9/24/2018	Community Listening Session 3	5/15/2019	OHAD Board of Architectural Review
9/25/2018	Community Listening Session 4	5/21/2019	Waterfront Commission
9/30/2018	Founders Park Citizens Association Block Party	6/1/2019	Soccerfest Alexandria
10/10/2018	Old Town Civic Association	6/8/2019	Waterfront Commission's Annual Waterfront Walk
10/15/2018	AlexRenew Board-City Council Workgroup	6/20/2019	Stakeholder Advisory Group Meeting 4
10/21/2018	"Meet in the Street" Event at Outfall 002		
10/24/2018	Old Dominion Boat Club		
10/25/2018	West End Business Association		
11/7/2018	Old Town Village		
11/14/2018	AlexRenew Board-City Council Workgroup		
11/20/2018	Waterfront Commission		
11/28/2018	OHAD Board of Architectural Review		
12/12/2018	Del Ray Civic Association		



APPLICATION

DEVELOPMENT SPECIAL USE PERMIT with SITE PLAN

DSUP # 2018-0020

Project Name: RiverRenew

PROPERTY LOCATION: Multiple

TAX MAP REFERENCE: N/A

ZONE: N/A

APPLICANT:

Name: Alexandria Renew Enterprises

Address: 1800 Limerick Street, Alexandria, VA 22314

PROPERTY OWNER:

Name: Multiple; see plan sheets

Address: Multiple; see plan sheets

SUMMARY OF PROPOSAL Requesting DSUP remediate Alexandria's combined sewer system

MODIFICATIONS REQUESTED N/A

SUP's REQUESTED N/A

[] **THE UNDERSIGNED** hereby applies for Development Site Plan with Special Use Permit approval in accordance with the provisions of Section 11-400 of the Zoning Ordinance of the City of Alexandria, Virginia.

[] **THE UNDERSIGNED**, having obtained permission from the property owner, hereby grants permission to the City of Alexandria to post placard notice on the property for which this application is requested, pursuant to Article XI, Section 11-301 (B) of the 1992 Zoning Ordinance of the City of Alexandria, Virginia.

[] **THE UNDERSIGNED** also attests that all of the information herein provided and specifically including all surveys, drawings, etc., required of the applicant are true, correct and accurate to the best of his/her knowledge and belief.

Caitlin Feehan

Print Name of Applicant or Agent

1800 Limerick St

Mailing/Street Address

Alexandria, VA 22314

City and State Zip Code

Signature

703.549.3381 x 2205

Telephone #

Fax #

caitlin.feehan@alexrenew.com

Email address

2/7/2019

Date

DO NOT WRITE IN THIS SPACE - OFFICE USE ONLY

Application Received: _____

Received Plans for Completeness: _____

Fee Paid and Date: _____

Received Plans for Preliminary: _____

ACTION - PLANNING COMMISSION: _____

ACTION - CITY COUNCIL: _____

ALL APPLICANTS MUST COMPLETE THIS FORM.

Supplemental forms are required for child care facilities, restaurants, automobile oriented uses and freestanding signs requiring special use permit approval.

1. The applicant is: (check one)

☐ the Owner ☐ Contract Purchaser ☐ Lessee or ☐ Other: _____ of
the subject property. **Owner of combined sewer outfalls and interceptors**

State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership in which case identify each owner of more than three percent.

If property owner or applicant is being represented by an authorized agent, such as an attorney, realtor, or other person for which there is some form of compensation, does this agent or the business in which the agent is employed have a business license to operate in the City of Alexandria, Virginia?

- ☐ **Yes.** Provide proof of current City business license.
- ☐ **No.** The agent shall obtain a business license prior to filing application, if required by the City Code.

OWNERSHIP AND DISCLOSURE STATEMENT

Use additional sheets if necessary

1. Applicant. State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1.		
2.		
3.		

2. Property. State the name, address and percent of ownership of any person or entity owning an interest in the property located at _____ (address), unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1.		
2.		
3.		

3. Business or Financial Relationships. Each person or entity listed above (1 and 2), with an ownership interest in the applicant or in the subject property is required to disclose any business or financial relationship, as defined by Section 11-350 of the Zoning Ordinance, existing at the time of this application, or within the 12-month period prior to the submission of this application with any member of the Alexandria City Council, Planning Commission, Board of Zoning Appeals or either Boards of Architectural Review.

Name of person or entity	Relationship as defined by Section 11-350 of the Zoning Ordinance	Member of the Approving Body (i.e. City Council, Planning Commission, etc.)
1.		
2.		
3.		

NOTE: Business or financial relationships of the type described in Sec. 11-350 that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings.

As the applicant or the applicant's authorized agent, I hereby attest to the best of my ability that the information provided above is true and correct.

2/7/2019

Date

Caitlin Feehan

Printed Name


Signature

- 2. Narrative description.** The applicant shall describe below the nature of the request **in detail** so that the Planning Commission and City Council can understand the nature of the operation and the use, including such items as the nature of the activity, the number and type of patrons, the number of employees, the hours, how parking is to be provided for employees and patrons, and whether the use will generate any noise. If not appropriate to the request, delete pages 6-9. (Attach additional sheets if necessary.)

See attached Project Narrative

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

3. How many patrons, clients, pupils and other such users do you expect?

Specify time period (i.e., day, hour, or shift).

N/A

4. How many employees, staff and other personnel do you expect?

Specify time period (i.e. day, hour, or shift).

N/A

5. Describe the proposed hours and days of operation of the proposed use: N/A

Day	Hours	Day	Hours

6. Describe any potential noise emanating from the proposed use:

A. Describe the noise levels anticipated from all mechanical equipment and patrons.

Odor control units will be installed below ground and operated on an intermittent basis,
the noise associated with each odor control unit should not exceed 50 decibels.

B. How will the noise from patrons be controlled?

N/A

7. Describe any potential odors emanating from the proposed use and plans to control them:

A primary odor control unit will be installed at AlexRenew's Water Resource Recovery Facility and secondary odor control units will be installed at the proposed diversion facilities to eliminate any potential odors which may emanate from the tunnel system.

8. Provide information regarding trash and litter generated by the use:

A. What type of trash and garbage will be generated by the use?

N/A

B. How much trash and garbage will be generated by the use?

N/A

C. How often will trash be collected?

N/A

D. How will you prevent littering on the property, streets and nearby properties?

N/A

9. Will any hazardous materials, as defined by the state or federal government, be handled, stored, or generated on the property?

☐ Yes. ☒ No.

If yes, provide the name, monthly quantity, and specific disposal method below:

10. Will any organic compounds (for example: paint, ink, lacquer thinner, or cleaning or degreasing solvent) be handled, stored, or generated on the property?

☐ Yes. ☒ No.

If yes, provide the name, monthly quantity, and specific disposal method below:

N/A

11. What methods are proposed to ensure the safety of residents, employees and patrons?

N/A

ALCOHOL SALES

12. Will the proposed use include the sale of beer, wine or mixed drinks?

☐ Yes. ☒ No.

If yes, describe alcohol sales below, including if the ABC license will include on-premises and/or off-premises sales. Existing uses must describe their existing alcohol sales and/or service and identify any proposed changes in that aspect of the operation.

PARKING AND ACCESS REQUIREMENTS

13. Provide information regarding the availability of off-street parking:

A. How many parking spaces are required for the proposed use pursuant to section 8-200 (A) of the zoning ordinance?

N/A

B. How many parking spaces of each type are provided for the proposed use:

N/A

Standard spaces

N/A

Compact spaces

N/A

Handicapped accessible spaces

N/A

Other

- C. Where is required parking located? (check one) ☐ on-site ☐ off-site ☒ N/A

If the required parking will be located off-site, where will it be located?

Pursuant to section 8-200 (C) of the zoning ordinance, commercial and industrial uses may provide off-site parking within 500 feet of the proposed use, provided that the off-site parking is located on land zoned for commercial or industrial uses. All other uses must provide parking on-site, except that off-street parking may be provided within 300 feet of the use with a special use permit.

- D. If a reduction in the required parking is requested, pursuant to section 8-100 (A) (4) or (5) of the zoning ordinance, complete the **Parking Reduction Supplemental Application**.

14. Provide information regarding loading and unloading facilities for the use:

- A. How many loading spaces are required for the use, per section 8-200 (B) of the zoning ordinance? ☒ N/A

- B. How many loading spaces are available for the use? ☒ N/A

- C. Where are off-street loading facilities located?

N/A

- D. During what hours of the day do you expect loading/unloading operations to occur?

N/A

- E. How frequently are loading/unloading operations expected to occur, per day or per week, as appropriate?

N/A

15. Is street access to the subject property adequate or are any street improvements, such as a new turning lane, necessary to minimize impacts on traffic flow?

New curb cuts are required for the maintenance access roads at the diversion facilities.
