

CITY OF PORTLAND | BUREAU OF ENVIRONMENTAL SERVICES

# FY 2020-21 Requested Budget

JANUARY 2020



ENVIRONMENTAL SERVICES  
CITY OF PORTLAND

working for clean rivers

Ted Wheeler, Mayor

Michael Jordan, Director







Office of Mayor Ted Wheeler  
City of Portland

**DATE:** January 22, 2020

**TO:** Commissioner Chloe Eudaly  
Commissioner Amanda Fritz  
Commissioner Jo Ann Hardesty

**FROM:** Mayor Wheeler

**RE:** Bureau of Environmental Services FY 2020-21 Budget Request

---

I am pleased to forward to you the Requested Budget for the Bureau of Environmental Services (BES) for fiscal year 2020-21.

BES protects public health and the water quality of our local rivers and streams by providing wastewater and stormwater management services to more than 600,000 customers every day. This Requested Budget was developed within the bureau's 10-year Strategic Plan and reflects continuation of BES' long-term strategy to achieve both system and financial sustainability.

Fiscal year 2020-21 budget guidance directed that any proposed rate increase remains within the prior year forecast. This Requested Budget requires an estimated rate increase of 3% in FY 2020-21, exactly in line with the prior forecast and approximates the Portland area rate of inflation. Despite increased regulatory requirements and service expectations, this is the fourth consecutive year that BES has delivered an annual rate increase at or below 3%.

This budget prioritizes resources to advance strategic goals, including process improvements, equity and inclusion, supported by rates that remain stable and affordable.

Process improvements and organizational realignments are currently underway to support increases in capital output to repair aging infrastructure and to deliver critical services in the most efficient and cost-effective manner. Implementation of other strategic goals, including community relationships, service delivery, and workforce development will ensure the bureau's work reflects and addresses community needs and priorities, is focused on the highest priority sanitary and stormwater issues, and is supported by a diverse and high-performing workforce.

Increased commitment to equity and inclusion will enhance BES' ability to engage with traditionally underrepresented communities and provide linguistically and culturally-

appropriate communications and public outreach strategies and tactics. This commitment will also ensure more equitable access to bureau programs, policies, and projects.

Finally, rate stability is a high priority for our community and the bureau. Increases of around 3% are projected over the next five years to ensure effective operations, regulatory compliance, asset reinvestment and long-term financial sustainability. The bureau continues to seek out cost-savings and improved efficiencies, increased collaborations with other City bureaus and partners to leverage resources and funding, and opportunities to combine cost-effective green solutions with grey (pipe) infrastructure to achieve multiple benefits for the community and for our rivers and streams.

As Portland continues to grow, BES must balance competing priorities including addressing aging infrastructure while also meeting customers' expectations. This budget continues a multi-year approach to achieving long-term sustainability in operations, maintenance, infrastructure investment, and financial condition. With a growing population, system sustainability requires targeted staff increases, strategic capital planning, consistent asset replacement efforts and continued operational efficiencies. We remain committed to transparency in the budget process and aim to utilize the budget process to support community engagement and aid City Council decision-making.

This budget supports key City priorities and the bureau's Strategic Plan goals, ensuring the long-term, cost-effective operation of BES.

Thank you for your consideration.

# Mayor's Priority Issue Area 5: Ratepayer Affordability

On October 3, 2019, the Mayor provided Citywide budget guidance, including a Priority Issue Area of "Ratepayer Affordability." As the City's water and sewer/stormwater utilities, the Portland Water Bureau (PWB) and Bureau of Environmental Services (BES) share the Mayor's priority of affordability to ratepayers. Per the Mayor's directions, the FY2020-21 Requested Budgets of PWB and BES have been developed "in accordance with the rate levels articulated and approved as part of the bureau's multi-year financial plan presented during FY2019-20 budget development."

## 1) Key issue areas agreed to by the group

When compared to local and national utilities, PWB and BES rates compare favorably, in about the middle of the pack. The US Environmental Protection Agency identifies combined water/wastewater charges as being "affordable" at a level of 4.5% of Median Household Income (MHI) or lower. By that broad indicator, Portland's combined utility charges – currently at around 2% of MHI – measure as affordable. However, rate impacts differ for different categories of customers, and increases can have disproportionate impacts on ratepayers below median income levels. Both bureaus are committed to programs that reduce burdens on low-income residents (see below) and continue to seek solutions that balance responsible service delivery, regulatory compliance and asset reinvestment against reasonable and appropriate cost increases.

### BES Rates and Affordability

During FY2014-15, BES initiated an intentional strategy to bring annual rate increases down to around 3% over the entire long-term forecast, to reflect approximated annual increases in cost of living and inflation. Since that time, BES rate increases have averaged 3.15% annually, with FY2020-21 being the fourth consecutive year at an increase rate of 3% or below. Additionally, the BES rate strategy extends the rate forecast for over 15 years to ensure that decisions today do not push large cost increases or major risks out to future years. This strategy aims at intergenerational equity by balancing measured and predictable increases today with affordability for future generations as well.

BES has looked for opportunities to utilize its strong cash balance to mitigate and moderate rate increases. In FY2018-19, cash balance was used to reduce that year's rate of increase to 2.35%. In FY2019-20 and FY2020-21 (proposed), cash balance is reduced by approximately \$55 million to offset rate impacts of increased capital investment in future years. The bureau will continue to leverage healthy fund balances to help manage future rate increases, while maintaining strong liquidity to protect against unforeseen emergencies or financial challenges.

### PWB Rates and Affordability

Beginning in FY 2018-19 PWB retail rates include funding for the 10-year Bull Run Filtration Projects to meet the bilateral agreement deadline with Oregon Health Authority to treat *Cryptosporidium* to comply with the federal Long Term 2 Enhanced Surface Water Treatment Rule. PWB is building up its Rate Stabilization Account to be used in later years to smooth and stabilize retail rates to avoid rate spikes in years when construction of the Bull Run Filtration Projects will require significant funding. PWB is committed to keeping water rates affordable for customers by actively managing costs and continuing to assist low-income customers through recently expanded financial assistance services.

PWB's meets the Mayor's budget directive to submit a FY 2020-21 Requested Budget that absorbs at least 25% of the estimated rate increase associated with the updated Bull Run Treatment Projects costs. PWB retail rates forecast has been updated to include costs associated with the Recommended Option and absorbing 25% of the updated costs. The forecast over the next 8 years to complete the Bull Run Treatment Projects is 8.6% increase each year to retail water rates.

Affordability is a concern that PWB shares and the impact to water rates from the Bull Run Treatment Projects can be significant to lower income customers. The City has an opportunity to reduce the borrowing costs to fund the Bull Run Treatment Projects through EPA's WIFIA Program. PWB will be working to maximize the amount of funding from the WIFIA Program and plans to negotiate repayment terms that would help smooth the impact to water rates over a longer period. Along with anticipated lower borrowing rate through the WIFIA Program, PWB anticipates water rate increases will be lower than the updated rate forecast. In addition, the bureau will be considering ways to further improve and expand on the Financial Assistance Programs.

### **2) Programs or processes where collaboration and/or consolidation will result in improved service effectiveness and/or cost efficiency**

PWB and BES work jointly to administer programs that provide financial assistance and relief to low-income individuals and households. PWB currently has a Financial Assistance Team consisting of 3 staff that focuses on programs administration, outreach with specific emphasis on underserved communities and direct customer assistance. PWB established a dedicated phone line which allows customers direct contact to the financial assistance staff.

Financial assistance services include a two-tier bill discount, crisis assistance, multi-family emergency rental assistance, flexible bill pay, fixture repair and replacement, the utility safety net program, and water conservation kits.

BES staff also provide billing support via the Clean River Rewards program and through customer interactions, especially for sewer-only customers and customers newly connecting to the sanitary sewer system.

### Current Bill Discounts

Eligible single-family residential customers with less than 60% of Portland or Oregon median family income (MFI) may receive a discount up to \$63.20 on the water portion of their bill and up to \$110.57 on their sewer/stormwater management charges, for a total of up to \$173.77 on a 90-day bill. Eligible sewer-only accounts may receive a discount up to \$97.47 on a 60-day bill.

Eligible single-family residential customers with less than 30% of Portland or Oregon MFI may receive a discount up to \$101.10 on the water portion of their bill and up to \$176.94 on their sewer/stormwater management charges, for a total of up to \$278.04 on a 90-day bill. Eligible sewer-only accounts may receive a discount up to \$156.06 on a 60-day bill.

There are currently 7,515 customers participating in the financial assistance program with 3,420 qualifying for the Tier 1 discount and 4,095 qualifying for the Tier 2 discount.

### Crisis Assistance

Eligible single-family residential customers experiencing a financial crisis may receive a voucher for up to \$500 in assistance toward outstanding water, sewer and stormwater bill once every 12 months. A portion of the bill must be paid in order to receive assistance.

There was a 36% increase in the number of crisis assistance provided with the increase from \$150 to \$500 of assistance beginning in FY 2018-19.

### Multi-Family Emergency Rental Assistance

Through an innovative partnership with Home Forward, customers living in multi-family dwellings who are at risk of eviction are now eligible to receive up to \$500 in assistance. These vouchers are available once every 12 months and are administered through Home Forward. In order to receive a voucher, tenants must be 60% of MFI or below.

The multi-family rental assistance has prevented evictions for 407 families.

### Flexible Bill Pay

PWB offers flexible payment arrangements. Any customer who is unable to pay an outstanding water, sewer and stormwater bill balance when due may request for payment arrangements.

### Fixtures Repairs & Replacements

PWB offers financial assistance to eligible customers who own and occupy their own homes for repair of leaky toilets, faucets, plumbing, and underground leaks. PWB also offers \$50 rebate for replacing an old toilet or urinal with a high-efficiency model. Commercial, residential and multi-family properties are eligible.

### Utility Safety Net Program

PWB and BES provide emergency utility payments for customers with employment, medical and other personal emergencies to avoid the shut off of service if they have experienced a significant temporary change in household income. Safety Net is a last resort solution for these

qualified customers who are unable to achieve a solution through normal payment options.

The Utility Safety Net Program consists of four basic components:

- Deferred water shut-off
- Waiver of any recent delinquency charges
- Interest-free payment plans
- Financial assistance

When combined, these elements provide the time and means for customers to manage their way through a temporary crisis. The program is conditioned on responsible efforts by the customer to make regular, agreed-upon installment payments toward the payoff of past due account balances.

PWB and the customer jointly determine the length of the deferral period and the number and amount of installment payments based on the size of the account delinquency and the depth or severity of the hardship. The conditions of the assistance result in a signed agreement and an initial credit is then applied to the customer's account. At the end of the agreement period, the City will apply an additional credit to further help the customer bring the account current.

### **3) An implementation plan for one or more of the proposed strategies**

PWB is evaluating the current financial assistance programs to look for opportunities to improve and expand to provide greater assistance and to reach more low-income ratepayers.

Specifically, PWB plans to expand outreach of the financial assistance programs by developing relationships with new community organizations and networks with special focus on those providing culturally specific programs/or serving neighborhoods with a strong presence of communities of color and low-income communities. Some of the networks include: Schools Uniting Neighborhoods (SUN), Neighborhood Prosperity Initiatives (NPIs), and HUD Housing Counseling Agencies. PWB will also be working with anti-displacement and housing advocacy groups. In addition, PWB will prioritize culturally specific community events such as Portland Muslim Festival, PCRI Resident Appreciation Night, Jade Night Market, Oxbow Park Medicine Gathering, SUN Resource Fairs, African-American, Latino and NAYA Homeownership Fairs to promote the financial assistance programs.

Traditionally, financial assistance could only be offered to customers who pay their bills directly, which limits assistance to families living in single-family homes, versus families living in multi-family units. The multi-family rental assistance program is a pioneer approach to extending assistance to families living in multi-family units. Very few of such program currently exist in the U.S. PWB plans to continue with outreach to agency partners. They include: SEI, IRCO (Asian Family Center and Africa House), Latino Network, Impact NW, El Programma Catolico and Human Solutions.

Improvements to the multi-family rental assistance program include:

- Allowing residents of subsidized properties to be eligible for the multi-family program with Home Forward. This should result in a 15% increase in participant totals.
- Developing an initiative to provide targeted outreach to urban Native Americans.
- Ensuring that other city bureaus that participate in outreach are aware of the financial assistance programs.
- Targeting outreach to outer SE residents, including those serviced by Rockwood Water District.
- Developing relationships with property managers of subsidized complexes to educate their residents on the multi-family program.

Lastly, BES is currently undertaking a Comprehensive Rate Study to review the methodologies by which costs are determined, allocated, and ultimately distributed among customers. The rate study will not change the long-term investment needs of the bureau, but it will provide information and potential strategies to differently allocate costs among customers to better align with service delivery and affordability objectives. The Requested Budget includes resources to continue this work during FY2020-21.



**Budget Letters**





# CITY OF PORTLAND ENVIRONMENTAL SERVICES



1120 SW Fifth Avenue, Room 1000, Portland, Oregon 97204 ■ Ted Wheeler, Mayor ■ Michael Jordan, Director

January 29, 2020

To: Mayor Ted Wheeler  
Commissioner Chloe Eudaly  
Commissioner Amanda Fritz  
Commissioner Jo Ann Hardesty

From: Michael Jordan, Director

RE: Bureau of Environmental Services FY2020-21 Requested Budget

---

## Introduction

I am pleased to submit the Bureau Environmental Services (BES) Requested Budget for FY2020-21. This budget continues the bureau's path towards long-term sustainability, maintaining critical sewer and stormwater services, and responding to many urgent bureau and community priorities.

As we begin a new decade, BES is re-imagining what it means to be a world-class sewer/stormwater public utility. We began this journey four years ago with reconsideration of our 10-Year Strategic Plan (published in February 2018). That effort identified a need to revise our Capital Improvement Plan (CIP) development process and management structure, leading to start-up of a Project Management Office in 2019. As one BES leadership team member has identified, "Where the CIP goes, we all go." Consequently, over the past 16 months, we have thoroughly reviewed bureau processes and interdependencies to identify organizational changes that will help optimally deploy our limited public resources to achieve priority service outcomes for all Portlanders - today and into the future.

## Bureau FY2020-21 Budget Priorities

BES decision-making is driven by our 10-Year Strategic Plan, with critical consideration of Citywide priorities, community input and regulatory compliance. The following priority lenses were used during development of our FY2020-21 Requested Budget:

- **Equity** – The bureau's equity work is rooted in our Racial Equity Plan. Current priority initiatives focus on internal training and culture building, along with continued improvements in contracting with D/M/W/SDV/ESB firms. During

Ph: 503-823-7740 Fax: 503-823-6995 ■ [www.portlandoregon.gov/bes](http://www.portlandoregon.gov/bes) ■ Using recycled paper ■ An Equal Opportunity Employer

The City of Portland complies with all non-discrimination laws including Title VI (Civil Rights) and Title II (ADA).

To request a translation, accommodation or additional information, please call 503-823-7740, or use City TTY 503-823-6868, or Oregon Relay Service: 711.

FY2019-20, selected BES management staff participated in Results Based Accountability training. BES also became the first City bureau to hire two dedicated Equity Managers and we are working diligently bureauwide on improving our tools and capacity to make meaningful progress in improving equitable outcomes for all Portlanders.

- **Asset Maintenance and Reinvestment** – We are an infrastructure bureau, responsible for over \$15 billion in assets Citywide including pipes, pump stations, treatment plants and natural areas. Our efforts in capital planning and delivery, ongoing maintenance and repair, and operational efficiency ensure that we protect the assets currently under our care and invest wisely for the long-term viability and resiliency of Portland’s sewer and stormwater system.
- **Regulatory Compliance and Environmental Leadership** – As the bureau responsible for compliance with the City’s environmental regulations, we continue to build and operate a system that protects Portland’s natural environment. We aim to be a leader in promoting environmental justice and climate resiliency planning. We work diligently with our regulators, partners, educators and the community, including tribal nations and urban Indians, to ensure that Portland complies with all environmental regulations to produce healthy rivers, streams, waterways and natural areas.
- **Improvements to Organizational Alignment** – Beginning in FY2018-19, BES began a comprehensive review of our organizational process and alignments to ensure our functions are integrated, collaborative and optimally efficient. During calendar 2020, we anticipate significant organizational realignment to occur. The FY2020-21 Requested Budget aims to support these upcoming changes and embeds flexibility to assist with change implementation.
- **Long-term Sustainability** – Lastly, our work is rooted in the understanding that we are in business for the very long-term. It is critical that our decisions reflect high-value actions today, but also recognize risks and benefits to future generations of Portlanders.

### **Mayor’s FY2020-21 Budget Priority Issue Areas**

The Mayor’s budget guidance memo from October 3, 2019 highlighted five “priority issue areas” that align with BES priorities and budget allocations as described below:

#### Priority Area 1: Homeless Crisis

BES owns properties throughout the City that have experienced significant increases in unauthorized camping in recent years as a result of the national homeless crisis. In FY2019-20, BES estimates contributions of approximately \$400,000 to address property monitoring and security, camp cleanups and repairs to system assets and

natural areas resulting from unauthorized camping. The FY2020-21 Requested Budget continues all existing program expenditures at these same relative levels. While unauthorized camping (especially in sensitive, riparian natural areas) can create costly damage and potential risks to compliance with environmental regulations, BES strives to respond in ways that are sensitive to the unique needs of individuals experiencing challenging circumstances. BES appreciates the availability of and support from OMF and the One Point of Contact program.

BES supports waivers of system development charges for qualified affordable housing units. The anticipated impact of these waivers is projected at between \$3 million and \$5 million for BES in FY2020-21. BES is an active supporter of Citywide programs that aim to reduce instances of homelessness and provide support for at-risk individuals and households (including the low-income and eviction prevention efforts managed by the Portland Water Bureau, as described below).

Additionally, the FY2020-21 Requested Budget adds \$70,000 in one-time funding for two pilot projects that will explore innovative support strategies. A study with Portland State University's Homelessness Research & Action Collaborative will use data to identify how BES is directly affected by homelessness and inform positive response approaches. The Human Nature Pilot Program will provide a work opportunity for houseless individuals to participate in site clean ups, via partnership with Bonneville Environmental Foundation.

### Priority Area 3: Parks Financial Sustainability

BES and Portland Parks & Recreation (PPR) have several related services areas, including tree planting and natural area maintenance and revegetation. BES and PPR leadership are currently reviewing these services and delivery strategies to identify opportunities for greater efficiency.

Beginning in FY2019-20, BES has budgeted \$100,000 to support Parks Rangers that patrol and monitor camping activities on BES properties, to minimize the impacts to those areas. This work directly benefits Citywide stormwater management requirements but can be optimally performed by PPR staff. This funding continues in the FY2020-21 Requested Budget. BES partners with PPR to utilize Parks Rangers to monitor and respond to unauthorized camping issues in certain BES-owned natural areas. For FY2020-21, the BES Requested Budget includes approximately \$1.2 million in funding for BES-related services that are performed by PPR.

BES is committed to working with all bureau partners to ensure City services are delivered effectively and sustainably.

### Priority Area 4: Leadership Action on Climate Change

As the City's lead agency on regulatory compliance for healthy rivers, streams and waterways, BES works with partners across the region to ensure that the realities of

climate change are recognized in all activities that contribute to meeting watershed health objectives. BES ensures that climate change impacts are considered in developing City and bureau response plans to regulations mandated by State and Federal agencies.

Asset management best practices – including condition assessment and risk analysis – are backbone elements that inform BES regulatory response, system planning, operational strategy, and prioritization of capital investments. In recent years, climate risk and resiliency have become specific, elevated areas of focus. In FY2019-20, BES completed a Climate Resiliency and Recommendations report that identified actions and priorities for future improvements. The FY2020-21 Requested Budget continues to advance those efforts.

Lastly, the bureau actively promotes resource recovery of biosolids and biogas at the two treatment plants. Biosolids that meet regulatory standards are beneficially land applied. Beginning in 2020, BES will begin converting waste methane generated at Columbia Boulevard Treatment Plant into Renewable Compressed Natural Gas for vehicle fueling and for sale to NW Natural.

#### Priority Area 5: Ratepayer Affordability

BES remains committed to a rate profile that approximates broad long-term economic indicators such as inflation, cost of living and changes to median income. FY2020-21 represents the fourth consecutive year with a rate of increase of 3.0% or lower.

BES strongly supports the City's programs (managed by the Portland Water Bureau) that provide accommodation for low-income and at-risk ratepayers. We recognize inconsistencies within the current sewer/stormwater rate development methodologies, and in FY2019-20 began a comprehensive rate study to identify potential new methodologies that will support long-term affordability for all customers.

We also recognize the importance of responsible system investment and use of capital borrowing to support intergenerational equity – ensuring that costs are distributed to all users of the system over time, while avoiding extreme levels of risk and future costs being pushed out to future generations.

For additional information on ratepayer affordability, please see the response to the Mayor's FY2020-21 budget guidance, jointly prepared by the Portland Water Bureau and BES.

#### Priority Area 7: Long-Term Liabilities

The bureau continues to invest in understanding the condition of our built and natural assets and reinvesting responsibly. The bureau currently has over \$1.4 billion in outstanding long-term debt and collects revenues adequate to meet all required

debt service payments. Our financial planning standards, long-term perspective, and management practices are designed to maintain our top-of-class Aa1/AA+ bond ratings.

BES has been a lead City agency on the multi-jurisdictional Levee Ready Columbia project to improve flood protection along the Columbia River. We will continue to participate in that project and advise participating City partners about long-term risks and responsibilities.

Lastly, BES continues to be the lead City agency on addressing Portland Harbor Superfund responsibilities. The BES FY2020-21 Requested Budget includes nearly \$7 million for staffing, community relations, legal advice, consulting and remedial design work along the Superfund site. Beginning in FY2020-21, BES is collaborating with City partners to advance Superfund remedial design funding on a Citywide basis. As remedial design work reaches completion, efforts to implement Superfund projects and to monitor the Superfund site will continue for many years.

## Conclusion

It is a privilege to lead the Bureau of Environmental Services as we strive to be a national leader in environmental stewardship and financial sustainability, to the benefit of all Portlanders.

I would like to thank the Citizens' Utility Board (CUB) and members of the Public Utility Board (PUB) for their engagement and advice during our strategic review and this budget development cycle. We look forward to continued input from CUB and PUB, and from the City Budget Office, City Council, bureau partners and Portland ratepayers.

Sincerely,



Michael Jordan, Director  
City of Portland Bureau of Environmental Services

CC: Jessica Kinard, City Budget Office  
Janice Thompson, Oregon Citizens' Utility Board  
Portland Utility Board



## Bureau Oversight



# PORTLAND UTILITY BOARD

---

**Members:**

**Heidi Bullock, co-chair**

**Dory Robinson, co-chair**

**Kaliska Day**

**Ted Labbe**

**Robert Martineau**

**Micah Meskel**

**Mia Sabanovic**

**Gabriela Saldaña-López**

**Karen Y. Spencer**

**Karen Williams**

**Ex-officio Members:**

**Ana Brophy**

**Brian Laurent**

**Sara Petrocine**

**Staff Contacts:**

Eliza Lindsay, Coordinator

(503) 865-6145

[Eliza.Lindsay@portlandoregon.gov](mailto:Eliza.Lindsay@portlandoregon.gov)

Amy Archer-Masters, Analyst

(503) 823-8340

[Amy.Archer-Masters@portlandoregon.gov](mailto:Amy.Archer-Masters@portlandoregon.gov)

City Budget Office

1120 SW 5<sup>th</sup> Ave, Ste 1010

Portland, Oregon 97204

To: Mayor Ted Wheeler  
Commissioner Amanda Fritz  
Commissioner Chloe Eudaly  
Commissioner Jo Ann Hardesty  
Auditor Mary Hull Caballero  
Office of Commissioner Fish

Re: Requested Budgets for FY 2020-21 for the Bureau of Environmental Services and the Portland Water Bureau

Date: January 29, 2020

The Portland Utility Board (PUB) serves as a community-based advisory board for the Bureau of Environmental Services (BES) and the Portland Water Bureau (PWB).

The PUB has held multiple board meetings and subcommittee meetings over the last few months focused on gathering information, providing feedback, and building the foundation needed to understand the complex budgets for both bureaus. PUB is grateful for the significant support we receive from the bureaus' directors, staff, ex-officio members, Commissioners Fish and Fritz and their staff, the City Budget Office, and PUB staff.

This initial budget letter, in compliance with City practice for budget advisory committees, is an early opportunity to share our preliminary work and the considerations that will guide our next several months of budget work. The PUB views this letter as the first of several touch points with City Council throughout the annual budget and planning processes.

**Program offers and PUB's adjusted approach to budget**

The PUB continues to be supportive of the City's move to program offers in the budgeting process. As this is the second year in the City's shift to program offers, the bureaus and PUB continue to collaborate to develop best ways to work together within the new budget process. The bureaus continue to refine development of program offers. We have adjusted our review process to maximize the effectiveness of our budget advisory role. While the PUB will do a basic review of the full

budgets for both bureaus, the PUB has identified some high-interest program offers for more in-depth review. By focusing on a handful of program offers in-depth, the PUB aims to provide more focused feedback to the bureaus as well as to engage earlier and more effectively at the policy/programmatic level that ultimately drives budget optimization. The PUB appreciates the increased level of information that the bureaus are providing for the high-interest program offers as this allows the PUB to have greater context and provide more valuable feedback.

**PUB’s Lenses and Values**

During the process of selecting high-interest program offers, the PUB identified several lenses and values to apply in evaluating the bureaus’ program offers and developing recommendations. PUB will continue to consider the lenses and values and their connections. The PUB recognizes that conflict can exist between the various values and lenses. PUB members particularly struggle with the need of the bureaus to increase capital investments to address system maintenance and the burden that ongoing annual rate increases place on customers. Some values, such as equity, cut across all other values.

**Lenses for FY 2020-21**

Accountability and credibility
Equity
Goals, metrics, strategic alignment
Rate Impacts
Resiliency
Significant program changes or significant investment
Sustainability

*In alphabetic, not priority order*

**PUB’s Values**

Affordability
Assistance to low-income residents
Efficiency of operations
Equity
Improvement and sustainability of infrastructure
Long-term value to residents of Portland region
Protection of public and watershed health
Regulatory Compliance
Service Delivery
System resilience and reliability
Transparency and inclusive public engagement

*In alphabetic, not priority order*

**Performance Measures Increase Accountability and Transparency**

PUB is particularly interested in performance measures because they provide data to help evaluate program effectiveness, identify areas for improvement, and ensure accountability. PUB understands that both bureaus continue to develop and refine the performance measures and tie them to equity. PUB looks forward to providing input and guidance to both BES and PWB in this effort. The PUB requests that the bureaus maintain a collaborative process with the PUB to support measure development that provides meaningful information to them as well as

transparent communication for the general public. The PUB continues to recommend that the bureaus provide context for any metrics such that the public can easily understand why they have been chosen and how they might provide evidence of program success. In addition, we remain interested in tying the bureaus work back to performance indicators and outputs, equity goals, and the bureaus' strategic plans to ensure alignment.

### **Affordability, Low-income Assistance, and Budget Guidance**

The Mayor's budget guidance stated concern about the challenges of affordability in Portland, including utility rates, and included direction to build budgets based on the rate increases included in the bureaus' five-year plans. The PUB is in the process of critically examining the concept of affordability and what it might look like through the lens of equity. Even the 4.53% combined increase projected in those plans may be unaffordable to many of Portland's residents and could disparately impact residents that already bear the brunt of structural inequities. The PUB encourages the bureaus to continue to look for efficiencies and cost-savings in both their operating and capital budgets. The PUB will continue to work with the bureaus to review and improve the low-income assistance program and other tools to ensure these programs are effective, equitable, and, where possible, expanded.

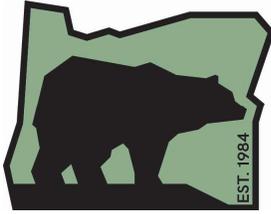
The Mayor's budget guidance also included direction for the Water Bureau to include a proposal to absorb 25% of the rate increase resulting from increased Water Filtration Plant construction costs. Although the PUB shares concern about rate affordability, we are also concerned about the potential negative impacts of delays to other priority capital projects that could result from this approach. This is a challenge that PUB will review more closely during our next phase of budget review when more information is available regarding proposed impacted capital projects.

### **Next steps**

Over the coming months the PUB anticipates more comprehensive review of the FY 2020-21 proposed operating budgets, program offers, and major additions and adjustments to the five-year capital improvement plans. We look forward to analyzing and evaluating the bureau's requested budgets and the City Budget Office (CBO) analysis and providing additional feedback to City Council. As the budget develops, the PUB will provide a letter with recommendations regarding the budgets, participate in the budget work sessions in March, the utility rate hearing in May, as well as discuss budget issues with the Mayor and City Council if requested.

We look forward to providing you further input as the budget process continues through the spring. We welcome open communication with City Council and any feedback you have regarding our proposed approach to FY 2020-21 budget work as well as the lenses and values that guide our work.





# Oregon Citizens' Utility Board

610 SW Broadway, Suite 400  
Portland, OR 97205

(503) 227-1984  
[www.oregoncub.org](http://www.oregoncub.org)

January 27, 2020

To: Bureau of Environmental Services (BES) Commissioner-in-Charge Mayor Ted Wheeler,  
c/o Asena Lawrence  
Michael Jordan, Dawn Uchiyama, and Jonas Biery, BES

cc: Portland Utility Board (PUB) c/o Eliza Lindsay  
David Beller, City Budget Office (CBO) Analyst for BES

From: Janice Thompson, Oregon Citizens' Utility Board (CUB)

Re: CUB Input on Development of Requested BES FY 2020-21 Budget

## Introduction

This memo summarizes CUB's initial observations and comments as BES prepares its requested FY 2020-2021 budget. This memo is based on conversations with BES staff while written material from BES is preliminary. Nevertheless, CUB is providing some initial thoughts now to inform final preparation of the requested BES budget. More comments will follow as the budget process continues.

### **Compliance with Mayoral Budget Guidance and a CUB Caution to City Council**

CUB supports Mayor Ted Wheeler's budget guidance to BES to hold rate increases at the level projected in the FY 2019-20 financial plan. For BES this means a 3 percent rate increase for the typical single family month bill which the Bureau indicates is feasible for FY 2020-21.

CUB notes, however, that maintaining this 3 percent rate increase for another year was made more challenging due to a lower than recommended 2.35 percent rate increase made in FY 2018-19 that CUB viewed as being inappropriate short-term tinkering with the rate stabilization fund in the Mayor's budget. This short-term thinking was not repeated in FY 2019-20, but the effect of the previous year's lower rate increase caused a retreat from what had been ongoing projections of 3 percent rate increases. Instead, projections of 3.1 percent increases were anticipated to begin in FY 2023-24 on an ongoing basis. However, those projections are not proving to be feasible.

Instead the 3 percent rate increase requested in FY 2020-21 is now anticipated to be immediately followed by 3.15 percent rate increases beginning in FY 2021-22 and beyond. There seem to be two major reasons for moving to this higher rate increase projection on a faster timeline. One reason is cost increases in the Secondary Treatment Expansion Program (STEP) and comments on that subject follow. The second reason, however, is a reduced rate stabilization fund that seems to be primarily due to the FY 2018-19 rate increase dip that CUB did not support and viewed as elected officials substituting short term thinking for the financial guidance of their BES experts. BES indicates that they may be able to get projected rate increases for years 2 through 5 down to 3.1% which is great but does not minimize the importance of CUB's caution to the City Council in the next paragraph.

CUB strongly recommends not repeating in the BES FY 2020-21 budget, the same short-term tinkering as occurred two years ago. Indeed, there probably aren't the cash reserves to do so, but CUB cautions that such a strategy is fiscally imprudent and unfair to future BES customers. CUB understands the impulse to tinker with BES rates as the regulatory mandates facing Portland regarding filtration treatment projects increase water rates and the combined water, stormwater, and water rate. However, it seems fair to characterize water rate challenges as a "rock and a hard place" situation that cannot be fixed by adjusting BES rates in a manner that seems unfair and undermines the work of BES, particularly related to its regulatory mandates.

As noted in CUB's memo regarding the PWB budget, it is obvious that Portland's affordability crisis cannot be solved by just focusing on utility rates. But this bears repeating, especially since the growing divide between "haves" and "have nots" in Portland does mean there are plenty of "haves" who may complain but can afford utility rates. Indeed, a sole focus on addressing affordability via rates could result in a free rider dynamic where higher income individuals are paying less than what they can afford for municipal utility services. That said, efforts to bolster Portland's municipal utility bill assistance programs are of vital importance, particularly additional or stronger options for assistance for low income renters though we realize this is difficult. Another suggestion is that though, appropriately, PWB's customer service unit runs the low-income assistance program, co-branding this as a PWB-BES effort is important since there is coordination with and financial support from BES.

### **Secondary Treatment Expansion Program Comments**

CUB understands the regulatory and other drivers behind the need for major CIP STEP investments at the Columbia Boulevard Wastewater Treatment Plant (CBWTP), but recommends: 1) far greater attention to planning, and 2) clear delineation between investments that are directly related to meeting regulatory mandates and investments for other CBWTP projects.

On the first point, CUB is pleased that an early priority for the Project Management Office (PMO) was being given authority related to the CBWTP STEP effort. Delegation to the PMO of other CBWTP CIP efforts merits consideration.

On the second point, CUB requests that CIP information provided within the budget process to clearly identify STEP expenditures that are required due to regulatory mandates and those expenditures that may be needed but could possibly be delayed.

Regarding investments that are clearly STEP efforts, my understanding is that an estimated 10 percent of total project cost savings are expected by applying value engineering. This is a commendable goal and one that evidently facilitates the FY 2020-21 rate increase of 3 percent. But even with that savings goal, STEP cost increases are having an impact on rate projections beyond the upcoming budget year.

This means that whether the value engineering cost savings goal is being met requires frequent and regular monitoring. For this reason, CUB requests regular updates, at least quarterly and more frequently as needed, from the Project Management Office on STEP project costs.

In addition, CUB recommends identification of CIP projects that can be reduced or delayed if STEP project costs do not meet this 10 percent savings goal and/or increase for other reasons. In other words, BES should have a plan in place in advance regarding what CIP projects will be affected due to STEP costs. What CUB does not want is to hear a year from now that STEP hasn't met this value

engineering savings goal - or worse yet, has had new spending increases - and that BES only then begins to think about how to make other CIP adjustments. I suspect the PMO office has done or plans to do this kind of contingency planning and I'll be in touch with them on this point.

### **BES Transition Team and Reorganization**

CUB continues to be impressed with a commendable self-examination track record at BES. Previous efforts, strategic planning development and CIP-PREP assessment, are being built upon with a comprehensive “ground up” review by a broad based BES Transition Team that is in the midst of making significant and strategic reorganization recommendations. One initial step was establishing the new PMO last summer, an action that appears to be bearing fruit by adding more planning capacity as well as enhancing a general “we need to plan more and better” mindset at the Bureau.

A frequent CUB question has pertained to the “right sizing” of BES and we repeat this question based on the estimated 25 new FTE anticipated to be in the requested budget for FY 2020-21. However, it seems that the Transition Team’s thinking will assist in more effectively answering this question in terms of FTE numbers, but also with an emphasis on the most strategic organization of FTEs. CUB looks forward to continued conversations with BES about its reorganization plans.

### **Program Offers and Equity**

CUB sees progress in use by BES, and our own understanding, of the still relatively new program offer approach to budgeting. Our initial review of the draft BES program offers do not raise any red flags, but we’ll do a more detailed assessment of the program offers in the completed requested budget document.

However, we want to make a note related to equity sooner rather than later. Since beginning our public oversight work in 2014, we have seen steady improvement in BES discussions and actions regarding equity. Within the program offer context and with the hire of equity managers, CUB sees deeper and more comprehensive equity discussion in BES budget documents. More work is definitely needed, but CUB wants to highlight and support these equity related advances at BES.



## Bureau Summary



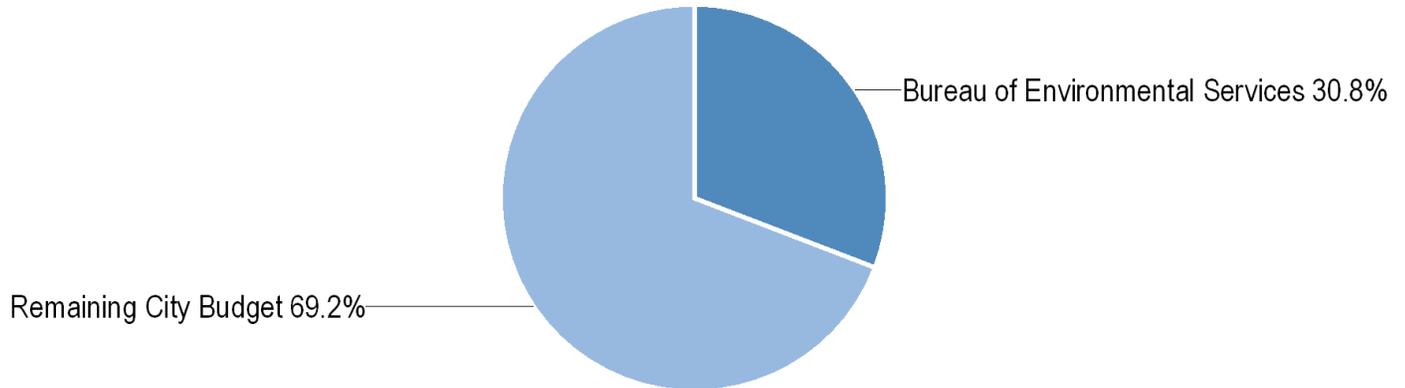
# Bureau of Environmental Services

Public Utilities Service Area

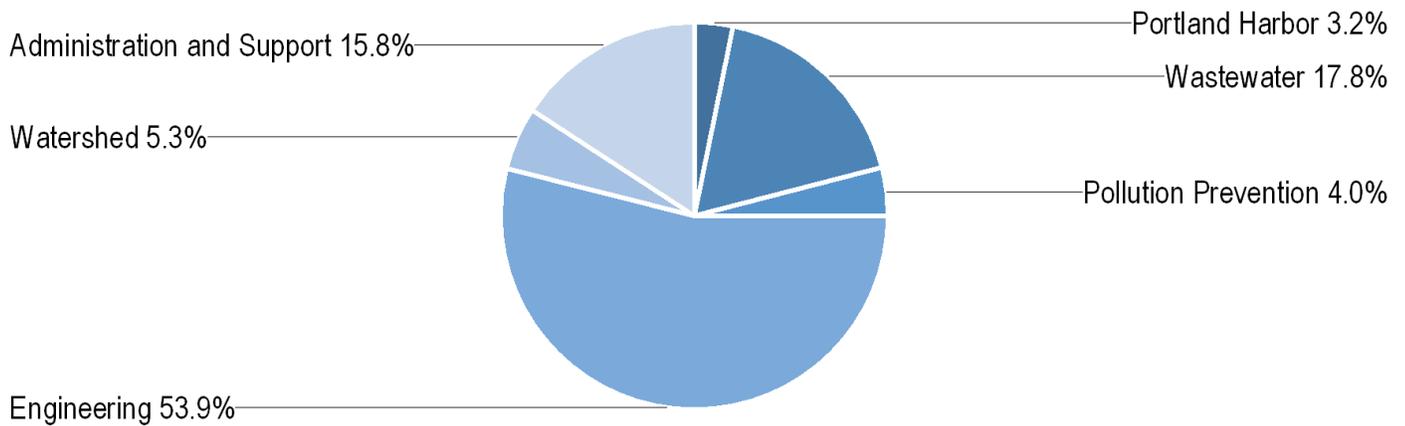
Nick Fish, Commissioner-in-Charge

Michael Jordan, Director

**Percent of City Budget Graph**



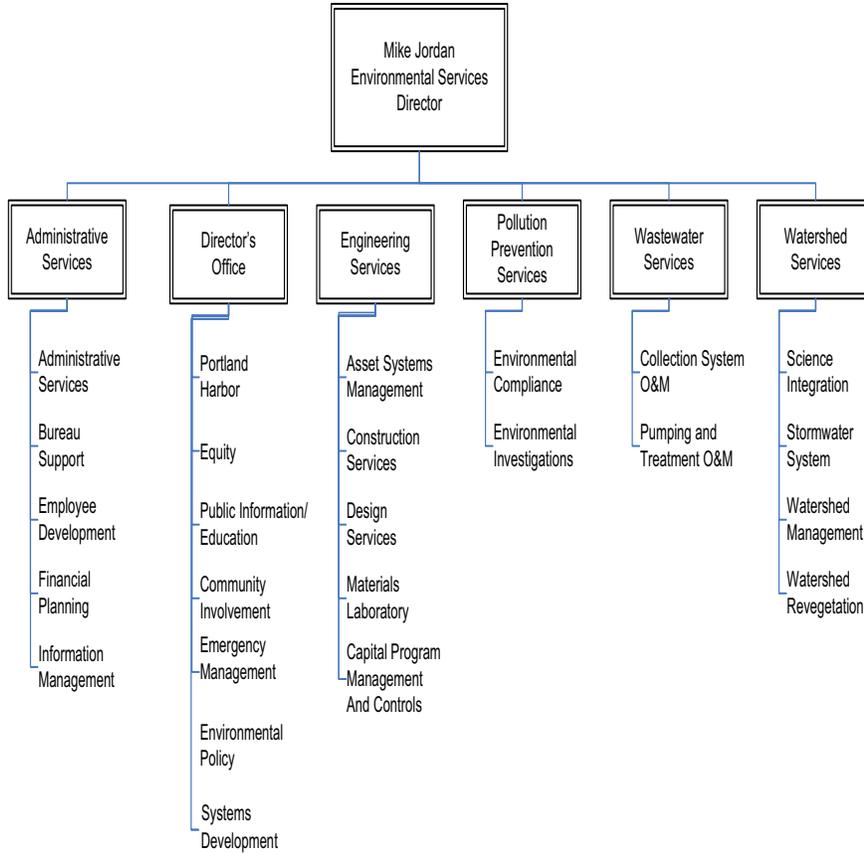
**Bureau Programs**



**Bureau Overview**

Requirements	Revised FY 2019-20	Requested FY 2020-21	Change from Prior Year	Percent Change
Operating	\$1,308,878,669	\$1,353,732,544	\$44,853,875	3%
Capital	\$177,597,980	\$170,833,000	\$(6,764,980)	(4)%
<b>Total</b>	<b>\$1,486,476,649</b>	<b>\$1,524,565,544</b>	<b>\$38,088,895</b>	<b>3%</b>
Authorized Positions	612.48	638.65	26.17	0%

# Bureau of Environmental Services



## Bureau Summary

### Bureau Mission

The Bureau of Environmental Services (BES) manages Portland's wastewater and stormwater infrastructure to protect public health and the environment.

BES's strategic vision is to be a mission-driven, high-performance organization, leading the City in preserving and restoring the health of Portland's watersheds.

We Value:

- ◆ Our customers and partners
- ◆ Portlanders' sense of connection to their waterways
- ◆ Conscientious stewardship of our watersheds, wastewater and stormwater infrastructure, and financial resources
- ◆ A diverse, collaborative, healthy and engaged workforce
- ◆ Leadership among our employees and in our City and community
- ◆ Equity in our workplace, business practices, and service delivery
- ◆ Clear communication and transparency
- ◆ Innovative, sustainable, and resilient solutions

### Bureau Overview

The bureau operates and maintains Citywide sanitary sewer and stormwater collection systems and serves a population of approximately 657,000. The bureau is also the City's lead agency for watershed protection and restoration and recovery of threatened salmon and steelhead species. The bureau is funded primarily by retail sewer and stormwater charges, wholesale contract revenues from surrounding jurisdictions, system development charges, permit-related fees, and reimbursements for services provided to other bureaus. The bureau's six primary organizational units are: Business Services, Engineering Services, the Office of the Director, Pollution Prevention Services, Watershed Services, and Wastewater Services. (Note that the bureau is currently undergoing a comprehensive organizational review, as described below, which could result in reorganization of these units during calendar year 2020.)

The FY 2020-21 Requested Budget for operating and capital expenditures is \$359.9 million. The Requested Budget is \$4.0 million - or 1.1% - higher than the FY 2019-20 Revised Budget and includes 635 full-time equivalent positions and 3.65 limited-term full-time equivalent positions. The operating portion of the Requested Budget, reflecting program costs of \$189.1 million, is 7.1% or \$12.6 million higher than the FY 2019-20 Revised Budget, with \$3.6 million of that increase driven by non-discretionary cost increases (including PERS, COLA, Utility License Fees, etc.), as well as \$2.8 million for additional FTEs, and \$6.6 million within the Portland Harbor Superfund program for both inclusion of new citywide obligations costs (offset by \$5.0 million of funding from the new Portland Harbor Superfund Reserve fund) and additional Post-ROD expenditures. The typical single-family residential sewer and stormwater bill for FY 2020-21 is anticipated to increase by \$2.27 per month, or 3.0%, to support this Adopted Budget and the long-term forecast. The capital portion of the FY 2020-21 Requested Budget totals \$170.8 million, or a reduction of \$8.5 million (-4.8%).

The FY 2020-21 Requested Budget was developed under direction from the Commissioner-in-Charge to submit a budget with a sewer/stormwater utility rate increase at 3.0% or lower. Additionally, budget development has considered the October 2019 guidance memo from the Mayor, as well as any input received by the Portland Utility Board and Citizens' Utility Board. The bureau continues on stable financial footing, including a cost trajectory that balances manageable, consistent annual rate increases over an extended timeframe against long-term system risks, to encourage system sustainability and intergenerational equity for all Portlanders.

### Strategic Direction

In February 2018, the bureau completed a comprehensive update to its 10-Year Strategic Plan. The bureau is now actively using the Strategic Plan to prioritize operational and capital investments, to identify and utilize performance measures, and to assist with ongoing course correction. The strategic initiatives identified in the Strategic Plan have been used to guide development of this FY 2020-21 Requested Budget. Fully connecting the circuit between budget development, ongoing performance review, and adjustments to strategic prioritization will occur over multiple budget cycles.

The program narratives included in this Adopted Budget – including any proposed budgetary adjustments – describe connections to strategic goals and priorities. The bureau expects that future budgets will continue to improve connections between measurable program outcomes and meaningful performance metrics that reflect priorities identified in the bureau's Strategic Plan and Equity Plan.

BES is currently completing a comprehensive assessment of our organizational alignment and processes to promote optimal delivery of bureau and community priorities. This assessment included reviewing current resources, processes and best practices, and bureau leadership is now determining implementation strategies for organizational realignments and process improvements for action immediately, in FY2020-21, and beyond. As some of these decisions will be made prior to budget adoption in June 2020 (but after submission of the Requested Budget in January 2020), the bureau acknowledges the need to remain flexible throughout the budget deliberation process and during FY2020-21.

The bureau is in a financially strong position – due in large part to a healthy fund balance in the Rate Stabilization Fund – and continues a financial planning strategy that supports long-term financial stability, while providing ratepayers with predictable and manageable rates over a multi-decade period. In November 2019, the bureau's credit rating was upgraded by Standard & Poor's to AA+ (first-lien) and AA (second-lien).

### Financial Forecast Overview

The five-year financial forecast presents the bureau's revenue and expenditure plan for the operation, maintenance, expansion, and reconstruction of the City's sanitary sewer and stormwater systems. The operations, maintenance, and capital construction programs represented in the plan must provide for operation of the system in a safe, sound, and efficient manner as well as compliance with all applicable health, safety, and environmental laws, regulatory body rules and orders, and court orders. Revenues from rates and other sources must be sufficient to fund the necessary operation and capital programs. Based on the most recent update of the financial forecast, the bureau forecasts annual rate increases of 3.0% for FY 2020-21 and 3.15% annually for the long-term duration of the forecast. These

increases are a combination of factors including inflationary increases, changes to operational costs to meet service expectations, and CIP investments including cash-funded projects and annual debt service on bonds that fund the CIP. Over the life of the forecast, rate increases are expected to be partially offset by transfers from the Sewer System Rate Stabilization Fund and by increases in non-rate revenues.

Additional detail, including revenue and expense projections, key assumptions, and long-term risks is included in the bureau's 'Preliminary Five-Year Financial Plan' document submitted as part of the FY 2020-21 Requested Budget.

## **MAJOR ISSUES**

### **System Operations**

The FY 2020-21 Requested Budget includes \$66.3 million to support the operation and maintenance, inspection, cleaning, and repair of two treatment plants, 88 active pumping stations, 10 step systems, 3,081 miles of pipeline, 41,155 sewer access structures (manholes), 9,231 storm access structures, 8,631 stormwater sumps (underground injection control, or UIC), 721 miles of laterals, 95 miles of ditches, 74 miles of culverts, 55,284 stormwater inlets and catch basins, 328 trash racks, 148 manufactured stormwater facilities, and 2,234 green street stormwater facilities. This amount includes operation and maintenance costs on the collection system of \$37.0 million and \$25.7 million on the treatment plants and pump stations.

### **Infrastructure Investments**

Asset inventory and condition assessment continues to be a major theme for two of BES's infrastructure systems:

- ◆ The stormwater system, which includes the swales, ponds, channels, creeks, sloughs, ditches, culverts, sumps, and pipe systems that convey and treat stormwater runoff from the land; and
- ◆ The wastewater treatment system, which includes the City's two wastewater treatment plants - the Columbia Boulevard Wastewater Treatment Plant (CBWTP) and the Tryon Creek Wastewater Treatment Plant (TCWTP).

The goal of this work is to identify the built and natural components of the systems, determine their current condition, predict their remaining useful life, and prioritize an optimal replacement and maintenance schedule. This will allow the bureau to better determine the ideal level of investment to sustain adequate levels of service over time.

Additionally, a significant planning effort is underway to update the 2012 Combined and Sanitary System Plan, which covers the two other BES infrastructure systems:

- ◆ The combined sewer system, which includes the network of pipelines and pump stations that collect and convey combined stormwater and wastewater; and
- ◆ The sanitary sewer system, which includes the network of pipelines and pump stations that collect and convey wastewater.

This Continuous Collection System Plan (CCSP) effort, as well as the recently completed Pump Station System Plan and in-progress Stormwater System Plan, all incorporate asset inventory and condition data along with risk information.

BES completed a BES Resiliency Plan in 2019 to identify infrastructure vulnerabilities to major risks such as earthquakes and climate change. The results of this project influence system planning and project design and align CIP project priorities in future years.

The outcome of these condition assessments and planning efforts, as well as regulatory requirements, suggests a trajectory of increased capital investment to support the needs of the aging infrastructure systems, with the goal of creating a reliable and sustainable sewer and stormwater system that optimally spreads risk and cost across multiple generations. BES estimates the replacement value of the bureau's assets at approximately \$15.2 billion; with over \$9.7 billion of that in the nearly 2,000-mile sanitary and combined sewer pipe system. While 77% of the collection system pipe is in good or fair condition, a significant amount of pipe is in poor or very poor condition. The bureau estimates that roughly \$1.7 billion of system assets are in poor or very poor condition. Future maintenance needs are anticipated to increase until those assets can be replaced.

System assets – including collection system pipes and both treatment plants – are anticipated to require sizable annual investments well into the future to address the backlog of critical maintenance needs. In addition, new regulatory requirements mandate expanded secondary treatment capacity at CBWTP. Unlike pipe – which can last 100 years or more under the right conditions – mechanical systems require reinvestment on a more regular cycle, generally every 25 to 50 years.

In FY 2018-19, the bureau completed the CIP Process Review and Enhancement Project (CIP-PREP), a multi-year effort to improve CIP planning, prioritization and delivery processes. Implementation of improvements to the bureau's CIP development and management process – including creation of a Project Management Office – began in FY2019-20 and will continue over the coming years.

See the section titled 'Capital Summary' for more information on the bureau's infrastructure investments and CIP.

### **Water Quality Compliance**

The FY 2020-21 Requested Budget contains water quality compliance-related funding across a variety of bureau program areas, including Watershed Services, Pollution Prevention Services, and Engineering Services. Compliance with the City's two National Pollutant Discharge Elimination System (NPDES) permits for the wastewater treatment plants and the Municipal Separate Storm Sewer System (MS4), along with water quality regulations requires the bureau to conduct specific actions, including monitoring and analysis, modeling pollutant loads and stormwater runoff volumes, conducting a pretreatment program, conducting an industrial stormwater program, requiring and inspecting stormwater controls on private property, and evaluating the effectiveness of stormwater management actions. The bureau must also comply with the conditions of an Underground Injection Control (UIC) permit issued by Oregon Department of Environmental Quality (DEQ) for the City's approximately 9,500 stormwater sumps. The bureau will also be engaged in renewal of two of the City's three NPDES permits (CBWTP Wastewater permit and MS4 Stormwater permit) during FY 2020-21.

**Portland Harbor Superfund**

The bureau represents the City's interests on the Portland Harbor Superfund site. Over 10 years ago, the City, the Port of Portland and several Portland businesses entered into an Agreement on Consent with EPA which required that they perform and fund the investigation of the contaminated sediments. That investigation is complete. In January 2017, The United States Environmental Protection Agency (USEPA) issued a Record of Decision (ROD) which outlines how the site will be cleaned up. With the release of the ROD, focus has turned to partnering with other government agencies and City bureaus on the next phase of work, including community outreach and working with other potentially responsible parties so that design for in-water work can proceed. During FY2019-20, the City began three new remedial design efforts which include the Willamette Cove site, a joint City and State funding offer, and the site-wide Information Management Plan. Those efforts will continue in FY2020-21 and beyond. The FY 2020-21 Requested Budget includes \$6.5 million (excluding amounts paid on behalf of other bureaus and Prosper Portland) of funding related to the Portland Harbor Superfund.

**Endangered Species Act (ESA) Requirements**

The bureau continues to develop and implement a comprehensive watershed framework for the protection of 13 Endangered Species Act-listed salmon and steelhead species in Portland per the requirements of the Endangered Species Act. In addition, the bureau is implementing the July 2013 federal recovery plan issued by the National Marine Fisheries Services (NMFS). A number of the recovery plan requirements are necessary for the bureau's compliance with permits under the Clean Water Act.

## Capital Summary

**CIP Highlights**

The Requested Budget includes \$171 million in capital investment for FY2020-21 and \$944 million over five years. A significant amount of work is underway at both treatment plants, addressing operational, deferred maintenance and long-term capacity issues, and to address permit requirements. The Sewage Treatment Systems program comprises more than half of the total CIP for the next five years. Facilities expansion through the Secondary Treatment Expansion Program (STEP) at the CBWTP, estimated at more than \$300 million, will increase wet weather treatment capacity and ensure compliance with new regulatory requirements. Other major treatment plant programs and projects are discussed in sections below.

The Maintenance and Reliability (M&R) program, which includes capital repair and replacement of collection pipes in the sanitary and combined sewer systems, makes up \$58 million in the FY2020-21 Requested Budget and \$245 million in the five-year CIP (26% of the total). Also, in the M&R program are a series of projects designed to address the risk of basement sewer backups and street flooding due to pipe capacity.

Approximately \$32 million is targeted in the FY2020-21 Requested Budget for projects in Surface Water Management (with \$118 million total, or 12%, in the five-year CIP). These projects address high priority regulatory-driven projects that meet multiple watershed health objectives and stormwater system deficiencies. The remainder of the CIP includes \$9 million in FY2020-21 and \$32 million in the five-year CIP for Systems Development projects and programs, which expand the city's sewer collection system to unserved areas.

Additional information about all of the program areas is included in the Capital Programs and Major Projects section below.

### Major CIP Priorities

Environmental Services has a regular inspection program to determine pipe condition. The use of video technology allows the bureau to focus the rehabilitation program on pipes that are in the worst condition. Much of the City's collection system is in good or fair condition, but there is a continued need to address those areas of our system that are in poor condition, especially for those that also serve as a critical infrastructure based on our Resiliency Master Plan. Continuing programmatic efforts through the Large-Scale Sewer Rehabilitation Program and the CCSP are a priority for the bureau.

Capital maintenance and upgrades to the two wastewater treatment plants and nearly 100 pump stations located throughout the collection system are also a high priority. These urgent and highly complex projects, featured prominently over the next ten years, weigh heavily in decision making around resource allocation to other program areas in the CIP. Adjustments to the CIP prioritization process – as well as evaluation of project/program readiness, urgency, and dependencies – will continue to occur as needs evolve.

Operations at CBWTP continue to be adjusted due to changes in the influent resulting from the combined sewer overflow (CSO) tunnel system. Expansion to secondary treatment capabilities (i.e. 'STEP'), is progressing in the design phase and planned for construction by 2024 to meet regulatory deadlines. Pending the outcome of ongoing discussions between BES and the City of Lake Oswego to potentially shift to an alternative treatment approach, TCWTP is projected for over \$90 million in capital investment over the next ten years, including improvements to replace obsolete facilities, increase efficiency of the overall plant processes, and prepare the plant for meeting anticipated permit requirements.

The Bureau projects the need to significantly increase delivery of annual CIP projects over the next ten years, driven by a host of factors including aging infrastructure, regulatory requirements, public input, the City's Comprehensive Plan, City Council priorities, evolving operational needs, and updated BES system plans. The FY2020-21 Requested CIP Budget of \$170.8 million is approximately 20% higher than the FY 2019-20 revised budget of \$142.4 million (excluding PDX building). Future years are projected to peak at approximately \$ 200 million as STEP goes into maximum production in FY2021-22 through FY2023-24, before scaling back down to approximately \$165 million per year to address deferred work.

Major process improvements and organizational changes began in 2019 with creation of the Project Management Office (PMO) and initial staffing to define an improved capital project delivery process, continue with improvements and maturation of project and program controls functions, improve project scheduling, and begin managing a subset of CIP projects in a new model of 'cradle to grave'

project management. These improvements will increase efficiency in project delivery and optimize limited staffing resources to deliver a larger annual project throughput. Further implementation of the new processes and procedures continues in FY2020-21, and it is expected that capital projects will increasingly be managed through the PMO in the coming years.

**Changes from Prior Year**

In comparing this proposed five-year CIP to last year's 2020-2024 CIP, the four common years (2021-2024) have increased \$125.1 million or 21%. The primary drivers were significant changes to STEP including:

- ◆ Incorporating a more robust and consolidated treatment process to meet planned growth and upcoming regulations through the next twenty years;
- ◆ Design changes to meet Oregon structural codes, the BES Resiliency Master Plan, and significantly improved electrical resiliency; and
- ◆ Updated cost forecasts based on now-completed investigations.

While all projects in the five-year CIP are in FY 2020-21 dollars, inflationary assumptions are incorporated into the five-year financial forecast.

**Connections to City Goals, Priorities and Plans**

The City's 2035 Comprehensive Plan guides future development through a set of goals and policies across a broad range of urban issues. One of those policy areas is public facilities and services, which provides guidance on how the City spends money to maintain and construct physical facilities and public services necessary to support the approved land use patterns. The sanitary and stormwater facilities goal in the 2035 Comprehensive Plan (Chapter 8) states that 'Wastewater and stormwater are managed, conveyed, and/or treated to protect public health, safety, and the environment, and to meet the needs of the community on an equitable, efficient and sustainable basis.'" Specific policies for the sanitary and stormwater systems and flood management address control of combined and sanitary sewer overflows, sewer connections, operation of treatment plants, stormwater management, green infrastructure, pollution prevention, and flood management. Additional goals and policies for which BES has responsibility are found in Chapter 7 (Environment and Watershed) of the 2035 Comprehensive Plan.

The CIP reflects a commitment to improving the water quality in Portland and to meeting the objectives of the City's 2035 Comprehensive Plan. Capital project planning at BES includes an analysis of the capacity of the existing system as compared to densities in the Comprehensive Plan. The Maintenance and Reliability program continues to repair and replace segments of the system to protect the City's infrastructure investment for current and future system users. Reliability is critical to effective service and protection of public health and the environment. The Systems Development program supports the implementation of Metro's 2040 Plan and the City's Comprehensive Plan. The bureau uses asset management principles to identify neighborhoods where sewer and/or stormwater service is unavailable or insufficient, and where existing on-site disposal facilities are at risk of failure. The Surface Water program includes multi-objective CIP projects that address stormwater management, enhance fish and wildlife habitat, and support recreational benefits to the surrounding waters. Historically, drainage systems were constructed only to address flooding and standing water problems. Now, stormwater management projects are developed in a manner that integrates watershed health and broader system infrastructure needs and priorities.

### Criteria

The CIP development strategy is focused on strategic and comprehensive program delivery and environmental protection and restoration within a prescribed regulatory framework. Scoring criteria to prioritize projects are based on an asset management approach and weighted to account for the likelihood and consequence of failure of the asset if the proposed project is not completed. Criteria includes impacts to human health and safety, business customers and residential customers, and impacts to public infrastructure such as streets. Service levels for the likelihood and consequence scoring are based on established system plans, where available (e.g., the 2012 Combined and Sanitary System Plan), and are being revisited and updated in the coming years as part of BES Strategic Plan and organizational transition recommendations. Additional prioritization is given to those projects mandated by federal and state laws and those projects that address City Council direction, including collaborative projects between BES and other bureaus. Equity considerations (for example, impacts on vulnerable communities) are built into the system planning processes that feed projects into CIP development.

## Capital Planning and Budgeting

### Capital Planning Process

Annually, BES prepares a one-, five-, and ten-year CIP. The CIP is developed using a multi-step process to identify, develop, review, score, and rank projects for funding and scheduling priority. This process ensures that the core needs of the sewer, drainage, and surface water systems and the community they serve are appropriately funded and scheduled. Projects originate from recommendations in BES system plans (discussed above), urgent and emergency projects to address asset failures, regulatory mandates, watershed planning, and inter-bureau collaborations. An internal BES stakeholder and subject matter expert review team investigates, scores, and ranks all proposed CIP projects in accordance with identified CIP criteria, to evaluate relative priorities across all systems and project types. The CIP management team evaluates all the information from the process, works with bureau project and program managers to refine cost and schedule data, and submits a recommendation to the Bureau Director for approval of the CIP. The Portland Utility Review Board (PUB) and Citizens Utility Board (CUB) are provided with periodic updates through the CIP development process, including the requested annual and five-year CIP. Those community advisory bodies provide oversight and input as desired on the overall CIP as well as specific projects or programs. As a result of the recent CIP-PREP work, the CIP planning process now includes ‘feasibility projects’ that are funded with initial pre-design budgets only, in order to support more robust project scope and cost information to include in future CIP requests.

### Asset Management and Replacement Plan

As discussed above, BES estimates the replacement value of the bureau’s assets at approximately \$15.2 billion; with over \$9.7 billion of that in the nearly 2,000-mile sanitary and combined sewer pipe system. While 77% of the collection system pipe is in good or fair condition, a significant amount of pipe is in poor or very poor condition. The bureau estimates that roughly \$1.7 billion of system assets are in poor or very poor condition. These asset reinvestment needs require significant

increases to capital project delivery throughput – from the historic average level of approximately \$80 million annually to upwards of \$150 million annually. BES is addressing this need by reorganizing our bureau to increase efficiency in project delivery, and by continued investment in planning and efforts rooted in asset management principles and best practices.

## **CAPITAL PROGRAMS AND MAJOR PROJECTS**

The Capital Improvement Program is divided into four program areas: Maintenance and Reliability, Sewage Treatment Systems, Surface Water Management, and Systems Development.

### **Maintenance and Reliability**

Projects in this program area address major maintenance requirements of the sewerage collection system including collector sewers, trunk sewers, and interceptor sewers. The sewerage collection and conveyance system includes over 1,900 miles of sanitary and combined sewers ranging in diameter from four inches to 20 feet and nearly 450 miles of stormwater pipes. Much of the sewer pipe system in the city's older neighborhoods is more than 100 years old. In some areas of the city, recurrent basement flooding is a major problem creating health and environmental hazards as well as property damage. Funding in this program area is focused on rehabilitation or reconstruction of the most structurally deficient portions of the collection system and upsizing pipe or installing surface stormwater management to address hydraulic deficiencies.

Maintenance and Reliability (M&R) projects include:

- ◆ **Pipe Rehabilitation Projects:** This suite of projects addresses highly deteriorated pipe and pipes with the highest risk/consequence of failure. About one-quarter of the pipe system is over 80 years old. These projects are focused on reducing risk from failing pipes. The Large-Scale Sewer Rehabilitation Program (LSSRP) residential sewer work on the east side is concluding and focus is shifting to the Southwest neighborhoods including Hillsdale, Council Crest, and Burlingame. Large sewer trunk work will focus on the I-84 corridor, SW Portland and Inner South East Portland. Downtown Portland will continue to be an area in which we coordinate with other agencies to minimize public impacts over the next 10 years.
- ◆ **Capacity Projects:** This suite of projects is necessary to relieve risk of sewer backup and street flooding in various basins using a combination of pipe upsizing and stormwater infiltration facilities. Projects also rehabilitate pipe in very poor condition. Green street facilities are used where possible to manage stormwater as a natural resource and avoid unnecessary and more costly upsizing of pipes. However, each year, more green street facilities are added to the inventory, creating increased pressure on the operating budget for ongoing maintenance.

### **Sewage Treatment Systems**

This program funds projects located at the treatment plants as well as maintenance and repair or rehabilitation of the nearly 100 active pump stations and associated force mains located system wide. Both treatment plants operate within the framework of the Federal Clean Water Act. Specific requirements for removal of pollutants from wastewater before the treated effluent is discharged into the Columbia or Willamette Rivers are contained in the National Pollution Discharge Elimination System permit for each plant. High priority is given to projects that provide operating efficiency, reliability, and longevity of the facilities. Other projects address operational needs and condition of assets.

Major categories of Sewage Treatment Systems projects include:

- ◆ Pump Station Improvement Program: This is an ongoing program to refurbish and upgrade pump stations and their associated force mains to meet current codes, operate more reliably, upgrade facilities to meet increased demand, and replace outdated equipment.
- ◆ Treatment Facilities - Rehabilitation and Modification: Both the CBWTP and TCWTP are major capital assets that require ongoing investment for repair, rehabilitation, and maintenance (RR&M) work to protect the capital investment and enhance system reliability. This program is key to preventing violations of the City's NPDES permit.
- ◆ Secondary Treatment Expansion (STEP): Expansion of secondary treatment capacity is required for effective plant operation and to meet permit requirements.
- ◆ TCWTP Headworks Improvements: Recommended upgrades from the Facilities Plan will meet future demand and continue to meet permit requirements at the aging TCWTP. The improvements will be jointly funded with Lake Oswego.

### Surface Water Management

The primary objective of this program is to protect the quality of surface and ground waters by addressing watershed health and public safety concerns associated with flooding, stream erosion, and urban pollution. Projects proposed under this program include construction of various types of water quality facilities (ponds, swales, green streets), sump retrofits, natural area and drainage protection, and stream restoration including culvert replacement. Projects are developed to meet the provisions of the Portland Watershed Management Plan (PWMP). The PWMP guides assessment, planning and project implementation at the watershed scale to identify interrelated problems and coordinate integrated solutions. This program is also guided by the City's commitments under the Endangered Species Act, and implements projects for the City's Stormwater Management Plan, required by the Municipal Separate Storm Sewer System (MS4) Discharge Permit. Projects are planned and prioritized in the City's six primary watersheds: Columbia Slough, Fanno Creek, Tryon Creek, Johnson Creek, mainstem of the Willamette River, and Willamette River Tributaries.

Major categories of Surface Water Management projects include:

- ◆ Johnson Creek Restoration Program: This program is implementing the recommendations of the Johnson Creek Restoration Plan (2001). The plan identifies a number of projects to mitigate flooding, improve water quality, and improve fish and wildlife habitat.
- ◆ Columbia Slough projects: The primary focus of the current suite of projects is to address the Remedial Action Record of Decision from the State Department of Environmental Quality. In 2010, DEQ and BES entered into an Inter-Governmental Agreement under the Voluntary Cleanup Program to control pollutant sources discharged to the slough through City stormwater compliance.
- ◆ Capitol Highway Stormwater Improvements: Stormwater improvements along SW Capitol Hwy, local side streets, and within Tryon, Falling, Woods, & Vermont Creek basins to address drainage & conveyance deficiencies along with recurring nuisance flooding issues.
- ◆ Land Acquisition: This multi-year program targets high priority parcels for habitat and watershed health, which supports the Bureau's efforts to protect and improve water quality. Funding often leverages that of other partners such as Metro and Portland Parks & Recreation.
- ◆ Watershed Investment Program: This program funds innovative watershed enhancements. Priority is given to projects that leverage other funding sources, demonstrate new technologies, and address multiple watershed health goals.

### **Systems Development**

The primary focus of this program area is to expand the city's sewer collection system in support of the implementation of Metro's 2040 Plan and the City's 2035 Comprehensive Plan. This program carries out the bureau's commitment to provide an efficient sewerage system to residents and businesses within our service area, to support new development, and to protect public health and the environment. The Non-Conforming Sewer Program addresses shared private sewer lines that are no longer compliant with plumbing code. This is an ongoing program that provides property owners direct access to a municipal sewer line or ensure that appropriate easements have been acquired.

**Funding Sources**

Planned CIP outlays total \$811.1 million (excluding inflation) over the five-year forecast interval FY 2020-21 through FY 2024-25. The majority of resources to fund CIP outlays come from bond proceeds and transfers from the sewer operating fund. A brief description of the resources needed to finance this requirement follows:

- ◆ Fees, Charges, and Permits. This source of funding includes an estimate of reimbursements for engineering, administration, and construction management services charged to local improvement districts and for permit sewer construction. Also included are anticipated revenues from construction and/or engineering services for projects initiated by other local government agencies such as the Portland Bureau of Transportation and the Port of Portland.
- ◆ Line and Branch Charges. Charges in lieu of assessment will be used to support CIP outlays. Line and branch charges are received cash and in the form of proceeds from special assessment bonds issued for property owners who elect to finance line and branch charges. Total revenues from these charges are projected to be approximately \$9.1 million over the five-year forecast.
- ◆ Cash Transfers from the Sewer System Operating Fund. Current sewer system net income from service fees and charges will also be used to fund CIP outlays. The availability of current income to fund CIP expenditures mostly results from meeting debt service coverage requirements on outstanding bonds. For planning purposes, the bureau maintains coverage ratios of at least 1.50 on first lien debt, at least 1.30 on combined first and second lien debt, and an ongoing operating reserve of 270 days' operating expenses for unforeseen financial needs. After making debt service payments, amounts in excess of those required to maintain planned operating reserves are available to fund capital improvements. Cash transfers from the Operating Fund to the Construction Fund are projected to total \$282 million over the five-year forecast interval.
- ◆ Bond Proceeds. Based on current planning assumptions, the bureau's five-year CIP request anticipates \$905 million (nominal dollars) in additional borrowings over the next five fiscal years. Debt service requirements for future bond sales have been calculated assuming level debt service. Interim short-term financing may be used in lieu of or in combination with long-term financings. The forecast assumes an average annualized coupon rate of 5.0% for the bonds sold in FY 2020-21, FY 2022-23, and FY 2024-25, with the bureau's planning standard debt service coverage ratios of 1.50 and 1.30, as mentioned previously.

**Operating and Maintenance Costs**

Each capital project includes estimated operating and maintenance costs or savings, which are considered during project prioritization and CIP development. To the extent possible, these ongoing operating impacts are included in budget decision-making. Historically, bureau operating budgets have generally not kept pace with the growing volume of infrastructure repair and maintenance needs and the increasing inventory of surface stormwater management facilities. As part of ongoing process improvements, the bureau aims to better integrate these estimates into the long-term financial forecast in future budget cycles.







# Bureau of Environmental Services

## Summary of Bureau Budget

	Actuals FY 2017-18	Actuals FY 2018-19	Revised FY 2019-20	Requested No DP FY 2020-21	Requested FY 2020-21
<b>Resources</b>					
<b>External Revenues</b>					
Licenses & Permits	2,166,745	2,320,655	1,995,000	2,120,000	2,120,000
Charges for Services	391,229,124	379,800,637	402,272,800	403,781,450	403,781,450
Intergovernmental	474,819	274,088	2,330,150	987,000	987,000
Bond & Note	213,566,279	0	235,100,000	388,500,000	388,500,000
Miscellaneous	15,495,855	12,933,977	13,926,800	11,414,600	11,414,600
<b>External Revenues Total</b>	<b>622,932,823</b>	<b>395,329,356</b>	<b>655,624,750</b>	<b>806,803,050</b>	<b>806,803,050</b>
<b>Internal Revenues</b>					
Fund Transfers - Revenue	351,855,251	378,872,316	396,908,590	455,123,000	455,123,000
Interagency Revenue	2,189,530	3,421,782	2,470,727	2,257,798	2,257,798
<b>Internal Revenues Total</b>	<b>354,044,781</b>	<b>382,294,098</b>	<b>399,379,317</b>	<b>457,380,798</b>	<b>457,380,798</b>
Beginning Fund Balance	278,006,251	496,518,158	431,472,582	260,381,696	260,381,696
<b>Resources Total</b>	<b>1,254,983,856</b>	<b>1,274,141,612</b>	<b>1,486,476,649</b>	<b>1,524,565,544</b>	<b>1,524,565,544</b>
<b>Requirements</b>					
<b>Bureau Expenditures</b>					
Personnel Services	68,707,261	74,930,220	85,728,062	91,618,499	91,618,499
External Materials and Services	55,998,532	77,793,264	81,094,339	101,509,385	101,509,385
Internal Materials and Services	41,099,339	43,961,412	51,381,655	53,576,635	53,576,635
Capital Outlay	59,658,418	80,294,942	136,949,923	109,085,479	109,085,479
<b>Bureau Expenditures Total</b>	<b>225,463,551</b>	<b>276,979,839</b>	<b>355,153,979</b>	<b>355,789,998</b>	<b>355,789,998</b>
<b>Fund Expenditures</b>					
Debt Service	174,456,885	185,387,780	186,750,305	180,416,532	180,416,532
Contingency	0	0	465,308,043	485,096,774	485,096,774
Fund Transfers - Expense	358,545,264	383,284,653	407,830,913	458,590,935	458,590,935
Debt Service Reserves	0	0	71,433,409	44,671,305	44,671,305
<b>Fund Expenditures Total</b>	<b>533,002,149</b>	<b>568,672,433</b>	<b>1,131,322,670</b>	<b>1,168,775,546</b>	<b>1,168,775,546</b>
Ending Fund Balance	496,518,158	428,489,339	0	0	0
<b>Requirements Total</b>	<b>1,254,983,858</b>	<b>1,274,141,611</b>	<b>1,486,476,649</b>	<b>1,524,565,544</b>	<b>1,524,565,544</b>
<b>Programs</b>					
Administration & Support	42,145,904	50,342,856	92,375,567	56,226,421	56,226,421
Area Planning	50	—	—	—	—
Engineering	107,617,830	136,681,101	159,257,567	191,913,124	191,913,124
Healthy Working Rivers	(518)	—	—	—	—
Pollution Prevention	9,717,757	11,530,718	13,716,084	14,314,469	14,314,469
Portland Harbor	1,879,271	2,524,498	5,464,455	11,425,588	11,425,588
Wastewater	49,893,557	61,085,770	66,874,883	63,186,347	63,186,347
Watershed	14,209,699	14,814,894	17,465,423	18,724,049	18,724,049
<b>Total Programs</b>	<b>225,463,551</b>	<b>276,979,839</b>	<b>355,153,979</b>	<b>355,789,998</b>	<b>355,789,998</b>

FTE Summary

Class	Title	Salary Range		Revised FY 2019-20		Requested No DP FY 2020-21		Requested FY 2020-21	
		Min	Max	No.	Amount	No.	Amount	No.	Amount
30000063	Accountant II	54,912	79,556	3.00	231,942	3.00	231,942	3.00	231,942
30000064	Accountant III	60,466	87,496	2.00	150,266	2.00	164,357	2.00	164,357
30003003	Administrative Specialist II	48,277	93,018	6.00	398,580	6.00	422,405	6.00	422,405
30003004	Administrative Specialist III	53,290	102,648	2.00	151,881	2.00	151,881	2.00	151,881
30003006	Analyst I	53,290	102,648	6.00	519,938	6.00	519,938	6.00	519,938
30003007	Analyst II	63,336	109,491	12.00	1,126,521	14.00	1,358,732	14.00	1,358,732
30003008	Analyst III	69,805	131,248	10.83	1,025,188	12.00	1,312,048	12.00	1,312,048
30003009	Analyst IV	80,205	145,808	1.00	83,325	1.00	114,566	1.00	114,566
30002494	Auto Equip Oper II: Tractr-Trailr-CL	48,922	66,307	1.00	64,438	1.00	64,438	1.00	64,438
30000320	Botanic Spec II-Generalist	59,634	86,105	3.00	236,204	3.00	236,204	3.00	236,204
30000321	Botanic Spec II-Ntrl Resource Ecologist	59,634	86,105	5.00	400,294	5.00	403,152	5.00	403,152
30003378	Botanic Technician I-Green Infrastructure	41,766	63,353	3.00	137,841	3.00	144,894	3.00	144,894
30003379	Botanic Technician II-Green Infrastructure	45,947	69,646	1.00	50,544	1.00	53,144	1.00	53,144
30003010	Business Systems Analyst I	53,290	102,648	1.00	90,771	1.00	90,771	1.00	90,771
30003011	Business Systems Analyst II	63,336	109,491	3.00	212,784	4.00	337,875	4.00	337,875
30003012	Business Systems Analyst III	69,805	131,248	6.00	566,940	8.00	815,089	8.00	815,089
30000329	CAD Technician II	55,973	80,840	9.00	625,265	9.00	642,537	9.00	642,537
30000330	CAD Technician III	67,974	98,262	4.00	379,516	4.00	381,972	4.00	381,972
30003013	Capital Project Manager II	63,336	109,491	8.00	763,064	8.00	810,050	8.00	810,050
30003014	Capital Project Manager III	69,805	131,248	3.00	271,889	3.00	318,080	3.00	318,080
30000700	Communications Engineer	73,528	111,339	1.00	108,202	1.00	108,202	1.00	108,202
30003235	Coordinator I - E	48,277	93,018	2.00	166,463	2.00	166,463	2.00	166,463
30003027	Coordinator I - NE	48,277	93,018	3.00	247,395	5.00	390,583	5.00	390,583
30003028	Coordinator II	53,290	102,648	12.00	1,025,232	12.00	1,025,231	12.00	1,025,231
30003029	Coordinator III	63,336	109,491	10.00	994,551	12.00	1,169,851	12.00	1,169,851
30003030	Coordinator IV	69,805	131,248	1.00	105,394	1.00	105,394	1.00	105,394
30003036	Deputy Director III	111,696	197,246	1.00	156,832	1.00	156,832	1.00	156,832
30003039	Director III	147,035	244,400	1.00	225,930	1.00	225,930	1.00	225,930
30000116	Electrician	71,074	89,465	10.00	869,440	11.00	953,170	11.00	953,170
30000121	Electrician/Instrument Technician	73,237	90,964	4.00	353,600	4.00	353,600	4.00	353,600
30000401	Electronic Systems Technician	58,157	83,943	4.00	279,891	4.00	283,576	4.00	283,576
30003046	Engineer II	69,805	131,248	1.00	72,530	1.00	101,889	1.00	101,889
30003047	Engineer III	80,205	145,808	18.00	2,271,871	18.00	2,325,919	18.00	2,325,919
30003048	Engineer, Chief	111,696	197,246	1.00	185,598	1.00	185,598	1.00	185,598

# Bureau of Environmental Services

## FTE Summary

Class	Title	Salary Range		Revised FY 2019-20		Requested No DP FY 2020-21		Requested FY 2020-21	
		Min	Max	No.	Amount	No.	Amount	No.	Amount
30000365	Engineer-Civil	89,357	122,940	30.50	3,401,404	34.00	3,893,039	34.00	3,893,039
30000366	Engineer-Electrical	89,357	122,940	3.00	316,077	3.00	320,986	3.00	320,986
30000367	Engineer-Geotechnical	89,357	122,940	2.00	233,230	2.00	237,997	2.00	237,997
30000368	Engineer-Mechanical	89,357	122,940	1.00	119,475	1.00	119,475	1.00	119,475
30000358	Engineering Associate, Sr-Civil	77,272	111,511	17.60	1,577,043	19.00	1,802,037	19.00	1,802,037
30000353	Engineering Associate-Civil	63,502	96,336	8.00	598,134	9.00	726,938	9.00	726,938
30000354	Engineering Associate-Electrical	63,502	96,336	1.00	46,668	1.00	79,359	1.00	79,359
30003050	Engineering Manager	92,851	168,834	4.00	607,173	4.00	607,173	4.00	607,173
30003051	Engineering Supervisor	91,728	158,226	14.00	1,752,772	14.00	1,904,647	14.00	1,904,647
30000324	Engineering Technician I	41,766	63,353	1.00	47,389	1.00	51,439	1.00	51,439
30000325	Engineering Technician II	55,973	80,840	24.00	1,730,655	24.00	1,760,895	24.00	1,760,895
30000326	Engineering Technician III	67,974	98,262	12.00	1,078,527	12.00	1,103,946	12.00	1,103,946
30000662	Environmental Program Coordinator	66,622	100,552	6.00	525,584	6.00	536,494	6.00	536,494
30003376	Environmental Regulatory Coordinator	69,805	131,248	7.00	757,079	8.00	858,968	8.00	858,968
30000339	Environmental Specialist- Generalist	67,974	98,262	31.00	2,781,742	32.00	2,916,535	32.00	2,916,535
30003052	Environmental Supervisor	69,805	131,248	9.00	971,445	9.00	995,093	9.00	995,093
30000337	Environmental Technician I	41,766	63,353	2.00	91,894	5.00	257,596	5.00	257,596
30000338	Environmental Technician II	55,973	80,840	35.00	2,342,687	35.00	2,504,076	35.00	2,504,076
30002037	Field Science Specialist	67,974	98,262	6.00	515,741	6.00	539,168	6.00	539,168
30002038	Field Science Technician	55,973	80,840	5.00	299,498	5.00	341,671	5.00	341,671
30003054	Financial Analyst I	53,290	102,648	1.00	70,291	1.00	81,390	1.00	81,390
30003055	Financial Analyst II	63,336	109,491	1.00	93,246	1.00	93,246	1.00	93,246
30003056	Financial Analyst III	69,805	131,248	3.00	363,002	3.00	363,002	3.00	363,002
30000341	GIS Technician I	41,766	63,353	1.00	48,235	1.00	49,963	1.00	49,963
30000342	GIS Technician II	55,973	80,840	2.00	157,124	2.00	157,124	2.00	157,124
30000343	GIS Technician III	67,974	98,262	5.00	418,707	5.00	459,607	5.00	459,607
30000373	Graphics Designer III	67,974	98,262	1.00	95,493	1.00	95,493	1.00	95,493
30000340	Hydrogeologist	77,064	111,297	2.00	202,264	2.00	215,878	2.00	215,878
30000126	Industrial Machinist	58,614	76,730	1.00	74,568	1.00	74,568	1.00	74,568
30000157	Industrial Maintenance Millwright	58,614	76,730	31.00	2,191,549	32.00	2,353,773	32.00	2,353,773
30000114	Industrial Painter	56,805	73,092	1.00	73,382	1.00	73,382	1.00	73,382
30000239	Instrument Technician	71,074	89,465	12.00	1,043,328	12.00	1,043,328	12.00	1,043,328
30003233	Instrument Technician, Apprentice	53,955	91,327	1.00	56,056	1.00	58,396	1.00	58,396
30002505	Laboratory Analyst II-CL	52,645	76,987	6.00	407,246	6.00	438,629	6.00	438,629

FTE Summary

Class	Title	Salary Range		Revised FY 2019-20		Requested No DP FY 2020-21		Requested FY 2020-21	
		Min	Max	No.	Amount	No.	Amount	No.	Amount
30002506	Laboratory Analytical Specialist-CL	58,843	87,967	6.00	509,962	6.00	512,928	6.00	512,928
30002507	Laboratory Coordinator-CL	61,069	97,042	3.00	247,560	3.00	257,275	3.00	257,275
30003074	Laboratory Manager	80,205	145,808	1.00	66,019	1.00	99,029	1.00	99,029
30000313	Landscape Architect	67,974	98,262	4.00	366,760	4.00	375,686	4.00	375,686
30003081	Manager I	80,205	145,808	10.00	1,228,927	10.00	1,228,927	10.00	1,228,927
30003082	Manager II	92,851	168,834	11.00	1,468,398	12.00	1,601,050	12.00	1,601,050
30003083	Manager III	111,696	197,246	4.00	636,834	4.00	636,834	4.00	636,834
30003084	Mapping & GIS Supervisor	69,805	131,248	1.00	96,470	1.00	96,470	1.00	96,470
30000345	Materials Testing Technician II	55,973	80,840	5.00	366,520	5.00	371,461	5.00	371,461
30000346	Materials Testing Technician III	67,974	98,262	1.00	86,713	1.00	91,147	1.00	91,147
30003350	Office Support Specialist Assistant	26,000	36,450	1.00	20,288	1.00	31,002	1.00	31,002
30000012	Office Support Specialist II	34,798	57,510	5.00	230,615	5.00	252,054	5.00	252,054
30000013	Office Support Specialist III	44,512	67,870	4.00	257,941	4.00	261,583	4.00	261,583
30000390	Planner II. City-Water Resources	65,395	98,412	4.00	342,710	4.00	358,846	4.00	358,846
30000398	Planner, Sr City-Water Resources	82,514	105,753	2.00	195,936	2.00	200,463	2.00	200,463
30003090	Planner, Supervising	80,205	145,808	1.00	116,854	1.00	116,854	1.00	116,854
30003096	Public Information Manager	80,205	145,808	1.00	121,493	1.00	121,493	1.00	121,493
30003097	Public Information Officer	63,336	109,491	1.00	102,752	1.00	102,752	1.00	102,752
30000228	Public Works Inspector	62,774	82,552	16.00	1,199,844	16.00	1,269,632	16.00	1,269,632
30000229	Public Works Inspector, Sr	68,099	92,312	13.00	1,142,060	13.00	1,155,948	13.00	1,155,948
30000828	Records Specialist	44,512	67,870	1.00	65,957	1.00	65,957	1.00	65,957
30003099	Risk Specialist I	53,290	102,648	2.00	156,062	2.00	156,062	2.00	156,062
30003100	Risk Specialist II	63,336	109,491	1.00	65,811	1.00	87,651	1.00	87,651
30003102	Statistician	69,805	131,248	1.00	106,974	1.00	106,974	1.00	106,974
30002484	Storekeeper/Acquisition Specialist II-CL	48,651	67,013	3.00	165,749	3.00	189,086	3.00	189,086
30002485	Storekeeper/Acquisition Specialist III-CL	54,974	76,923	1.00	68,910	1.00	72,654	1.00	72,654
30003103	Supervisor I - E	63,336	109,491	5.00	454,064	6.00	563,555	6.00	563,555
30003104	Supervisor II	69,805	131,248	10.00	1,046,491	10.00	1,046,491	10.00	1,046,491
30000163	Wastewater Operations Specialist	66,560	85,934	4.00	327,276	5.00	411,900	5.00	411,900
30000161	Wastewater Operator II	55,578	76,730	41.00	2,984,545	41.00	3,014,090	41.00	3,014,090
<b>Total Full-Time Positions</b>				<b>608.93</b>	<b>53,885,323</b>	<b>635.00</b>	<b>58,097,478</b>	<b>635.00</b>	<b>58,097,478</b>
30003006	Analyst I	53,290	102,648	0.75	66,409	0.75	24,903	0.75	24,903
30003008	Analyst III	69,805	131,248	1.00	93,517	1.00	21,254	1.00	21,254

# Bureau of Environmental Services

---

## FTE Summary

Class	Title	Salary Range		Revised FY 2019-20		Requested No DP FY 2020-21		Requested FY 2020-21	
		Min	Max	No.	Amount	No.	Amount	No.	Amount
30000339	Environmental Specialist- Generalist	67,974	98,262	0.80	76,394	0.90	26,043	0.90	26,043
<b>Total Limited Term Positions</b>				<b>2.55</b>	<b>236,320</b>	<b>2.65</b>	<b>72,200</b>	<b>2.65</b>	<b>72,200</b>
30000339	Environmental Specialist- Generalist	67,974	98,262	1.00	85,134	1.00	86,080	1.00	86,080
<b>Total Part-Time Positions</b>				<b>1.00</b>	<b>85,134</b>	<b>1.00</b>	<b>86,080</b>	<b>1.00</b>	<b>86,080</b>
<b>Grand Total</b>				<b>612.48</b>	<b>54,206,777</b>	<b>638.65</b>	<b>58,255,758</b>	<b>638.65</b>	<b>58,255,758</b>

CIP Summary

Bureau Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
<b>Maintenance and Reliability</b>								
Beech-Essex CP-J	365,315	3,300,000	5,000,000	1,000,000	0	0	0	6,000,000
Boise-Eliot Recon & Green Streets	4,352	0	350,000	558,000	558,000	349,000	7,222,000	9,037,000
Broadway Corridor Reconstruction	4,671	0	503,000	2,667,000	2,358,000	1,004,000	37,000	6,569,000
Burlingame Basin Infiltration and Inflow	8,087,508	22,000	0	22,000	66,000	107,000	22,000	217,000
Capital Maintenance - Non-Process Facilities - Shell	4,173,142	700,000	700,000	700,000	750,000	750,000	800,000	3,700,000
CC Integrated RDII Pre-Design	24,933	1,149,000	0	0	0	0	400,000	400,000
Central Tanner	0	0	0	60,000	1,200,000	500,000	5,900,000	7,660,000
Downtown Old Town (DTOT) Pipe Rehab	8,438,631	3,250,000	2,750,000	8,000,000	5,100,000	3,250,000	3,100,000	22,200,000
Fanno Creek Infiltration and Inflow	1,475,445	861,000	0	861,000	1,000,000	4,000,000	2,000,000	7,861,000
Hilsdale Crest RDII	721,650	5,400,000	5,500,000	100,000	0	0	0	5,600,000
Large Diameter Sewer Rehabilitation	4,649,241	4,000,000	3,000,000	12,000,000	14,000,000	14,000,000	18,100,000	61,100,000
Maintenance Capital - Construction - Shell	3,535,158	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000
Maintenance Capital - Contract - Shell	13,027,745	3,000,000	790,000	0	0	0	0	790,000
Maintenance Capital Contract FY20-25 (Shell)	0	0	2,664,000	3,000,000	3,000,000	3,000,000	3,000,000	14,664,000
Marine Drive Levee Outfall Decommission	0	0	91,000	363,000	1,400,000	97,000	0	1,951,000
NW Thurman St Sewer Reconstruction	700,719	5,165,000	4,270,000	1,000,000	0	0	0	5,270,000
NWN: East Nicolai	0	0	0	0	100,000	600,000	2,300,000	3,000,000
Oak A - Collectors	0	60,000	667,000	500,000	0	0	0	1,167,000
Oak A - Sandy Trunk	106,944	850,000	1,400,000	0	0	0	4,500,000	5,900,000
Owner Controlled Insurance Program Phase V	3,260,653	300,000	1,000,000	1,000,000	500,000	500,000	500,000	3,500,000
Phase 3 Pipe Rehabilitation	63,587,496	16,240,000	14,500,000	6,500,000	100,000	0	0	21,100,000
Richmond Neighborhood Sewer Rehab/Green Streets	81,511	366,000	700,000	3,600,000	100,000	0	0	4,400,000
SE Hawthorne Blvd Pipe Reconst	49,664	810,000	2,000,000	600,000	0	0	0	2,600,000
Slabtown North Sewer Reconstruction	5,664	0	528,000	510,000	5,000,000	80,000	0	6,118,000
Small Urgent Capacity Projects - Shell	2,477,075	1,000,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	7,500,000
South Tanner	106,141	4,000,000	400,000	400,000	0	0	4,000,000	4,800,000

# Bureau of Environmental Services

## CIP Summary

Bureau Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
SS Protection & Stream Restoration: Lowell & Ruby Creeks	4,004	0	125,000	25,000	0	0	0	150,000
Stark HSS-17	1,608,273	900,000	2,000,000	0	0	0	10,000,000	12,000,000
Structural Rehab Taggart Outfall 30	3,963,637	5,000,000	1,550,000	0	0	0	0	1,550,000
Sullivan Trunk & Underflow Analysis	1,690	0	50,000	0	0	0	0	50,000
Sunnyside North Recon/Green Streets	6,191,945	3,000,000	1,500,000	0	0	0	0	1,500,000
Sunnyside South Recon/Green Streets	781,050	860,000	800,000	500,000	500,000	2,000,000	6,000,000	9,800,000
SW Terwilliger @ Northgate Pipe Repair	136,706	0	2,500,000	500,000	0	0	0	3,000,000
Tryon SS Protection 1A TCWTP to Hwy 43	940,485	0	750,000	0	0	0	0	750,000
Vermont RDII Reduction	22,014	0	0	0	0	0	914,000	914,000
<b>Total Maintenance and Reliability</b>	<b>128,533,462</b>	<b>61,233,000</b>	<b>58,588,000</b>	<b>46,966,000</b>	<b>38,232,000</b>	<b>32,737,000</b>	<b>71,295,000</b>	<b>247,818,000</b>
<b>Sewage Treatment Systems</b>								
Alder Pump Station Upgrade	6,751,456	20,000	65,000	0	0	0	0	65,000
Automation Network Reliability	555,496	200,000	200,000	0	0	0	0	200,000
CBWTP Blower System/Building Improvements	7,591	80,000	680,000	1,400,000	1,500,000	1,500,000	3,000,000	8,080,000
CBWTP Digesters 1-4 Upgrade	22,357	200,000	500,000	1,000,000	2,000,000	2,000,000	4,200,000	9,700,000
CBWTP Disinfection System Replacement	0	0	0	0	330,000	0	0	330,000
CBWTP Fiber System Reliability	459,418	850,000	500,000	0	0	0	0	500,000
CBWTP Gas Piping Replacement	0	0	350,000	1,200,000	1,500,000	1,700,000	1,400,000	6,150,000
CBWTP Headworks Screens Improvements	1,195,251	1,074,000	1,937,000	7,479,000	5,983,000	2,877,000	156,000	18,432,000
CBWTP Lagoon Reconstruction	24,679,798	6,700,000	200,000	400,000	500,000	500,000	8,000,000	9,600,000
CBWTP New Willamette Building & Property Acquisition	0	500,000	800,000	200,000	0	0	1,000,000	2,000,000
CBWTP Non-Conforming Upgrades	0	0	248,000	864,000	8,000	0	0	1,120,000
CBWTP Organic Waste Receiving Facility	976,705	2,981,000	2,700,000	4,200,000	0	0	0	6,900,000
CBWTP Outfall Diffusers	675,203	444,000	900,000	5,328,000	80,000	20,000	0	6,328,000
CBWTP Outfall Surge Modifications	0	0	0	0	50,000	900,000	2,000,000	2,950,000
CBWTP Residuals Handling Improvements	0	0	500,000	800,000	1,000,000	1,700,000	220,000	4,220,000
CBWTP Reuse System Replacement	0	0	0	0	80,000	785,000	1,500,000	2,365,000
CBWTP RNG Facility	14,045,551	700,000	250,000	0	0	0	0	250,000

CIP Summary

Bureau Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
CBWTP Secondary Treatment Expansion Program	7,714,259	14,300,000	41,149,000	89,777,000	93,966,000	67,808,000	27,400,000	320,100,000
CBWTP Substation Replacement	441,485	3,500,000	804,000	0	0	0	0	804,000
CBWTP WWCL Rehabilitation	0	0	800,000	1,000,000	1,000,000	1,231,000	6,700,000	10,731,000
Digester Gas Combustion System Replacement	558,804	1,565,000	1,500,000	1,200,000	0	0	0	2,700,000
Fiber Expansion for Inverness PS & POSH Fiber Rings	15,401	1,100,000	1,000,000	0	0	0	0	1,000,000
Force Ave Pump Station Remodel	625,721	1,500,000	200,000	3,000,000	2,040,000	1,000,000	0	6,240,000
Inverness PS Site Facility Plan	0	0	150,000	300,000	0	0	0	450,000
Inverness Pump Station Force Main Improvements	123,408	800,000	800,000	1,600,000	1,600,000	1,600,000	2,300,000	7,900,000
NE 47th Ave Pump Station	0	0	0	296,000	782,000	695,000	3,000,000	4,773,000
NE Marx & 105th Pump Station Rehab	176,472	0	500,000	1,400,000	1,100,000	0	0	3,000,000
Pump Station Improvement Program - Shell	21,606,679	6,000,000	8,000,000	10,000,000	11,000,000	12,000,000	17,000,000	58,000,000
Repair, Rehabilitation, and Modification - Shell	23,268,550	4,000,000	6,000,000	7,000,000	8,000,000	8,000,000	10,000,000	39,000,000
SLRT/Vault Monitoring Install - Shell	372,858	940,000	100,000	100,000	100,000	200,000	700,000	1,200,000
TCWTP Bankside Outfall	0	0	0	0	0	0	100,000	100,000
TCWTP Disinfection Improvements	0	0	0	0	100,000	500,000	2,000,000	2,600,000
TCWTP Headworks Improvements	5,867,388	1,160,000	0	0	0	200,000	3,800,000	4,000,000
TCWTP Secondary Process Improvements	447,567	700,000	0	0	0	200,000	2,000,000	2,200,000
Terwilliger Northgate Lift Station	0	0	200,000	600,000	1,400,000	0	0	2,200,000
Tyron Creek Pump Station Reconstruction	158,230	500,000	20,000	0	0	0	0	20,000
<b>Total Sewage Treatment Systems</b>	<b>110,745,648</b>	<b>49,814,000</b>	<b>71,053,000</b>	<b>139,144,000</b>	<b>134,119,000</b>	<b>105,416,000</b>	<b>96,476,000</b>	<b>546,208,000</b>
<b>Surface Water Management</b>								
Willamette R. and Columbia Sl. Water Resources Development	0	0	705,000	915,000	230,000	405,000	277,000	2,532,000
1% For Green - Shell	1,309,534	250,000	700,000	700,000	700,000	700,000	350,000	3,150,000
Balch Creek Trash Racks Retrofit	759,711	500,000	2,131,000	1,637,000	0	0	0	3,768,000
Basin 3/Tryon Headwaters Primary	161,617	144,000	930,000	5,000	0	0	0	935,000
Citywide Sump Rehab & Replacement	109,837	0	700,000	700,000	50,000	0	0	1,450,000
Columbia Slough Outfalls	7,414,646	3,500,000	4,403,000	6,453,000	4,650,000	5,665,000	6,000,000	27,171,000
Culverts Phase 3	0	200,000	506,000	1,865,000	0	0	0	2,371,000
Errol Heights Stormwater LID	28,379	1,500,000	1,500,000	500,000	0	0	0	2,000,000

# Bureau of Environmental Services

## CIP Summary

Bureau Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
Fanno/Tryon Drainage Shoulder Improvements	0	521,000	521,000	681,000	681,000	0	0	1,883,000
FT: Boones Ferry Culvert	2,364,000	3,000,000	3,000,000	50,000	0	0	0	3,050,000
High Priority CMP Culvert Replacement - Shell	0	0	0	0	700,000	700,000	700,000	2,100,000
JC: Brunkow	52,810	0	50,000	200,000	385,000	0	0	635,000
Johnson Creek Crossing Restoration Project	454,049	250,000	800,000	500,000	22,000	0	0	1,322,000
Johnson Creek Oxbow	431,787	200,000	495,000	2,000,000	0	550,000	1,900,000	4,945,000
Johnson Creek Springwater Wetland	257,091	700,000	650,000	650,000	650,000	650,000	4,870,000	7,470,000
Johnson Creek Willing Seller Phase 2	6,852,666	1,000,000	1,000,000	1,000,000	1,000,000	2,000,000	2,000,000	7,000,000
Lents Outfalls Feasibility Study	9,654	0	150,000	50,000	0	0	0	200,000
Luther Road Channel Restoration	2,534,979	1,300,000	50,000	0	0	0	0	50,000
Marquam Nature Park Combined Sewer System Improvement	0	0	180,000	0	0	0	0	180,000
NW Saltzman Trash Rack Stormwater Improvements	428	0	100,000	150,000	0	0	0	250,000
Oaks Bottom Wildlife Refuge Viewing Platform	23,134	0	106,000	0	0	0	0	106,000
Reveg Plant Est Umbrella FY19&20 - Shell	122,713	250,000	250,000	250,000	250,000	250,000	250,000	1,250,000
Rocky Butte Stormwater Plan	864	0	0	0	185,000	200,000	0	385,000
Stephens Creek Outfalls and Culvert	49,007	0	330,000	0	0	0	1,000,000	1,330,000
Stephens Creek Ph 1 Improvements	2,018,844	1,000,000	1,256,000	590,000	590,000	590,000	590,000	3,616,000
Stormwater Investments and Interbureau Projects	1,442	0	500,000	500,000	500,000	500,000	0	2,000,000
SW Capitol Hwy Stormwater Improvements	1,915,063	2,000,000	6,447,000	1,138,000	25,000	4,000	0	7,614,000
SW Corridor BES Systems Development Project	619,540	500,000	675,000	450,000	350,000	350,000	350,000	2,175,000
SW Shattuck Rd Culvert Replacement	0	0	0	103,000	98,000	98,000	961,000	1,260,000
Upper Woods Outfall Improvement & Culvert Replacement	0	0	100,000	200,000	555,000	175,000	0	1,030,000
Watershed Investment Program - Shell	5,852,214	1,000,000	1,000,000	1,000,000	2,000,000	2,500,000	0	6,500,000
Watershed Land Acquisition Program	107,650	250,000	1,500,000	1,500,000	1,500,000	2,500,000	3,000,000	10,000,000
West Lents Floodplain Restoration	197,572	400,000	500,000	1,500,000	1,500,000	1,500,000	1,000,000	6,000,000
<b>Total Surface Water Management</b>	<b>33,649,231</b>	<b>18,465,000</b>	<b>31,235,000</b>	<b>25,287,000</b>	<b>16,621,000</b>	<b>19,337,000</b>	<b>23,248,000</b>	<b>115,728,000</b>

CIP Summary

Bureau Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
<b>Systems Development</b>								
Drainage Improvement - Shell	88,423	250,000	250,000	250,000	250,000	250,000	250,000	1,250,000
ECIMS EnvCompliance Information Management System	1,036,891	552,980	450,000	0	0	0	0	450,000
Party Sewers	8,033,109	1,000,000	4,380,000	5,541,000	4,450,000	1,527,000	1,000,000	16,898,000
PBOT Interagency Reimbursement - Shell	451,470	350,000	350,000	350,000	350,000	350,000	350,000	1,750,000
Permit Reimbursement - Shell	737,033	200,000	200,000	200,000	200,000	200,000	200,000	1,000,000
Public Works Permit Projects	0	850,000	850,000	850,000	850,000	850,000	1,000,000	4,400,000
Sewer Easements on Existing Sewers - Shell	0	50,000	50,000	50,000	50,000	50,000	50,000	250,000
Sewer Extension & Strmwtr Progs Intgd Sys Imps	0	0	0	0	500,000	500,000	500,000	1,500,000
Sewer Extensions for High Risk Septic - Shell	339,579	1,500,000	2,927,000	1,000,000	1,000,000	500,000	500,000	5,927,000
<b>Total Systems Development</b>	<b>10,686,505</b>	<b>4,752,980</b>	<b>9,457,000</b>	<b>8,241,000</b>	<b>7,650,000</b>	<b>4,227,000</b>	<b>3,850,000</b>	<b>33,425,000</b>
<b>Citywide Projects</b>								
Community Opportunities & Enhancement Program (COEP)	0	0	500,000	500,000	500,000	500,000	500,000	2,500,000
<b>Total Citywide Projects</b>	<b>0</b>	<b>0</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>2,500,000</b>
<b>Total Requirements</b>	<b>283,614,846</b>	<b>134,264,980</b>	<b>170,833,000</b>	<b>220,138,000</b>	<b>197,122,000</b>	<b>162,217,000</b>	<b>195,369,000</b>	<b>945,679,000</b>





**Fund Summary**

	Actuals FY 2017-18	Actuals FY 2018-19	Revised FY 2019-20	Requested No DP FY 2020-21	Requested FY 2020-21
<b>Resources</b>					
<b>External Revenues</b>					
Charges for Services	5,101,108	5,212,649	5,414,200	7,774,650	7,774,650
Miscellaneous	129,644	574,030	188,800	111,600	111,600
<b>External Revenues Total</b>	<b>5,230,752</b>	<b>5,786,679</b>	<b>5,603,000</b>	<b>7,886,250</b>	<b>7,886,250</b>
<b>Internal Revenues</b>					
Fund Transfers - Revenue	0	0	704	4,965,000	4,965,000
Interagency Revenue	407,028	407,028	414,900	458,152	458,152
<b>Internal Revenues Total</b>	<b>407,028</b>	<b>407,028</b>	<b>415,604</b>	<b>5,423,152</b>	<b>5,423,152</b>
Beginning Fund Balance	5,972,386	9,546,653	12,661,581	6,073,500	6,073,500
<b>Resources Total</b>	<b>11,610,166</b>	<b>15,740,360</b>	<b>18,680,185</b>	<b>19,382,902</b>	<b>19,382,902</b>
<b>Requirements</b>					
<b>Bureau Expenditures</b>					
Personnel Services	483,401	596,550	625,598	671,705	671,705
External Materials and Services	110,551	1,371,509	4,033,893	9,954,893	9,954,893
Internal Materials and Services	1,344,652	1,005,981	1,880,174	1,439,813	1,439,813
<b>Bureau Expenditures Total</b>	<b>1,938,604</b>	<b>2,974,040</b>	<b>6,539,665</b>	<b>12,066,411</b>	<b>12,066,411</b>
<b>Fund Expenditures</b>					
Debt Service	1,537	1,662	1,774	1,844	1,844
Contingency	0	0	6,078,164	5,942,159	5,942,159
Fund Transfers - Expense	123,371	103,077	6,060,582	1,372,488	1,372,488
<b>Fund Expenditures Total</b>	<b>124,908</b>	<b>104,739</b>	<b>12,140,520</b>	<b>7,316,491</b>	<b>7,316,491</b>
Ending Fund Balance	9,546,653	12,661,581	0	0	0
<b>Requirements Total</b>	<b>11,610,165</b>	<b>15,740,360</b>	<b>18,680,185</b>	<b>19,382,902</b>	<b>19,382,902</b>

**Fund Overview**

The Environmental Remediation Fund was established by City Council in FY 1993-94 to provide funding to remediate former solid waste disposal sites for which the City is liable.

**Portland Harbor Superfund**

Beginning in FY 2005-06, funding for the Portland Harbor Superfund program moved to the Environmental Remediation Fund with resources provided by a dedicated Portland Harbor charge on utility bills and supplemented by revenues from the fund. Including the Portland Harbor Superfund program within the fund is consistent with the purposes of the fund and distinguishes the program from the routine sewer system operations that are budgeted for, and funded within, the Sewer System Operating Fund.

## Environmental Remediation Fund

---

### Land Acquisition and Remediation of the Guilds Lake Property

The Guilds Lake property is a former landfill operated by the City from 1910 through the late 1940s. The acquisition and remediation of this site was financed by the Environmental Remediation 1993 Series A Revenue Bonds issued in November 1993. The Guilds Lake remediation was completed in FY 1994-95. Property management, maintenance, and environmental monitoring of the site are funded as required by the Department of Environmental Quality.

Lease income from current tenants on the City-owned Guilds Lake site supports the fund's operating and capital expenditures. This revenue source, along with the fund's interest earnings and cash transfers, are used for remediation projects and the Portland Harbor Superfund program.

**Managing Agency** Bureau of Environmental Services

### Significant Changes from Prior Year

Charges for Services are expected to increase by \$2.4 million in FY 2020-21, an increase of 43.6% over the FY 2019-20 Revised Budget of \$5.4 million. Rate revenues of \$7.2 million within Charges for Services will fund the majority of the Portland Harbor Superfund program (a \$2.4 million increase from the FY 2019-20 Revised Budget of \$4.8 million) and will support additional Post-Record of Decision appropriations. The fund also receives rental income of \$1.0 million from leases at the Guilds Lake facility, of which \$460,485 comes from private lessees and \$114,165 from BES' Revegetation and Construction Management groups (both of which are received in Charges for Services), and \$458,152 from the Portland Police Bureau within the Interagency Revenues line. FY 2020-21 beginning fund balance is projected to be \$6.1 million (\$6.6 million, or 52%, lower than the FY 2019-20 Revised Budget of \$11.5 million), resulting from the \$6.0 million transfer made in FY 2019-20 to the new Portland Harbor Superfund reserve account to fund citywide obligations jointly funded by the General Fund, Transportation and Water bureaus, and Prosper Portland.

Miscellaneous revenues are projected to be down \$77,200 (-41%) due to a lower interest earning rate assumption on lower cash balances. The cash balances were lower due to FY 2019-20 actions including \$1.1 million of ODOT funds returned to ODOT, and the one-time \$6 million transfer to the city's Portland Harbor Superfund reserve referenced above.

Fund Transfer revenue of nearly \$5.0 million is expected in FY 2020-21 and represents the first year of contributions from the Portland Harbor Superfund Reserve Fund to fund citywide obligations of the program.

Personnel services expenditures are budgeted higher (+7.4%) than the FY 2019-20 Revised Budget as a result of Cost of Living Allowance and merit increases as well as health and retirement benefits. This phase of the Superfund program, after EPA released their Record of Decision, will include partnering with other government agencies and City bureaus, community outreach, and working with other potentially responsible parties.

External materials and services are budgeted at \$10.0 million, almost entirely (96%) for Portland Harbor Superfund work, which is \$5.9 million (+147%) higher than the FY 2019-20 Revised Budget. This includes budget of approximately \$5.0 million to address the citywide obligation for the Remedy Design phase of the Superfund process, funded from an equal amount of cash transfer from the citywide reserve.

Another \$1.5 million is for post-Record of Decision (post-ROD) contractor support to respond to DEQ demands, and another \$400,000 for additional outside legal assistance. Both are partially offset from a reduction of \$1.1 million that was budgeted for joint City and ODOT remediation projects in FY 2019-20, with that agreement recently terminated and the funds returned to ODOT.

Internal materials and services expenditures decreased by \$440,361 (-23.4%) from the FY 2019-20 Revised Budget, due to the completion of the repaving of the Guilds Lake parking lot, which was budgeted at \$550,000 in FY 2019-20.

Funds Transfers expense are reduced by \$4.7 million in FY 2020-21 as transfers to the Portland Harbor Superfund reserve fund went down from \$6.0 million to \$1.32 million. The General Fund Overhead transfer was reduced by \$7,106 (-11.8%).

As a result of the above changes in revenues and expenses, Contingency (representing estimated ending fund balances) will remain fairly constant, decreasing by \$136,005 from the FY 2019-20 Revised Budget of \$6.1 million.



# Sewer System Operating Fund

## Fund Summary

	Actuals FY 2017-18	Actuals FY 2018-19	Revised FY 2019-20	Requested No DP FY 2020-21	Requested FY 2020-21
<b>Resources</b>					
<b>External Revenues</b>					
Licenses & Permits	2,166,745	2,320,655	1,995,000	2,120,000	2,120,000
Charges for Services	385,382,262	373,937,327	396,308,600	395,306,800	395,306,800
Intergovernmental	329,165	181,530	180,000	220,000	220,000
Bond & Note	0	0	0	0	0
Miscellaneous	12,342,471	4,721,485	4,738,000	4,903,000	4,903,000
<b>External Revenues Total</b>	<b>400,220,643</b>	<b>381,160,996</b>	<b>403,221,600</b>	<b>402,549,800</b>	<b>402,549,800</b>
<b>Internal Revenues</b>					
Fund Transfers - Revenue	103,303,918	132,097,695	167,657,886	201,683,000	201,683,000
Interagency Revenue	1,782,502	3,014,754	2,055,827	1,799,646	1,799,646
<b>Internal Revenues Total</b>	<b>105,086,420</b>	<b>135,112,449</b>	<b>169,713,713</b>	<b>203,482,646</b>	<b>203,482,646</b>
Beginning Fund Balance	66,553,043	89,902,831	77,632,014	75,180,000	75,180,000
<b>Resources Total</b>	<b>571,860,106</b>	<b>606,176,276</b>	<b>650,567,327</b>	<b>681,212,446</b>	<b>681,212,446</b>
<b>Requirements</b>					
<b>Bureau Expenditures</b>					
Personnel Services	68,124,462	74,235,237	84,886,545	90,946,794	90,946,794
External Materials and Services	55,727,227	76,194,536	76,713,446	91,462,492	91,462,492
Internal Materials and Services	39,635,979	42,795,852	49,006,188	52,111,822	52,111,822
Capital Outlay	59,658,418	80,294,942	135,857,985	108,435,479	108,435,479
<b>Bureau Expenditures Total</b>	<b>223,146,087</b>	<b>273,520,567</b>	<b>346,464,164</b>	<b>342,956,587</b>	<b>342,956,587</b>
<b>Fund Expenditures</b>					
Debt Service	3,489,370	3,761,444	4,001,940	4,152,797	4,152,797
Contingency	0	0	64,150,892	78,187,615	78,187,615
Fund Transfers - Expense	255,321,822	251,262,254	235,770,331	255,735,447	255,735,447
<b>Fund Expenditures Total</b>	<b>258,811,192</b>	<b>255,023,698</b>	<b>303,923,163</b>	<b>338,075,859</b>	<b>338,075,859</b>
Ending Fund Balance	89,902,831	77,632,011	0	0	0
<b>Requirements Total</b>	<b>571,860,110</b>	<b>606,176,276</b>	<b>650,387,327</b>	<b>681,032,446</b>	<b>681,032,446</b>

# Sewer System Operating Fund

---

## Fund Overview

The purpose of the Sewer System Operating Fund is to account for revenues and expenses associated with the development, maintenance, and operation of the City's sanitary sewer and storm drainage system. Fund resources include: sanitary and drainage charges, connection charges and permit fees, wholesale contract revenues from other governmental jurisdictions, reimbursements for services provided to other bureaus, and reimbursements from the Sewer System Construction Fund for capital improvement program (CIP) expenses.

**Managing Agency** Bureau of Environmental Services

## Significant Changes from Prior Year

### Resources

Charges for Services, which include sewer rate charges, connection charges, wholesale contract revenues, and other miscellaneous charges, are forecast to be \$395.3 million in FY 2020-21, a decrease of 0.3% over the FY 2019-20 revised amount of \$396.3 million, the result of reduced Systems Development Charges (detailed below.)

The bureau's largest source of revenue, sewer rate revenues, are budgeted at \$363.4 million compared to FY 2020-21 revised budget of \$360.0 million. The FY 2020-21 projection is based, in part, upon the following assumptions: a typical single-family residential bill increase of 3.0%, a 0.5% increase in the number of customer accounts, a 1.0% decrease in usage per single-family residential customer, a 0.75% decrease in multi-family volume and a 1.0% decrease in commercial volume.

System Development Charges are projected to be \$24.6 million in FY 2020-21, a 15% decrease from the FY 2019-20 revised budget of \$28.5 million, reflecting a projected cooling of the current construction-sector economy.

Miscellaneous Sources are budgeted at \$4.9 million, equal to a 3.5% increase from the FY 2019-20 revised budget of \$4.7 million, in part from a full year of a revenue from the sale of Renewable Compressed Natural Gas derived from treatment plant methane, budgeted to generate gross revenues of \$3.3 million. Offsetting this new revenue source are decreases in interest earnings (-\$1.0 million) resulting from projected lower earnings rates, and a projected reduction in Sale of Assets (-\$500,000) revenue from fewer scheduled replacement of vehicles and equipment. License & Permits are budgeted to increase 6.3% (+\$125,000), while Interagency revenues are budgeted to decrease 12.5% (-\$256,000) from the revised budget amounts due almost entirely to reduced requests for material testing services provided to other City bureaus. Beginning fund balance is projected to decrease \$2.5 million below the FY 2019-20 amount of \$77.5 million as the bureau draws cash down in the current year due to carryover requests.

### Requirements

Personnel services increased 7.1% (\$6.1 million) as compared to the FY 2020-21 Revised Budget, nearly 50% of which is due to non-discretionary increases in retirement and healthcare costs and FY2019-20 COLA impacts. The remaining increase of \$3.3 million is from the increase of 25 FTE's, of which 21.0 FTE's are for operating and 4.0 are for CIP, bringing the total FTE count in the Operating Fund to 634.7 (allocated 500.3 operating and 134.4 CIP).

The external materials and services budget increased by \$14.7 million (19.2%) and is mostly within capital projects (+\$13.7 million, +67.0%) as operating expenses increased only \$952,000 (1.7%). In particular, the Secondary Treatment Expansion Project will require \$20.6 million out of the \$30.6 million budgeted within all capital projects. Some of the significant changes in the Requested Budget includes continued emphasis on condition assessment of force mains and stormwater facilities (\$924,000), expansion of green stormwater facilities maintenance (\$466,000), Project Management Office contract employees and consulting contracts (\$335,000), and additional specialized digester cleaning services (\$250,000.) These and other increases were also offset by nearly \$6.0 million of base budget reductions within external materials and services, including a \$3.5 million reduction in biosolids hauling costs from the enhanced efforts of the last few years, and \$600,000 for the City's new Community Opportunities and Enhancements Program (COEP, a 1% fee on capital construction costs) which was moved to the CIP for non-bond capital funding.

Internal materials and services, services paid to other bureaus, will increase by \$3.1 million or 6.3%, of which \$1.2 million (+13.8%) of the increase is within the CIP and another \$1.9 million (+4.8%) is within the operating program. Within the operating program, significant increases occurred in Bureau of Technology Services (\$850,000) and sewer inspection and cleaning provided by the Bureau of Maintenance (\$228,000.) The largest increase in the CIP is for construction services (+\$780,000) provided by both the Transportation and Water bureaus, as a result of the increase in overall capital projects.

Capital outlay is budgeted at \$108.4 million in the FY 2020-21 Requested Budget versus \$135.9 million in the FY 2019-20 Revised Budget, with the decrease coming mostly in the capital budget (-\$21.8 million, -17%), and a \$5.4 million decrease (-72.9%) primarily because of reduced life-cycle replacement of operating vehicles. The decrease in Capital Outlay is due to the one-time \$35.6 million payment for the bureau's share of the Portland Building Renovation project completed in FY 2019-20.

### Cash Transfers and General Fund Overhead

Cash transfers to other funds are budgeted at \$255.7 million for FY 2020-21, compared to the FY 2019-20 Revised Budget of \$235.8 million. The transfer for the General Fund overhead allocation will increase by \$714,000 (12.2%), \$6.5 million versus \$5.9 million in the FY 2019-20 Revised Budget. Transfers to the Sewer System Debt Redemption Fund are budgeted at \$172.5 million, down \$6.8 million from the FY 2019-20 Revised Budget of \$179.3 million, in part to the refinancing of the 2010 Series A bonds in the Fall of 2019. Transfers to the Sewer System Construction Fund, cash contributions to the CIP, are budgeted to be \$76.0 million in FY 2020-21, compared to the FY 2019-20 Revised Budget of \$30.0 million, reflecting interim funding of the CIP prior to the next bond sale in the Fall of 2020. Transfers to the Sewer Rate Stabilization Fund are not budgeted in FY 2020-21, down from \$20.0 million within the FY 2019-20 Revised Budget, as balances will be drawn down as previously planned for. Other transfers include \$684,000 to the Pension Bonds Debt Fund.

Contingency, which is equivalent to estimated ending fund balance, is budgeted at \$78.2 million, of which \$2.0 million is reserved for the Salary Adjustment Set-aside. The majority of this full contingency amount consists of estimated non-cash receivables not truly available to fund expenditures.



# Sewer System Debt Redemption Fund

## Fund Summary

	Actuals FY 2017-18	Actuals FY 2018-19	Revised FY 2019-20	Requested No DP FY 2020-21	Requested FY 2020-21
<b>Resources</b>					
<b>External Revenues</b>					
Bond & Note	0	0	9,100,000	13,500,000	13,500,000
Miscellaneous	905,912	1,459,849	1,500,000	700,000	700,000
<b>External Revenues Total</b>	<b>905,912</b>	<b>1,459,849</b>	<b>10,600,000</b>	<b>14,200,000</b>	<b>14,200,000</b>
<b>Internal Revenues</b>					
Fund Transfers - Revenue	169,551,334	180,330,710	179,250,000	172,475,000	172,475,000
<b>Internal Revenues Total</b>	<b>169,551,334</b>	<b>180,330,710</b>	<b>179,250,000</b>	<b>172,475,000</b>	<b>172,475,000</b>
Beginning Fund Balance	61,897,115	61,952,492	62,150,000	30,978,196	30,978,196
<b>Resources Total</b>	<b>232,354,361</b>	<b>243,743,051</b>	<b>252,000,000</b>	<b>217,653,196</b>	<b>217,653,196</b>
<b>Requirements</b>					
<b>Fund Expenditures</b>					
Debt Service	170,401,870	181,624,675	180,746,591	173,161,891	173,161,891
<b>Fund Expenditures Total</b>	<b>170,401,870</b>	<b>181,624,675</b>	<b>180,746,591</b>	<b>173,161,891</b>	<b>173,161,891</b>
Ending Fund Balance	61,952,492	62,118,376	0	0	0
<b>Requirements Total</b>	<b>232,354,362</b>	<b>243,743,051</b>	<b>180,746,591</b>	<b>173,161,891</b>	<b>173,161,891</b>

## Fund Overview

The Sewer System Debt Redemption Fund pays the principal and interest on revenue bonds, notes, and state loans issued to finance sewer system improvements.

**Managing Agency** Bureau of Environmental Services

## Significant Changes from Prior Year

The fund is managed on a cash basis with cash transfers from the Sewer System Operating Fund set to maintain a \$10,000 unrestricted ending cash balance plus any restricted cash balances that are required by bond and loan covenants. The bulk of the beginning fund balance is the result of cash reserves of \$31.0 million from by the sale of sewer system revenue bonds. These reserves are required to be maintained until the affiliated bonds are fully paid.

Fund Transfer Revenue is decreasing by about \$6.8 million or -3.8% in the FY 2020-21 Requested Budget to reflect decreased debt service payments and is offset by lower interest earnings projected within Miscellaneous Revenues. Bond and Note Proceeds are budgeted at \$13.5 million anticipating a possible cash reserve requirement with the anticipated bond sale in FY 2020-21.

## **Sewer System Debt Redemption Fund**

---

Debt service expenditures for the FY 2020-21 Requested Budget are \$173.2 million, a decrease of \$7.6 million or -7.2%, which assumes the next bond issue in the Fall of 2020 will incur only a half year of debt service payments in FY 2020-21.

The total amount of sewer system debt outstanding at the beginning of FY 2020-21 will be \$313.0 million for the first lien bonded debt, \$1.02 billion for subordinate lien bonded debt and loans, for total debt outstanding of \$1.34 billion.

**Fund Summary**

	Actuals FY 2017-18	Actuals FY 2018-19	Revised FY 2019-20	Requested No DP FY 2020-21	Requested FY 2020-21
<b>Resources</b>					
<b>External Revenues</b>					
Charges for Services	745,754	650,661	550,000	700,000	700,000
Bond & Note	213,566,279	0	226,000,000	375,000,000	375,000,000
Miscellaneous	640,059	3,207,320	3,100,000	3,400,000	3,400,000
<b>External Revenues Total</b>	<b>214,952,092</b>	<b>3,857,981</b>	<b>229,650,000</b>	<b>379,100,000</b>	<b>379,100,000</b>
<b>Internal Revenues</b>					
Fund Transfers - Revenue	45,000,000	42,443,910	30,000,000	76,000,000	76,000,000
<b>Internal Revenues Total</b>	<b>45,000,000</b>	<b>42,443,910</b>	<b>30,000,000</b>	<b>76,000,000</b>	<b>76,000,000</b>
Beginning Fund Balance	37,940,730	199,228,642	113,611,212	17,000,000	17,000,000
<b>Resources Total</b>	<b>297,892,822</b>	<b>245,530,534</b>	<b>373,261,212</b>	<b>472,100,000</b>	<b>472,100,000</b>
<b>Requirements</b>					
<b>Fund Expenditures</b>					
Debt Service	564,108	0	2,000,000	3,100,000	3,100,000
Contingency	0	0	210,261,212	282,517,000	282,517,000
Fund Transfers - Expense	98,100,072	131,919,321	161,000,000	186,483,000	186,483,000
<b>Fund Expenditures Total</b>	<b>98,664,180</b>	<b>131,919,321</b>	<b>373,261,212</b>	<b>472,100,000</b>	<b>472,100,000</b>
Ending Fund Balance	199,228,642	113,611,212	0	0	0
<b>Requirements Total</b>	<b>297,892,822</b>	<b>245,530,533</b>	<b>373,261,212</b>	<b>472,100,000</b>	<b>472,100,000</b>

**Fund Overview**

The Sewer System Construction Fund receives revenues to fund sewer system capital projects. Direct expenditures for capital projects are budgeted within the Sewer System Operating Fund and reimbursed by the Sewer System Construction Fund. The primary resources for the capital program are proceeds from the sale of sewer system revenue bonds, transfers from the Sewer System Operating Fund for cash financing of capital improvements, and line and branch charges from new sewer connections.

**Managing Agency**      Bureau of Environmental Services

**Significant Changes from Prior Year**

The beginning fund balance of \$17.0 million in FY 2020-21 (down from \$113.6 million in FY 2019-20 Revised) reflects remaining cash available to fund the bureau’s capital investment program until the next bond sale anticipated for the Fall of 2020.

## Sewer System Construction Fund

---

Charges for services increased from \$550,000 to \$700,000 for line and branch charges based on a few new extension projects to be completed.

Revenue from fund transfers are budgeted to be \$76.0 million from the Sewer System Operating Fund, compared to the \$30.0 million in the FY 2019-20 Revised Budget, in part to fund the capital investment program until the bond sale.

Miscellaneous revenues of \$3.4 million are expected in FY 2020-21 and are composed primarily of interest earnings. This is up from \$3.1 million in the FY 2019-20 Revised Budget primarily due to higher balances from expected bond sale proceeds. The increase would otherwise be higher but is offset by projected lower interest earnings rates in FY 2020-21.

Bond and Note Proceeds are estimated at \$375 million with the anticipated Fall bond sale which was delayed and re-sized from the FY 2019-20 Revised Budget.

Fund transfer expenses of \$186.5 million reflect the reimbursement of operating fund CIP expenditures. This is an increase of \$25.5 million from FY 2019-20, as a result of the bureau's required expansion of the secondary treatment capacity at the Columbia Boulevard Treatment Plant.

The contingency projection for FY 2020-21 is \$282.5 million and reflects the balance of unspent bond proceeds from the Fall 2020 bond sale and remaining non-bond cash. A comparison against the FY 2019-20 Revised Budget is not accurate as that budget assumed a Spring bond sale that will be delayed and resized.

# Sewer System Rate Stabilization Fund

## Fund Summary

	Actuals FY 2017-18	Actuals FY 2018-19	Revised FY 2019-20	Requested No DP FY 2020-21	Requested FY 2020-21
<b>Resources</b>					
<b>External Revenues</b>					
Miscellaneous	1,477,826	2,971,632	4,400,000	2,300,000	2,300,000
<b>External Revenues Total</b>	<b>1,477,826</b>	<b>2,971,632</b>	<b>4,400,000</b>	<b>2,300,000</b>	<b>2,300,000</b>
<b>Internal Revenues</b>					
Fund Transfers - Revenue	34,000,000	24,000,000	20,000,000	0	0
<b>Internal Revenues Total</b>	<b>34,000,000</b>	<b>24,000,000</b>	<b>20,000,000</b>	<b>0</b>	<b>0</b>
Beginning Fund Balance	107,968,317	138,446,143	165,417,775	131,150,000	131,150,000
<b>Resources Total</b>	<b>143,446,143</b>	<b>165,417,775</b>	<b>189,817,775</b>	<b>133,450,000</b>	<b>133,450,000</b>
<b>Requirements</b>					
<b>Fund Expenditures</b>					
Contingency	0	0	184,817,775	118,450,000	118,450,000
Fund Transfers - Expense	5,000,000	0	5,000,000	15,000,000	15,000,000
<b>Fund Expenditures Total</b>	<b>5,000,000</b>	<b>0</b>	<b>189,817,775</b>	<b>133,450,000</b>	<b>133,450,000</b>
Ending Fund Balance	138,446,143	165,417,775	0	0	0
<b>Requirements Total</b>	<b>143,446,143</b>	<b>165,417,775</b>	<b>189,817,775</b>	<b>133,450,000</b>	<b>133,450,000</b>

## Fund Overview

The Sewer System Rate Stabilization Fund was created in 1987 to enable the Bureau of Environmental Services to smooth the forecasted rate increases by managing fluctuations in sewer system revenues over several years. To calculate debt service coverage ratios, the bureau's master bond ordinance requires that transfers from Sewer System Operating Fund to this fund are treated as operating expenditures; conversely, transfers to the Operating Fund from this fund are treated as operating revenues. Fund balances were built up from FY 2002-03 through FY 2007-08 and drawn down through FY 2012-13 to offset rate increases associated with financing construction of the Eastside Combined Sewer Overflow Tunnel. Since then, balances in the fund have grown to better align with financial best practices for comparably sized sewer/stormwater utilities.

**Managing Agency** Bureau of Environmental Services

## Significant Changes from Prior Year

As a result of the bureau's long-term plan to use fund balances to keep rates from increasing beyond planned levels, the bureau does not plan to make transfers to the Rate Stabilization Fund in FY 2020-21. As a result, there are no transfer revenues planned for this fund in FY 2020-21. This is a reduction of \$20.0 million from the FY 2019-20 Revised Budget.

## Sewer System Rate Stabilization Fund

---

Miscellaneous revenues, which are comprised of interest earnings, are budgeted at \$2.3 million due to both lower cash balances, as shown in the FY 2020-21 Beginning Fund Balance of \$131.2 million and forecast lower interest earnings rates on city funds.

Fund transfer expenses are budgeted at \$15.0 million to the Sewer System Operating Fund, an increase of \$10 million over the FY 2019-20 Revised Budget, as the bureau looks to draw down the Rate Stabilization balance as planned. Finally, Contingency (a proxy for ending funding balance) is budgeted to be \$118.5 million and is forecast to be used over time to keep rates from increasing beyond planned levels.

**Capital Project Details**



**Project Detail - Bureau of Environmental Services**

Capital Program Project	Prior Years	Revised	Requested	Capital Plan				5-Year Total
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
<b>Citywide Projects</b>								
<b>PROJECT NAME: NEW - Community Opportunities &amp; Enhancement Program (COEP)</b>								
				<b>Total Project Cost</b>	ongoing		<b>Area</b>	Citywide
	<b>Confidence</b>	Low		<b>Original Cost</b>	ongoing		<b>Objective</b>	Mandated
<b>Project Description</b>								
One percent of hard construction costs on all public improvement contracts executed are contributed to a city-wide social equity contracting initiative. The program increases workforce development opportunities and access to City contracts for D/M/ESB and COBID certified contractors.								
<b>Revenue Source(s)</b>								
Resources from this program come from rate payer fees and charges for sewer and stormwater services.								
<b>Total Expenditures</b>	0	0	500,000	500,000	500,000	500,000	500,000	2,500,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>Maintenance and Reliability</b>								
<b>PROJECT NAME: Beech-Essex CP-J</b>								
				<b>Total Project Cost</b>	9,700,000		<b>Area</b>	Northeast
	<b>Confidence</b>	Low		<b>Original Cost</b>	9,010,000		<b>Objective</b>	Maintenance & Repair
<b>Project Description</b>								
Reduce the risk of basement back-up to 351 parcels by constructing 11,800 linear feet of new capacity pipe, and replacing 3,700 linear feet of pipe in poor condition. Located in N/NE Portland, the project area is generally bound by Fargo, 7th, Sacramento, and Williams. The project has a positive cost to benefit ratio (CBR) = 0.51.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	365,315	3,300,000	5,000,000	1,000,000	0	0	0	6,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: NEW - Boise-Eliot Recon &amp; Green Streets</b>								
				<b>Total Project Cost</b>	11,515,000		<b>Area</b>	North
	<b>Confidence</b>	Low		<b>Original Cost</b>	11,515,000		<b>Objective</b>	Maintenance & Repair
<b>Project Description</b>								
Combined sewer improvements including: local pipe upsizing of pipes ranging from 8 to 18 inches in diameter, rehabilitation of pipes ranging from 39 to 49 inches in diameter, and roof parking & street stormwater control facilities.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan					5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25		
<b>Total Expenditures</b>	4,352	0	350,000	558,000	558,000	349,000	7,222,000	9,037,000	
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0	
<b>PROJECT NAME: NEW - Broadway Corridor Reconstruction</b>									
				<b>Total Project Cost</b>	6,585,000			<b>Area</b>	Northwest
<b>Confidence</b>		Low	<b>Original Cost</b>		6,585,000	<b>Objective</b>			
<b>Project Description</b>									
Provide stormwater and sanitary service support, and coordinate the Broadway Corridor development located at NW Broadway and Kearny to NW 9th Ave and Hoyt									
<b>Revenue Source(s)</b>									
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.									
<b>Total Expenditures</b>	4,671	0	503,000	2,667,000	2,358,000	1,004,000	37,000	6,569,000	
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0	
<b>PROJECT NAME: Burlingame Basin Infiltration and Inflow</b>									
				<b>Total Project Cost</b>	9,541,000			<b>Area</b>	Southwest
<b>Confidence</b>		Low	<b>Original Cost</b>		13,950,000	<b>Objective</b>		Maintenance & Repair	
<b>Project Description</b>									
Reduce the stormwater flow into the sanitary sewers and eliminate sanitary sewer overflows in the Burlingame basin.									
<b>Revenue Source(s)</b>									
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.									
<b>Total Expenditures</b>	8,087,508	22,000	0	22,000	66,000	107,000	22,000	217,000	
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0	
<b>PROJECT NAME: Capital Maintenance - Non-Process Facilities - Shell</b>									
				<b>Total Project Cost</b>	Ongoing			<b>Area</b>	Citywide
<b>Confidence</b>		Moderate	<b>Original Cost</b>		Ongoing	<b>Objective</b>		Maintenance & Repair	
<b>Project Description</b>									
Program is for capital maintenance of BES-owned non-process facilities including the Water Pollution Control Lab, administration buildings at treatment plants, and downtown office space.									
<b>Revenue Source(s)</b>									
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.									
<b>Total Expenditures</b>	4,173,142	700,000	700,000	700,000	750,000	750,000	800,000	3,700,000	

Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan					5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25		
Net Operations and Maintenance Costs	0	0	0	0	0	0	0	0	0
<b>PROJECT NAME: CC Integrated RDII Pre-Design</b>									
				<b>Total Project Cost</b>	2,141,000		<b>Area</b>	Southwest	
	<b>Confidence</b>	Low		<b>Original Cost</b>	2,100,000		<b>Objective</b>	Maintenance & Repair	
<b>Project Description</b>									
Rehabilitate the public sanitary sewer system to eliminate overflows and enhance the storm water system.									
<b>Revenue Source(s)</b>									
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.									
<b>Total Expenditures</b>	24,933	1,149,000	0	0	0	0	400,000	400,000	
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0	
<b>PROJECT NAME: Central Tanner</b>									
				<b>Total Project Cost</b>	10,160,000		<b>Area</b>	Northwest	
	<b>Confidence</b>	Low		<b>Original Cost</b>	10,216,000		<b>Objective</b>	Maintenance & Repair	
<b>Project Description</b>									
Replace 9,300 linear feet of existing 100- to 120-year old clay combined sewer pipes with larger pipes to increase hydraulic capacity. Area generally bound by NW Overton, 11th, Kearny, and 21st. Project will reduce the risk of street flooding at 35 locations and basement sewer backup risk to 112 parcels.									
<b>Revenue Source(s)</b>									
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.									
<b>Total Expenditures</b>	0	0	0	60,000	1,200,000	500,000	5,900,000	7,660,000	
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0	
<b>PROJECT NAME: Downtown Old Town (DTOT) Pipe Rehab</b>									
				<b>Total Project Cost</b>	69,161,000		<b>Area</b>	Southwest	
	<b>Confidence</b>	Low		<b>Original Cost</b>	62,580,000		<b>Objective</b>	Maintenance & Repair	
<b>Project Description</b>									
Programmatic approach to repair and rehabilitation of sanitary and combined sewer and manholes in Downtown-Old Town.									
<b>Revenue Source(s)</b>									
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.									
<b>Total Expenditures</b>	8,438,631	3,250,000	2,750,000	8,000,000	5,100,000	3,250,000	3,100,000	22,200,000	
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0	

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan					5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25		
<b>PROJECT NAME: Fanno Creek Infiltration and Inflow</b>									
				<b>Total Project Cost</b>	13,917,000		<b>Area</b>	Southwest	
	<b>Confidence</b>	Low		<b>Original Cost</b>	13,917,000		<b>Objective</b>	Maintenance & Repair	
<b>Project Description</b>									
Resolve known local basement and surface flooding and reduce the risk of sanitary sewer overflows at the Fanno Pump Station. The focus of the project is the detection and removal of infiltration and inflow (I&I) on private property. Targeted conveyance improvements will address pipe capacity problems that cannot be resolved with only I&I reductions.									
<b>Revenue Source(s)</b>									
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.									
<b>Total Expenditures</b>	1,475,445	861,000	0	861,000	1,000,000	4,000,000	2,000,000	7,861,000	
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0	
<b>PROJECT NAME: Hilsdale Crest RDII</b>									
				<b>Total Project Cost</b>	7,183,000		<b>Area</b>	Southwest	
	<b>Confidence</b>	Low		<b>Original Cost</b>	6,800,000		<b>Objective</b>	Mandated	
<b>Project Description</b>									
Project will address the implementation of sewer improvements to control the DeWitt Storm System Overflow (SSO) within the Burlingame Basin.									
<b>Revenue Source(s)</b>									
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.									
<b>Total Expenditures</b>	721,650	5,400,000	5,500,000	100,000	0	0	0	5,600,000	
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0	
<b>PROJECT NAME: Large Diameter Sewer Rehabilitation</b>									
				<b>Total Project Cost</b>	115,646,000		<b>Area</b>	Citywide	
	<b>Confidence</b>	Moderate		<b>Original Cost</b>	39,400,000		<b>Objective</b>	Maintenance & Repair	
<b>Project Description</b>									
Whole pipe and spot rehabilitation of large diameter (> 36 inches) sanitary and combined sewers that are currently in poor structural condition.									
<b>Revenue Source(s)</b>									
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.									
<b>Total Expenditures</b>	4,649,241	4,000,000	3,000,000	12,000,000	14,000,000	14,000,000	18,100,000	61,100,000	
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0	

Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised	Requested	Capital Plan				
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
<b>PROJECT NAME: Maintenance Capital - Construction - Shell</b>								
				<b>Total Project Cost</b>	Ongoing		<b>Area</b>	Citywide
	<b>Confidence</b>	Moderate		<b>Original Cost</b>	Ongoing		<b>Objective</b>	Maintenance & Repair
<b>Project Description</b>								
The sewage and drainage collection systems develop structural and capacity problems as development occurs and the system ages. This program addresses small deficiencies in the collection system using City maintenance crews and equipment. Individual activities are determined in response to problems identified by inspection and field investigations during the year. Examples of work performed under this project include trash rack replacement, culvert replacement, sump and sediment manhole construction, manhole replacement, large spot repairs, small reconstructions, diversion modifications, deep underground repairs, and single-block sewer replacements.								
<b>Revenue Source(s)</b>								
Project is funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	3,535,158	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: Maintenance Capital - Contract - Shell</b>								
				<b>Total Project Cost</b>	ongoing		<b>Area</b>	Citywide
	<b>Confidence</b>	Moderate		<b>Original Cost</b>	14,500,000		<b>Objective</b>	Maintenance & Repair
<b>Project Description</b>								
Program supports privately-contracted maintenance repair and reconstruction projects throughout the collection system. Due to the age of much of the inventory, structural failures or near failures, localized flooding, and hydraulic capacity problems often occur during the year. Many of these are discovered through the routine sewer inspection program. During any given fiscal year, subprojects are prioritized based on the criticality and condition of the facility and the need to protect public health and property. This program number replaces E04863 which was budgeted as an ongoing program. Going forward, this program will be budgeted in 5 year increments.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	13,027,745	3,000,000	790,000	0	0	0	0	790,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: NEW - Maintenance Capital Contract FY20-25 (Shell)</b>								
				<b>Total Project Cost</b>	ongoing		<b>Area</b>	Citywide
	<b>Confidence</b>	Low		<b>Original Cost</b>	ongoing		<b>Objective</b>	Maintenance & Repair
<b>Project Description</b>								
Shell Program for design and construction of relatively small-scale projects, urgent capital maintenance repair projects, and collection system reconstruction projects. Address structural failures, near failures, localized flooding and hydraulic capacity problems.								
<b>Revenue Source(s)</b>								

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
BES portion funded by bond proceeds repaid by sanitary sewer and stormwater rates in addition to PBOT, LID's, PP&R and TriMet.								
<b>Total Expenditures</b>	0	0	2,664,000	3,000,000	3,000,000	3,000,000	3,000,000	14,664,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: NEW - Marine Drive Levee Outfall Decommission

			Total Project Cost	1,951,000	Area	Citywide
Confidence	Low	Original Cost	1,951,000	Objective	Maintenance & Repair	

#### Project Description

Increase community and ecological resilience by working with local, state and federal partners to update floodplain data, maps, policies and programs to reflect climate change projections and variability and improve floodplain function. The project includes up to 21 outfalls over 1.6 miles between North Portland Road and I-5 along North Marine Drive (see map attachment).

#### Revenue Source(s)

Project is funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	0	0	91,000	363,000	1,400,000	97,000	0	1,951,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: NW Thurman St Sewer Reconstruction

			Total Project Cost	6,349,000	Area	Northwest
Confidence	Moderate	Original Cost	2,542,000	Objective	Maintenance & Repair	

#### Project Description

Upsize 3,100 linear feet of existing 100 year combined sewer pipes to increase hydraulic capacity in the vicinity of NW Savier, Franklin, and Thurman. Project will reduce the risk of street flooding at 16 locations and basement sewer backup risk to 35 parcels. Timing of project is in response to six reported basement sewer backups since 2008.

#### Revenue Source(s)

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	700,719	5,165,000	4,270,000	1,000,000	0	0	0	5,270,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: NEW - NWN: East Nicolai

			Total Project Cost	5,300,000	Area	Northwest
Confidence	Low	Original Cost	7,470,000	Objective	Maintenance & Repair	

#### Project Description

**Project Detail - Bureau of Environmental Services**

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan					5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25		
Reduce the risk of basement sewer backups to 192 parcels, address pipe condition and hydraulic capacity problems, and separate some stormwater. Located in NW Portland, the project area is generally bound by Kearney, 21st, Burnside, and Maywood. Project includes the repair and/or upsizing of approximately 11,500 linear feet of combined sewer pipe, construction of 2,000 linear feet of new stormwater pipe, and a new water quality facility. The project has a positive cost to benefit ratio (CBR) = 0.18.									
<b>Revenue Source(s)</b>									
Project is funded by bond proceeds repaid by sanitary sewer and stormwater rates.									
<b>Total Expenditures</b>	0	0	0	0	100,000	600,000	2,300,000	3,000,000	
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0	

<b>PROJECT NAME: Oak A - Collectors</b>									
				<b>Total Project Cost</b>	9,907,000			<b>Area</b>	Northeast
<b>Confidence</b>		Low	<b>Original Cost</b>		10,000,000	<b>Objective</b>		Replacement	

<b>Project Description</b>									
Increase system capacity to relieve street flooding at 54 locations and basement sewer backups at 150 properties. Located in NE Portland, the project area is generally bound by 10th, I-84, Sandy Blvd, 22nd, and Davis.									
<b>Revenue Source(s)</b>									
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.									
<b>Total Expenditures</b>	0	60,000	667,000	500,000	0	0	0	1,167,000	
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0	

<b>PROJECT NAME: Oak A - Sandy Trunk</b>									
				<b>Total Project Cost</b>	13,700,000			<b>Area</b>	Northeast
<b>Confidence</b>		Low	<b>Original Cost</b>		13,500,000	<b>Objective</b>		Replacement	

<b>Project Description</b>									
Construct a new 42-inch/48-inch trunk line in NE Portland between the intersections of NE 29th Ave/Sandy Blvd and NE 12th Ave/Davis St.									
<b>Revenue Source(s)</b>									
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.									
<b>Total Expenditures</b>	106,944	850,000	1,400,000	0	0	0	4,500,000	5,900,000	
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0	

<b>PROJECT NAME: Owner Controlled Insurance Program Phase V</b>									
				<b>Total Project Cost</b>	7,061,000			<b>Area</b>	Citywide
<b>Confidence</b>		Optimal	<b>Original Cost</b>		1,609,000	<b>Objective</b>		Efficiency	

<b>Project Description</b>									
Owner controlled insurance program for all construction projects over \$0.5 million.									

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	3,260,653	300,000	1,000,000	1,000,000	500,000	500,000	500,000	3,500,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: Phase 3 Pipe Rehabilitation

			<b>Total Project Cost</b>	101,000,000		<b>Area</b>	Citywide
<b>Confidence</b>	Moderate		<b>Original Cost</b>	155,250,000		<b>Objective</b>	Maintenance & Repair

### Project Description

Structural rehabilitation of critical combined and sanitary sewers that are at the end of their economic life and have the highest consequence of failure. This project is an outgrowth of the Phase 2 program.

### Revenue Source(s)

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	63,587,496	16,240,000	14,500,000	6,500,000	100,000	0	0	21,100,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: Richmond Neighborhood Sewer Rehab/Green Streets

			<b>Total Project Cost</b>	4,900,000		<b>Area</b>	Southeast
<b>Confidence</b>	Low		<b>Original Cost</b>	4,750,000		<b>Objective</b>	Maintenance & Repair

### Project Description

Rehabilitate approximately 1,300 feet of pipe in poor condition and upsize pipe segments. Install street stormwater controls to reduce the risk of street flooding and basement sewer backup for 143 properties. Located in SE, the area is generally bound by Hawthorne, 48th, Division, and 36th. The project has a positive cost to benefit ratio (CBR) = 0.13.

### Revenue Source(s)

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	81,511	366,000	700,000	3,600,000	100,000	0	0	4,400,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: SE Hawthorne Blvd Pipe Reconst

			<b>Total Project Cost</b>	5,301,000		<b>Area</b>	Southeast
<b>Confidence</b>	Low		<b>Original Cost</b>	4,920,000		<b>Objective</b>	Maintenance & Repair

### Project Description

**Project Detail - Bureau of Environmental Services**

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
Construct improvements to rehabilitate pipe segments that are in poor condition and upsize pipe segments. Install street, roof, and parking stormwater controls to relieve street flooding and basement sewer backup to 76 properties. The project area is generally bound by Market, 20th, Division, and 12th in SE Portland. The project has a positive cost to benefit ratio (CBR) = 0.20.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	49,664	810,000	2,000,000	600,000	0	0	0	2,600,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: Slabtown North Sewer Reconstruction</b>								
				<b>Total Project Cost</b>	6,124,000	<b>Area</b>		Northwest
<b>Confidence</b>		Low	<b>Original Cost</b>		6,221,000	<b>Objective</b>		Maintenance & Repair
<b>Project Description</b>								
Replace 5,900 linear feet of existing 100-120 year old clay combined sewer pipes with larger pipes to increase hydraulic capacity. Area generally bound by NW York, 14th, Thurman, and 21st. Project will reduce the risk of street flooding at 17 locations and basement sewer backup risk to 28 parcels.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	5,664	0	528,000	510,000	5,000,000	80,000	0	6,118,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: Small Urgent Capacity Projects - Shell</b>								
				<b>Total Project Cost</b>	Ongoing	<b>Area</b>		Citywide
<b>Confidence</b>		Moderate	<b>Original Cost</b>		Ongoing	<b>Objective</b>		Maintenance & Repair
<b>Project Description</b>								
Program to address combined sewer capacity in areas where property owners have reported basement sewer backups, and are outside of the boundary of a project currently in the Capital Improvement Program (CIP).								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	2,477,075	1,000,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	7,500,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: South Tanner</b>								
				<b>Total Project Cost</b>	8,800,000	<b>Area</b>		Northwest
<b>Confidence</b>		Low	<b>Original Cost</b>		8,400,000	<b>Objective</b>		Maintenance & Repair

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
<b>Project Description</b>								
Replace pipes in poor structural condition to relieve street flooding and basement sewer backups in NW Portland. Area generally bound by Johnson, 9th, Everett, and 23rd.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	106,141	4,000,000	400,000	400,000	0	0	4,000,000	4,800,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: SS Protection & Stream Restoration: Lowell & Ruby Creeks

				<b>Total Project Cost</b>	155,000		<b>Area</b>	West
	<b>Confidence</b>	Low		<b>Original Cost</b>	175,000		<b>Objective</b>	Maintenance & Repair

#### Project Description

Determine the most cost effective and sustainable solution for implementation, operating and maintenance and watershed health of the sanitary sewer pipes that are exposed along tributaries to Fanno Creek and Stephens Creek in southwest Portland creating numerous risks.

#### Revenue Source(s)

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	4,004	0	125,000	25,000	0	0	0	150,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: Stark HSS-17

				<b>Total Project Cost</b>	17,500,000		<b>Area</b>	Southeast
	<b>Confidence</b>	Low		<b>Original Cost</b>	13,242,000		<b>Objective</b>	Maintenance & Repair

#### Project Description

Replace pipes in poor structural condition, relieve street flooding, and the risk of basement sewer backups to 304 properties. Area generally bound by NE Everett, SE/NE 32nd, SE Stark, and SE 21st. Replace 400 linear feet of poor condition pipe, upsize 10,500 linear feet of hydraulically deficient pipe, and construct new green street facilities to collect stormwater runoff from approximately 21 acres of impervious area. The project has a positive cost to benefit ratio (CBR) = 0.47.

#### Revenue Source(s)

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	1,608,273	900,000	2,000,000	0	0	0	10,000,000	12,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: Structural Rehab Taggart Outfall 30

				<b>Total Project Cost</b>	14,805,000		<b>Area</b>	Southeast
--	--	--	--	---------------------------	------------	--	-------------	-----------

**Project Detail - Bureau of Environmental Services**

Capital Program Project	Prior Years	Revised	Requested	Capital Plan				
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
	Confidence	Optimal	Original Cost	14,805,000			Objective	Maintenance & Repair

**Project Description**  
 Structural rehabilitation of the Taggart Outfall, a combined brick sewer constructed in 1906. The sewer ranges in size from 64 to 118 inches in diameter, at depths of 20 to 65 feet.

**Revenue Source(s)**  
 Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	3,963,637	5,000,000	1,550,000	0	0	0	0	1,550,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

**PROJECT NAME: NEW - Sullivan Trunk & Underflow Analysis**

			<b>Total Project Cost</b>	51,000			<b>Area</b>	Northeast
	<b>Confidence</b>	Moderate	<b>Original Cost</b>	51,000			<b>Objective</b>	Maintenance & Repair

**Project Description**  
 Perform hydraulic monitoring and modeling to estimate the existing and future risk associated with basement and surface flooding from the surcharged trunk. Estimate the risk of structural mortality failures, considering rehab projects that were identified in the Sullivan Gulch Large Diameter Rehab project. Estimate future rehabilitation needs on the remainder of the trunk and underflow pipe, with consideration to seismic resiliency. A sensitivity analysis will be performed to determine the potential impacts of climate change.

**Revenue Source(s)**  
 Funded by either sanitary and stormwater rates and/or bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	1,690	0	50,000	0	0	0	0	50,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

**PROJECT NAME: Sunnyside North Recon/Green Streets**

			<b>Total Project Cost</b>	12,523,000			<b>Area</b>	Southeast
	<b>Confidence</b>	Optimal	<b>Original Cost</b>	11,255,000			<b>Objective</b>	Maintenance & Repair

**Project Description**  
 Construct improvements to rehabilitate pipe segments in poor condition and upsize pipe segments. Install street, roof, and parking stormwater controls to relieve street flooding and basement sewer backup to 318 properties. Located in SE Portland, the project area is generally bound by Stark, 37th, Taylor, and 20th. This project must be completed prior to Sunnyside South. Some scope and budget moved to E10370 Sunnyside East. The three projects have a combined positive cost to benefit ratio (CBR) = 0.18.

**Revenue Source(s)**  
 Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	6,191,945	3,000,000	1,500,000	0	0	0	0	1,500,000
---------------------------	-----------	-----------	-----------	---	---	---	---	-----------

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
<b>Net Operations and Maintenance Costs</b>	0	0	0	5,000	5,000	5,000	5,000	20,000
<b>PROJECT NAME: Sunnyside South Recon/Green Streets</b>								
				<b>Total Project Cost</b>	11,500,000		<b>Area</b>	Southeast
	<b>Confidence</b>	Moderate		<b>Original Cost</b>	6,855,000		<b>Objective</b>	Maintenance & Repair
<b>Project Description</b>								
Construct improvement to upsize pipe segments. Install street, roof, and parking stormwater controls to relieve street flooding and basement sewer backup to 204 properties. Located in SE Portland, the project area is generally bound by Taylor, 45th, Hawthorne, and 29th. The project has a positive net benefit to cost ratio (nBCR) = 0.47.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	781,050	860,000	800,000	500,000	500,000	2,000,000	6,000,000	9,800,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: SW Terwilliger @ Northgate Pipe Repair</b>								
				<b>Total Project Cost</b>	5,650,000		<b>Area</b>	Southwest
	<b>Confidence</b>	Low		<b>Original Cost</b>	6,840,000		<b>Objective</b>	Maintenance & Repair
<b>Project Description</b>								
Create an alternative analysis to determine the best method for correcting the newly installed pipe in SW Terwilliger that has started to fail.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	136,706	0	2,500,000	500,000	0	0	0	3,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: NEW - Tryon SS Protection 1A TCWTP to Hwy 43</b>								
				<b>Total Project Cost</b>	4,310,000		<b>Area</b>	Southwest
	<b>Confidence</b>	Moderate		<b>Original Cost</b>	1,900,000		<b>Objective</b>	Maintenance & Repair
<b>Project Description</b>								
Upgrade the Tryon Creek Sewer from the Tryon Creek wastewater treatment plant approximately 1,850 feet upstream into Tryon Creek State Park.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	940,485	0	750,000	0	0	0	0	750,000

**Project Detail - Bureau of Environmental Services**

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
Net Operations and Maintenance Costs	0	0	0	0	0	0	0	0

<b>PROJECT NAME: NEW - Vermont RDII Reduction</b>								
				<b>Total Project Cost</b>	6,645,000	<b>Area</b>		Southwest
<b>Confidence</b>		Low	<b>Original Cost</b>		6,645,000	<b>Objective</b>		Maintenance & Repair

**Project Description**  
 Reduce RDII in critical areas by lining leaky pipes and city laterals. A limited amount of pipe upsizing is also recommended. The pipe lining projects described involve lining all publicly owned main line sewer pipes located within each project area. All pipes proposed for lining within these three project areas are 8 inches in diameter.

**Revenue Source(s)**  
 Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	22,014	0	0	0	0	0	914,000	914,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

<b>Sewage Treatment Systems</b>								
<b>PROJECT NAME: Alder Pump Station Upgrade</b>								
				<b>Total Project Cost</b>	6,837,000	<b>Area</b>		East
<b>Confidence</b>		Complete	<b>Original Cost</b>		4,880,000	<b>Objective</b>		Maintenance & Repair

**Project Description**  
 Project originated from the Alder Pump Station Improvement Program. Upgrading the pump station for projected future flows, and integrating operation into the eastside CSO system operation. The project will also replace all mechanical, electrical, and controls equipment.

**Revenue Source(s)**  
 Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	6,751,456	20,000	65,000	0	0	0	0	65,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

<b>PROJECT NAME: Automation Network Reliability</b>								
				<b>Total Project Cost</b>	956,000	<b>Area</b>		Citywide
<b>Confidence</b>		Optimal	<b>Original Cost</b>		209,000	<b>Objective</b>		Efficiency

**Project Description**  
 As BES's fiber optic communication network has extended in area covered and in volume of traffic, it is evident that modifications are needed to improve reliability, robustness, and security.

**Revenue Source(s)**

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	555,496	200,000	200,000	0	0	0	0	200,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: CBWTP Blower System/Building Improvements

			<b>Total Project Cost</b>	11,976,000		<b>Area</b>	North
	<b>Confidence</b>	Low	<b>Original Cost</b>	12,056,000		<b>Objective</b>	Maintenance & Repair

#### Project Description

Project replaces antiquated DeLaval blowers, building roof, and HVAC system at Columbia Boulevard Waste Water Treatment Plant (CBWTP).

#### Revenue Source(s)

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	7,591	80,000	680,000	1,400,000	1,500,000	1,500,000	3,000,000	8,080,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: CBWTP Digesters 1-4 Upgrade

			<b>Total Project Cost</b>	14,900,000		<b>Area</b>	North
	<b>Confidence</b>	Low	<b>Original Cost</b>	14,900,000		<b>Objective</b>	Maintenance & Repair

#### Project Description

Extend the useful life of digesters and associated equipment, along with increasing digester gas storage capacity and reliability.

#### Revenue Source(s)

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	22,357	200,000	500,000	1,000,000	2,000,000	2,000,000	4,200,000	9,700,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: NEW - CBWTP Disinfection System Replacement

			<b>Total Project Cost</b>	10,467,000		<b>Area</b>	North
	<b>Confidence</b>	Low	<b>Original Cost</b>	10,467,000		<b>Objective</b>	Replacement

#### Project Description

Replacement and consolidation of the CBWTP disinfection system. Current system was installed in 2006, and uses bulk-delivered, liquid sodium hypochlorite to meet NPDES disinfection permit requirements. Sodium hypochlorite is an aggressive chemical, and materials used in construction for all components, with the exception of the receiving tanks, have an expected life of 10 years.

#### Revenue Source(s)

**Project Detail - Bureau of Environmental Services**

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	0	0	0	0	330,000	0	0	330,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

<b>PROJECT NAME: CBWTP Fiber System Reliability</b>								
				<b>Total Project Cost</b>	1,810,000	<b>Area</b>		North
<b>Confidence</b>		Low	<b>Original Cost</b>		790,000	<b>Objective</b>		Expansion

**Project Description**  
Replacement of the electrical substation which has reached the end of its useful life.

**Revenue Source(s)**  
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	459,418	850,000	500,000	0	0	0	0	500,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	5,000	5,000	5,000	5,000	20,000

<b>PROJECT NAME: NEW - CBWTP Gas Piping Replacement</b>								
				<b>Total Project Cost</b>	6,150,000	<b>Area</b>		North
<b>Confidence</b>		Low	<b>Original Cost</b>		6,150,000	<b>Objective</b>		Replacement

**Project Description**  
Condition assessment of the existing pipes indicated severe degradation to the piping walls and thickness. A failure of the piping could leak digester gas into the tunnels at CBWTP and create an explosive environment. To address the failed piping, RR&M project E111136 was initiated and is currently under construction. This project request is for a follow-on project to replace the failed pipeline in the tunnels with new digester gas piping between the primary and secondary digesters.

**Revenue Source(s)**  
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	0	0	350,000	1,200,000	1,500,000	1,700,000	1,400,000	6,150,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

<b>PROJECT NAME: CBWTP Headworks Screens Improvements</b>								
				<b>Total Project Cost</b>	20,702,000	<b>Area</b>		North
<b>Confidence</b>		Low	<b>Original Cost</b>		9,805,000	<b>Objective</b>		Replacement

**Project Description**  
Replace the five existing bar screens in the Headworks with screens of smaller openings to protect the downstream processes.

**Revenue Source(s)**

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	1,195,251	1,074,000	1,937,000	7,479,000	5,983,000	2,877,000	156,000	18,432,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

PROJECT NAME: CBWTP Lagoon Reconstruction								
				<b>Total Project Cost</b>	34,600,000	<b>Area</b>		North
<b>Confidence</b>		High	<b>Original Cost</b>		19,539,000	<b>Objective</b>		Efficiency

**Project Description**  
 Construction of additional dikes in the existing Columbia Boulevard Waste Water Treatment Plant (CBWTP) lagoon to create more separation. The individual ponds will be lined with a monofill. Two separate phases are programmed in the 5-year CIP.

Revenue Source(s)								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	24,679,798	6,700,000	200,000	400,000	500,000	500,000	8,000,000	9,600,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	50,000	50,000	50,000	150,000

PROJECT NAME: CBWTP New Willamette Building & Property Acquisition								
				<b>Total Project Cost</b>	2,500,000	<b>Area</b>		North
<b>Confidence</b>		Low	<b>Original Cost</b>		2,500,000	<b>Objective</b>		Expansion

**Project Description**  
 Feasibility study for replacement and expansion on the functions currently housed in the Dodd, Administration, and Willbridge building. Also looking at potential property acquisition located adjacent to the southwest corner of Columbia Boulevard Waste Water Treatment Plant (CBWTP), across from the Union Pacific Railroad tracks.

Revenue Source(s)								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	0	500,000	800,000	200,000	0	0	1,000,000	2,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

PROJECT NAME: NEW - CBWTP Non-Conforming Upgrades								
				<b>Total Project Cost</b>	1,120,000	<b>Area</b>		North
<b>Confidence</b>		Moderate	<b>Original Cost</b>		1,120,000	<b>Objective</b>		Efficiency

**Project Description**  
 This project is needed to complete the Nonconforming Upgrades required by City Code and the Interagency agreement with Developmental Services (BDS). BES and BDS entered an agreement in May, 2017 that requires BES to bring elements of the CBWTP site into compliance with Portland City Code Chapter 33.258 by June 19, 2022

**Revenue Source(s)**

**Project Detail - Bureau of Environmental Services**

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	0	0	248,000	864,000	8,000	0	0	1,120,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

<b>PROJECT NAME: CBWTP Organic Waste Receiving Facility</b>								
				<b>Total Project Cost</b>	7,877,000	<b>Area</b>		North
<b>Confidence</b>		Low	<b>Original Cost</b>		4,838,000	<b>Objective</b>		Expansion

**Project Description**  
 Construct a facility to accept organic waste (commercial food wastes, fats, oils, and grease) and process the waste in the anaerobic digesters to produce biogas at the Columbia Boulevard Waste Water Treatment Plant (CBWTP). The biogas can be converted to renewable energy-electricity, heat, or vehicle fuel.

**Revenue Source(s)**  
 Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	976,705	2,981,000	2,700,000	4,200,000	0	0	0	6,900,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

<b>PROJECT NAME: CBWTP Outfall Diffusers</b>								
				<b>Total Project Cost</b>	7,448,000	<b>Area</b>		North
<b>Confidence</b>		Low	<b>Original Cost</b>		2,169,000	<b>Objective</b>		Expansion

**Project Description**  
 Extend the existing wet weather CBWTP outfall diffuser to alleviate sediment accumulation in outfall pipe

**Revenue Source(s)**  
 Funded by bond proceeds repaid by sanitary and stormwater rates.

<b>Total Expenditures</b>	675,203	444,000	900,000	5,328,000	80,000	20,000	0	6,328,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

<b>PROJECT NAME: NEW - CBWTP Outfall Surge Modifications</b>								
				<b>Total Project Cost</b>	11,200,000	<b>Area</b>		North
<b>Confidence</b>		Low	<b>Original Cost</b>		11,200,000	<b>Objective</b>		Efficiency

**Project Description**  
 Improvements to the CBWTP effluent pipeline ventilation system, air vacuum relief valves, goose-neck pipe risers, and sample vaults to reduce the risk of damage from surge events and effluent overflows. The project also includes scope to complete modifications that create a single point of NPDES permit compliance for CBWTP discharges.

**Revenue Source(s)**

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	0	0	0	0	50,000	900,000	2,000,000	2,950,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

PROJECT NAME: CBWTP Residuals Handling Improvements								
				<b>Total Project Cost</b>	4,220,000	<b>Area</b>		North
<b>Confidence</b>		Moderate	<b>Original Cost</b>		3,750,000	<b>Objective</b>		Replacement

**Project Description**  
 Modifications to the existing Septage Receiving Station and Tipping Berm for receiving and handling residual waste streams generated in the collection system and on-site. The intent is to make a permanent facility that is operations friendly, and minimizes the risk of odor impacts to the community.

**Revenue Source(s)**  
 Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	0	0	500,000	800,000	1,000,000	1,700,000	220,000	4,220,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

PROJECT NAME: CBWTP Reuse System Replacement								
				<b>Total Project Cost</b>	4,310,000	<b>Area</b>		North
<b>Confidence</b>		Low	<b>Original Cost</b>		4,310,000	<b>Objective</b>		Replacement

**Project Description**  
 Replace the reuse water system, installed in 1996, to provide reliable reuse treatment capacity at Columbia Boulevard Waste Water Treatment Plant (CBWTP). Upgrade the deep well pump controls and integrate them with the reuse system controls, providing more consistent water supply and pressure for plant processes.

**Revenue Source(s)**  
 Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	0	0	0	0	80,000	785,000	1,500,000	2,365,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

PROJECT NAME: CBWTP RNG Facility								
				<b>Total Project Cost</b>	14,300,000	<b>Area</b>		North
<b>Confidence</b>		Optimal	<b>Original Cost</b>		5,584,000	<b>Objective</b>		Expansion

**Project Description**  
 Construct a facility at Columbia Boulevard Waste Water Treatment Plant (CBWTP) to beneficially reuse remaining unused methane gas which is a byproduct of the treatment process. This project is expected to pay for itself in 10 to 20 years.

**Revenue Source(s)**

**Project Detail - Bureau of Environmental Services**

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	14,045,551	700,000	250,000	0	0	0	0	250,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

PROJECT NAME: CBWTP Secondary Treatment Expansion Program								
			<b>Total Project Cost</b>	340,000,000			<b>Area</b>	North
<b>Confidence</b>			Low	<b>Original Cost</b>	62,802,000	<b>Objective</b>		Expansion

**Project Description**

Mutual Agreement and Order (MAO) with Oregon Department of Environmental Quality requires the Wastewater Treatment plant to treat all the combined sewage while meeting water quality standards with the purpose of protecting water quality, public health, and the environment. This also includes the replacement of two secondary treatment clarifiers by 2024. This will provide long-term solutions by minimizing implementation risks in adjacent and joint process areas, provide more biological treatment, and increase operational resiliency during heavy rainfall.

The latest estimate for the project’s total is \$391M. While major scope elements have remained unchanged, significant cost impacts are related to poor soil conditions at the plant site found during predesign, the difficulty in rehabilitating 50-year old structures to current seismic code standards, and the extent to which connected supporting systems (electrical, utilities) require upgrades. Increased long term value is obtained with the expansion of the thickening facilities to accept primary sludge, eliminating the need for a separate facility in the future. The revised estimate includes escalation and contingencies commensurate with predesign and will continue to be refined as the project progresses. The initial planning level cost estimates had a high level of uncertainty (-50% to +100%). BES is benefiting from the CM/GC approach where construction costs were developed at the 20 % design phase, allowing BES to plan for impacts to the larger CIP. With the CM/GC on board, efforts will continue to focus on identifying alternative approaches to reduce costs and maximize value.

**Revenue Source(s)**

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	7,714,259	14,300,000	41,149,000	89,777,000	93,966,000	67,808,000	27,400,000	320,100,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

PROJECT NAME: CBWTP Substation Replacement								
			<b>Total Project Cost</b>	4,476,000			<b>Area</b>	Citywide
<b>Confidence</b>			Moderate	<b>Original Cost</b>	5,055,000	<b>Objective</b>		Replacement

**Project Description**

Modifications to the existing Septage Receiving Station and Tipping Berm for receiving and handling residual waste streams generated in the collection system and on-site. The intent is to make a permanent facility that is operations friendly, and minimizes the risk of odor impacts to the community.

**Revenue Source(s)**

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	441,485	3,500,000	804,000	0	0	0	0	804,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

**PROJECT NAME: NEW - CBWTP WWCL Rehabilitation**

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
				<b>Total Project Cost</b>	34,600,000		<b>Area</b>	North
	<b>Confidence</b>	Low		<b>Original Cost</b>	34,600,000		<b>Objective</b>	Maintenance & Repair

### Project Description

Improvements to the CBWTP Wet Weather Primary Clarifiers (WWCL). The rehabilitation project includes replacement of mechanical equipment, electrical upgrades, structural rehabilitation, and demolition of the Sludge Thickening Process building and tanks that are no longer being used. The CBWTP WWCLs are a critical asset in achieving NPDES compliance, and these improvements and rehabilitation will improve their functionality and reliability.

### Revenue Source(s)

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	0	0	800,000	1,000,000	1,000,000	1,231,000	6,700,000	10,731,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: Digester Gas Combustion System Replacement

				<b>Total Project Cost</b>	3,260,000		<b>Area</b>	North
	<b>Confidence</b>	Moderate		<b>Original Cost</b>	2,385,000		<b>Objective</b>	Replacement

### Project Description

Programmable Logic Controller (PLC) monitoring and controls of biogas at the plant, and replace the three existing flares.

### Revenue Source(s)

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	558,804	1,565,000	1,500,000	1,200,000	0	0	0	2,700,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: Fiber Expansion for Inverness PS & POSH Fiber Rings

				<b>Total Project Cost</b>	2,116,000		<b>Area</b>	East
	<b>Confidence</b>	Moderate		<b>Original Cost</b>	2,100,000		<b>Objective</b>	Expansion

### Project Description

Install additional fiber optic components to make that network more complete and robust.

### Revenue Source(s)

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	15,401	1,100,000	1,000,000	0	0	0	0	1,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
<b>PROJECT NAME: Force Ave Pump Station Remodel</b>								
				<b>Total Project Cost</b>	8,366,000		<b>Area</b>	North
	<b>Confidence</b>	Low		<b>Original Cost</b>	5,127,000		<b>Objective</b>	Maintenance & Repair
<b>Project Description</b>								
Project originated in the Pump Station Improvement Program. Remodel pump station for improved reliability and maintenance. Remodel includes wet well modification, new submersible pumps, onsite electrical controls building and generator shelter, and odor treatment.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	625,721	1,500,000	200,000	3,000,000	2,040,000	1,000,000	0	6,240,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: NEW - Inverness PS Site Facility Plan</b>								
				<b>Total Project Cost</b>	450,000		<b>Area</b>	North
	<b>Confidence</b>	Low		<b>Original Cost</b>	450,000		<b>Objective</b>	Maintenance & Repair
<b>Project Description</b>								
Develop a comprehensive Facility Plan, evaluate pump station and associated systems, and evaluate existing and potential uses of the site. A condition assessment conducted in 2018 found that the electrical systems, pumps, and valves are in extremely poor condition. The estimated remaining useful life of the equipment is one year.								
<b>Revenue Source(s)</b>								
Funded by either sanitary and stormwater rates and/or bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	0	0	150,000	300,000	0	0	0	450,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: Inverness Pump Station Force Main Improvements</b>								
				<b>Total Project Cost</b>	13,250,000		<b>Area</b>	Northeast
	<b>Confidence</b>	Low		<b>Original Cost</b>	10,030,000		<b>Objective</b>	Replacement
<b>Project Description</b>								
This multi-phase project will first address deficiencies in the 24-inch force main, re-direct flow from the 36-inch force main, and then address deficiencies in the 36-inch line.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	123,408	800,000	800,000	1,600,000	1,600,000	1,600,000	2,300,000	7,900,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
<b>PROJECT NAME: NEW - NE 47th Ave Pump Station</b>								
				<b>Total Project Cost</b>	4,918,000		<b>Area</b>	North
	<b>Confidence</b>	Low		<b>Original Cost</b>	4,918,000		<b>Objective</b>	Expansion
<b>Project Description</b>								
The easement was granted in 2003 for the pump station. Project will be built on a 5,225-sf of permanent easement, located on the corner of NE Crystal In and NE 47th Ave.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	0	0	0	296,000	782,000	695,000	3,000,000	4,773,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: NEW - NE Marx &amp; 105th Pump Station Rehab</b>								
				<b>Total Project Cost</b>	3,200,000		<b>Area</b>	Northeast
	<b>Confidence</b>	Low		<b>Original Cost</b>	3,200,000		<b>Objective</b>	Maintenance & Repair
<b>Project Description</b>								
Upgrade the pump station for projected future flows and improve reliability and maintenance. It is anticipated that the project will require the replacement of all mechanical, electrical, and control equipment.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	176,472	0	500,000	1,400,000	1,100,000	0	0	3,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: Pump Station Improvement Program - Shell</b>								
				<b>Total Project Cost</b>	Ongoing		<b>Area</b>	Citywide
	<b>Confidence</b>	Moderate		<b>Original Cost</b>	20,000,000		<b>Objective</b>	Maintenance & Repair
<b>Project Description</b>								
Program to refurbish or upgrade pump stations that are not in compliance with present codes, are not operating in a reliable manner, need improvements because of growth in the receiving sewage basin, and/or are over 20 years old with out-of-date equipment. The approved Pump Station Improvement Plan guides the selection of projects. The City currently operates and maintains 98 pump stations. This program was developed to ensure these facilities are maintained in accordance with a scheduled plan to increase pump station reliability, reduce or avoid increases in maintenance costs, and avoid failures that could cause sewage to bypass to waterways. This program number replaces E04661 which was budgeted as an ongoing program. Going forward, this program will be budgeted in 5 year increments.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								

**Project Detail - Bureau of Environmental Services**

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
<b>Total Expenditures</b>	21,606,679	6,000,000	8,000,000	10,000,000	11,000,000	12,000,000	17,000,000	58,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	5,000	5,000	5,000	5,000	20,000

**PROJECT NAME: Repair, Rehabilitation, and Modification - Shell**

				<b>Total Project Cost</b>	Ongoing		<b>Area</b>	Citywide
	<b>Confidence</b>	Moderate		<b>Original Cost</b>	Ongoing		<b>Objective</b>	Maintenance & Repair

**Project Description**

Repair, Rehabilitation, and Modification Program is to protect capital investments and enhance system reliability at the Columbia and Tryon Creek sewage treatment facilities. It provides best management practices to prevent violations of the National Pollutant Discharge Elimination System (NPDES) permit. Both treatment plants are aging facilities and require regular repair, rehabilitation, and modifications. This program facilitates rapid, practical replacement of capital equipment and upgrade of aging facilities.

**Revenue Source(s)**

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	23,268,550	4,000,000	6,000,000	7,000,000	8,000,000	8,000,000	10,000,000	39,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

**PROJECT NAME: SLRT/Vault Monitoring Install - Shell**

				<b>Total Project Cost</b>	ongoing		<b>Area</b>	Citywide
	<b>Confidence</b>	Moderate		<b>Original Cost</b>	4,900,000		<b>Objective</b>	Efficiency

**Project Description**

The desired results of the program are to reduce the likelihood of CSO events by optimizing the existing network of sewer level remote telemetry (SLRT) stations in the city by adding leak detection alarm monitoring to air/vacuum valve installations and valve vaults located adjacent to water bodies in the city. This will update the monitoring capabilities of the existing SLRT network to match current storm and sanitary sewer flows and to minimize the severity of force main leaks at existing air/vacuum valves adjacent to water bodies.

**Revenue Source(s)**

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	372,858	940,000	100,000	100,000	100,000	200,000	700,000	1,200,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

**PROJECT NAME: TCWTP Bankside Outfall**

				<b>Total Project Cost</b>	8,400,000		<b>Area</b>	Southwest
	<b>Confidence</b>	Low		<b>Original Cost</b>	8,400,000		<b>Objective</b>	Replacement

**Project Description**

Construction of new outfall to the Willamette from the Tryon Creek Wastewater Treatment Plant (TCWTP), parallel to the existing outfall.

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	0	0	0	0	0	0	100,000	100,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

PROJECT NAME: TCWTP Disinfection Improvements									
				<b>Total Project Cost</b>	9,600,000			<b>Area</b>	Southwest
<b>Confidence</b>		Low	<b>Original Cost</b>		9,600,000	<b>Objective</b>		Efficiency	

PROJECT NAME: TCWTP Disinfection Improvements								
<b>Project Description</b>								
Reconstruction of the Tryon Creek Wastewater Treatment Plant (TCWTP) disinfection system to improve system reliability and performance.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	0	0	0	0	100,000	500,000	2,000,000	2,600,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

PROJECT NAME: TCWTP Headworks Improvements									
				<b>Total Project Cost</b>	57,022,000			<b>Area</b>	Southwest
<b>Confidence</b>		Low	<b>Original Cost</b>		38,524,000	<b>Objective</b>		Maintenance & Repair	

PROJECT NAME: TCWTP Headworks Improvements								
<b>Project Description</b>								
The Tryon Creek Wastewater Treatment Plant (TCWTP) Facilities Plan Update has identified needed improvements to bring the headworks process up to current treatment efficiency standards, increase peak flow hydraulic capacity, community needs, and an opportunity to improve the plant hydraulic profile.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates and Lake Oswego.								
<b>Total Expenditures</b>	5,867,388	1,160,000	0	0	0	200,000	3,800,000	4,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

PROJECT NAME: TCWTP Secondary Process Improvements									
				<b>Total Project Cost</b>	10,700,000			<b>Area</b>	Southwest
<b>Confidence</b>		Low	<b>Original Cost</b>		6,160,000	<b>Objective</b>		Efficiency	

PROJECT NAME: TCWTP Secondary Process Improvements								
<b>Project Description</b>								
Improve Tryon Creek Wastewater Treatment Plant (TCWTP) secondary process treatment performance and reliability to ensure that current National Pollutant Discharge Elimination System (NPDES) permit requirements and future Willamette Basin water quality standards are met. The timing of this project is dependent upon other improvements under E10582.								

Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	447,567	700,000	0	0	0	200,000	2,000,000	2,200,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

<b>PROJECT NAME: NEW - Terwilliger Northgate Lift Station</b>									
				<b>Total Project Cost</b>	2,200,000			<b>Area</b>	Southwest
<b>Confidence</b>		Low	<b>Original Cost</b>		2,200,000	<b>Objective</b>		Efficiency	

<b>Project Description</b>								
Correct a failing sewage conveyance pipe by constructing a new lift station located on SW Terwilliger Blvd near SW Northgate Ave.								
<b>Revenue Source(s)</b>								
Project is funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	0	0	200,000	600,000	1,400,000	0	0	2,200,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

<b>PROJECT NAME: Tyron Creek Pump Station Reconstruction</b>									
				<b>Total Project Cost</b>	3,500,000			<b>Area</b>	Southwest
<b>Confidence</b>		Low	<b>Original Cost</b>		3,500,000	<b>Objective</b>		Replacement	

<b>Project Description</b>								
Reconstruction of the Tryon Creek Pump Station to increase station form capacity from 860 gpm to 2,000 gpm and to deliver Willamette Interceptor flow from Portland and Dunthorpe-Riverdale collection system to the new headworks being constructed under Project E10582 at a higher elevation than the existing.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	158,230	500,000	20,000	0	0	0	0	20,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

<b>PROJECT NAME: Willamette R. and Columbia Sl. Water Resources Development</b>									
				<b>Total Project Cost</b>	2,532,000			<b>Area</b>	North
<b>Confidence</b>		Low	<b>Original Cost</b>		300,000	<b>Objective</b>		Mandated	

<b>Project Description</b>								
Feasibility study looking at improvements to the stormwater system function, water quality and habitat restoration projects in the Willamette River and Columbia Slough including Rivergate Quarry, NW 60th Place, and NW Saltzman Trash Rack. Package approved as part of the Water Infrastructure Improvements for the Nation Act of 2016 (WIIN) which included the 2016 Water Resources Development Act (WRDA).								
<b>Revenue Source(s)</b>								

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
Funded by Water Infrastructure Improvements for the Nation Act of 2016 (WIIN) which included the 2016 Water Resources Development Act (WRDA).								
<b>Total Expenditures</b>	0	0	705,000	915,000	230,000	405,000	277,000	2,532,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### Surface Water Management

#### PROJECT NAME: 1% For Green - Shell

	Confidence		Total Project Cost		Ongoing	Area	Citywide
	Confidence	Moderate	Original Cost	Ongoing	Objective	Efficiency	

#### Project Description

Secondary projects included within this project support construction of green street facilities in the City of Portland that manage stormwater, enhance livability, and provide other environmental benefits, such as green streets swales, curb extensions, vegetated infiltration basins, porous paving, or other facility types defined by the Sustainable Stormwater Management Program.

#### Revenue Source(s)

Funded entirely from Offsite Stormwater Management Fees and the "Percent for Green" charges assessed against eligible capital improvements constructed within the right-of-way by BES, Water and PBOT; these projects have no bond or sewer rate funding.

<b>Total Expenditures</b>	1,309,534	250,000	700,000	700,000	700,000	700,000	350,000	3,150,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

#### PROJECT NAME: Balch Creek Trash Racks Retrofit

	Confidence		Total Project Cost		Ongoing	Area	Northwest
	Confidence	Moderate	Original Cost	Ongoing	Objective	Efficiency	

#### Project Description

Maintenance of existing trash racks adjacent to the heavily used Lower Macleay trail in Forest Park. These large structures and bays keep the majority of sediment, rock, and floating debris from entering the low-pressure storm sewer that conveys Balch Creek from Forest Park (near NW 30th & Thurman) to the Willamette River at Outfall 17. Project was initially funded for pre-design only.

#### Revenue Source(s)

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	759,711	500,000	2,131,000	1,637,000	0	0	0	3,768,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

#### PROJECT NAME: Basin 3/Tryon Headwaters Primary

	Confidence		Total Project Cost		Ongoing	Area	Southwest
	Confidence	Low	Original Cost	Ongoing	Objective	Efficiency	

#### Project Description

**Project Detail - Bureau of Environmental Services**

Capital Program Project	Prior Years	Revised	Requested	Capital Plan					5-Year Total
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25		
Gather and analyze data, and implement a combination of public and private actions and investments to address the stormwater management and conveyance deficiencies in a systematic approach.									
<b>Revenue Source(s)</b>									
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.									
<b>Total Expenditures</b>	161,617	144,000	930,000	5,000	0	0	0	0	935,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0	0

**PROJECT NAME: Citywide Sump Rehab & Replacement**

		Total Project Cost	1,560,000	Area	Citywide
Confidence	Low	Original Cost	800,000	Objective	Maintenance & Repair

**Project Description**

Replace sumps failing in performance and replacing them with new sump(s) and adding sedimentation manholes where they are lacking.

**Revenue Source(s)**

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	109,837	0	700,000	700,000	50,000	0	0	0	1,450,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0	0

**PROJECT NAME: CMP Culvert Replacement - Shell**

		Total Project Cost	1,400,000	Area	Citywide
Confidence	Low	Original Cost	1,400,000	Objective	Replacement

**Project Description**

Design and construction of two culvert crossings. At 33rd, two crossing culverts will be replaced with one larger box culvert or bridge, depending on regulatory requirements. At 45th Avenue, the 24" culvert will be upsized to a 36" culvert.

**Revenue Source(s)**

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	0	0	0	0	700,000	700,000	700,000	0	2,100,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0	0

**PROJECT NAME: Columbia Slough Outfalls**

		Total Project Cost	38,115,000	Area	Northeast
Confidence	Low	Original Cost	28,631,000	Objective	Efficiency

**Project Description**

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
Program is for construction of pollution controls for separated stormwater areas flowing through 220 city-owned Columbia Slough stormwater outfalls. Focuses on the highest priority outfalls – those draining the most city-owned impervious area.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	7,414,646	3,500,000	4,403,000	6,453,000	4,650,000	5,665,000	6,000,000	27,171,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: Culverts Phase 3

			Total Project Cost	10,746,000			Area	Citywide
Confidence	Moderate	Original Cost	14,400,000	Objective	Replacement			

#### Project Description

Third phase of culverts replacements, consisting of five individual projects, to be constructed over multiple fiscal years.

#### Revenue Source(s)

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	0	200,000	506,000	1,865,000	0	0	0	2,371,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: Errol Heights Stormwater LID

			Total Project Cost	2,049,000			Area	Southeast
Confidence	Moderate	Original Cost	2,049,000	Objective	Efficiency			

#### Project Description

LID in Errol Heights to improve streets and add stormwater infrastructure.

#### Revenue Source(s)

BES portion funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	28,379	1,500,000	1,500,000	500,000	0	0	0	2,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: Fanno/Tryon Drainage Shoulder Improvements

			Total Project Cost	4,622,460			Area	Southwest
Confidence	Low	Original Cost	4,932,000	Objective	Efficiency			

#### Project Description

**Project Detail - Bureau of Environmental Services**

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
Drainage shoulder improvements Convert high priority City maintained roadside ditches to swales in the Fanno and Tryon Creek watersheds. Up to 60,000 feet of roadside ditches will be converted to swales to manage stormwater runoff from impervious roadway and adjacent development. These priority roads were identified in the Fanno/ Tryon Water Quality and Total Maximum Daily Load (TMDL) Pre-Design.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	0	521,000	521,000	681,000	681,000	0	0	1,883,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	5,000	5,000	10,000

**PROJECT NAME: NEW - FT: Boones Ferry Culvert**

			Total Project Cost	8,961,000	Area	Southwest
Confidence	Moderate	Original Cost	1,669,000	Objective	Efficiency	

**Project Description**

Replace the Boones Ferry Culvert on Tryon Creek to increase capacity and provide fish passage. The project will include channel enhancement work to control the grade of the creek and protect streambanks. This will protect an exposed 18-inch sewer line crossing the creek approximately 145 feet upstream of the culvert. In addition to limiting fish passage, the pipe is also in need of repair and it does not convey water consistent with BES stormwater design manual standards. Funded by bond proceeds repaid by sanitary sewer and stormwater rates and a grant from Metro.

**Revenue Source(s)**

Project is funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	2,364,000	3,000,000	3,000,000	50,000	0	0	0	3,050,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

**PROJECT NAME: NEW - JC: Brunkow**

			Total Project Cost	688,000	Area	Southeast
Confidence	Low	Original Cost	768,000	Objective	Expansion	

**Project Description**

Brunkow Floodplain, wetland, and riparian restoration per the 2001 Johnson Creek Restoration Plan. Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

**Revenue Source(s)**

Project is funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	52,810	0	50,000	200,000	385,000	0	0	635,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	10,000	10,000	20,000

**PROJECT NAME: Johnson Creek Crossing Restoration Project**

			Total Project Cost	2,463,000	Area	Southeast
--	--	--	--------------------	-----------	------	-----------

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
	Confidence	Moderate		Original Cost	2,000,000		Objective	Maintenance & Repair

**Project Description**  
Provide floodplain restoration on multiple parcels along Johnson Creek near river mile 9.6. Approximately 9.5 acres of floodplain will be restored to reduce flooding, improve water quality, and ESA habitat.

**Revenue Source(s)**  
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	454,049	250,000	800,000	500,000	22,000	0	0	1,322,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	10,000	10,000	20,000

<b>PROJECT NAME: Johnson Creek Oxbow</b>									
				<b>Total Project Cost</b>	5,495,000			<b>Area</b>	Southeast
<b>Confidence</b>		Low		<b>Original Cost</b>	1,396,000	<b>Objective</b>		Expansion	

**Project Description**  
Improvements to increase flood storage and improve habitat at the Johnson Creek Oxbow.

**Revenue Source(s)**  
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	431,787	200,000	495,000	2,000,000	0	550,000	1,900,000	4,945,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

<b>PROJECT NAME: Johnson Creek Willing Seller Phase 2</b>									
				<b>Total Project Cost</b>	43,000,000			<b>Area</b>	Southeast
<b>Confidence</b>		High		<b>Original Cost</b>	40,000,000	<b>Objective</b>		Efficiency	

**Project Description**  
Acquisition of properties from willing sellers in four target areas of high value for Johnson Creek floodplain restoration. The properties are land banked until enough contiguous property has been acquired to proceed with restoration. Program allows residents in high risk areas to sell their property at fair market, creates projects that increase flood storage and conveyance capacity while enhancing fish and wildlife habitat, and creates wetlands and passive recreation activities.

**Revenue Source(s)**  
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	6,852,666	1,000,000	1,000,000	1,000,000	1,000,000	2,000,000	2,000,000	7,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	55,000	60,000	65,000	65,000	245,000

<b>PROJECT NAME: Lents Outfalls Feasibility Study</b>									
				<b>Total Project Cost</b>	250,000			<b>Area</b>	Southeast

**Project Detail - Bureau of Environmental Services**

Capital Program Project	Prior Years	Revised	Requested	Capital Plan				5-Year Total
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
	Confidence	Low	Original Cost	250,000			Objective	Efficiency

**Project Description**

Assess the feasibility of improving water quality at two locations on Johnson Creek, ultimately to mitigate localized flooding and water quality risks for the benefit of the community and aquatic and terrestrial species that reside in Johnson Creek.

**Revenue Source(s)**

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	9,654	0	150,000	50,000	0	0	0	200,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

**PROJECT NAME: Luther Road Channel Restoration**

			<b>Total Project Cost</b>	2,168,000		<b>Area</b>	Southeast
	<b>Confidence</b>	Complete	<b>Original Cost</b>	2,168,000		<b>Objective</b>	Maintenance & Repair

**Project Description**

Geomorphic & habitat assessment to develop and implement a permanent repair to the channel to protect the existing sanitary sewer infrastructure within the project area.

**Revenue Source(s)**

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	2,534,979	1,300,000	50,000	0	0	0	0	50,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

**PROJECT NAME: NEW - Marquam Nature Park Combined Sewer System Improvement**

			<b>Total Project Cost</b>	180,000		<b>Area</b>	North
	<b>Confidence</b>	Low	<b>Original Cost</b>	180,000		<b>Objective</b>	Efficiency

**Project Description**

Combined sewer & stormwater system in a section of Marquam Nature Park needs to be reconstructed or reconfigured so that sanitary, stormwater and stream flows can be conveyed to the receiving system during all storm events effectively. The perennial stream channel that runs parallel to the combined sewer pipe needs enhancement and protection. The stream has become incised with exposed combined sewer pipes in some locations.

**Revenue Source(s)**

Funded by either sanitary and stormwater rates and/or bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	0	0	180,000	0	0	0	0	180,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

**PROJECT NAME: NW Saltzman Trash Rack Stormwater Improvements**

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
				<b>Total Project Cost</b>	250,500		<b>Area</b>	Northwest
	<b>Confidence</b>	Low		<b>Original Cost</b>	250,500		<b>Objective</b>	Efficiency

### Project Description

Stabilize flow split, improve sediment capture and management at the two large trash rack impoundments and improving maintenance access. This trash rack is part of the network capturing and conveying Forest Park storm water flow under US 30 to the Willamette River.

### Revenue Source(s)

Project is funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	428	0	100,000	150,000	0	0	0	250,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: NEW - Oaks Bottom Wildlife Refuge Viewing Platform

				<b>Total Project Cost</b>	130,000		<b>Area</b>	Southeast
	<b>Confidence</b>	Optimal		<b>Original Cost</b>	130,000		<b>Objective</b>	Expansion

### Project Description

Construct a viewing platform for public use near Oaks Bottom Wildlife Refuge near the Springwater Corridor. originally slated to be a part of the Oaks Bottom Habitat Enhancement Project, completed in Fall 2018. Plans and specs for the viewing platform were completed by subcontractors and converted to Army Corps of Engineers standards.

### Revenue Source(s)

BES portion funded by bond proceeds repaid by sanitary sewer and stormwater rates in addition to PBOT, LID's, PP&R and TriMet.

<b>Total Expenditures</b>	23,134	0	106,000	0	0	0	0	106,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: Reveg Plant Est Umbrella FY19&20 - Shell

				<b>Total Project Cost</b>	ongoing		<b>Area</b>	Citywide
	<b>Confidence</b>	Optimal		<b>Original Cost</b>	ongoing		<b>Objective</b>	Expansion

### Project Description

Umbrella for post-construction plant establishment on multiple CIP projects. Replaces previous shell E10969.

### Revenue Source(s)

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	122,713	250,000	250,000	250,000	250,000	250,000	250,000	1,250,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: Rocky Butte Stormwater Plan

**Project Detail - Bureau of Environmental Services**

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
				<b>Total Project Cost</b>	386,000		<b>Area</b>	Northeast
	<b>Confidence</b>	Low		<b>Original Cost</b>	385,000		<b>Objective</b>	Replacement

**Project Description**

Feasibility study to deliver a stormwater master plan of the area that will identify and address all the stormwater deficiencies. The master plan will quantify all the private property issues, interdependencies between private and public stormwater assets, and make recommendations for addressing those deficiencies.

**Revenue Source(s)**

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	864	0	0	0	185,000	200,000	0	385,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

**PROJECT NAME: Springwater Wetland**

				<b>Total Project Cost</b>	7,470,000		<b>Area</b>	Southeast
	<b>Confidence</b>	Moderate		<b>Original Cost</b>	535,000		<b>Objective</b>	Mandated

**Project Description**

Mitigate damage from Springwater Wetland flooding greater than the 10-year event and provide water quality and habitat benefits by restoring existing wetlands in the area. Passive recreational trails/facilities will be incorporated and coordinated with Portland Parks and Recreation.

**Revenue Source(s)**

Funded by US Army Corps of Engineers and bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	257,091	700,000	650,000	650,000	650,000	650,000	4,870,000	7,470,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

**PROJECT NAME: NEW - Stephens Creek Outfalls and Culvert**

				<b>Total Project Cost</b>	2,331,500		<b>Area</b>	Southwest
	<b>Confidence</b>	Low		<b>Original Cost</b>	2,331,500		<b>Objective</b>	Maintenance & Repair

**Project Description**

Replace culvert, repair outfalls and repair roadside erosion on SW Taylors Ferry Rd.

**Revenue Source(s)**

BES portion funded by bond proceeds repaid by sanitary sewer and stormwater rates in addition to PBOT, LID's, PP&R and TriMet.

<b>Total Expenditures</b>	49,007	0	330,000	0	0	0	1,000,000	1,330,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

**PROJECT NAME: Stephens Creek Ph 1 Improvements**

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
				<b>Total Project Cost</b>	5,543,000		<b>Area</b>	Southwest
<b>Confidence</b>		Low	<b>Original Cost</b>	13,650,000		<b>Objective</b>		Efficiency
<b>Project Description</b>								
Address stormwater issues in the Stephens Creek sub-watershed: (1) unmanaged stormwater discharge from existing impervious surfaces; (2) pollution reduction and detention of stormwater; (3) restoration of ecological functions of riparian and wetland areas; (4) energy dissipation at outfalls causing erosion and excess sediment loading.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	2,018,844	1,000,000	1,256,000	590,000	590,000	590,000	590,000	3,616,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	10,000	10,000	20,000
<b>PROJECT NAME: Stormwater Investments and Interbureau Projects</b>								
				<b>Total Project Cost</b>	ongoing		<b>Area</b>	Citywide
<b>Confidence</b>		Low	<b>Original Cost</b>	ongoing		<b>Objective</b>		Expansion
<b>Project Description</b>								
Invest in integrated projects delivering multiple infrastructure and service improvements to Portlanders in a more integrated and efficient manner.								
<b>Revenue Source(s)</b>								
BES portion funded by bond proceeds repaid by sanitary sewer and stormwater rates in addition to PBOT, LID's, PP&R and TriMet.								
<b>Total Expenditures</b>	1,442	0	500,000	500,000	500,000	500,000	0	2,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: SW Capitol Hwy Stormwater Improvements</b>								
				<b>Total Project Cost</b>	10,586,000		<b>Area</b>	Southwest
<b>Confidence</b>		High	<b>Original Cost</b>	10,587,000		<b>Objective</b>		Efficiency
<b>Project Description</b>								
Stormwater improvements along SW Capitol Hwy and local side streets. Within Tryon, Falling, Woods, and Vermont Creek basins to address drainage and conveyance deficiencies, along with recurring nuisance flooding issues.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	1,915,063	2,000,000	6,447,000	1,138,000	25,000	4,000	0	7,614,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: SW Corridor BES Systems Development Project</b>								
				<b>Total Project Cost</b>	3,295,000		<b>Area</b>	Southwest

**Project Detail - Bureau of Environmental Services**

Capital Program Project	Prior Years	Revised	Requested	Capital Plan				
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	5-Year Total
	Confidence	Moderate	Original Cost	1,929,000		Objective	Expansion	
<b>Project Description</b>								
BES infrastructure planning requirements in response to the development of the SW Corridor Plan and Light Rail Train (LRT). As part of the SW Corridor Plan developed by Metro, TriMet plans to construct a 12-mile LRT Max line from downtown Portland to Bridgeport Village. In addition to the light rail construction, Station Access Projects (SAPs) will be constructed where the train stop. The SAPs are designed for multi-modal access (bike, pedestrian, and vehicle) to the light rail and economic development. The train track alignment known as the Locally Preferred Alternative (LPA) will be finalized October of 2018 and project construction is scheduled to begin in 2023.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	619,540	500,000	675,000	450,000	350,000	350,000	350,000	2,175,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: SW Shattuck Rd Culvert Replacement</b>								
			Total Project Cost	1,260,000		Area	Southwest	
	Confidence	Low	Original Cost	1,214,000		Objective	Replacement	
<b>Project Description</b>								
Replace the culvert on Fanno Creek under SW Shattuck Road to increase hydraulic capacity and provide for fish passage.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	0	0	0	103,000	98,000	98,000	961,000	1,260,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: NEW - Upper Woods Outfall Improvement &amp; Culvert Replacement</b>								
			Total Project Cost	1,030,000		Area	Southwest	
	Confidence	Low	Original Cost	1,030,000		Objective	Maintenance & Repair	
<b>Project Description</b>								
Repairs and improvements are needed to reduce local erosion. Outfalls are the point of delivery for pollutants and a potential source of local erosion in streams. Replacing or repairing undercut and degraded pipes improves the function and life-span of BES infrastructure.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	0	0	100,000	200,000	555,000	175,000	0	1,030,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: Watershed Investment Program - Shell</b>								

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
				<b>Total Project Cost</b>	Ongoing		<b>Area</b>	Citywide
	<b>Confidence</b>	Moderate		<b>Original Cost</b>	Ongoing		<b>Objective</b>	Efficiency
<b>Project Description</b>								
Program funds watershed enhancements. Priority is given to projects that leverage other funding sources and/or address multiple watershed health goals.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	5,852,214	1,000,000	1,000,000	1,000,000	2,000,000	2,500,000	0	6,500,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	10,000	10,000	10,000	10,000	40,000
<b>PROJECT NAME: Watershed Land Acquisition Program</b>								
				<b>Total Project Cost</b>	10,750,000		<b>Area</b>	Citywide
	<b>Confidence</b>	Low		<b>Original Cost</b>	15,500,000		<b>Objective</b>	Efficiency
<b>Project Description</b>								
Program targets the acquisition of 100 to 200 acres over five years to protect medium to high functioning natural resources in support of watershed health and stormwater management.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	107,650	250,000	1,500,000	1,500,000	1,500,000	2,500,000	3,000,000	10,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	30,000	35,000	40,000	40,000	145,000
<b>PROJECT NAME: West Lents Floodplain Restoration</b>								
				<b>Total Project Cost</b>	6,500,000		<b>Area</b>	Southeast
	<b>Confidence</b>	Low		<b>Original Cost</b>	6,500,000		<b>Objective</b>	Expansion
<b>Project Description</b>								
Project will restore the floodplain of Johnson Creek to address flooding, improve water quality and restore habitat within West Lents. To date, the City has acquired approximately 15 acres of property within the West Lents area. Near term acquisition and ROW vacation would increase the area to approximately 19 acres. The initial phase of this project will develop and evaluate alternatives for restoring floodplains within the larger study area (approximately 36 acres), and identify immediate implementation opportunities and potential project phasing.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	197,572	400,000	500,000	1,500,000	1,500,000	1,500,000	1,000,000	6,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised	Requested	Capital Plan				5-Year Total
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
<b>Systems Development</b>								
<b>PROJECT NAME: Drainage Improvement - Shell</b>								
				<b>Total Project Cost</b>	Ongoing		<b>Area</b>	Citywide
	<b>Confidence</b>	Moderate		<b>Original Cost</b>	Ongoing		<b>Objective</b>	Expansion
<b>Project Description</b>								
Drainage Improvement Program provides assistance to projects initiated through Local Improvement District (LID) or Public Works Permits processes for oversizing of storm drainage facilities or upgrading of existing public downstream drainage systems. Oversizing increases capacity over the expected useful life of the facilities. It may also be used for small, urgent stormwater improvements.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	88,423	250,000	250,000	250,000	250,000	250,000	250,000	1,250,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: ECIMS EnvCompliance Information Management System</b>								
				<b>Total Project Cost</b>	2,523,000		<b>Area</b>	Citywide
	<b>Confidence</b>	Optimal		<b>Original Cost</b>	2,523,000		<b>Objective</b>	Replacement
<b>Project Description</b>								
Replace the Aquarius System developed in 1995 with an off the shelf system. The system is based on tools no longer in use and support is limited in the software development community.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	1,036,891	552,980	450,000	0	0	0	0	450,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0
<b>PROJECT NAME: Party Sewers</b>								
				<b>Total Project Cost</b>	Ongoing		<b>Area</b>	Citywide
	<b>Confidence</b>	Moderate		<b>Original Cost</b>	Ongoing		<b>Objective</b>	Efficiency
<b>Project Description</b>								
The Party Sewers Program addresses existing "party sewers" – shared private sewer lines crossing private property (often without appropriate easements) or existing within the right-of-way. These sewers are older and generally have not been maintained. Over several years, this project will provide each property owner with direct access to a municipal sewer line or ensure that the property has acquired an easement for a separated private line. Most of the construction costs up to a capped amount will be reimbursed by property owners to the City through an LID assessment, or through an in-lieu of assessment line charge.								
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								

# Bureau of Environmental Services

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
<b>Total Expenditures</b>	8,033,109	1,000,000	4,380,000	5,541,000	4,450,000	1,527,000	1,000,000	16,898,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: PBOT Interagency Reimbursement - Shell

			Total Project Cost	Ongoing	Area	Citywide
Confidence	Moderate	Original Cost	Ongoing	Objective	Expansion	

#### Project Description

PBOT Interagency Reimbursement Program provides for stormwater facility and sanitary sewer design, design review, and construction inspection services associated with street improvement projects initiated by PBOT.

#### Revenue Source(s)

PBOT requests necessary services and reimburses BES for all costs of these services through an interagency agreement.

<b>Total Expenditures</b>	451,470	350,000	350,000	350,000	350,000	350,000	350,000	1,750,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: Permit Reimbursement - Shell

			Total Project Cost	Ongoing	Area	Citywide
Confidence	Optimal	Original Cost	Ongoing	Objective	Replacement	

#### Project Description

This project allows a developer to be reimbursed for making public sewer available to another property, per City Code Title 17.

#### Revenue Source(s)

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	737,033	200,000	200,000	200,000	200,000	200,000	200,000	1,000,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

### PROJECT NAME: Public Works Permit Projects

			Total Project Cost	Ongoing	Area	Citywide
Confidence	Low	Original Cost	Ongoing	Objective	Expansion	

#### Project Description

This ongoing, full-cost recovery program supports new development by providing for new public sewer system facilities through the public works permitting process. When proposed development creates the need for additional sewer system facilities, private developers are required to construct those facilities under this program. As part of the permit process, BES reviews and approves both plans and final construction for compliance with system standards. Facilities developed through this process are accepted as part of the City's sewerage system when completed and approved and thereafter maintenance and repair are provided by the City. Facilities must be developed to system standards to ensure that expensive future maintenance problems and service failures do not occur.

#### Revenue Source(s)

All bureau costs are reimbursed by the developer.

**Project Detail - Bureau of Environmental Services**

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
<b>Total Expenditures</b>	0	850,000	850,000	850,000	850,000	850,000	1,000,000	4,400,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

**PROJECT NAME: Sewer Easements on Existing Sewers - Shell**

			<b>Total Project Cost</b>	Ongoing		<b>Area</b>	Citywide
	<b>Confidence</b>	Low	<b>Original Cost</b>	Ongoing		<b>Objective</b>	Expansion

**Project Description**

Sewer easements on existing sewers for high priority acquisitions. The bureau regularly discovers locations where collection system assets are on private property, without benefit of appropriate easements or other property interests.

**Revenue Source(s)**

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	0	50,000	50,000	50,000	50,000	50,000	50,000	250,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

**PROJECT NAME: Sewer Extension & Strmwtr Progs Intgd Sys Imps**

			<b>Total Project Cost</b>	1,500,000		<b>Area</b>	Southeast
	<b>Confidence</b>	Low	<b>Original Cost</b>	1,000,000		<b>Objective</b>	Expansion

**Project Description**

Identify stormwater projects, in conjunction with sewer extension projects, that minimize risks and maximize customer service for both systems. In addition, street improvements may be necessary for the effectiveness of stormwater system improvements, as well as providing additional benefit to the community.

**Revenue Source(s)**

Funded by bond proceeds repaid by sanitary sewer and stormwater rates.

<b>Total Expenditures</b>	0	0	0	0	500,000	500,000	500,000	1,500,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

**PROJECT NAME: Sewer Extensions for High Risk Septic - Shell**

			<b>Total Project Cost</b>	Ongoing		<b>Area</b>	Citywide
	<b>Confidence</b>	Moderate	<b>Original Cost</b>	Ongoing		<b>Objective</b>	Expansion

**Project Description**

This program funds small sanitary sewer extension projects to provide sanitary sewer service to developed residential properties with septic systems. Projects will be prioritized based on risk.

# Bureau of Environmental Services

---

## Project Detail - Bureau of Environmental Services

Capital Program Project	Prior Years	Revised FY 2019-20	Requested FY 2020-21	Capital Plan				5-Year Total
				FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
<b>Revenue Source(s)</b>								
Funded by bond proceeds repaid by sanitary sewer and stormwater rates.								
<b>Total Expenditures</b>	339,579	1,500,000	2,927,000	1,000,000	1,000,000	500,000	500,000	5,927,000
<b>Net Operations and Maintenance Costs</b>	0	0	0	0	0	0	0	0

## Program Offers



# Admin & Support

## Program Description & Goals

The Administration and Support Program (via the Director’s Office and Deputy Director’s Office of Strategy, Innovation and Performance) provides the organization with high-level leadership, strategic guidance and effective oversight of the bureau. It leads and oversees implementation of the strategic and equity plans, which identify specific service delivery, workforce development, and community-centered goals and outcomes; ensures timely and appropriate response to the public, ratepayers and regulatory agencies; and functions as the primary liaison between the bureau, City Council and other City bureaus.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
---------------	-----------------------	-----------------------	----------------------	----------------------	---------------------

## Explanation of Services

The Bureau of Environmental Services (BES) provides critical services through its management of the City’s wastewater and stormwater infrastructure and protection of public health and the environment. The bureau is highly regulated under the Clean Water Act, Safe Drinking Water Act and Endangered Species Act and as such must ensure compliance with federal and state regulators. To facilitate regulatory compliance, BES must in turn locally regulate, monitor and enforce environmental policies. The staff that provide the oversight, accountability and coordination of this critical work is organized into two work groups, which provide the following activities:

### 1) Director’s Office –

- Provides policy direction and executive-level strategic planning
- Coordinates the bureau’s 28 programs
- Represents the City and the bureau to the public, elected officials, other agencies and bureaus, jurisdictions, community groups and organizations
- Responds to legal issues and requests for public records

### 2) Office of Strategy, Innovation and Performance –

- Leads and consults on the implementation of the Strategic Plan
- Provides direction, oversight, and analysis of implementation of the bureau’s Equity Plan, which focuses on improving (1) recruitment and professional development outcomes for internal employees, and (2) service delivery outcomes for external communities of color and low-income households
- Implements the bureau’s workforce development plan, which focuses on improving training and professional development opportunities for employee growth and improving employee recognition and wellbeing
- Manages bureau communications staff, who coordinate internal and external communication
- Coordinates improvement of the internal and external code, rules and policy development
- Supports two utility advisory groups: the Portland Utility Board and the Citizens’ Utility Board
- Serves as legislative liaison with the Office of Government Relations

## Equity Impacts

The hiring a second Equity Manager in FY2019-20 was a priority action outlined in the bureau's 2016-2021 Equity Plan. The Equity Managers are implementing specific work plan priorities to advance equity literacy, service delivery, and workforce equity outcomes bureauwide. The FY2020-21 Requested Budget includes permanent, full-time funding for these two positions and the work plan. Primary equity-centered priorities for FY2020-21 include:

- expanding equity literacy throughout the bureau at all levels of the organization to ensure that each BES employee understands their role in equity. Topics include strategies for managing equitably, using race-centered results-based accountability and community-centered racial equity principles, and development of program-specific strategies to address racial and disability disparities.
- supporting and creating transformative equitable business practices that identify and reduce disproportionate impacts on vulnerable communities and communities of color. In FY2020-21 this will include further integrating equity into the bureau's budget development process to improve performance analysis and accountability.
- establishing a bureau culture that advances workforce equity, supports the goals of our equity plan, and adopts and empowers a diverse and inclusive workforce bureauwide. Equity Managers have developed tools and enhanced practices and procedures that embed equity into the bureau's hiring and recruitment process. Additionally, BES is partnering with other City bureaus to develop workforce equity strategies, leadership training, and comprehensive recruitment and retention strategies for cross-bureau implementation.

In FY2019-20, the program used D/M/W/SDV/ESB contract resources to provide professional development training for managers on supporting employee well-being and for Strategic Plan facilitation. This training advances the bureau's equity literacy goals noted in the bureau's 2016-2021 Equity Plan. These contracts will continue through FY2020-21.

## Changes to Program

A vacant (previously filled) Equity Manager (Analyst III) position focusing on Equity Culture, Education and Outreach was filled in March 2019. A second Equity Manager (Analyst III) position was added during the FY2019-20 Fall BMP to focus on Equity Workforce development. These positions are intended to serve as change agents to support the advancement of equity priorities and outcomes bureauwide.

In FY2020-21, this Program adds \$35,000 in one-time funding for each of two projects that will gather information to aid in developing innovative approaches to addressing impacts of homelessness to BES assets and operations. These projects are being completed in collaboration with the Bonneville Environmental Foundation and Portland State University, respectively.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
External Materials and Services	202,305	266,942	435,150	505,150
Internal Materials and Services	293,778	320,714	382,602	447,592
Personnel	1,450,617	1,720,499	1,815,219	1,780,231
<b>Sum:</b>	<b>1,946,700</b>	<b>2,308,154</b>	<b>2,632,971</b>	<b>2,732,973</b>

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Primary expenses for this program include personnel, regional and national association dues, and costs related to transition planning and implementation of the Strategic Plan. Additionally, this program incurs interagency charges for specialized legal services, the Bureau's share of the PBOT/BES liaison staffing, and charges from the Office of Government Relations.

**Staffing:** 11 full-time positions support this program and include the Director, Deputy Director, an Administrative Specialist III, and Analysts (8).

There are no staffing changes for this program in the FY 2020-21 Requested Budget.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

### Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Bureau Support

## Program Description & Goals

The Bureau Support Program manages the business and administrative needs of the bureau in accordance with City administrative rules and requirements. The overarching goal of this program is to provide the administrative and support functions that (1) guide employees toward efficient, cost-effective processes and practices, (2) encourage accountability, consistency and transparency, (3) comply with City business policies, standards and expectations, and (4) align with the bureau's strategic goals.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Amount of time loss, in hours per employee, due to injuries and illnesses	2.40	2.20	2.00	2.65	3.10
Percent of dollars awarded to disadvantaged, minority-owned and women-owned (D/M/W) firms in professional services	0	0	0	30%	30%

## Explanation of Services

Bureau Support provides the basic services required for most administrative operations bureauwide. Within the Business Services Group, Administrative Services provides human resources administration, facility and property management, and fleet and telecommunications coordination. Risk Services provides risk management, safety, loss prevention, emergency management, security support services, and management oversight of the Owner Controlled Insurance Programs (OCIP) for capital construction projects. Contract Management oversees contract coordination, the bureau's Contracting Opportunities Program, and Grant Management. Management of the Wastewater Group's fleet, stores and facilities are also included in the Bureau Support Program.

The program results in coordinated decision-making regarding the following activities:

- Human resources (recruitment, hiring and HR management/administration)
- Facilities management (including security and property management responsibilities)
- Management of fleet vehicles
- Contracting that meets operating, capital, City Council and community objectives
- Risk management, employee safety and the City's Owner-Controlled Insurance Program
- The bureau's emergency management program
- Centralized administrative coordination with partner bureaus and agencies, especially the Office of Management and Finance.

## Equity Impacts

The Bureau Support Program manages the Contracting Opportunity Program, which performs extensive outreach within the Disadvantaged, Minority, Women, Service Disabled Veteran and Emerging Small Business (D/M/W/SDV/ESB) contracting community, to support and encourage contracting and subcontracting opportunities with BES. This aligns with Actions 2c and 2d of Goal 2 – Equitable Service Delivery and Business Practices – of the bureau’s 2016-2021 Equity Plan, which seek to increase BES Project Manager participation in existing outreach activities for underutilized firms and evaluate opportunities in construction for projects that could increase D/M/W/SDV/ESB utilization. Equity considerations are written into grants, Intergovernmental Agreements (IGAs) and contracts to encourage increased utilization of historically underutilized businesses. These efforts, including collecting and analyzing data on the Bureau’s utilization of D/M/W/SDV/ESB will continue in FY2020-21.

This program also works closely with BHR and with hiring managers within BES to promote and support recruitment and employee retention strategies. This aligns with bureau workforce equity goals, which specifies action to diversify BES’ workforce to reflect the demographics of the region. Staff from the Business Support program actively participate in the Bureau’s Committee for Equity and Diversity. These efforts, including the identification and tracking of performance metrics, will continue in FY2020-21.

As BHR rolls out tools in FY2020-21 for managing performance reviews and employee development Citywide, this program will continue to work with the BES Equity Managers and the Employee Development Program to integrate equity priorities and workforce development/training opportunities into the entire HR cycle. This aligns with Action 1e of Goal 1 – Equity Literacy – of the bureau’s equity plan, which provides for accountability to all Portland communities by means of performance management and the addition of equity-centered objectives on the Employee Annual Performance Review form.

## Changes to Program

Changes to this program in FY 2020-21 primarily address improving management of facilities bureauwide, including security, maintenance, and planning for changes and growth. All changes address Service Delivery and Bureau Culture goals in the bureau's Strategic Plan.

Approximately \$530,000 reflects proposed items to address facility needs throughout the bureau including:

- A one-time increase of \$250,000 for bureauwide facility planning in coordination with citywide efforts to optimally manage future growth, improve operational integration, ensure facilities are utilized efficiently, and to provide the public with adequate and equitable access to services.
- Addition of a full-time Coordinator I position to assist with bureauwide property management tasks and projects that are currently neglected, resulting in costly delays and increased long-term maintenance and repair costs.
- Additional funding of \$85,000 to address deferred facility maintenance at the treatment plants.

A net increase of approximately \$400,000 for security efforts bureauwide including:

A Coordinator I position to assess, evaluate, plan and coordinate the security functions bureauwide. This requested position will provide ongoing planning, development and implementation of security plans, policies, and procedures, in coordination with elevated security efforts citywide.

- Approximately \$180,000 for additional contracted security staff and vehicle resources, as recommended by the City Security Manager to increase patrols at high-risk BES facilities including pump stations, CBWTP and the Water Pollution Control Lab. The additional officer would additionally escort callout staff to facilities outside of business hours, which should decrease the need for two employees to respond, resulting in improved operations and increased safety of employees and customers.

Also requested is an increase of approximately \$280,000 in one-time costs to fund Wastewater Group vehicles and equipment to support more efficient operations, including: electric carts; pump replacement; a vacuum trailer; and a smaller size pump station utility vehicle.

The Requested Budget also reflects changes to a variety of interagency agreements with other City bureaus (Risk Services, OMF-Facilities, Printing & Distribution, Technology Services) and government partners (drainage districts). All changes to Bureau Support Program interagency agreements in FY 2020-21 are at or below the amounts previously forecast by the bureau.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	-2,868,127	2,247,077	1,993,720	253,500
External Materials and Services	735,853	1,868,643	2,333,169	2,839,924
Internal Materials and Services	7,212,132	6,711,687	8,672,135	8,396,161
Personnel	2,134,469	2,361,301	2,507,316	2,739,191
<b>Sum:</b>	<b>7,214,326</b>	<b>13,188,708</b>	<b>15,506,340</b>	<b>14,228,776</b>
FTE	17.7	21	23	21.25

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Primary expenses for this program include personnel, capital outlay for fleet life-cycle replacements, facility repair and maintenance costs, lease expenses, and payment of utility costs. Internal service costs include certain centralized telecommunication charges, rental costs for facilities, and payments to Risk Management for liability insurance, worker's compensation, and property insurance.

The reduction to Capital Outlay reflects the timing of life-cycle vehicle replacements. More replacement occurred in FY 2019-20 than are expected for FY 2020-21. Internal Materials and Services in FY2019-20 are primarily due to increases to interagency agreements with City Fleet, Procurement Services, and Parks.

**Staffing:** 23.75 positions support this program with approximately 2.5 FTE allocated to capital projects within the Project Management and Controls Program. Positions include Supervisor (1), Analysts (4.75), Risk Specialists (3), Storekeepers (3), Administrative Specialists (2), Office Support Specialists (2), Coordinators (6), and Manager I (2).

The staffing above includes a request for a new Coordinator I position.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

## Program Information

<b>Bureau:</b>	Bureau of Environmental Services	<b>Program Contact:</b>	Ken Bartocci
<b>Website:</b>	<a href="https://www.portlandoregon.gov/bes/">https://www.portlandoregon.gov/bes/</a>	<b>Contact Phone</b>	(503) 823-6022

# Communications

## Program Description & Goals

The Communications Program employs a variety of communication tools and methods to promote awareness of and involvement in the work of the bureau. The program encourages public interest and engagement with the bureau, to promote behaviors and activities that support stewardship of the public sewer and stormwater systems. The Communications Program is strongly aligned to the strategic goal area of Community Relationships, which aims to build strong community relationships and be a trusted service provider.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Number of bureau education programs delivered	431	498	400	400	400

## Explanation of Services

The Communications Program manages the bureau’s internal and external communications, media relations, social media, graphic design, community outreach and science education programs. The team provides services directly to BES employees, assisting them in communicating with and engaging their target audiences to achieve bureau, City and community goals. Activities include developing and implementing strategic communications plans, messages and communications content, as well as advising on appropriate methods of distributing information to BES and City employees, City Council and community audiences.

Frequent and open communication with the public has many benefits:

- Increased transparency about how BES uses ratepayer funding to build and maintain sewer and stormwater infrastructure and protect public health and the environment
- Increased public awareness of issues facing the bureau and the sewer and stormwater system
- Better relationships and partnerships with the public
- More awareness of how the public can work with BES to protect sewer infrastructure and the environment (such as not dumping grease down the drain, reducing pesticide use on lawns, and reporting illegal dumping, pollution and spills)
- Increased support for bureau efforts
- Provision of information about bureau projects and programs directly to the public, so that people do not have to rely solely on the media and social media to learn about bureau activities

## Equity Impacts

The Communications Program works directly with Portland's communities of color and people with disabilities to ensure and improve access to BES services. Funding for the BES website re-design (via PTE contract) is improving ADA accessibility and overall customer navigability for our residential and commercial customers. In addition, this contract was awarded to a D/M/W/SDV/ESB service provider, aligning with Goal 2 of the BES 2016-2021 Equity Plan regarding equitable service delivery and business practices. The FY2020-21 Requested Budget includes funding for continuation of these efforts. The intent of this project is to address strategic initiatives related to communication improvements, providing equitable (ADA) access and making a community-oriented website where services are easier to find, access, and translate for all customers. This contract supports the bureau's achievement of the Equitable Service Delivery and Business Practices goal outlined in the bureau's 2016-2021 Equity Plan.

The FY2020-21 Requested Budget includes funding for staff time in support of Action 2g of the bureau's equity plan, specific to the collection of demographic data, including race/ethnicity and disability status of individuals served in the outreach process. To track and collect data, the Post Engagement Accommodation Questionnaire (PEAQ), a tool for helping capture data on community needs related to accommodation and translation at bureau events, will be piloted.

## Changes to Program

Changes in the media landscape, community expectations regarding access to information and potential changes in regulatory requirements necessitate ongoing review of communications strategies and tactics. In addition, supporting implementation of the Strategic Plan and the upcoming organizational transition requires a significant increase in the amount and importance of internal communications.

Portland's demographics are changing, and consequently the bureau's engagement and outreach efforts need to be responsive to the needs of a wide range of communities. This has resulted in a significant increase in the need for enhanced cultural responsiveness, language resources and culturally specific outreach and engagement.

The one significant proposed change to the Communications Program in FY 2020-2021 is addition of a full-time Coordinator III position to support strategic communications bureauwide. Anticipated areas for initial support would include organizational transition implementation, customer financial assistance and incentive programs, integrated planning efforts, and regulatory requirements. The position would also be responsible for management of the bureau's social media channels, development of quarterly bill inserts, and production of the annual RiverViews newsletter.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	0	24,781	0	77,000
External Materials and Services	160,043	145,617	373,571	373,571
Internal Materials and Services	78,932	71,970	34,745	34,522
Personnel	1,054,441	1,165,737	1,018,081	1,252,137
<b>Sum:</b>	<b>1,293,416</b>	<b>1,408,106</b>	<b>1,426,397</b>	<b>1,737,230</b>
FTE	8.1	12.6	13	8.75

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Expenses for this program include personnel and funding for public service, awareness and outreach campaigns. Internal service costs are primarily attributable to printing and distribution of materials. The Capital Outlay increase is attributable to two vehicles due for life-cycle replacement.

**Staffing:** 14 positions support this program with approximately 4.75 FTE allocated to capital projects within the Project Management and Controls Program Area for public outreach on construction projects. Positions include a Public Information Manager and Officer, Coordinators (11), and a Graphic Designer.

The staffing above includes a request for a new Coordinator III position.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

### Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Employee Development

## Program Description & Goals

The Employee Development Program is aligned with the strategic goal area of Workforce Development, which involves developing, retaining and attracting highly skilled, diverse and knowledgeable employees that can meet the challenges ahead. This program aims to identify and coordinate training needs and solutions for managers and employees, manages the employee recognition program and supports employee completion of required trainings. The Wastewater Group’s Learning and Development work unit is also budgeted within the Employee Development Program.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
---------------	-----------------------	-----------------------	----------------------	----------------------	---------------------

## Explanation of Services

The bureau’s Strategic Plan identifies Workforce Development as one of six key goal areas. To achieve its strategic outcomes, the bureau needs a highly engaged and committed workforce. Nearly one-quarter of the bureau’s workforce will be eligible to retire over the next five years. In addition, effective integrated business processes require that employees be trained in current and emerging processes, best practices and technology. Cross training and information sharing, as well as training the new generation of workers, are critical to ensuring the bureau’s long-term success.

Another critical goal is ensuring the safety of our employees and the public. The Employee Development Program works closely with the bureau’s Risk Services Division to develop and update the list of required safety trainings. Trainings that are offered to employees are tracked and reported quarterly.

The Wastewater Group’s Learning & Development work unit completes assessment and ongoing management of training needs for Wastewater Group staff and related functions. It also provides support for succession planning and employee transition through knowledge capture, skill development and program/work unit orientations, and supports advancement of workforce initiatives that can encourage workforce diversity and career advancement such as trainees, apprentices and interns.

BES has a successful onboarding program (implemented in FY 2017-18) and employee recognition program that help employees understand the bureau’s varied, interconnected areas of work and how employees’ work supports our mission. The bureau’s PEER program improves BES culture and empowers employees to address workplace and personal challenges.

## Equity Impacts

This program monitors and reports on the BES Equity Plan's participation goal that all employees complete 8 hours of racial equity and workplace diversity training annually, to build their skills and understanding of these issues. This aligns with Action 1a (Provide each BES employee 8 hours a year to support disability and racial equity activities in addition to required trainings) of the bureau's Equity Plan. The bureau aims to develop a process for tracking compliance related to this goal in FY2020-21.

In addition, efforts are underway to develop improved organizational initiatives and employee development tools to advance career opportunities and encourage a diverse workforce. The bureau's Equity Managers work closely with the Employee Development program to ensure that equity is reflected in training opportunities, and that workforce development strategies support and advance the goals of the bureau's Equity Plan.

## Changes to Program

For many years, the bureau has attempted to manage training and development in a non-coordinated fashion due to resource limitations. Currently, most bureau activities related to employee development are dispersed throughout various individual program budgets (and not comprehensively reflected under this Program Offer budget). As a result, training and development opportunities for individual staff can be unintentionally inconsistent, missed or unavailable. Recent strategic efforts (including the BES organizational transition assessment) have identified the critical nature of a more coordinated effort to ensure that training and development opportunities become available to support the entire BES workforce. In FY2020-21, the bureau is requesting a training coordinator to better integrate, facilitate and monitor all training throughout the bureau.

As part of the upcoming organizational transition work, the bureau will be looking to inventory currently disparate training/workforce development activities and assembling a more cohesive strategy for identifying and allocating employee development opportunities, including development of standardized practices and protocols. Effectively managing this effort will be challenged to succeed without a dedicated, full-time subject matter expert.

Future improvements to bureau-wide training and workforce development are likely, given that the bureau's Strategic Plan emphasizes workforce development as one of the six primary goal areas. Additionally, the new BHR training application for employees has increased responsibilities to enter and track data within the system. The upcoming FY2020-21 Citywide roll out of an employee performance management module will also meaningfully connect current HR administrative functions to training/development opportunities. The Employee Development Program will be working closely with BHR to (1) ensure that BES managers and employees know what trainings are required/available and whether they have been completed, and (2) provide training on how to use the new systems. It is expected that adding the new Coordinator position will allow the bureau to more effectively manage through these collective changes, resulting in more equitable opportunities and improved employee retention and skill development over the long-term.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
External Materials and Services	95,280	31,228	37,220	37,220
Internal Materials and Services	273	0	102,636	69,217
Personnel	718,722	1,010,060	116,357	255,121
<b>Sum:</b>	<b>814,275</b>	<b>1,041,287</b>	<b>256,213</b>	<b>361,558</b>
	FTE	0	0	0
				2

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Expenses for this program include personnel, payment of professional licenses and an internal transfer to the Bureau of Human Resources for the Bureau's share of a professional development fund for the PTE-17 and DCTU unions.

**Staffing:** The staffing for this program includes an Analyst II allocated from the Wastewater Services Program and a request for a new Coordinator III position.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

### Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Finance

## Program Description & Goals

The Finance Program includes budget development, accounting, financial forecasting, debt management, rate and fee development, project tracking, year-end financial reporting, wholesale service contract administration, management of the Clean River Rewards stormwater discount program and support for the Low-Income Discount Program and Nonconforming Sewer program (managed by the Systems Development Program). The Finance program budget also includes required Utility License Fee payments. The Finance Program monitors, manages and administers more than \$956 million in transfers for the payment of legally required debt service, transfers to and from the Rate Stabilization Fund, transfers to and from the Construction Fund and fund contingency.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Maintain the bureaus first lien debt service coverage ratio at 1.5 or greater	2.63	2.77	2.85	3.36	0
Maintain bureaus combined first and second lien debt service coverage ratio at 1.3 or greater	1.51	1.35	1.40	1.44	1.40
Average single family household bill as a percent of median income	1.40%	1.39%	1.42%	1.38%	0

## Explanation of Services

The Finance Program (within the Business Services Group) consists of multiple centralized services and functions. The three primary components are Financial Planning, Revenue Programs and Accounting.

The Financial Planning Division manages tools and processes to ensure that resources are available to fund the core mission of BES. There are three key functions within Financial Planning:

- coordinating, assembling, monitoring, and adjusting the annual budget, including coordinating with other bureaus Citywide and communicating with the Portland Utility Board, Citizens' Utility Board and other public interests
- managing the system forecast to project revenue and spending over the long-term horizon, to ensure that current financial plans are sustainable, and that the bureau remains financially stable
- annual development of rates and fees that allow the bureau to recover certain costs and ensure that adequate resources are available to meet operational and capital needs.

In addition to the three primary functions, Financial Planning provides financial policy analysis and recommendations, monitors cash flow, ensures payment of outstanding debt, provides legally required disclosure information for bonds, manages wholesale service contracts and performs ad hoc financial analysis as necessary.

The Revenue Programs Division provides technical and financial assistance related to the provision of stormwater and sewer services to internal customers (the Water Bureau, non-conforming sewer program, Capital Improvement Program and City Auditor's Office) and external customers (e.g., ratepayers, property owners and neighboring sewer districts). The primary mission is to collect fees for service, to approve credits and loans and to accommodate conforming public sewer connections in a fair and equitable manner (e.g., correct billing errors, incentivize private stormwater management and remedy failed septic and nonconforming sewer connections). The Revenue Programs Division manages six distinct City-wide programs: Clean River Rewards (i.e., the stormwater discount program), GreenBucks (a green infrastructure maintenance program), stormwater measure/re-measure program, storm sewer urban services, required sewer connection and sewer loan programs. Additionally, this team is responsible for coordinating with the Water Bureau on the City's Low-Income Discount Programs and for identifying and communicating to the Water Bureau all starts, stops and corrections to storm sewer provisions on utility bills. The Revenue Programs Division also conducts Administrative Reviews and facilitates hearings in response to customer appeals.

The BES Accounting Services Division provides for all the accounting needs of the bureau. Major functions include maintaining the Bureau's financial structure, capital project and fixed assets accounting, grants accounting, revenue and accounts receivable, accounts payable and preparing BES audit assignments for the City's audited Comprehensive Annual Financial Report. The division is also responsible for payroll and time management for the bureau and timekeeping for employees.

## Equity Impacts

The Finance Program (via the Revenue Programs division) manages the bureau's financial assistance programs, including BES's participation in the City's Low-Income Discount Programs (managed by the Water Bureau) and low-interest, deferred loans to qualifying low-income homeowners for mandatory and nonconforming sewer connections. BES works with financially impacted communities to minimize any hardships or dislocations caused by sewer connection requirements. This aligns with Goal 2 of the bureau's Equity Plan (Equitable Service Delivery and Business Practices).

The Financial Planning division works with the bureau's Equity Managers to ensure that equity considerations are embedded into budget development and financial decision-making. In FY2020-21 this collaboration will include support for bureau-wide use of the tools developed by the bureau's Equity Managers to assist with budgeting for equity, in alignment with Goal 2 of the bureau's Equity Plan (Equitable Service Delivery and Business Practices).

## Changes to Program

There are no discretionary budget changes in FY 2020-21 for this program.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	29,223	0	35,600,000	0
External Materials and Services	18,737,122	19,278,427	20,755,430	21,002,531
Internal Materials and Services	3,727,741	3,672,913	5,472,476	4,688,080
Personnel	2,099,256	2,270,305	3,485,642	3,217,503
<b>Fund Expense</b>				
Contingency	0	0	465,308,043	485,096,774
Debt Service	174,456,885	185,387,780	186,750,305	180,416,532
Debt Service Reserves	0	0	71,433,409	44,671,305
Fund Transfers - Expense	358,545,264	383,284,653	401,830,913	457,271,935
Ending Fund Balance	499,076,761	431,440,955	0	0
<b>Sum:</b>	<b>1,056,672,253</b>	<b>1,025,335,033</b>	<b>1,190,636,218</b>	<b>1,196,364,660</b>
FTE	17	17	18	18

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Bureau Expenses:  
Expenses for this program include:

- Financial Planning, Accounting, and Revenue division personnel
- Reduction in the one-time capital outlay for the acquisition of 2 floors of the Portland Building paid in FY 2019-20.
- Increase in the utility license fee (recorded in External Materials and Services)
- Bureau contingency
- Debt service and related costs on new and outstanding bonds
- Utility charges for wholesale contracts
- Low income discount payments to Home Forward.
- Fund level transfers to and from Rate Stabilization, Construction, and Debt Service funds
- Inter-agency services for the payment of the Bureau's share of water meter costs and General Fund Overhead.

Fund Expenses:

- Actual Contingency amounts for FY 2017-18 and FY 2018-19 are not presented as they are an estimated figure. Actual fund balances can be found in the City's Comprehensive Annual Financial Report.
- The estimated increase in Contingency for FY 2020-21 is primarily from unspent proceeds from a planned FY 2020-21 bonds sale. The bond sale was originally planned for FY 2019-20, as reflected in the FY 2019-20 Revised amounts, but is expected to be delayed.
- Changes to the Debt Service and Debt Service Reserve accounts reflect results of the refunding bonds issued in December 2019.

**Staffing:** 18 positions support this program. Positions include the Business Services Group Manager, Financial Analysts (5), Accountants (5), Administrative Specialist (1), Coordinators (4), and a Supervisor II and an Analyst I.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

## Program Information

<b>Bureau:</b>	Bureau of Environmental Services	<b>Program Contact:</b>	Ken Bartocci
<b>Website:</b>	<a href="https://www.portlandoregon.gov/bes/">https://www.portlandoregon.gov/bes/</a>	<b>Contact Phone</b>	(503) 823-6022

# Information Management

## Program Description & Goals

The Information Management Program comprises the Mapping, Data and Application Services (MDAS) Division within the Business Services Group and the Work and Asset Management System (WAMS) used by the Wastewater Group.

The Information Management Program provides high-level, 24/7/365 technical support and consulting for the bureau’s information and technology solutions, including mapping, data, IT-related project management and comprehensive asset management software applications.

This program actively supports the bureau’s strategic initiative to optimize IT and data management systems to prioritize responsive governance, information access and data security.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
---------------	-----------------------	-----------------------	----------------------	----------------------	---------------------

## Explanation of Services

MDAS provides IT/data-related, business process review, consulting, project management, application development/maintenance and database services for the bureau and a variety of BES-specific applications. The MDAS Division Manager works with the BES management team and subject matter experts to identify business needs, IT requirements and data management strategies; this person also liaises with the Bureau of Technology Services (BTS) and peers in other City bureaus to plan for solutions and services related to the ongoing operations and improvements of the bureau's technology infrastructure.

Although the focus of the Information Management Program is primarily to run and maintain the bureau’s current IT systems, MDAS staff – in collaboration with the requesting group and the IT Governance Committee – also evaluate and manage proposed IT/data-related initiatives to. A Data Strategist within the the MDAS Division is managing implementation of an improved bureauwide data management strategy.

The MDAS Mapping unit creates and maintains asset-specific information related to BES’ Sanitary and Stormwater Collection System, which includes the mapping and attributing collection system assets and creating or chronicling As-Builts and other pertinent records. MDAS also helps to create and/or administer several other BES-related geographical information system (GIS) layers, which are both authoritative (i.e., distributed via the corporate GIS hub) or non-authoritative (i.e., work products in various stages of completeness).

The Wastewater Group uses a Work and Asset Management System (WAMS) daily by to manage the work and assets at two treatment plants and 98 pump stations. This includes maintaining an asset register with detailed attribution; defining, scheduling and triggering preventive, predictive, corrective and emergency maintenance work; recording labor hours; recording work accomplishments; tracking work history; managing parts inventory; procuring materials and services; and providing asset lifecycle costs, analysis and reporting capabilities.

## Equity Impacts

The Information Management Program aims to deliver services equitably Citywide, in alignment with the BES Strategic Plan. The importance of data for tracking and performance is noted throughout the bureau's 2016-2021 Equity Plan, particularly, Actions 1a, 1f, 1g, and 2d. Action 1g (Create an equity database to track metrics in this plan and other equity information) is critically important to ensure that the bureau is monitoring the outputs and outcomes of its equity efforts. A focus area for FY2020-21 will be development of tracking measures and data-supported efforts that include and center equity.

## Changes to Program

The multi-year effort to develop and manage a strategy to efficiently collect and use Bureau-wide data is a major driver of Information Management priorities and budgetary decisions. Other recent initiatives to improve Information Management decision-making and performance include formation of an IT Governance Committee during FY2018-19 and the introduction of new project management tools (e.g. Trello and SmartSheets).

In alignment with the bureauwide data strategy to address the growing dependence on data gathering and reporting (per the Strategic Plan and recommendations from the organizational transition assessment), the bureau is requesting three data-related positions in FY2020-21:

- A Business Systems Analyst III (Watershed) to add capacity to the Storm Water System Plan team and to the broader watershed team for work including the Portland Area Watershed Monitoring and Assessment Program, Project Effectiveness monitoring, the Watershed GIS data structure, stream alignment, and other data driven reporting.
- A Business Systems Analyst III (Wastewater) to improve evaluation, planning, documentation, decision-making and enterprise-level implementation of information technology and data management related business systems including critical operations and maintenance functions, facilities asset management tools, document archiving, and condition assessment tools.
- An Analyst II (Data and Reporting) for the Wastewater Group to assist with data analysis relating to asset management (condition assessment) of collection and treatment system assets, performance indicators, responses to initiatives and oversight bodies, as well as support for Bureau-wide efforts to more consistently manage data as an essential asset. Currently, one position provides these services to Wastewater Operations and Maintenance, as well as to Engineering Design. As system needs and complexity have grown, a single position is inadequate based on the number of requests that are being left unmet.

In partnership with the Water Bureau, the bureau is evaluating replacement of the enterprise asset maintenance management system which is nearing the end of its useful life. The bureau is budgeting \$150,000 of additional costs in FY2020-21 related to that effort. This is expected to be a three-year effort, with a total estimated cost to BES of approximately \$700,000 through FY2022-23.

Approximately \$60,000 of additional budget authority is requested to support additional costs in this program for various software and ongoing technology subscription costs throughout the bureau.

Approximately \$700,000 reflects an increase in the interagency charges for services Bureau of Technology Services (BTS). The increases are primarily resulting from costs associated with the Portland Building, Portland Online Permitting System implementation, and other desktop and data network costs. These increased costs were anticipated in the system forecast.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	102,073	67,341	587,980	450,000
External Materials and Services	640,279	803,224	1,037,325	1,144,134
Internal Materials and Services	3,090,196	3,494,223	3,537,574	4,237,367
Personnel	2,384,767	2,519,188	2,077,219	2,426,269
<b>Sum:</b>	<b>6,217,315</b>	<b>6,883,976</b>	<b>7,240,098</b>	<b>8,257,770</b>
	FTE	17.25	19	18
				17.4

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Expenses for this program include personnel, data processing services for Heron and Hansen software packages, computer supplies and equipment, and various software licenses. Additionally, this program supports interagency agreements with the Bureau of Technology (BTS) Services for bureau-wide life-cycle computer replacements, desktop support, and GIS applications. The BTS interagency amounts increased primarily due to pass-through costs of the Portland Building renovation.

The change in Capital Outlay reflects the acquisition of the Environmental Compliance Information Management System.

**Staffing:** 21 positions support this program with 2.6 FTE allocated to capital projects within the Project Management and Controls Program. Positions include the Division Manager, a Mapping and GIS Supervisor, GIS and CAD Technicians (9), Business Systems Analysts (9), and Analyst II (2).

The staffing counts above include requests for two new Business Systems Analysts and an Analyst II.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

### Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Engineering

## Program Description & Goals

The Engineering Program is led by the Chief Engineer, the official agent of the bureau responsible for public improvements. The Chief Engineer is responsible for establishing, maintaining and enforcing the technical standards for design and construction of public works projects necessary to maintain public health and the health of the environment. The Engineering Program also integrates the organizational management, human resources, budget and administrative support functions of the Engineering Services Group to ensure the smooth operation of the work group, which has about 200 permanent and temporary employees or other staff distributed across four work locations. Project decisions, leadership and organizational work of the Chief Engineer across the four program areas within the Engineering Services Group impact the quality and output of projects to meet system needs, regulatory requirements and other drivers. This impacts many of the bureau's performance measures, especially those related to the planning, design and construction of pipe, facility and natural assets.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Construction management costs as a percentage of total construction costs	14%	10%	12%	12%	12%
Feet of streambank restored (not cumulative)	22,311	22,340	12,000	12,000	0
Number of sanitary sewer overflows	168	187	135	135	0
Number of combined sewer overflow events	3	1	4	4	0
Linear feet of sanitary and combined sewer pipe repaired or replaced to improve condition and capacity	93,006	107,751	57,000	65,000	0

## Explanation of Services

The Engineering Program comprises the leadership, administration and operations functions for the Engineering Services Group. The program includes the office of the Chief Engineer and related group-wide support functions. The Chief Engineer is the signatory for all bureau-related public works construction documents and provides management and leadership for the Engineering Services Group. This group consists of four programs that serve ratepayers and the community by managing the planning, design and construction of sewer and stormwater projects to protect public health and watersheds. Collectively, the Engineering Program and the four programs under the Chief Engineer (Asset Systems Management, Design Services, Construction Services, and Materials Testing Lab) provide the analysis, engineering design, construction management, technical standards and best management practices, and Capital Improvement Program (CIP) implementation and budget management to produce projects that improve, protect and enhance the bureau's infrastructure.

## Equity Impacts

The Engineering Program leads and directs the Engineering Services Group's implementation of BES's equity goals, which include the BES Equity Plan, the BES Strategic Plan and the City's 2018-2022 Affirmative Action Plan initiatives to ensure positive racial equity outcomes on all Engineering activities and projects.

This program is very closely connected to the Capital Program Management and Controls, Construction Services, and Design Services programs and shares similar equity considerations related to the planning, design, and delivery of the bureau's capital improvement projects, as well as the related operations and maintenance of these bureau assets. The impact and consequence of system failures, reduced levels of service, and risks are disproportionately more significant to vulnerable communities, and further refinement and development of equity-centered mitigation strategies as well as related performance measures and outcomes are planned for FY2020-21.

## Changes to Program

Employee turnover as a result of retirements and a highly competitive job market have increased the administrative, management and leadership workload of the Engineering Program. The operating environment has evolved significantly as a result of ongoing bureau efforts, including CIP delivery increases, CIP process improvements, and reorganization.

In FY 2019-20, the Capital Program Management and Controls Program (formerly within the Engineering Services Group) was restructured to create the Project Management Office. Engineering operations and administration staff are improving processes including using technology solutions to improve productivity, communication and records management.

An Analyst III (Engineering Standards and Practices Manager) is requested in FY 2020-2021 to lead Engineering Services' quality assurance efforts in the development, refinement, and application of standards and practices for BES design and construction projects. The position will perform difficult assignments requiring planning, organizing and facilitating coordination with other divisions, groups and bureaus. Key responsibilities will be to develop, implement, monitor and evaluate standard practices and procedures for the activities of project delivery documents and procedures in Engineering Services; establish program and performance goals and communicate expectations to staff; lead teams of technical professionals, contractors in developing, implementing, and evaluating programs on manual updates; quality control for design and construction projects; vendor contact coordination; and identifying professional development opportunities for Engineering Services staff.

An estimated \$25,000 per year (ongoing) is requested for technical engineering manual updates. Based on experience from prior manual updates, this amount supports technical writing and/or project management by a consultant for 1-2 manual or procedural updates per year. The first priority update is the Construction Management Manual, which is out of date and obsolete. A manual that outlines Construction Best Management Practices and City procedures is mandatory. Technology has changed significantly, and staff need policies and procedures that outline how our new project management software is optimally used. Critical process documentation updates support business continuity and allow for more efficient and effective training of new and veteran staff in up-to-date procedures, policies and best practices, resulting in streamlined work outputs.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	28,461	313,827	806,752	372,500
External Materials and Services	168,613	93,540	94,089	190,949
Internal Materials and Services	178,966	163,807	45,400	45,866
Personnel	965,485	1,114,836	993,675	1,140,231
<b>Sum:</b>	<b>1,341,526</b>	<b>1,686,010</b>	<b>1,939,916</b>	<b>1,749,546</b>
	FTE	9	9	7
				8

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Expenses for this program include personnel, Capital Outlay for life-cycle vehicle replacement, training opportunities for Engineering staff, and specialty computer equipment. Additionally, this program supports interagency agreements with the Bureau of Transportation for Keep Portland Moving and survey markers used by the Bureau.

**Staffing:** 8 positions support this program. Positions include the Chief Engineer, Analysts (2), a Records Specialist, an Administrative Specialist, Office Support Specialists (2), and a Supervisor I.

The staffing counts above include a request for an Analyst III.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

### Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Asset Systems Management

## Program Description & Goals

The Asset Systems Management (ASM) Program (within the Engineering Services Group) identifies and appropriately prioritizes BES asset system improvements and investment strategies needed to continue to maintain and improve the service levels and reliability of wastewater and stormwater system infrastructure, including balancing the need to meet regulatory requirements. The ASM Program identifies, clarifies and communicates the levels of service related to physical system assets and the related decision-making processes that are needed to put those assets into service for customers. This program directly impacts the performance measures listed below by providing the system planning and analysis (i.e., hydraulic and hydrologic modeling) that informs and prioritizes system investments to reduce the risk of sewer pipe failure, capacity-related flooding and combined and sanitary sewer overflows. The project-level modeling and analysis that the ASM Program provides also directly impacts performance measures by informing appropriate project design.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Number of sanitary sewer overflows	168	187	135	135	0
Number of stormwater flooding events due to system capacity	60	49	100	100	0
Number of combined sewer overflow events	3	1	4	4	0
Linear feet of sanitary and combined sewer pipe repaired or replaced to improve condition and capacity	93,006	107,751	57,000	65,000	0

## Explanation of Services

The Asset Systems Management Program provides analysis, interpretation and in-depth, functional understanding of how BES system assets interact with each other. This is done at all evaluation scales, from citywide down to the local project level. This function is necessary to identify and prioritize BES system improvements and asset investment strategies, to (1) maintain and improve the service and reliability of the City's wastewater and stormwater infrastructure as cost-effectively as possible, and (2) protect public health and safety systemwide. ASM is the only program in the Bureau that performs this essential function. ASM is sometimes requested to support and assist other work groups by collaborating on new system-related initiatives or through technical review of work. This work depends on institutional knowledge and leveraging an intimate understanding by ASM staff of how the BES asset systems function. Developing these skills is an investment in time and mentorship of staff. This knowledge is gained through experience and work performed over years by ASM staff on highly technical, multi-faceted wastewater and stormwater infrastructure system and process analyses.

## Equity Impacts

The ASM Program is responsible for incorporating equity considerations into the risk evaluation and project prioritization processes for the combined and sanitary sewer system assets. The current risk process uses U.S. Census information on vulnerable communities, a practice that will continue into FY2020-21. This aligns with Action 2h (Examine bureau policies, practices, and procedures to assess the impact of institutionalized disparities on communities of color and the disabled community) in the bureau's Equity Plan. The ASM Program is working with other work groups to expand how we incorporate equity into the broader system planning space, such as by establishing targets for levels of service.

Integration of hydraulic and hydrologic modeling software with the City GIS system and City-collected data developed to help understand the conditions and challenges facing communities with disparities could be implemented to improve planning efforts and help better understand equity impacts BES projects have on vulnerable communities. This would align with Goal 2 (Equitable Service Delivery and Business Practices) in the bureau's 2016-2021 Equity Plan.

In addition, this program continues to utilize D/M/W/SDV/ESB firms for contracting professional services when needed. In FY2020-21, this practice will be continued, as it supports Goal 2 (Equitable Service Delivery and Business Practices) in the bureau's 2016-2021 Equity Plan.

## Changes to Program

The demand for ASM resources has doubled since FY 2015-16, specifically in the areas of spatial analysis and modeling analysis, alongside initiation of major system planning efforts. Although limited-term contracts (ending in FY2020-21) have helped initiate the strategic planning efforts, the internal staffing resources necessary to implement and sustain the improvements have not advanced. The increased workload burden on staff has demonstrably resulted in increased overtime and observed instances of sick time.

For FY2020-21, the ASM program requests a lead Engineer-Civil (Modeler) and support/junior Senior Engineering Associate-Civil (Modeler) to help manage current and future system planning workloads anticipated when the Bureau structurally re-organizes to emphasize integrated planning and project delivery. ASM engineers are currently tasked with supporting the following long-term/continuous planning efforts: Continuous Collection System Plan; continued efforts on Resiliency Planning; implementation of the Pump Station System Plan; Dunthorpe-Riverdale Sanitary Facility Plan; updates to the Sewer Extension Master Plan; and increasing support for the Stormwater System Plan. Existing FTE, PTE and on-call resources are inadequate to support the entirety of this system planning work. In addition to being more cost-effective, hiring permanent City staff has the long-term benefit of accruing knowledge through experience, and supporting Bureau goals related to workforce development.

Contract staff will continue to be utilized to help perform analysis work, and to level peak workload and perform one-off analyses or simple requests that would otherwise disrupt ASM staff workflow on more complex analyses. Contract staff are also used to help initiate new project initiatives on a limited contract term (e.g., Resiliency Master Plan). Historically, contracting more of the strategic planning and complex system analysis work has resulted in reduced product quality at a higher cost to the City. Adding in-house FTE will create more productive and cost-effective outputs over the long-term and allow the City to retain the knowledge invested in FTE.

The FY 2020-21 budget also includes requests to increase consultant support:

- \$250,000 for asset management analysis work, which adjusts the projection of expenditures across the multi-year Continuous Collection System Plan update as a result of delays in contracting that occurred in FY 2018-19 along with delays in the contract starting due to an extended procurement process. The total cost of the multi-year project (anticipated for completion in FY 2021-22) remains unchanged at \$1.5 million.
- \$150,000 in one-time funding to evaluate the current controls system for wastewater treatment plants and pump stations and prioritize recommendations for new technology and reinvestment. This work will be led by the Engineering Treatment and pumping Systems Division. The communication and controls system is the backbone system of operation for the two wastewater treatment plants and 98 pump stations, and has grown considerably over the past 20 years without a plan for reinvestment. An inefficient system produces unnecessary costs and risks operational failures, which can lead to public health risks and permit violations. There is a need to plan for a resilient system that meets the goals of reliability centered operations and maintenance (RCOM). A comprehensive assessment is needed in order to identify and realize efficiency and cost saving improvements.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	2,533,092	-1,418,138	0	0
External Materials and Services	704,726	2,125,525	660,445	1,328,445
Internal Materials and Services	-9,858,904	-11,641,409	332,840	299,787
Personnel	1,601,754	1,582,362	2,194,680	2,992,152
<b>Sum:</b>	<b>-5,019,331</b>	<b>-9,351,660</b>	<b>3,187,965</b>	<b>4,620,384</b>
	FTE	12.05	24	25
				18.35

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Primary expenses for this program are personnel, outside consultant costs for the Continuous Collection Master Plan and hydrologic modeling, and specialty engineering software. Additionally, this program supports costs of laboratory services and field operations for sampling and monitoring from the Water Pollution Control Lab.

Actual Internal Materials and Services for FY 2017-18 and FY 2018-19 reflect an accounting entry that reduces operating expenses and allocates the expenses to capital projects representing the bureau overhead allocations.

**Staffing:** 27 positions support this program with approximately 8.65 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include Engineers (25) and GIS Technicians (2).

The staffing counts above include requests for two new positions, a Sr. Civil Engineer Associate and a Civil Engineer Associate.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

### Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Construction Services

## Program Description & Goals

The Construction Services Program (within the Engineering Services Group) provides construction management and inspection services for BES capital projects, development projects and projects managed by other City bureaus for assets that become part of BES's infrastructure. The Construction Services Program ensures the construction of safe, high-quality and cost-effective projects that aim for completion on schedule and within budget, with minimum disruption to the public. This program directly impacts construction management costs as part of overall project costs and works to maintain those costs at or below the industry standard. The program's focus on job site safety impacts the bureau's overall incident rate. Construction management for capital projects to improve bureau assets such as sewer pipe repair and replacement, treatment facilities and stream restoration is responsible for delivery of those projects on schedule, which impacts all measures related to capital project output (including combined sewer and sanitary sewer overflows).

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Amount of time loss, in hours per employee, due to injuries and illnesses	2.40	2.20	2.00	2.65	3.10
Construction management costs as a percentage of total construction costs	14%	10%	12%	12%	12%
Feet of streambank restored (not cumulative)	22,311	22,340	12,000	12,000	0
Linear feet of sanitary and combined sewer pipe repaired or replaced to improve condition and capacity	93,006	107,751	57,000	65,000	0

## Explanation of Services

The Construction Services Program oversees installation of capital infrastructure, such as pipes and stormwater facilities, to ensure that they are installed properly and safely. BES owns and maintains most constructed assets, so quality control during installation helps maximize asset life. The program has a comprehensive focus on safety for the protection of the public, City staff and the contractor's workers and to reduce injury or disability claims. The Construction Services Program is responsible for making progress payments to contractors, negotiating compensation for additional scopes of work added to existing contracts and helping to resolve any disagreements that ensue between the City and contractor.

Key activities include the following:

- Supporting development and management of project scopes, schedules and budgets
- Reviewing and determining the constructability of all projects during design
- Developing and executing project construction work plans
- Managing and documenting project decisions, meetings and changes
- Inspecting construction projects for safety and quality compliance
- Making construction contract progress payments to contractors
- Managing projects in accordance with BES's CIP Implementation Manual, Quality Control Manual and project management/document control software and process
- Preparing Council documents as needed for construction-related procurement processes, agreements, contracts and right-of-way acquisition and permits

In addition, Construction Services contributes cost estimating and budgeting functions via CIP development input, historical bid analysis, construction staff input, budget preparation and monitoring of economic conditions in the construction industry.

## Equity Impacts

As part of its management of construction contracts, the Construction Services Program ensures that contractors comply with minority subcontracting requirements, including D/M/W/SDV/ESB participation and other City equity-driven contracting opportunities. This aligns with Action 2d (Evaluate opportunities in construction for projects that could increase D/M/W/ESB utilization). This program utilizes D/M/W/SDV/ESB firms for contracting professional services when needed.

Work involves continuous interaction with the public, which provides program improvement opportunities by means of staff training, public outreach improvements to better engage people impacted by inequities, and possible changes to project prioritization.

This program is very closely connected to the Capital Program Management and Controls program and shares similar equity considerations related to the planning, design, and delivery of the bureau's capital improvement projects, as well as the related operations and maintenance of these bureau assets. The impact and consequence of system failures, reduced levels of service, and risks are disproportionately more significant to vulnerable communities, and further refinement and development of equity-centered mitigation strategies as well as related performance measures and outcomes are planned for FY2020-21.

## Changes to Program

The program works closely with the Project Management Office (PMO) as its focus and workload follow the overall CIP. Workloads are anticipated to increase alongside targeted capital delivery increases in the CIP. While coordination with the Portland Bureau of Transportation has improved in recent years, the combination of increased traffic and more street infrastructure that requires maintenance and upkeep has added to the complexity of construction projects and the time needed to complete them.

With the healthy local economy in recent years, staff turnover in the Construction Services Program has been high as staff seek promotional opportunities and higher pay available in the private sector. The Construction Services Program relies on temporary contract staff to lead and complete many projects. However, contract staff training and management requirements, frequent turnover and the lack of retained in-house knowledge and experience all hamper efficient project delivery. In FY2020-21, Construction Services requests an additional Construction Manager (Engineer – Civil) to help efficiently manage increasing workloads due to increases in planned construction work and to support the Bureau’s organizational transition efforts.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	0	2,165	0	0
External Materials and Services	115,761	126,019	133,376	137,445
Internal Materials and Services	180,598	147,779	42,629	39,533
Personnel	1,914,095	2,025,124	2,148,060	1,968,101
<b>Sum:</b>	<b>2,210,454</b>	<b>2,301,086</b>	<b>2,324,065</b>	<b>2,145,079</b>
FTE	14.3	57.1	52	13.85

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Primary expenses for this program are personnel. Supporting items include costs for protective equipment, uniforms, licenses, training, and parking permits for Inspector vehicles.

**Staffing:** 52 positions support this program with 38.15 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include Engineers (21), Capital Project Managers (2), Public Works Inspectors (27), a Manager I, and a Supervisor I.

The staffing counts above include a request for one new Civil Engineer position.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

## Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Design Services

## Program Description & Goals

The Design Services Program (within the Engineering Services Group) provides project management and engineering design services for capital projects. The program includes two divisions: Design Services Division and Treatment and Pumping Systems Engineering Division. The goal of the Design Services Program is to plan and deliver projects that (1) improve the reliability and capacity of the Bureau's treatment infrastructure and wastewater and stormwater conveyance system, and (2) protect and improve water quality and watershed health. Projects are identified through planning efforts bureauwide, based on risk, condition and the consequence of failure for existing assets and on new requirements, such as regulatory or capacity needs. The Design Services Program impacts every bureau performance measure related to capital project delivery and output. Most directly, project management and engineering for planned capital projects to address pipe repair and replacement and stream restoration impacts the output "units" of those measures annually. Design and delivery of projects related to treatment plant assets impacts the cost of operations and maintenance (O&M) of those assets, and the design and delivery of nearly all BES projects impacts water quality measures and other measures, such as occurrences of combined and sanitary sewer overflows.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Amount of wastewater processed annually (in million gallons)	28,901	25,807	29,400	29,200	0
Feet of streambank restored (not cumulative)	22,311	22,340	12,000	12,000	0
Watershed Health Index for water quality	5.50	5.60	5.90	5.50	8.00
Linear feet of sanitary and combined sewer pipe repaired or replaced to improve condition and capacity	93,006	107,751	57,000	65,000	0

## Explanation of Services

The Design Services Program provides project management and engineering design services for capital projects ranging from wastewater conveyance (i.e., pipe) and treatment infrastructure to stormwater facilities and stream restoration. Activities include the following:

- Leading project scoping and work plans and managing projects through the design phase
- Completing designs in accordance with professional and BES standards
- Completing engineering calculations
- Meeting City and regulatory requirements (including technical analyses)
- Requesting, coordinating, securing and incorporating information gathered and provided by internal and external stakeholders and service providers
- Preparing and professionally sealing contract documents, including technical specifications and design plans and details

The Design Services Program includes the Treatment & Pumping Systems Engineering Division, which manages planning efforts for the wastewater treatment plants, manages the construction phase of project delivery, and provides technical engineering support for plant O&M staff.

## Equity Impacts

The Design Services Program delivers projects that benefit human health and safety and the environment. Infrastructure investments are identified through planning efforts based on risk, condition and the consequence of failure for existing assets and on new requirements such as regulatory or capacity needs.

An equity lens is applied to all projects to inform bureau infrastructure decisions, which aligns with Action 2h in the bureau's 2016-2021 Equity Plan – Examine bureau policies, practices, and procedures to assess the impact of institutionalized disparities on communities of color and the disabled community. This primarily occurs during system planning (Asset Systems Management Program) and the project prioritization process (via the Project Management Office), but also occurs during project work planning and design.

Equity can be considered during delivery of individual projects, including involvement of diverse communities in project design and consideration of impacts on vulnerable communities, and is a shared responsibility between the project designer and other project team members.

This program utilizes D/M/W/SDV/ESB firms for contracting professional services when needed. And will continue this practice in FY2020-21 as feasible.

In FY2020-21, work will continue on further development of equity-centered performance measures and outcomes.

## Changes to Program

Process improvements currently underway are improving design efficiency, however, demand for work from the Design Services Program is expanding due to increased collaborative project planning and delivery goals. The number of capital projects requiring assignment of Design Services staff continues to grow. As the Project Management Office becomes able to manage more CIP projects in the future, Design Services can focus on design work specifically, which should increase project throughput.

Despite modest staffing increases, resource constraints, staff retirements and turnover have kept anticipated program improvements from fully materializing. Staff continue to rely on temporary contracted staff, consultants and on-call contracts to develop timely design solutions. When appropriate, the Design Services Program uses alternative project delivery methods (in lieu of the standard design-bid build process) to meet program goals. These adjusted solutions often require increased upfront effort and communication but are expected to shorten overall project delivery schedules.

The Design Services Program is requesting two additional FTEs in FY 2020-21 to support delivery of planned CIP projects:

- An Engineer – Civil (High Risk Rehabilitation Program and Collection System Design) is requested in the Design Services Division to help deliver high risk projects in the \$250+ million pipe rehabilitation program, including the Large Diameter Program and Downtown/Old Town Rehab Projects. The Large Diameter Rehab Program encompasses many of the largest and highest risk pipe rehab projects that are near-term priorities due to the high risk of failure within 5 years. Reducing the number of high-risk rehab projects is not recommended due to the associated increase in the risk of catastrophic pipe and street collapse. An alternative is to fill some of the need with temporary contract engineering staff, but this alternative would come at a higher cost and less efficiency.
- An Engineer – Civil (Design Management Support) is requested in the Treatment and Pumping Systems Division to support design management on pump station projects. A backlog of planned work exists to update pump stations that are at risk of failure and not meeting service levels. An alternative is to continue to use contract staff, but this would come with less efficient project delivery.

The Design Services Program also requests \$25,000 in additional funding for technical expert consultant support in FY 2020-21 to update the Pump Station Engineering Design Manual). The manual is a key guiding document for pump station improvement projects so that designs meet standards that result in optimal long-term functionality of the pump stations. The current manual is out of date – last updated in 2002, with an interim update (that was not finalized) in 2008. This work is expected to be completed in FY2021-22.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	0	453,431	0	0
External Materials and Services	87,529	102,608	175,933	221,659
Internal Materials and Services	33,987	35,673	21,778	23,991
Personnel	1,948,577	2,277,660	2,703,954	3,152,298
<b>Sum:</b>	<b>2,070,093</b>	<b>2,869,372</b>	<b>2,901,665</b>	<b>3,397,948</b>
	FTE	8.7	51	56.8
				19.25

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Primary expenses for this program are personnel and consultant charges for the Pump Station Design Manual and Control System Master Plan initiation. Supporting items include costs for training and training materials, specialty computer supplies and software, dues for member organizations, and continuing education.

**Staffing:** 57 positions support this program with 37.9 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include Engineers (48), CAD Technicians (6), and Capital Project Managers (3),

The staffing counts above include requests for two new Civil Engineer positions.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

### Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Materials Testing Lab

## Program Description & Goals

The Materials Testing Lab (MTL) Program provides quality assurance (QA) and quality control (QC) of materials used in the construction of bureau assets. QA/QC involves materials testing, code-mandated special inspection, confined space entry, and geotechnical services and evaluation of emerging technologies and products. In addition to providing these services for BES projects, the lab also provides services to other City bureaus (primarily the Water Bureau, Bureau of Transportation and Parks Bureau), typically on a fee-for-service basis. The MTL Program most directly impacts the performance measure for pipe repair and replacement, because of the MTL’s role in testing and evaluating materials in the design and construction of those capital projects.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Linear feet of sanitary and combined sewer pipe repaired or replaced to improve condition and capacity	93,006	107,751	57,000	65,000	0

## Explanation of Services

The MTL Program provides industry-standard testing and evaluation services for construction materials, to ensure that materials used in BES capital projects and other City bureau projects meet national and international standards. The program monitors the quality of pipe materials, asphalt mixes, concrete mixes and precast concrete products to ensure that City projects are using appropriate products in the construction of long-term public assets. For example, monitoring ensures that the type of pipe used in a sewer rehabilitation program is appropriate and durable for local conditions. Testing and monitoring are performed “real-time” in the field, for samples of actual products at the time of installation. The MTL Program also provides geotechnical analyses for BES and City projects and special inspections as required by local and state building codes.

## Equity Impacts

This program is part of BES’s overall engineering design and construction approach for capital projects to ensure the same quality standards of design, construction, and materials for any capital project in the city, regardless of neighborhood or community demographics. The result is that no community bears a disproportionate burden because of inferior construction materials. This aligns with Goal 2 of the bureau’s Equity Plan – Equitable Service Delivery and Business Practices.

For FY2020-21, there is opportunity to further internally facing goals in the bureau’s Equity Plan. Goal 1 (Equity Literacy) and Goal 3 (Workforce Equity), along with the tracking of related performance measures and outcomes, are most applicable to advancing equity internally within the bureau. Efforts in this regard can be undertaken in FY2020-21.

## Changes to Program

Workload expectations within the MTL Program continue to increase as a result of increases in other work requests from partner bureaus – primarily Bureau of Transportation, Portland Parks & Recreation and the Water Bureau’s capital program.

Ongoing process improvement efforts such as the use of technology tools to schedule and track work requests and activities are underway. Allocation of resources to the Materials Testing Lab Program has stayed relatively consistent in recent years, and no major budget changes are required for FY2020-21.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	0	75,410	0	0
External Materials and Services	-8,428	483,337	507,292	483,072
Internal Materials and Services	-594,686	-891,686	-790,591	-852,538
Personnel	1,542,201	1,612,537	1,681,583	1,837,807
<b>Sum:</b>	<b>939,086</b>	<b>1,279,598</b>	<b>1,398,284</b>	<b>1,468,341</b>
FTE	13	13	13	13

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services which are offset by charges to other bureaus for testing work done on their behalf.

**Expenses:** Primary expenses for this program are personnel costs, outside lab services, repair, maintenance and calibration of equipment, ongoing operating supplies for equipment, and license renewals.

Materials testing done for BES capital improvement projects and other internal bureau work are reported as negative expenses in the Internal Services line item for this program (and positive expenses in the Internal Services line item for the requesting program).

**Staffing:** 13 positions support this program. Positions include Geotechnical Engineers (2), an Engineering Supervisor, Materials Testing Technicians (6), Public Works Inspectors (2), an Office Support Specialist, and a Capital Project Manager.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

## Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Capital Program Management and Controls

## Program Description & Goals

The Capital Program Management and Controls Program was formerly in the Engineering Services workgroup. It was reorganized and expanded in 2019 into the new BES Project Management Office (PMO), which reports directly to the BES Director. The PMO facilitates effective and efficient delivery of the Bureau's Capital Improvement Program (CIP). This program manages the budget development process for the capital program, provides overall project management, administers project controls processes, tracks project delivery performance and recommends long-range capital investment strategies that align with the bureau's Strategic Plan and ratepayer expectations. As the program responsible for scheduling, monitoring and managing projects in the CIP, the PMO directly or indirectly impacts all bureau performance measures related to capital project delivery, including measures for combined and sanitary sewer overflows and maintenance costs at the wastewater treatment plants. Efficiency of construction management costs is indirectly impacted by the PMO because of support and procedures provided for better scoping, scheduling, and cost estimating projects in the early phases of design, which results in fewer changes during construction. Amount of pipe repaired or replaced is impacted by both the CIP project prioritization process, which balances pipe rehabilitation project needs with other project types and priorities, and project delivery processes.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Construction management costs as a percentage of total construction costs	14%	10%	12%	12%	12%
Linear feet of sanitary and combined sewer pipe repaired or replaced to improve condition and capacity	93,006	107,751	57,000	65,000	0

## Explanation of Services

The PMO is comprised of four work units that provide the following services:

- Capital budget development and monitoring,
- Capital project and program controls,
- Capital project management,
- Capital project quality (QA/QC),
- Contract administration for on-call PTE support contracts for capital projects, and
- Overall Program/Project management for the Columbia Boulevard Wastewater Treatment Plant Secondary Treatment Expansion Program (STEP).

The PMO has overall responsibility for developing and monitoring the bureau's CIP of more than \$150 million annually. The program is responsible for balancing the capital budget across a variety of project types and risk drivers and developing a multi-year capital program that is within the bureau's financial and operational capacity. The projects in the CIP originate from information identified via the Asset Systems Management Program and based upon needs identified by operating programs throughout the bureau.

The PMO also includes the function of overall project management, where project managers responsible for capital project delivery manage matrixed project teams of staff from other BES programs and workgroups. For example, Engineering design is performed by the Design Services Program, project construction is managed by the Construction Services Program, and public outreach and involvement is performed by the Communication Program. Other functions in the PMO include the administration of project and program controls, which includes scope, schedule and cost change control and regular monitoring of project status for the more than 200 active projects in the CIP; ensuring project quality; administering the bureau's project management software (e-Builder) and providing best practices documentation and training support.

The PMO is currently leading the development of new capital project delivery processes and procedures, with the goal of improving efficiency and effectiveness of capital project delivery and increasing overall annual project throughput.

## Equity Impacts

Equity considerations are built into capital project prioritization through the system planning processes that advance projects to the CIP. For example, in the planning process for both the combined sewer system and the stormwater system, projects are ranked and prioritized against all other needs within that system based on multiple factors of risk, including equity impacts on vulnerable communities. This aligns with Action 2h (Examine bureau policies, practices, and procedures to assess the impact of institutionalized disparities on communities of color and the disabled community) in the bureau's Equity Plan.

When priority project proposals from each system plan or regulatory driver reach the PMO through the annual CIP development process, they are evaluated with scoring that includes impacts to human health and safety, business customers and residential customers, and impacts to public infrastructure such as streets. The ongoing BES organizational transition work will include efforts to align equity considerations across the system planning, portfolio management, and CIP prioritization processes. Equity during delivery of individual projects, including involvement of diverse communities in project design and consideration of impacts on vulnerable communities due to construction, are a shared responsibility between the project manager, public involvement staff, and other project team members.

The PMO supports the BES Equity Plan Action 2d (Evaluate opportunities in construction for projects that could increase MWESB utilization). Support around equity in contracting (purchasing) is evidenced through the administration of more than 30 on-call PTE contracts for project support services such as civil and structural engineering, permitting, and water quality expertise. In FY2020-21, PMO staff will continue to monitor and encourage D/M/W/SDV/ESB firm utilization, and work to support those firms through direct contracting whenever possible as a first preference (per established City thresholds). Additionally, PMO staff will continue to provide one-on-one support to D/M/W/SDV/ESB firms regarding the City's contracting processes and BES project delivery processes. In FY2020-21, performance measures and outcomes pertaining to the aforementioned efforts will be further developed.

## Changes to Program

Resource constraints in recent years have challenged the bureau to ensure that asset investment is optimized to prevent service interruptions and address the backlog of aging collection system and treatment plant assets, while also addressing new regulatory requirements. Beginning in FY 2017-18, the bureau set a target to significantly increase CIP output to ensure sustainable reinvestment in infrastructure over the long term. The FY2020-21 CIP is \$152.2 million, an 8.3% (increase) from FY2019-20 (after excluding the bureau's contribution to the Portland Building reconstruction project). CIP increases are expected in the next three fiscal years as design and construction of the regulatory-mandated Secondary Treatment Expansion Project ramps up at CBWTP, along with work for pump station improvements and other stormwater system and wastewater treatment projects.

In FY2018-19, reorganization to the PMO created six new project manager positions (from existing bureau resources), and initiated delivery process improvements to address the challenge of capital delivery. Additional project management and support positions are expected to be incrementally transferred into the PMO through further internal BES reorganization such that the majority of the 200+ active CIP projects become managed by the PMO in the coming years. Additional requests for budgeted positions for project management, design engineering, project controls and project support are likely in the coming years to support successful delivery of the capital program.

The FY2020-21 requested budget includes \$240,000 for consultant support for these improvements and professional project management training, which is a continuation of efforts begun in FY2019-20. Consultant resources are critical for the initial facilitation, documentation, and training on new processes and procedures, but these costs are expected to decline over the next three years as new processes become institutionalized and staff are adequately trained.

Two new FTE are requested in FY2020-21 for the PMO – both of which would replace positions that are currently filled via temporary appointments. The first new position is a Manager for the Project Management division in the PMO. This division manages 20 capital projects valued at roughly \$100M and is also responsible for development and implementation of the new BES project delivery process. The permanent position will ultimately oversee a large division divided into teams focusing on different project types as projects and staffing are added into the PMO. This is a key position supporting improvement of inter-bureau partnerships and coordination, integrated project teams, and linking integrated planning to capital project objectives. The second new FTE is an Analyst to support business operations of the new and growing workgroup. A permanent position is needed to support the business operations needs of this growing workgroup. Work includes managing the operating budget and operating plan, coordinating overall staffing planning and personnel actions, supporting employee training and onboarding, contract management, communication efforts, and coordination with other BES workgroups.

This program also includes partial funding for positions in the Treatment Program that are partially funded by the CIP.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP	
<b>Bureau Expense</b>					
Capital Outlay	58,004,524	78,009,279	92,494,455	105,678,706	
External Materials and Services	14,794,924	23,109,584	20,681,847	34,883,576	
Internal Materials and Services	15,645,006	17,611,054	7,659,018	9,761,544	
Personnel	12,459,377	13,449,107	20,924,355	22,225,247	
<b>Sum:</b>	<b>100,903,831</b>	<b>132,179,024</b>	<b>141,759,675</b>	<b>172,549,073</b>	
	FTE	133.06	13.95	15	147.4

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** The primary expense for this program is the Bureau's Capital Improvement Program (the "CIP"). Personnel are allocated from other programs to support the CIP. External Materials and Services costs include contract staff, outside design and construction consultants, and other services necessary to develop and complete capital projects. Internal Services reflects costs of partner bureaus that assist in the implementation of the CIP and include PBOT, Parks, and the Water Bureau.

**Staffing:** 17 positions support this program with 134.4 positions allocated from this program (4 FTE) and other programs to support the capital improvement portion of this program. Positions include Analysts (8), Capital Project Managers (5), an Engineering Technician II, an Engineering Supervisor, and Manager II (2).

The staffing counts above include requests for a new Analyst II and Manager II positions.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

### Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Systems Development

## Program Description & Goals

The Systems Development Program provides all private development-related services on behalf of BES, including early assistance, land use review, building permit review, stormwater facility inspection, public works projects and source control review—all to support City development goals and ensure consistency with regulatory requirements and BES’s infrastructure system needs. The Systems Development Program includes the Transportation Interagency Program, the Sewer Extension Program, and the Nonconforming Sewer Program (with support from the Revenue Programs division within the Business Services Group). The Bureau of Development Services generates data monthly to track how many permit reviews are meeting stated turnaround goals. BES has identified a target of meeting or exceeding turnaround goals 95% of the time.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Percent of BES building permit reviews that meet the City’s turnaround goals for reviewing permits	0	0	0	95%	95%

## Explanation of Services

This program provides BES development review functions, which are critical to ensuring the continued issuance of land use reviews, building permits and public works permits. BES ensures that adequate sanitary and stormwater services are available to serve proposed development.

Customer service to support applicants through the development review process is a critical component of the work of the Systems Development Program, as is ensuring that approved projects are adequately protective of the BES system, human health and the environment. Most Systems Development Program functions are co-located with BDS and the other City development-related functions, allowing real-time coordination between bureaus and with customers, to best meet targets and goals related to supporting development.

The Nonconforming Sewer Program (NSP) assists Portlanders by resolving shared and private sewer situations. Many properties across the City share sewer laterals with neighboring properties or have a private sewer line in the right-of-way. Nonconforming sewer laterals become problematic when they fail and need to be repaired/replaced, or when properties are sold or redeveloped. The NSP is working to resolve as many of these situations as possible, cost-effectively, through the capital improvement CIP process. However, many nonconforming situations must be resolved more quickly than the CIP can accommodate, because of home sales or redevelopment schedules. These urgent situations require a high level of customer/public support if they are to be resolved in a timely way.

The Systems Development Program is responsible for the following activities:

- Review and evaluation of early assistance and land use reviews
- Implementation of drainageway protection rules
- Building permit review for sanitary connections, stormwater management, and pollution prevention/ source controls
- Permitting and design oversight of public works projects related to new development or redevelopment
- Provision of broad liaison services to the regional transportation agencies while ensuring conformance with BES stormwater management requirements and design standards
- Design and project management of sewer service extensions
- Conversion of existing substandard sewer connections through customer service, outreach, permitting, design and construction of new sanitary sewers
- Private stormwater facility inspection
- Sewer connection permits
- Customer service to support the City's unified and co-located permitting system
- Advocacy for BES and its ratepayers through participation in broader Citywide planning projects and negotiation of development agreements

## Equity Impacts

The Systems Development Program is a customer service-focused division that provides permit review functions and customer support, both face-to-face and by phone. Division staff routinely attend customer service and equity training and seek ways to improve assistance to home and property owners impacted by inequities and who need support navigating the City's permitting and land use systems. This aligns with Goal 2 (Equitable Service Delivery and Business Practices) in the bureau's 2016-2021 Equity Plan.

The Nonconforming Sewer Program (NSP) identifies and supports potentially eligible candidates in accessing the available financial assistance and deferred payment options. Many NSP properties are on older, smaller and subdivided lots, and some NSP areas overlap with high percentage minority and/or low-income Census tracts. In addition, helping existing property owners resolve issues related to nonconforming sewers can help those residents stay in their homes and/or reap full value of their property at the time of sale, rather than being forced into selling at a lower price when their sewer is not in compliance. This aligns with Action 2h (Examine bureau policies, practices, and procedures to assess the impact of institutionalized disparities on communities of color and the disabled community) in the bureau's Equity Plan.

Refinement and development of related performance measures and outcomes are planned for FY2020-21.

## Changes to Program

Because of the growing economy and desirable development factors, pressures on development review and the Systems Development Program have increased significantly over the past few years. BES has added staff and continued to refine and improve processes to reduce permitting timelines and ensure that customer service goals are met.

A total of \$40,000 in ongoing budgetary adjustments is requested in FY 2020-21 to accommodate increased fees charged by banks to facilitate customer payment via bank cards (\$26,000), increase to an existing interagency agreement with PBOT related to BES's contribution to the City's Public Works Permitting Program (\$6,000), and increases for staff technical training and basic office/operating supplies to catch up to staff growth in recent years (\$8,000).

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	0	0	382,235	719,773
External Materials and Services	630,799	693,881	728,896	387,896
Internal Materials and Services	1,127,915	1,283,462	868,257	1,066,212
Personnel	3,419,300	3,739,073	3,766,609	3,808,872
<b>Sum:</b>	<b>5,178,014</b>	<b>5,716,416</b>	<b>5,745,997</b>	<b>5,982,753</b>
FTE	22.05	27	32	26.7

**Resources:** Resources for this program come from ratepayer fees and charges for Sewer and Stormwater services offset by system development permit fees and connections charges.

**Expenses:** The primary expenses in this program are personnel, Capital Outlay, bank card fees for customer permit payments, professional development and training costs, and ongoing costs related to the Portland Online Permitting System. Internal services include facility rental for the workspace in the 1900 Building and PBOT sewer connection inspection fees and permitting services.

The amount in Capital Outlay reflect a realignment of budget and actuals to this program which manages the permit project related work. The costs were previously reported in the Capital Program Management and Controls Program.

**Staffing:** 33 positions support this program with approximately 6.3 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include Engineers (19), Planners (5), Environmental Technicians (2), an Environmental Program Coordinator, a Manager I, a Manager II, a Coordinator I, a Supervisor II, an Administrative Specialist, and an Analyst II.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

## Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Portland Harbor

## Program Description & Goals

The Portland Harbor Program provides expert services to manage and act on behalf of the City in its participation in the Portland Harbor Superfund cleanup, along with the Natural Resource Damage Assessment (NRDA) settlement process and related restoration efforts. Expert services include legal, policy and program administration, technical support and public involvement support. Because of the City’s significant economic, environmental and cultural interest, along with its status as a potentially responsible party, the Portland Harbor Program works closely with other City bureaus to be a leader in accomplishing a successful cleanup as soon as possible.

The Portland Harbor Program goals include:

- protecting and enhancing environmental and human health
- maintaining a working harbor, and
- advocating for a fair allocation of cleanup costs among all potentially responsible parties.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Number of education and engagement activities and events about Portland Harbor Superfund	0	0	0	25	22

## Explanation of Services

The City is a steward and regulator of the Willamette River and is also one of more than 100 parties that are potentially responsible for cleanup costs. As such, the City has long been involved in the Portland Harbor Superfund project, working to ensure that the interests of Portlanders are represented. The Portland Harbor Program is made up of four main support areas that work closely together to achieve programmatic goals.

- Policy and program administration support provides leadership and strategic guidance for the Portland Harbor Program, along with services for stakeholder engagement, government relations, program development, operational oversight and coalition building to advance cleanup implementation.
- Legal support provides services in defending the City in its involvement and potential liability associated with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process, the allocation settlement process, the Natural Resource Damage Assessment settlement process and associated lawsuits. Legal support also provides services in developing partnership agreements to facilitate collective action toward cleanup implementation, and cleanup agreements with EPA.
- Technical support provides services by protecting City assets, preventing recontamination of the river, investigating and controlling sources of contamination, planning and implementing cleanup work, performing environmental risk assessments, coordinating with other technical programs throughout the Bureau and City and managing projects.
- Public involvement support provides services in developing, implementing and managing a community involvement program designed to build and strengthen relationships with diverse community stakeholders and encourage community involvement in the cleanup process. The public involvement support area also works closely with other government agencies on public health and risk communication, along with environmental justice issues related to the Superfund cleanup.

## Equity Impacts

The Portland Harbor Program recognizes past and current inequities and is actively promoting equity and environmental justice through meaningful involvement of Portland's diverse communities in the cleanup. BES developed the Portland Harbor Community Involvement Program in partnership with community groups to ensure that those who are disproportionately impacted by the contamination and/or cleanup itself have an opportunity to be involved in the cleanup process. Among these communities are people who live near Portland Harbor or who have current or historical connections to it. This includes tribal members, urban Native peoples, Black people, communities of color, immigrants, refugees, people who are houseless, and people who are low-income. For example, people who consume non-migratory fish caught in Portland Harbor (regardless of where they live) are considered a Superfund-affected community.

The Portland Harbor program is advancing BES Equity Plan Goal 2: Equitable Service Delivery and Business Practices: Portlanders share the benefits and burdens of BES work equitably by implementing Actions 2f (Increase public involvement interactions with communities of color and the disabled community); and 2i (Meets regularly with organizations that support and represent historically underserved communities).

The team currently meets and will continue to meet regularly with Portland communities to identify opportunities to: inform the cleanup; support transparency; ensure ongoing communication about the Superfund process; and advance efforts to achieve community benefits related to the cleanup. We are dedicated to active engagement of these communities throughout the cleanup process. The Portland Harbor Program will also make funds available through dedicated community grants and sponsorships to build capacity, support public involvement, and ensure Superfund-affected communities have a voice in the remedy design phase through FY2021-22.

## Changes to Program

The Superfund cleanup process is heavily influenced by external factors, such as EPA oversight, legal settlement processes, individual site negotiations, and the willingness of potentially responsible parties to move forward with their respective cleanup responsibilities. These factors change frequently, which requires the program to maintain a high degree of flexibility.

As the Portland Harbor Superfund Project moves into the remedial design phase, program expenditures are likely to increase in the near term. The FY 2019-20 Adopted Budget included a \$6.0 million transfer from fund balance in the Environmental Remediation Fund to the City's Portland Harbor Superfund Reserve to meet the City's first payment obligation under the Settlement with the U.S. Environmental Protection Agency for Certain Portland Harbor Remedial Design Costs authorized by Ordinance 189509. Under this agreement with EPA, the City and State of Oregon will establish a trust to be funded over the next three fiscal years to advance towards meeting our responsibility as potentially responsible parties. The trust is intended to reduce the City's risk of enforcement action by the EPA, reduce transaction costs that would be incurred during negotiating and performing numerous design agreements, and encourage timely action.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
External Materials and Services	500,753	989,696	796,081	1,216,081
Internal Materials and Services	733,042	793,105	1,032,964	1,181,990
Personnel	476,208	597,066	625,598	651,705
<b>Fund Expense</b>				
Fund Transfers - Expense	0	0	6,000,000	0
<b>Sum:</b>	<b>1,710,003</b>	<b>2,379,867</b>	<b>8,454,643</b>	<b>3,049,776</b>
FTE	4	4	4	4

**Resources:** Resources for this program come from ratepayer's Willamette River/Portland Harbor Superfund Charge.

**Expenses:** Primary expenses for this program are personnel, External Materials and Services for outside legal assistance and costs related to communications. Internal Services are primarily City Attorney, sampling and monitoring, and laboratory costs.

**Staffing:** 4 positions support this program. Positions include a Manager I, Coordinator III, Analyst III and an Environmental Regulatory Coordinator.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

## Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Portland Harbor CERCLA (Superfund)

## Program Description & Goals

The CERCLA Program area is dedicated to holding certain segregated funds related to the Portland Harbor Program for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Please see the Portland Harbor Program narrative above.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
---------------	-----------------------	-----------------------	----------------------	----------------------	---------------------

## Explanation of Services

Please see Portland Harbor Program narrative above.

## Equity Impacts

Please see Portland Harbor Program narrative above.

## Changes to Program

Please see Portland Harbor Program narrative above.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
External Materials and Services	167,112	143,365	1,910,812	8,375,812
Personnel	2,156	1,266	0	0
<b>Fund Expense</b>				
Fund Transfers - Expense	0	0	0	1,319,000
<b>Sum:</b>	<b>169,268</b>	<b>144,631</b>	<b>1,910,812</b>	<b>9,694,812</b>

**Resources:** Resources for this program come from ratepayer's Willamette River/Portland Harbor Superfund Charge.

**Expenses:** Expenses for this program reflect estimated costs for Post Record of Decision expenses. Post Record of Decision expenses may be adjusted as more information about potential City responsibilities become known. The Fund Transfer budget reduction reflects the transfer of \$6 million made to the General Reserve Fund for the Portland Harbor Trust in early FY 2019-20.

**Staffing:** There is no staffing related to this program, see Portland Harbor Program.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

### Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Portland Harbor NRDA

## Program Description & Goals

The NRDA Program area is dedicated to holding certain segregated funds related to the Portland Harbor Program for the National Resource Damage Assessment (NRDA) process. Please see the Portland Harbor Program narrative above.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
---------------	-----------------------	-----------------------	----------------------	----------------------	---------------------

## Explanation of Services

Please see Portland Harbor Program narrative above.

## Equity Impacts

Please see Portland Harbor Program narrative above.

## Changes to Program

Please see Portland Harbor Program narrative above.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
External Materials and Services	0	0	1,099,000	0
<b>Sum:</b>	<b>0</b>	<b>0</b>	<b>1,099,000</b>	<b>0</b>

**Resources:** Resources for this program come from ratepayer's Willamette River/Portland Harbor Superfund Charge.

**Expenses:** Expenses for this program reflect resources made available in the event National Resources Damage Assessment projects are identified.

**Staffing:** There is no staffing related to this program, see Portland Harbor Program.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

## Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Pollution Prevention Administration

## Program Description & Goals

The Pollution Prevention Administration Program includes leadership and administrative services that support the Pollution Prevention Services Group (which includes the Environmental Compliance Division, Environmental Monitoring and Investigations Division and the Portland Brownfield program), thus ensuring smooth operation of a work group that has approximately 90 full-time employees in two work locations.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
---------------	-----------------------	-----------------------	----------------------	----------------------	---------------------

## Explanation of Services

The Pollution Prevention Administration Program is led by the Group Manager, who is responsible for high-level management and oversight of programs within the Pollution Prevention Services Group. The Pollution Prevention Administration Program integrates organizational management, human resources, financial planning, budget development and various administrative support functions of the Pollution Prevention Services Group, to ensure smooth operations of the work group and timely and appropriate responses to internal and external customers, the public, ratepayers and regulatory agencies. The Group Manager provides bureauwide direction related to organizational initiatives, operations and capital programs.

## Equity Impacts

The Pollution Prevention Administration Program leads and directs the Pollution Prevention Group's implementation of the BES Equity Plan and BES Strategic Plan initiatives to ensure positive racial equity outcomes on all its programs and projects. The program participates in and supports efforts that create a diverse workforce and an equitable environment within the bureau and the community. Activities include the following:

- Under Goal 2 Equitable Service Delivery and Business Practices in the bureau's Equity Plan
  - o Advocating and supporting efforts to develop multilingual communications to customers
  - o Continuing development and consideration of activities to benefit communities of color or other underserved populations
- Under Goal 3 Workforce Equity – A diverse BES staff reflects the demographics of the region in the bureau's Equity Plan
  - o Participating in recruitment strategies that support a diverse workforce
  - o Supporting and advancing efforts to employ people with disabilities
  - o Supporting and encouraging continued participation in career development activities with high school programs in underserved areas (aligns with Action 3b – Partner with regional high schools and colleges to expand internships and other learning opportunities for student populations underrepresented at the bureau in the bureau's Equity Plan)

Further refinement and development of equity-centered mitigation strategies as well as related performance measures and outcomes are planned for FY2020-21.

## Changes to Program

No major budget changes are requested for FY 2020-21.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
External Materials and Services	5,008	7,064	43,250	43,250
Internal Materials and Services	12,011	10,654	824	450
Personnel	402,019	535,790	574,127	599,365
<b>Sum:</b>	<b>419,038</b>	<b>553,508</b>	<b>618,201</b>	<b>643,065</b>
FTE	3	4	4	4

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Primary expenses for this program include personnel, staff training, and office supplies for the Pollution Prevention Services Group (PPS).

**Staffing:** 4 positions support this program. Positions include the PPS manager, Analysts (2) and an Office Support Specialist III.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

## Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Environmental Compliance

## Program Description & Goals

The Environmental Compliance Program manages, interprets and implements City-wide environmental permits and associated state and federal regulations. Through compliance inspections, investigations, technical analyses, data collection and management, program evaluations and policy development, this program helps protect the City's storm and sanitary assets, watershed health and local water quality.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Percentage of industrial enforcement tests in full compliance	99%	99%	99%	99%	0
Average resources spent in site investigations and cleanup, per site investigated or remediated	\$10,629	\$10,965	\$10,000	0	0

## Explanation of Services

The Environmental Compliance Program manages Citywide environmental programs and permits and performs the associated activities of developing codes and rules, permitting private dischargers, investigating complaints and illicit discharges, inspecting commercial and industrial facilities, establishing and implementing user charges and enforcing codes and rules.

Responsibilities include:

- CBWTP and TCWTP National Pollutant Discharge Elimination System (NPDES) permits, regulating the discharge of total suspended solids (TSS), biochemical oxygen demand (BOD) and E. coli to the Columbia and Willamette rivers.
- Phase I NPDES Municipal Separated Storm Sewer System (MS4) Permit, intended to reduce or eliminate stormwater pollution via operation and management of drainage and roadway infrastructure, parks and natural areas, maintenance facilities and other features of the built and natural environments. The permit also influences construction development standards.
- Underground Injection Control Water Pollution Control Facility (UIC-WPCF) Permit, protecting beneficial uses of groundwater by reducing or preventing pollutants from public rights-of-way from entering approximately 9,000 City-owned injection wells.
- Total Maximum Daily Load (TMDL)p, which ensures that City discharges of certain pollutants (e.g., temperature, bacteria, mercury) to local rivers and streams do not exceed amounts allocated by the Oregon DEQ.
- Air Contaminant Discharge Permit (ACDP), requiring the Bureau to track and report sources of air contaminants. This was recently updated to include air toxics as part of Cleaner Air Oregon requirements.
- Solid waste permit for the management of biosolids at CBWTP.
- Industrial Stormwater 1200Z permit at CBWTP to manage stormwater discharges from the CBWTP campus to the Columbia Slough.
- Regulation of industrial and commercial facilities through permitting, inspections, monitoring and enforcement of site practices, discharges to storm and sanitary systems and direct discharges to surface waters. This includes the Pretreatment and Industrial Stormwater programs.
- Regulation of nonpermitted industrial, commercial and residential facilities through complaint response, investigations, inspections, monitoring and enforcement of site practices, discharges to storm and sanitary systems and direct discharges to surface waters. This includes the Fats, Oils, and Grease (FOG), Maintenance Inspection (MIP), and Spill Prevention & Citizen Response (SPCR) programs.
- Oversight and assessment of monitored and class average Extra Strength sewer charges for the discharge of high-strength waste from commercial and industrial facilities.
- On-call environmental engineering, investigation, characterization and remediation services provided by Coordinated Site Analysis (managed under the Environmental Investigations and Monitoring Program).
- Technical and financial support for property owners, developers, community organizations, and neighbors who are interested in cleaning up brownfields and recovering neighborhood land, via the Portland Brownfield Program.

## Equity Impacts

The Environmental Compliance Program has a direct, mandated responsibility to ensure that environmental programs and permits result in positive equitable outcomes for all communities. These programs provide significant benefits to underrepresented communities, particularly those living near industrial facilities and those relying on direct contact with surface water (e.g., through subsistence fishing).

The Portland Brownfield Program was created directly in response to an environmental justice initiative at the U.S. Environmental Protection Agency (EPA). From the Portland Brownfield Program's inception, a central goal has been to address the environmental burden that brownfields create in neighborhoods (brownfields are three times more likely to exist in underserved communities). The Portland Brownfield Program focuses on neighborhood brownfields: smaller commercial sites, like former gas stations and dry cleaners, that are often found close to homes, schools and businesses. The program provides financial assistance to clean up sites that will provide benefit to existing community. Project partners that have received assistance from the Portland Brownfield Program include Verde, Black United Fund, Oregon Food Bank, Hacienda CDC, Dharma Rain Zen Center, Albina Youth Opportunity School, Community Energy Project, Proud Ground and REACH CDC. This work aligns with Goal 2 – Equitable Service Delivery and Business Practices in the bureau's Equity Plan.

Further development of equity-centered mitigation strategies to stabilize communities and prevent the displacement of communities of color and low-income communities are planned for FY2020-21. This includes the development and monitoring of related equity-centered performance measures and outcomes.

The Coordinated Site Analysis (CSA) team supports the equitable provision of utilities and watershed improvements, as well as remediation of contaminated areas that have the potential to pose unacceptable risk to human health and the environment.

## Changes to Program

Environmental Compliance Program priorities depend greatly on changes to regulations at the federal, state and local level; new and reissued permits; and new permit conditions. Program expectations can change based on newly emerging pollutants and industries, changes to the City's sewer system and changes to practices and regulations that affect industrial and commercial facilities. More stringent and/or complex state and federal requirements result in increased need for staffing and professional resources. It is critical that the bureau develop a more standardized and robust data management system to support compliance.

The Portland Brownfield Program uses U.S. EPA funding for many projects; however, EPA funding has become more competitive and less stable in the past year.

Program adaptation to meet these new regulatory demands include active engagement in legislative efforts to sustain and grow brownfield resources at the state and federal levels, and implementing process improvements, utility coordination with the Bureau of Transportation and Water Bureau and support of broader City initiatives. The program is moving to a new data management system, which has been under development for approximately five years. This will greatly improve program efficiencies (e.g., inspections, enforcement, data management and cross-program activities). Additionally, the program is cross-training staff in multiple program areas to improve multimedia industrial inspections (e.g., Industrial Stormwater staff inspecting MIP facilities when possible), and developing program audits to evaluate the City's compliance with permit requirements.

Primary budget additions requested in FY2020-21 include 5 new FTE and ongoing funding for on-call contracting:

- A Technician I – Stormwater to support the Columbia Corridor Stormwater Program (CCSP), which was created to meet the City’s regulatory requirements under the Record of Decision for Slough Sediment and associated IGA and Columbia Slough Watershed Action Plan. This position will perform a desktop analysis of each basin to determine which facilities contribute sediment to the right-of-way. For each of over 1,000 facilities, they will build a site drainage file and assist with the inspection of and issuance of any associated enforcement actions and permit coverage requirements as appropriate.
- A Coordinator I - Pretreatment to provide data entry and outreach support to the sub-meter program, which ensures qualifying businesses are properly billed for sanitary sewer charges. The Coordinator I position will work with customers to ensure sub-meter reads are submitted and entered, collaborate with Water Bureau, help resolve customer issues, assist with audits to ensure accuracy of sub-meter data, create and maintain a submeter webpage, and conduct other focused outreach activities, increasing participation of businesses in marginalized communities.
- An Environmental Program Coordinator which will be shared across three programs (Wastewater Treatment Plant Compliance, MS4 and Brownfields) to align complementary work in regulatory compliance and equitable community engagement. The position will provide coordinated communication and involvement, for residential and commercial pollutant source control initiatives and with historically marginalized communities for brownfield assessment. The activities are required by both NPDES permits and EPA brownfield grants. Work will include establishment and maintenance of pollution prevention programs, including outreach and education activities intended to reduce contributions of pollutants entering the sanitary and stormwater and systems. Work will help the City achieve increasingly stringent water quality standards and reduce known toxics and emerging contaminants, such as pharmaceuticals, from entering our systems and being discharged to surface waterways, threatening public and watershed health.
- A Toxics Regulatory Coordinator to develop Toxics Reduction Plans for Mercury, PFAS, phthalates, and others as necessary. Recent state and federal regulations and NPDES permitting will require greater oversight and removal of toxics and emerging contaminants: pharmaceuticals, phthalates, mercury, and PFAS. This position will research toxic characteristics and associated industrial, commercial, and municipal source controls, and will develop monitoring plans, priorities, methodology, and coordinate system-wide monitoring to identify and eliminate sources. It will work internally to develop strategies to encourage commercial and industrial facilities to install source controls and to use less toxic materials.
- A Business Systems Analyst II to provide data management, business process development, and technical support to ECD users and proactively identify and address data and reporting gaps. This position will be responsible for management, maintenance, and upgrades of Environmental Compliance Information Management System (ECIMS). As ECIMS becomes fully functional across all programs there will be a need to consistently evaluate and update program business practices, customize ECIMS for changing business practices, conduct regular QA/QC checks to evaluate data/system errors, and train ECIMS users.
- \$100,000 ongoing on-call PTE technical assistance to support newly established and expected future requirements for CBWTP and TCWTP NPDES wastewater discharge permits and associated compliance agreements, and CBWTP air, industrial stormwater, and solid waste permits.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	123,381	34,971	228,482	85,000
External Materials and Services	907,206	2,003,217	2,006,102	2,014,937
Internal Materials and Services	587,009	749,197	848,731	816,233
Personnel	5,008,592	5,363,479	6,373,431	7,271,957
<b>Sum:</b>	<b>6,626,187</b>	<b>8,150,865</b>	<b>9,456,746</b>	<b>10,188,127</b>
FTE	51	55	51	55

**Resources:** Resources for this program come from ratepayer fees and charges for Sewer and Stormwater services. Additionally, this program receives revenue from permit fees and civil penalties for environmental contamination.

**Expenses:** Expenses for this program include personnel, licenses and permit fees (including penalties), costs for contaminated site evaluation and reporting, Department of Environmental Quality cleanup oversight, staff training, and minor equipment and tools. Capital outlay reflects one new vehicle and one life-cycle replacement vehicles.

The increases in personal services since FY 2017-18 are attributable to several changes in regulatory program requirements for compliance with City of Portland permits as well as rapid increases in commercial and industrial development requiring review and ongoing regulatory oversight, permitting, inspections, and monitoring by Environmental Compliance staff.

**Staffing:** 56 positions support this program. Positions include Coordinators (3), Engineers (2), Environmental Program Coordinators (4), Environmental Specialists (10), Environmental Supervisors (5), Environmental Technicians (26), a Business Systems Analyst II, a GIS technician III, an Environmental Regulatory Coordinator, Hydrologists (2), and a Manager II.

The staffing counts above include requests for a new Business Systems Analyst II, Coordinator I, Environmental Regulatory Coordinator, Environmental Specialist, and Environmental Technician I.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

### Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Environmental Investigation and Monitoring

## Program Description & Goals

The Environmental Investigation and Monitoring Program (within the Pollution Prevention Group) provides the City with cost-effective and customized environmental monitoring and laboratory services, along with high-quality data delivery and technical consultation that support the bureau's regulatory objectives and requirements, conveyance system data needs, watershed assessments and property investments.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Number of lab analyses performed each year	53,340	59,577	60,000	60,000	0
Percentage of Level I/Phase I Environmental Assessments completed on time	0	0	0	80%	90%

## Explanation of Services

The Environmental Investigation and Monitoring Program supports (1) the bureau's compliance with major environmental permits and regulations, and (2) programs managed by the bureau to protect and improve surface water, groundwater, stormwater, sediment, soil and habitat quality. The program staff is specialized in the following areas:

- Investigations & Monitoring Services (IMS), which provides project design, project management, data analysis and data reporting services for BES monitoring projects, plus project management for non-City agencies that use the Water Pollution Control Laboratory
- Field Operations, which provides cost-effective, high-quality environmental monitoring services to internal BES stakeholders in support of the bureau's regulatory, engineering, and scientific programs
- The Water Pollution Control Laboratory (WPCL), which analyzes wastewater, stormwater groundwater, surface water, biosolids, sediment and soil in support of the City's regulatory requirements, wastewater operations, Capital Improvement Program (CIP) and other environmental programs, such as watershed management and restoration
- Data Acquisition & Management (DA&M), which collects and communicates critical operational, environmental and emergency information related to the City's wastewater and stormwater collection systems to support the Combined Sewer Overflow program and asset, operational, management and planning needs

## Equity Impacts

BES applies an equity lens to all bureau programs and services and is required by state and federal regulators to ensure the equitable distribution of its basic, sanitary and stormwater services that protect public health and the environment. This aligns with Goal 2 – Equitable Service Delivery and Business Practices in the bureau's 2016-2021 Equity Plan. Work completed by the Environmental Investigations and Monitoring Program is identified by other program areas and conducted in support of other program objectives which have been developed within an equity framework.

## Changes to Program

The Environmental Investigation and Monitoring Program responsibilities and priorities depend greatly on changes to regulations at the federal, state and local level, including changes to environmental permits and regulatory standards or requirements. Additionally, workloads are influenced by (1) the nature and magnitude of work conducted by our utility partners and within the bureau's own CIP, (2) emerging pollutants, and (3) new or evolving industries and/or industry sectors.

Issuance of the National Pollutant Discharge Elimination (NPDES) permit for CWTP is anticipated for early 2020 and will include additional monitoring to support compliance deliverables, along with other potential service needs from this program area. A new NPDES MS4 stormwater permit is also anticipated for 2020, which will likely require program changes to support MS4 permit requirements. Additionally, new state and federal regulations to control specific pollutants, such as mercury and PFAS, will drive efforts to develop capability to provide these services. Lastly, demand for program services continues to be high to support system planning needs and bureau improvements and increased CIP throughput.

The Investigation and Monitoring Program is in the process of filling identified service gaps in its data management systems. System improvements are necessary to increase data accessibility to support development standards for the Stormwater Management Manual, to maximize the value of Portland Area Watershed Monitoring and Assessment Program (PAWMAP) information and to enhance regulatory reporting for NPDES and Underground Injection Control (UIC) permit requirements. Some of this work is currently progressing via software acquisition during FY2019-20, business process improvements and expansion of monitoring stations, radio networks and data centers to support new service areas and data gaps affiliated with stormwater system planning. Adjustments in FY 2020-21 include changes in capital equipment funding (e.g., for laboratory instrumentation and monitoring equipment) and changes to external services (e.g., software, monitoring station repair, and traffic control support), and are offset by reductions elsewhere in the program.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	167,354	167,683	418,516	167,000
External Materials and Services	864,925	939,748	1,242,762	1,118,162
Internal Materials and Services	-2,678,557	-2,867,703	-3,454,895	-3,401,693
Personnel	4,317,685	4,584,681	5,434,754	5,599,808
<b>Sum:</b>	<b>2,671,407</b>	<b>2,824,409</b>	<b>3,641,137</b>	<b>3,483,277</b>
FTE	38	39	42	42

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Primary expenses for this program include personnel, costs for external laboratory work, training, chemicals, repair and maintenance of equipment, and utility charges for the Water Pollution Control Lab.

Laboratory testing and Field Operations sampling and monitoring done for BES capital improvement projects and other internal bureau work are reported as negative expenses in in the Internal Materials and Services line item for this program.

Capital Outlay reflects appropriation for replacement of life-cycle vehicles, sampling and monitoring equipment, and laboratory equipment.

**Staffing:** 42 positions support this program. Positions include Business Systems Analysts (2), a Communications Engineer, Electronic Systems Technicians (4), an Environmental Regulatory Coordinator, Environmental Specialists (2), Field Science Specialists (6), Field Science Technicians (5), Laboratory Analysts II (6), Laboratory Analytical Specialists (6), Laboratory Coordinators (3), a Laboratory Manager, a Manager I, a Manager II, a Statistician, a Storekeeper Specialist, and a Supervisor II.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

## Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Watershed Services

## Program Description & Goals

The Watershed Services Program provides leadership and administrative support to the employees in the Watershed Services Group and coordinates Citywide efforts to improve watershed health, support sewer system needs and comply with state and federal environmental regulations. The Watershed Services Program also coordinates the acquisition of natural areas to meet stormwater system objectives.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Watershed Health Index for water quality	5.50	5.60	5.90	5.50	8.00

## Explanation of Services

The Watershed Services Program provides management and administrative services for the Watershed Services Group. Staff in this program, reporting directly to the Watershed Group Manager, coordinate a variety of group and Citywide efforts, including land acquisition, the Watershed Investment Program, the Neighborhood to the River program and other special projects. Two administrative staff provide clerical, budget, administrative and purchasing support for the Group.

Primary functions include the following:

- Watershed program management: manage and direct watershed programs and activities
- Personnel management: plan, organize, direct and evaluate the performance of managers and staff, including their professional development
- Watershed portfolio management: provide leadership for policy and program development and implementation
- Inter-bureau, interagency, and stakeholder coordination
- Natural areas acquisition and restoration planning
- Budget management: develop and monitor budget, contract and transaction support
- Administrative, clerical, and purchasing support and training

## Equity Impacts

Projects and activities within the Watershed Services Program provide multiple benefits to communities throughout Portland, and the work is increasingly planned and implemented using an equity lens which aligns with Goal 2 (Equitable Service Delivery and Business Practices) in the bureau's Equity Plan. Land acquisition programs protect and restore natural areas in low-income, racially diverse and underserved communities throughout Portland, providing both watershed and public health benefits.

FY2020-21, presents an opportunity to develop and further refine existing equity-centered mitigation strategies, as well as related performance measures and outcomes.

## Changes to Program

Staff in this program are providing leadership to the Process Improvement Project aimed at better coordinating service delivery at connection points between Portland Parks & Recreation and BES. Each of the two bureaus are requesting resources of \$50,000 for facilitation services in FY2020-21.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	0	0	35,000	0
External Materials and Services	70,341	75,049	160,840	140,840
Internal Materials and Services	95,626	86,663	45,207	48,924
Personnel	512,649	510,335	589,608	701,561
<b>Sum:</b>	<b>678,616</b>	<b>672,047</b>	<b>830,655</b>	<b>891,325</b>
	FTE	5	4	4
				5

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Primary expenses for this program include personnel, external costs for staff training, real estate professional services, and post stabilization property management. Internal services include printing and distribution, telecommunications, fleet motor pool, and PBOT Right of Way Services for land acquisition.

**Staffing:** 5 positions support this program. Positions include the Watershed Services Group manager, and Administrative Specialist II, an Analyst II, an Environmental Technician I, and an Environmental Specialist – Generalist.

The staffing counts above include a request for a new Environmental Technician I.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

## Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Science, Fish and Wildlife

## Program Description & Goals

The Science, Fish and Wildlife Program (within the Watershed Services Group) provides expert scientific and technical assistance to all bureau programs and the City on environmental policy, planning, projects, regulations and monitoring. This program also leads the City’s Invasive Species Program and manages the City’s compliance with the Endangered Species Act.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Watershed Health Index for water quality	5.50	5.60	5.90	5.50	8.00

## Explanation of Services

The Science, Fish and Wildlife Program (also known as the Science Integration Division) provides scientific and technical assistance through the work of two teams: the Biological Sciences Team and the Ecosystem Sciences Team. This program collects, analyzes, applies and communicates the best available science to ensure that City policies, programs and projects protect and restore watershed health and achieve regulatory compliance.

- The Biological Sciences Team is responsible for the City’s Invasive Species Program, watershed planning, improvements in the mainstem Willamette River and integration of the Terrestrial Ecology and Enhancement Strategy (TEES) into BES operations. The team provides expert services to BES in botany, wetlands, wildlife, mitigation banking, fish passage and pesticides/herbicides.
- The Ecosystem Sciences Team is responsible for the City’s Endangered Species Act compliance; federal, state and tribal fisheries partnerships; the City’s Streamlining Team for coordinating federal, state and local environmental permits for any City project in water; watershed and project monitoring; and public engagement. The team provides BES with expert services related to hydrology, water quality, ecosystems, fisheries, and natural resource regulations.

## Equity Impacts

The Science, Fish & Wildlife Program works closely with regional tribes and the Native American community on protecting and restoring health fish populations of significant cultural importance, including salmon and lamprey, and on opportunity areas for traditional First Foods. This includes partnerships on the Columbia River Treaty, the Lamprey Conservation Agreement and the Salmon in the City celebration at Westmoreland Park.

The program also aids in understanding and responding to environmental justice issues in Portland, including evaluating climate impacts across Portland and disparate impacts on low-income communities. City-financed USGS gauges have been used by the city to establish flood warning systems which especially benefit lower income communities in the Johnson Creek Floodplain. The development of mitigation banks could facilitate development in the Lents/ Foster neighborhoods, potentially providing economic opportunities for low-income and racially diverse communities in this area, but also with the risk of displacing these communities. The Lents Stabilization Collaborative project is addressing these opportunities and risks.

The stated efforts align with Goal 2 – Equitable Service Delivery and Business Practices in the bureau’s 2016-2021 Equity Plan.

## Changes to Program

The FY2020-21 Science, Fish and Wildlife Program request includes a new Environmental Tech I for Early Detection Rapid Response (EDRR) based on the Invasives Species 2019-2029 Strategy, expected to be adopted by Council early in 2020. The ISS 2.0 calls for this position to support increasing the level of service in response to increased risks, especially from animal and aquatic invasives, as well as transition the program to an asset management system including conducting a grey and green infrastructure risk assessment from invasives.

Also requested is \$50,000 to expand mitigation banking opportunities. This adjustment pulls together three parallel efforts to develop mitigation banks for water resources including rivers, wetlands, floodplains: Flyway wetlands, Willamette, Lents/Foster. The FEMA BiOp team proposed two pilot efforts to be led by BES in FY2019-20 and beyond. The funds will be used to update city codes, establish a mitigation bank proposal to federal and state agencies and respond to any comments from federal and state reviewers. Many bureaus (OMF, Prosper Portland, BPS, BDS) will be involved in the development of potential future program components.

Lastly, the FY2020-21 request includes a \$25,000 one-time increase for Precipitation Downscaled Climate Modeling to evaluate climate impacts to the BES design storm. In a cost-effective partnership with Clean Water Services, Water Environment Services, and Gresham, BES will get a model that applies downscaled global and regional climate models to 20 Hydra gages in Portland to complete the analysis for the Resiliency Plan and the next Stormwater Management Manual. This work began in FY2019-20 and extends into FY2020-21.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	0	29,684	0	0
External Materials and Services	554,123	422,689	530,800	495,002
Internal Materials and Services	490,628	508,925	475,533	443,656
Personnel	1,775,365	1,884,264	1,729,386	1,782,504
<b>Sum:</b>	<b>2,820,115</b>	<b>2,845,563</b>	<b>2,735,719</b>	<b>2,721,162</b>
FTE	11.55	13	13	10.75

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** The Primary expenses for this program include personnel, external costs for hydrologic and water quality assessment, project effectiveness monitoring, mitigation banking, invasive contract herbicide application, flood warnings systems, and fish monitoring.

**Staffing:** 13 positions support this program with approximately 2.25 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include a Botanic Specialist II- Generalist, an Environmental Regulatory Coordinator, Environmental Specialists – Generalists (8), a Manager I, a Manager II, and a Planner II City-Water Resources.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

### Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Sustainable Stormwater

## Program Description & Goals

The City's stormwater system is a complex network of natural and constructed assets on public and private property and in the public right-of-way. The Sustainable Stormwater Program integrates stormwater system planning, stormwater polices and design guidelines with implementation, technical assistance and stewardship of the City's stormwater assets.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Number of trees planted	22,795	10,073	12,600	12,600	0
Number of stormwater flooding events due to system capacity	60	49	100	100	0

## Explanation of Services

The City relies on the complete stormwater asset network (public and private) to provide critical community functions, including conveyance, storage, treatment and habitat. The stormwater system includes tens of thousands of pollution-reduction and flow-control facilities like green streets, UICs and ponds; thousands of acres of wetlands; hundreds of miles of ditches and pipes; and hundreds of miles of streams and rivers. The Sustainable Stormwater projects and programs identify and reduce stormwater risks, including those from flooding events.

Major subprograms of the Sustainable Stormwater Program include the following:

- BES Stormwater System Planning (SWSP) identifies and quantifies stormwater system risk within an asset management framework. This allows BES to compare stormwater system risk across all parts of the City, assign priorities based on risk and integrate stormwater projects with other infrastructure needs. Stormwater System Planning is an ongoing effort that guides bureau investments in stormwater, prioritizing project areas, informing policies and practices to reduce risk, protect existing infrastructure, comply with regulations and improve watershed conditions to protect public health and the environment.
- BES's Stormwater Management Manual (SWMM) provides policy and design requirements for stormwater management on all development, redevelopment and improvement projects in Portland on private land, public property and public rights-of-way. These requirements respond to several regulations and system needs. Publishing the SWMM involves regular revision to reflect current system needs, regulatory requirements and technical standards. Design updates are informed by research and monitoring of stormwater facility performance.
- The Stormwater Implementation and Technical Assistance section provides technical assistance on stormwater facility design and operation to City staff, consultants and private property owners. The Private Property Retrofit program works with other bureau programs and with private landowners to assess existing stormwater conditions and implement and support projects and programs on non-BES assets that advance the City's stormwater goals.
- The Stormwater Stewards program manages stormwater sustainably by expanding and protecting Portland's urban forest and maintaining green streets, through the Environmental Services Tree Program (ESTP) and the Green Street Stewards (GSS) Program.

## Equity Impacts

The Sustainable Stormwater Program incorporates equity considerations into the risk evaluation and on-the-ground implementation programs to prioritize stormwater investments equitably. For example, the Environmental Services Tree Program (ESTP) prioritizes its work in areas with low-tree canopy, low-income residents and communities of color. A minimum of 75 percent of ESTP's trees are planted in these geographies. This aligns with Goal 2 (Equitable Service Delivery and Business Practices) of the bureau's Equity Plan.

The Stormwater System Plan (SWSP) approach is to build equity considerations into the planning phase, rather than waiting to consider it later at design. The methodologies that are developed and implemented will aid in the creation of a risk methodology and ranking system that is equitable, fair and transparent across the City. SWSP is using BPS data on vulnerable communities from the City's Comprehensive Plan to inform prioritization of future stormwater investment.

Stormwater facility performance monitoring and improvements provide better service to all Portlanders. Ensuring that facilities provide flow control as designed can help minimize basement sewer backups and reduce nuisance flooding which have greater impact on low-income households.

Equity evaluations are an integral part of Private Property Retrofit program planning. Once project areas are identified, all property owners are engaged about the program, even if technical barriers (e.g. steep slope) may not make a project possible on every property.

Stormwater Condition Assessment work is distributed across the City. This team defines the phasing of field data collection (Priority Areas) based upon risk in the system, but with equity considerations based upon census tract mapping and input received from the community during outreach work. The outreach work provides an opportunity to gain understanding of the stormwater issues in the priority areas and what the community perceives as priorities.

## Changes to Program

Within the Private Property Retrofit Program (PPRP), a FY2019-20 reduction of \$100,000 from the Columbia Slough Corridor is requested to be restored for FY2020-21 and beyond. The program supports capital projects for stormwater management with projects on private property to reduce the volume of stormwater entering City systems.

The Sustainable Stormwater Program requests an increase of \$274,000 ongoing for additional Stormwater System Plan (SWSP) Asset Condition Assessment PTE. A combination of existing and new in-house resources and PTE will inventory and assess the condition of natural and constructed stormwater system components (e.g., pipes, streams). This item includes resources specifically for wetland inventory work in FY2020-21.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	29,629	0	0	0
External Materials and Services	845,862	1,601,298	3,415,569	3,710,164
Internal Materials and Services	92,922	119,439	584,048	517,214
Personnel	2,893,736	3,311,352	3,427,383	3,576,068
<b>Sum:</b>	<b>3,862,149</b>	<b>5,032,090</b>	<b>7,427,000</b>	<b>7,803,446</b>
FTE	20.4	29	30	25.45

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** The Primary expenses supporting this program include personnel, external costs for the Private Property Retrofit Program, Stormwater Management Manual assistance services, Stormwater System Plan consultant assistance, and tree planting expenses (including Street Trees). Internal services include laboratory and Field Operations for sampling and monitoring as well as an interagency agreement with the Bureau of Planning and Sustainability.

**Staffing:** 30 positions support this program with approximately 4.55 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include Business Systems Analyst (2), Engineers (9), Environmental Program Coordinators (2), Environmental Specialists – Generalists (7), an Environmental Supervisor, Environmental Technicians (5), landscape Architects (3) and a Manager II.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

### Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Watershed Management

## Program Description & Goals

The Watershed Management Program develops and implements projects in defined watersheds throughout the City to address stormwater deficiencies, improve water quality and hydrology, mitigate impacts from flooding, protect and restore riparian and shallow water habitat and address sediment contamination. The program leverages support from public and private entities, including grant funding, for watershed projects.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Feet of streambank restored (not cumulative)	22,311	22,340	12,000	12,000	0
Watershed Health Index for water quality	5.50	5.60	5.90	5.50	8.00
Number of participants in community events, workshops, stewardship, and restoration events	19,140	27,238	10,000	10,000	10,000

## Explanation of Services

The Watershed Management Program collaborates across work groups to implement restoration projects through BES's capital program and other watershed enhancement projects. The program also includes community outreach for stewardship, cultivating partnerships with public and private entities, obtaining grant funding for watershed projects, conducting land use reviews and providing support for environmental permitting. Staff specialize in individual watersheds and become experts in their areas. Watershed Management Program staff members are divided into three teams:

- The Columbia Watersheds Team focuses on the Columbia Slough and areas of the Columbia River watershed that are within the City of Portland. This team coordinates with partners to improve water quality, address sediment contamination and enhance and restore riparian, wetland and shallow-water habitat.
- The Eastside Watersheds Team works to improve the ecological conditions of the Johnson Creek watershed and other watersheds east of the Willamette River, in collaboration with public and private partners. The team leads projects and programs that reduce impacts from flooding, improve surface water quality and hydrologic function and enhance habitat for fish and wildlife.
- The Westside Watersheds Section focuses on sub-watersheds west of the Willamette mainstem, including Fanno and Tryon creeks and tributaries that drain directly to the Willamette and Tualatin rivers. This section works closely with City and other partners to address stormwater system deficiencies, support sanitary system improvements that will improve water quality and protect and restore instream habitat.

## Equity Impacts

The projects and activities of the Watershed Management Program provide multiple benefits to communities throughout Portland, and the work is increasingly planned and implemented using an equity lens. Examples include:

- The Community Watershed Stewardship Program coordinates with the City's New Portlander Program to provide partnership outreach activities to immigrant and refugee communities.
- The Columbia Slough Sediment Program coordinates with Community Engagement Liaisons to do outreach about sediment contamination and fish consumption to immigrant and houseless communities who fish in the slough.
- Watershed Management partners with the Johnson Creek and Columbia Slough Watershed Councils, which serve racially diverse and low-income neighborhoods in N, NE and SE Portland.
- Johnson Creek floodplain restoration projects reduce the incidence of nuisance flooding in low-income neighborhoods in SE Portland.
- Neighborhood to the River projects integrate trees, green streets and rain gardens into capital project areas providing opportunities to provide the benefits associated with green infrastructure into historically underserved communities.
- Land acquisition programs protect and restore natural areas in low-income, racially diverse and underserved communities throughout Portland, providing both watershed and public health benefits.

These efforts align with Goal 2 – Equitable Service Delivery and Business Practices in the bureau's 2016-21 Equity Plan. FY2020-21, presents an opportunity to develop and further refine existing equity-centered mitigation strategies, as well as related performance measures and outcomes.

## Changes to Program

This program adds a two-year request for \$125,000 annually for Hydrology & Hydraulics (H&H) Analysis in the Johnson Creek Watershed. This work will include remapping the Johnson Creek Floodplain to provide better, more accurate and cost-effective tools and protections to people and property in the floodplain. This additional request will bridge nearly \$5 million in future capital projects with a larger effort to create a new planning level floodplain map.

The Watershed Management Program also adds \$250,000 ongoing for PTE contracts to assist with project planning for priority areas identified by a variety of drivers, including Stormwater System Planning, regulatory requirements and interagency coordination. The bureau's efforts to improve the CIP prioritization and delivery systems will require more integrated planning; it is an essential prerequisite to increased capital project delivery. Current priorities include Upper/Middle Tryon, Kings Heights, Eastside Nuisance Flooding, Willamette River and Columbia Corridor.

An increase of \$100,000 is requested for ongoing Technical Support for watershed program implementation, including strategic analysis to inform policy decisions and long-term planning needs, such as impacts to the historic WPA wall and creek-wide mitigation, tri-jurisdictional investment in stormwater infrastructure, and institutional inequity in the Willing Seller program.

Lastly, this program requests a new add of \$80,000 annually for Fish Advisory Outreach, in coordination with BES Portland Harbor Superfund Program, which will provide funding for Community Engagement Liaisons (CELs) for targeted outreach to vulnerable populations.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
External Materials and Services	447,031	739,284	1,129,306	1,690,306
Internal Materials and Services	321,510	136,713	317,625	384,823
Personnel	1,814,415	1,721,102	2,105,094	1,970,645
<b>Sum:</b>	<b>2,582,956</b>	<b>2,597,099</b>	<b>3,552,025</b>	<b>4,045,774</b>
	FTE	13.87	15.8	14.9
				12.15

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** The Primary expenses supporting this program include personnel, external costs for watershed plan implementation, Community Stewardship Grants, technical services for risk assessment, residential and business outreach, and trees/vegetation for the Neighbor to River project. Internal services include laboratory and Field Operations for sampling and monitoring for the Columbia Corridor Source Investigations.

**Staffing:** 14.9 positions support this program with approximately 2.75 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include an Environmental Regulatory Coordinator, Environmental Program Coordinators (2), Environmental Specialists – Generalists (4.9), Environmental Supervisors (3), Environmental Technicians (2), a Manager II, and a Sr. City Planner – Water Resources.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

### Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Watershed Revegetation

## Program Description & Goals

The Watershed Revegetation Program provides vegetation management for stormwater management projects and natural area improvements. As part of the maintenance of City-owned stormwater facilities, the program provides landscape design services, supports stormwater system planning and oversees the maintenance of green streets. This program advances watershed health goals through vegetation and land management to protect and improve water quality, reduce pollutants, improve fish and wildlife habitat and enhance ecosystem services within riparian areas, wetlands and upland areas.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Number of trees planted	22,795	10,073	12,600	12,600	0
Feet of streambank restored (not cumulative)	22,311	22,340	12,000	12,000	0

## Explanation of Services

The work of the Watershed Revegetation Program falls into two primary areas:

- Watershed Revegetation Program Stormwater Operations and Maintenance is responsible for vegetation management of City-owned stormwater management facilities and all maintenance of green streets. The program provides landscape design services and general project support for capital improvement and public works permit projects. Maintenance services include facility inspections, work order management and general oversight and management of contractors responsible for performing field services related to maintenance, irrigation, pruning and planting. The program also provides support for stormwater system planning efforts, implementation of the Stormwater Management Manual and incorporation of green infrastructure into the Bureau's asset management system.
- The Watershed Revegetation Natural Area Program is responsible for managing Bureau property acquired for the purpose of advancing BES's watershed health goals through vegetation and land management projects that protect and improve water quality, reduce pollutants, improve fish and wildlife habitat and generally enhance other ecosystem services within riparian areas, wetlands and upland areas. The program may also enter into agreements to provide similar services on other public and private property. The program provides management and monitoring services on capital improvement projects related to vegetation services that are required to keep BES in compliance with state, local and federal permits. Program staff provide subject matter expertise related to natural area vegetation, natural resource management and habitat enhancement to partners and stakeholders within BES and throughout the City, and with outside entities.

## Equity Impacts

Stormwater facilities are in all areas of the City, and stormwater services are provided equitably to all communities.

FY2020-21, presents an opportunity to develop and further refine existing equity-centered mitigation strategies, as well as related performance measures and outcomes.

## Changes to Program

Workload expectations of the Watershed Revegetation Program have increased massively with continued investment in green street assets and growing needs in vegetated natural areas. Beginning in FY 2019-20, the Adopted Budget for this program began an incremental shift to a model that favors in-house FTEs (as opposed to contract staff) to more efficiently perform the work and address service inadequacies. The bureau has done substantial analysis to identify that a better mix of contract resources and FTE will significantly improve service outcomes and the Bureau's ability to fill the revegetation service gaps. The request for FY2020-21 includes \$465,903 to add program capacity via additional contracted staff, with an expectation that additional FTE may be added to efficiently address service gaps in future years.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
External Materials and Services	3,019,120	2,238,708	1,045,243	1,451,146
Internal Materials and Services	118,049	202,817	402,543	343,783
Personnel	1,128,694	1,226,571	1,472,238	1,467,413
<b>Sum:</b>	<b>4,265,863</b>	<b>3,668,096</b>	<b>2,920,024</b>	<b>3,262,342</b>
FTE	9.92	11	15	12.8

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** The Primary expenses supporting this program include personnel, external costs for stormwater maintenance, natural area maintenance, native plant acquisition, and planting materials.

**Staffing:** 15 positions support this program with approximately 2.2 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include Botanic Specialists (7), Botanic Technicians (4), an Environmental Specialist – Generalists, a Landscape Architect, a Supervisor I, and a Supervisor II.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

## Program Information

**Bureau:** Bureau of Environmental Services      **Program Contact:** Ken Bartocci  
**Website:** <https://www.portlandoregon.gov/bes/>      **Contact Phone** (503) 823-6022

# Wastewater Services

## Program Description & Goals

The Wastewater Program provides leadership and specialized operational and administrative support to approximately 200 employees within the Wastewater Group whose programs provide the core services of wastewater collection and treatment. The Wastewater Program leads the BES Strategic Goal for service delivery, to optimize how BES delivers sanitary and stormwater services, and protects and recovers resources for all Portlanders.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Amount of wastewater processed annually (in million gallons)	28,901	25,807	29,400	29,200	0
Cost to operate and maintain the treatment plants per million gallons treated	\$677	\$1,071	\$900	\$860	0
Percentage of urgent public health and safety related service requests responded to within two-hour timeframe	96%	95%	90%	90%	0

## Explanation of Services

The Wastewater Program provides high-level administration and management of wastewater services including operation and maintenance of the collection system, treatment plants and facilities (i.e. the Wastewater Group). This program is associated with the Collection System, Treatment and Maintenance Programs and includes financial and administrative support.

Administration includes financial planning, budget development, timekeeping, human resources, records management, reception services/onsite access, security, mail distribution, community advisory committee, telecommunications, and development of Group-level policies, procedures and business processes. Program staff is also responsible for managing direct support services that the Wastewater Group relies on in the Stores and Facilities work units (associated with the Bureau Support Program), the Work and Asset Management System Administration and Reporting and Analysis work units (associated with the Information Management Program) and the Learning and Development work unit (associated with the Employee Development Program).

## Equity Impacts

BES is required by state and federal regulators to ensure the equitable distribution of its basic, sanitary and stormwater services that protect public health and the environment. The Wastewater Program leads and directs the Wastewater Group's implementation of the BES Equity Plan and BES Strategic Plan initiatives to ensure positive equity outcomes in its programs.

Community Advisory Committees, represented by a variety of neighborhood, business, industry, environmental, recreational, educational and other interests, are engaged with both the Columbia Boulevard Wastewater Treatment Plant and Tryon Creek Wastewater Treatment Plant. These are diverse community sounding boards that review and provide input and guidance to ensure that the Wastewater Program is operated in accordance with the vision of the communities. These actions align with Goal 2 (Equitable Service Delivery and Business Practices) in the bureau's 2016-21 Equity Plan.

## Changes to Program

The Wastewater Program has had a growing need for administrative services, including a need for improved coordination across the bureau and City.

For FY2020-21, this program requests addition of an intern to provide administrative support (front desk & stores back-up, records management, etc.) and to support advancement of Citywide diversity opportunities. The program also requests roughly \$56,000 to begin to adequately resource for an upcoming CMMS/EAMS Replacement Project and to complete an application upgrade of the automation system used to monitor and control the collection system and treatment plants.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
External Materials and Services	286,692	1,326,070	217,807	224,697
Internal Materials and Services	15,998	10,765	207	639
Personnel	1,035,415	1,100,329	908,112	1,286,208
<b>Sum:</b>	<b>1,338,105</b>	<b>2,437,163</b>	<b>1,126,126</b>	<b>1,511,544</b>
	FTE	8	9	10
				9

**Resources:** Resources for this program come from ratepayer fees and charges for Sewer and Stormwater services. Additional revenues are expected from the sale of Renewable Compressed Natural Gas generated at the Columbia Wastewater Treatment Plant.

**Expenses:** Primary expenses supporting this program are personnel and external services for common area maintenance and fees, County taxes, security, software licensing and other operational costs. Increases in personnel over the revised budget are a result of temporarily reallocated staff for the FY 2019-20 Revised Budget and increases in overtime and interns for FY 2020-21.

**Staffing:** 10 positions support this program with 1 FTE allocated to the Information Management Program and 1 FTE allocated to the Employee Development Program. Positions include the Wastewater Group Manager, an Administrative Specialist, Analyst (3), a Manager II, Office Support Specialists (3), and a Supervisor II.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

## Program Information

**Bureau:** Bureau of Environmental Services      **Program Contact:** Ken Bartocci  
**Website:** <https://www.portlandoregon.gov/bes/>      **Contact Phone** (503) 823-6022

# Collection System

## Program Description & Goals

The Collection System Program (within the Wastewater Group) oversees the complex operation, maintenance and repair of the City's wastewater and stormwater collection system to minimize service interruptions and potential hazards to public health, safety, property and the environment. This program works toward the BES Strategic Goal of Service Delivery, to optimize how BES delivers sanitary and stormwater services, and protects and recovers resources for all Portlanders. The Collection System Program is critical to achieving the goals of minimizing the number of stormwater flooding events due to system capacity and minimizing the number of combined sewer overflows (CSOs) and sanitary sewer overflows (SSOs), as well as meet bureau goals toward watershed health.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Number of sanitary sewer overflows	168	187	135	135	0
Number of stormwater flooding events due to system capacity	60	49	100	100	0
Number of combined sewer overflow events	3	1	4	4	0

## Explanation of Services

The Collection System Program prioritizes the day-to-day management and performance of the City's wastewater and stormwater collection and pumping facilities. The collection and pumping system includes 88 pump stations, 10 step systems, 60 air/vac structures, 3,081 miles of pipeline including 57 miles of force mains, 721 miles of lateral, 50,386 access structures, 8,631 stormwater sumps, 6,893 sedimentation manholes, 95 miles of ditches, 55,284 stormwater inlets, 328 trash racks, 148 manufactured stormwater facilities, 2,234 green streets and numerous other water quality assets.

Operation and maintenance activities include facility design, field inspections, preventative and predictive maintenance, repairs and the management of maintenance contractors and of support for CIP projects, public works permitting, and a variety of planning and implementation efforts related to the stormwater system. BES's primary operation and maintenance service provider (via interagency agreement) is the Portland Bureau of Transportation Maintenance Operations (PBOTMO).

Work units that provide critical, specialized operations and maintenance for the collection and pumping systems include:

- Maintenance Engineering provides expertise on the application of asset management principles to sewer and stormwater operation, maintenance and repairs to ensure that individual infrastructure assets reach an optimal useful service life at an overall least cost. Maintenance Engineers provide guidance and coordination to make decisions rapidly so that service interruptions and hazards to public health, safety, property and the environment are minimized.
- Stormwater Operations and Maintenance facilitates condition assessment and maintenance on surface stormwater facilities.
- Pump Station Operation and Maintenance ensures the efficient, reliable operation and mechanical maintenance of pump stations and various other collection system assets including air/vac structures, odor control facilities and active controls (gates/valves).
- Electrical and Instrumentation installs, maintains, troubleshoots and repairs a variety of electrical equipment and instruments and develops and implements automation strategies and control for efficient and effective collection system operations.
- Machining produces cost-effective fabrication of replacement parts and reconditioning of worn or damaged parts for pump stations.
- Industrial Coatings provides corrosion/weathering protection of exposed surfaces and applies industrial labelling for proper identification of piping/equipment and the warning and/or elimination of hazardous conditions at pump stations.

## Equity Impacts

BES is required by state and federal regulators to ensure the equitable distribution of its basic, sanitary and stormwater services that protect public health, watershed health and the environment. Collection System Program facilities are equitably distributed across the City and the program provides equitable service levels to all communities. This aligns with Goal 2 – Equitable Service Delivery and Business Practices from the bureau's Equity Plan.

The impact and consequence of system failures, reduced levels of service, and risks are disproportionately more significant to vulnerable communities, and further refinement and development of equity-centered mitigation strategies as well as related performance measures and outcomes are planned for FY2020-21.

## Changes to Program

Aging infrastructure and deferred maintenance and capital reinvestment increases the burden on collection system operations.

In recent years, the Collection System Program has increased condition assessment work to better understand the current state of assets, specifically associated with force mains and pump stations. Additional staffing better supports reliable operations of the collection system.

The primary budget change requested for this Program in FY2020-21 is an increase of \$650,000 for continued investment in force main condition assessment work, which is critical to ensuring this backbone part of the collection system continues to function properly, including assessing the optimal needs and timeline for future repair or replacement of force mains. Other minor changes include life-cycle replacements of inspection equipment used by PBOTMO for work they perform for the Collection System Program.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	1,460,330	238,579	3,985,863	1,207,000
External Materials and Services	3,745,084	3,561,641	4,613,394	5,036,507
Internal Materials and Services	19,177,179	22,003,771	23,720,605	23,936,610
Personnel	4,071,605	4,197,510	4,360,328	4,346,775
<b>Sum:</b>	<b>28,454,199</b>	<b>30,001,501</b>	<b>36,680,190</b>	<b>34,526,892</b>
FTE	31.7	32.6	35	31.6

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Primary expenses for this program include personnel, Capital Outlay for vehicles and equipment, external costs for pipe inspection services and condition assessment, odor control. Internal services include the PBOT Maintenance Operations interagency agreement and right of way and survey services.

**Staffing:** 35 positions support this program with approximately 3.4 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include CAD Technicians (3), a Coordinator I, Electricians (5), Engineers (7), Environmental Technicians (3), Industrial Maintenance Millwrights (13), an Instrument Technician, a Manager II, and a Supervisor II.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

## Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Maintenance

## Program Description & Goals

The Maintenance Program (within the Wastewater Group) provides leadership and specialized maintenance services. It is responsible for 1) assessing the condition of more than 18,000 registered assets at the two large wastewater treatment plants, 98 pump stations and related facilities, and 2) planning their preventive, predictive and corrective maintenance needs. This program works toward ensuring the BES Strategic Goal of Service Delivery, to optimize how BES delivers sanitary and stormwater services, and protects and recovers resources for all Portlanders.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Amount of wastewater processed annually (in million gallons)	28,901	25,807	29,400	29,200	0
Cost to operate and maintain the treatment plants per million gallons treated	\$677	\$1,071	\$900	\$860	0

## Explanation of Services

The Maintenance Program ensures that assets are properly maintained, operate at required service levels, and to minimize asset life-cycle costs while maintaining appropriate risk levels. The 2017 implementation of the Condition Assessment Program (CAP), a comprehensive utility asset management program, facilitates decision-making on the quality and quantity of infrastructure reinvestment that is needed to meet and sustain optimal levels of service at acceptable levels of system risk.

CAP implements a community of practice within the treatment plants and pump stations to collect critical asset data. This information is used for decision making with maintenance strategies, integrated planning, and CIP projects. It optimizes maintenance and operation strategies and supports reliability-centered operations and maintenance practices and goals by decreasing unforeseen asset failures and reducing overall business risk exposure.

The Maintenance Program Manager directs maintenance work provided to the Collection System and Treatment Programs.

## Equity Impacts

BES is required by state and federal regulators to ensure the equitable distribution of its basic, sanitary and stormwater services that protect public health and the environment. The Maintenance Program delivers maintenance to the treatment plant and pump station facilities located in all areas of the City in an equitable manner. All facilities are assessed and maintained according to the same criteria and standards, which benefit all communities. This aligns with Goal 2 – Equitable Service Delivery and Business Practices in the bureau’s Equity Plan.

The impact and consequence of system failures, reduced levels of service, and risks are disproportionately more significant to vulnerable communities, and further refinement and development of equity-centered mitigation strategies as well as related performance measures and outcomes are planned for FY2020-21.

## Changes to Program

Maintenance Program responsibilities are impacted by aging infrastructure and deferred maintenance and capital reinvestment, which can transfer an increased burden onto collection system and treatment operations and maintenance obligations.

Recent trends have increased the need for condition assessment, improved asset inventory management and updates to maintenance procedures. Development of the Maintenance Program CAP began in summer 2017 and relies on internal staff, as well as consultant services to complete condition assessment work.

In continued support of condition assessment two Field Technician FTE are being requested in FY2020-21 to perform detailed condition assessments of mechanical and instrumentation assets located at the treatment plant and pump stations. In anticipation of these new staff, overtime costs that have been required to perform a small portion of this work is being reduced.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
External Materials and Services	73,733	40,990	439,700	403,200
Internal Materials and Services	0	25	0	0
Personnel	835,684	597,302	672,379	939,119
<b>Sum:</b>	<b>909,417</b>	<b>638,317</b>	<b>1,112,079</b>	<b>1,342,319</b>
	FTE	3	4	4
				6

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Primary expenses supporting this program include personnel and external services for condition assessment consultant services.

The FY 2018-19 Revised Budget for this program reflects approximately \$340K carryover from the prior year for digester gas piping condition assessment.

**Staffing:** 4 positions support this program. Positions include a Manager II, a Coordinator I, an Engineer II, and an Engineering Technician II.

The increase in FTE for FY 2019-20 reflects a correction for a previously approved condition assessment position that was incorrectly allocated to the Watershed Revegetation Program.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$13.5 billion.

## Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

# Treatment

## Program Description & Goals

The Treatment Program (within the Wastewater Group) manages the operation and maintenance of two wastewater treatment plants that treat collected wastewater (sanitary & storm) from the City of Portland service area. The Columbia Boulevard Wastewater Treatment Plant (CBWTP) treats both combined and separated sewers with an annual daily average of 68 million gallons per day of municipal wastewater. The Tryon Creek Wastewater Treatment Plant (TCWTP) treats an annual daily average of 6 million gallons per day. The treatment process at each of the two treatment plants surpasses the performance measure required in the City's National Pollutant Discharge Elimination System permits.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
Amount of wastewater processed annually (in million gallons)	28,901	25,807	29,400	29,200	0
Percentage of biochemical oxygen demand removed	96%	96%	85%	85%	0

## Explanation of Services

The Treatment Program plans, manages and performs the operations and maintenance of Portland's two wastewater treatment plants, the combined sewer overflow (CSO) reduction system, and resource recovery of biogas and biosolids.

Operating sewage and stormwater treatment facilities is highly technical work performed in a stringent regulatory environment. Operations requires 24/7 staffing and monitoring, with the ability to quickly adjust staffing levels and treatment processes in response to dramatic changes in weather conditions and flows. Staff monitor treatment process at both CBWTP and TCWTP, troubleshoot issues, and make real-time process adjustments to ensure that regulatory requirements are met. Effective treatment involves coordinated efforts in processing both liquids and solids. It also includes the operation of the CSO reduction system.

Operations and maintenance planning is critical to the Treatment Program to achieve treatment plant permit requirements while performing necessary plant maintenance. This work is scheduled and coordinated between the two disciplines. Maintenance Planning also includes project management and managing vendor/contractor services, as well as asset management functions.

The Treatment Program prioritizes resource recovery, utilizing the treatment process to produce beneficial resources such as biosolids and biogas. Approximately 15,000 dry tons (~ 75,000 wet tons) of biosolids is produced per year at CBWTP. Biosolids are a nutrient-rich by-product that is beneficially land applied. Biogas is produced from methane and is used to generate energy and fuels. Both biosolids and biogas reuse are required to meet stringent regulations and entail managing, coordinating, measuring, tracking and optimizing the product and associated revenue and expenditures.

Disposal of residuals is another critical aspect of the Treatment Program. Stormwater residuals are delivered from around the City, and inorganic residuals are collected at treatment plants. This generates thousands of tons of material that is managed and disposed of and/or reused in the best manner. Grit & Screenings and Sanitary Collections System residuals are currently hauled and disposed of under BES contracts at the Wasco County Landfill. Additionally, stormwater residuals from sedimentation sumps, catch basins, ditches, culverts and other stormwater facilities are beneficially reused as daily cover at the Wasco County Landfill.

The Treatment Program also manages maintenance of the treatment facilities and related systems, via specialized work units that include the following services:

- Mechanical Maintenance installs, maintains, troubleshoots and repairs mechanical equipment.
- Machining produces cost-effective fabrication of replacement parts and reconditioning of worn or damaged parts.
- Industrial Coatings provides corrosion/weathering protection of exposed surfaces and applies industrial labelling for proper identification of piping/equipment and the warning and/or elimination of hazardous conditions at pump stations.
- Electrical and Instrumentation installs, maintains, troubleshoots and repairs a variety of electrical equipment and instruments and develops and implements automation strategies and control for efficient and effective treatment operations.

## Equity Impacts

BES is required by state and federal regulators to ensure the equitable distribution of its basic, sanitary and stormwater services that protect public health and the environment. Treatment services are provided equitably to all communities throughout the City. The impact and consequence of system failures, reduced levels of service, and risks are disproportionately more significant to vulnerable communities, and further refinement and development of equity-centered mitigation strategies as well as related performance measures and outcomes are planned for FY2020-21.

Community Advisory Committees, represented by a variety of neighborhood, business, industry, environmental, recreational, educational and other interests, are engaged with both treatment plants. These are diverse community sounding boards that review and provide input and guidance to ensure that the plants are operated in accordance with the vision of the communities. This aligns with Goal 2 – Equitable Service Delivery and Business Practices in the bureau’s 2016-2021 Equity Plan.

## Changes to Program

As the treatment plants age, asset failures are an increased risk. In recent years, the Treatment Program has supported increased condition assessment work to help prioritize and properly sequence the specific work to minimize unanticipated failures and optimally inform reinvestment needs.

Start-up of the Renewable Compressed Natural Gas (RCNG) facility, which will allow biogas to be sold directly to NW Natural, is expected to begin in calendar 2020. Operational and maintenance costs of this new function – and projected revenue of over \$3 million annually – are reflected in the FY2020-21 request. In FY2019-20, a new FTE was hired specifically to manage the complex RCNG operations as well as other resource recovery efforts.

Three new FTE are requested for this Program in FY2020-21. The first is a Wastewater Operations Specialist responsible for coordinating treatment plant process changes to support capital construction projects and shut-down of equipment for both planned and emergency (asset failure) maintenance work. This position will also assist with compiling data for regulatory reporting and play a critical role in capturing and memorializing operational strategies and standards. The two new Maintenance Supervisors are requested to address excessive span of control issues (currently 21 employees per supervisor) within the existing Plant Mechanical Maintenance and Electrical and Instrumentation work groups.

The FY2020-21 Treatment Program request includes a \$100,000 ongoing add for consultant services to evaluate treatment process areas and develop process narratives. This is necessary to effectively manage and maintain the automation system used to control the treatment plants and collection system.

Replacement of end-of-useful-life operational equipment such as hoses used to clean tanks, digesters and other treatment plant assets and new maintenance equipment, such as a deck crane needed to more effectively deliver services – totaling approximately \$105,000 – is requested as a one-time add in FY2020-21.

A \$3,500,000 reduction is possible in FY2020-21 due to completion of the solids inventory reduction project, which addressed solids inventory concerns until the secondary treatment expansion capital project (STEP) provides new solids handling process equipment. However, with a new Solids Management Plan now in place, the program needs additional annual digester cleaning and is requesting an increase of \$250,000 ongoing for that purpose.

## Program Budget

	FY 2017-18 Actuals	2018-19 Actuals	2019-20 Revised	2020-21 Requested with DP
<b>Bureau Expense</b>				
Capital Outlay	48,478	48,852	416,920	75,000
External Materials and Services	7,444,034	14,575,684	14,489,930	12,053,709
Internal Materials and Services	1,016,184	1,224,542	1,026,764	1,046,672
Personnel	10,683,141	12,159,711	12,022,874	12,630,211
<b>Fund Expense</b>				
Debt Service	0	0	0	0
<b>Sum:</b>	<b>19,191,836</b>	<b>28,008,789</b>	<b>27,956,488</b>	<b>25,805,592</b>
FTE	92.25	97.75	103	95.95

**Resources:** Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

**Expenses:** Primary expenses supporting this program include personnel and external costs for biosolids land application and transportation, digester cleaning services, electricity, odor control, waste disposal, repair and maintenance supplies, treatment chemicals, and other operating supplies and expenses. Internal expenses include Field Operations and laboratory services for Lagoon monitoring.

**Staffing:** 106 positions support this program with approximately 11.05 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include Analysts (3), an Equipment Operator II, Coordinators (4), Electricians (8), Engineers (2), an Industrial Machinist, Industrial Maintenance Millwrights (18), an Industrial Painter, Instrument Technicians (13), Managers (3), Supervisors (6), Wastewater Operations Specialists (5), Wastewater Operators (40) and an Environmental Technician.

The staffing counts above include requests for a new Environmental Technician I, Supervisor I, and Wastewater Operations Specialist.

**Assets and Liabilities:** This program supports Bureau-wide assets of \$15.2 billion.

## Program Information

**Bureau:** Bureau of Environmental Services

**Program Contact:** Ken Bartocci

**Website:** <https://www.portlandoregon.gov/bes/>

**Contact Phone** (503) 823-6022

## Performance



City of Portland  
**Bureau of Environmental Services**  
 PM1. Report for FY 2020-21 Requested Budget

**Run Date & Time**  
 Friday, January 24, 2020  
 2:10:41 PM

**OUTCOME MEASURES**

	Performance Measure	KPM	FY 2016-17 Actuals	FY 2017-18 Actuals	FY 2018-19 Actuals	FY 2019-20 Target	FY 2019-20 YTD Actuals	FY 2020-21 Target	Strategic Target
ES_0030	Watershed Health Index for water quality		5.90	5.50	5.60	5.90	5.50	5.50	8.00
ES_0038	Percent of dollars awarded to disadvantaged, minority-owned and women-owned(D/M/W) firms in professional services		0	0	0	%		30%	30%

**EFFICIENCY MEASURES**

	Performance Measure	KPM	FY 2016-17 Actuals	FY 2017-18 Actuals	FY 2018-19 Actuals	FY 2019-20 Target	FY 2019-20 YTD Actuals	FY 2020-21 Target	Strategic Target
ES_0032	Average single family household bill as a percent of median income		1.43%	1.40%	1.39%	1.42%	0	1.38%	0
ES_0002	Amount of time loss, in hours per employee, due to injuries and illnesses		2.80	2.40	2.20	2.00	1.62	2.65	3.10
ES_0005	Construction management costs as a percentage of total construction costs		9%	14%	10%	12%	0	12%	12%
ES_0022	Cost to operate and maintain the treatment plants per million gallons treated		\$529	\$677	\$1,071	\$900	\$1,143	\$860	0
ES_0040	Percent of BES building permit reviews that meet the City's turnaround goals for reviewing permits		0	0	0	%		95%	95%
ES_0041	Percentage of Level I/Phase I Environmental Assessments completed on time		0	0	0	%		80%	90%

**OUTPUT MEASURES**

## Bureau of Environmental Services

Friday, January 24, 2020

PM1. Report for FY 2020-21 Requested Budget

2:10:41 PM

Performance Measure	KPM	FY 2016-17 Actuals	FY 2017-18 Actuals	FY 2018-19 Actuals	FY 2019-20 Target	FY 2019-20 YTD Actuals	FY 2020-21 Target	Strategic Target
ES_0028	Number of sanitary sewer overflows	180	168	187	135	93	135	0
ES_0031	Number of combined sewer overflow events	7	3	1	4	1	4	0
ES_0033	Percentage of urgent public health and safety related service requests responded to within two-hour timeframe	94%	96%	95%	90%	99%	90%	0
ES_0001	Maintain the bureaus first lien debt service coverage ratio at 1.5 or greater	2.51	2.63	2.77	2.85	0	3.36	0
ES_0011	Percentage of industrial enforcement tests in full compliance	99%	99%	99%	99%	99%	99%	0
ES_0014	Percentage of biochemical oxygen demand removed	96%	96%	96%	85%	96%	85%	0
ES_0021	Maintain bureaus combined first and second lien debt service coverage ratio at 1.3 or greater	1.43	1.51	1.35	1.40	0	1.44	1.40
ES_0029	Number of stormwater flooding events due to system capacity	111	60	49	100	12	100	0

## WORKLOAD MEASURES

Performance Measure	KPM	FY 2016-17 Actuals	FY 2017-18 Actuals	FY 2018-19 Actuals	FY 2019-20 Target	FY 2019-20 YTD Actuals	FY 2020-21 Target	Strategic Target
ES_0010	Number of lab analyses performed each year	61,243	53,340	59,577	60,000	31,000	60,000	0
ES_0013	Amount of wastewater processed annually (in million gallons)	36,242	28,901	25,807	29,400	8,729	29,200	0
ES_0024	Number of trees planted	10,483	22,795	10,073	12,600	623	12,600	0

**Bureau of Environmental Services**

Friday, January 24, 2020

PM1. Report for FY 2020-21 Requested Budget

2:10:41 PM

ES_0027	Feet of streambank restored (not cumulative)	20,274	22,311	22,340	12,000	0	12,000	0
ES_0035	Number of participants in community events, workshops, stewardship, and restoration events	12,595	19,140	27,238	10,000	4,335	10,000	10,000
ES_0036	Number of bureau education programs delivered	508	431	498	400	185	400	400
ES_0037	Linear feet of sanitary and combined sewer pipe repaired or replaced to improve condition and capacity	109,745	93,006	107,751	57,000	22,794	65,000	0
ES_0039	Number of education and engagement activities and events about Portland Harbor Superfund	0	0	0			25	22



## Five-year Financial Plan



**Fiscal Years 2020-21 through 2024-25  
Preliminary  
Financial Plan**

---

**January 2020**

# TABLE OF CONTENTS

Executive Summary .....	1
Introduction to the bureau .....	3
Financial Structure .....	4
The Financial Planning Process .....	5
The Capital Improvement Plan (CIP) Development Process .....	5
The Operating Plan and Requested Budget Development Process .....	5
Development of Revenue Requirements and Funding Plan .....	6
Financial Reporting System .....	7
Financial Policies, Practices, and Other Issues .....	8
Financial Policies and Practices .....	8
Use of Long-Term Borrowing .....	9
Revenue Considerations .....	10
Regulatory and Legal Environment .....	13
Water Quality Compliance .....	13
Endangered Species Act (ESA) Requirements .....	14
Bond Covenants.....	15
System-Related Capital and Operating Issues .....	16
Collection System Maintenance and Reliability.....	16
Sewage Treatment .....	16
Surface Water Management .....	17
Pollution Prevention and Regulatory Issues .....	19
CIP-Related Operations and Maintenance.....	19
Operating Program Considerations .....	20
Proposed Changes in Operating Program Expenditures and Customer Bill Impacts .....	20
Five-Year Financial Forecast .....	21
Forecast Assumptions.....	21
Forecast Sewer System Costs and Resources .....	22
Financial Resources .....	25
Operating Expenditures by Expense Type .....	26
Capital Expenditures by Program.....	28
Risks to the Forecast .....	30
Regulatory Considerations .....	30
System Asset Reinvestment and Risks .....	31
Other Factors Influencing the Forecast .....	33

## EXECUTIVE SUMMARY

The Bureau of Environmental Services (BES) has completed its Preliminary Five-Year Financial Plan for Fiscal Years (FYs) 2020-21 through 2024-25. The Preliminary Financial Plan describes the bureau's financial planning process including operating and capital projections, significant risks to the forecast, policies, and other considerations.

For much of the 1990s through 2010s, the bureau's Financial Plan was driven primarily by the need to complete and adjust operationally to the federally-mandated Combined Sewer Overflow (CSO) controls. CSO control facilities became operational on December 1, 2011, resulting in a reduction from dozens of annual larger sized CSO events to an annual average of approximately four smaller sized events. Since completion of the CSO, the bureau's priorities have shifted toward watershed health; asset management, maintenance, and reinvestment; sustainable operations; and improving equity among stakeholders.

In FY 2017-18, the bureau completed a comprehensive Strategic Plan to guide bureau priorities and decision-making over the long-term. As an initial result of the Strategic Plan work, the Bureau completed the Capital Improvement Plan Process Review and Enhancement Project (or CIP PREP), a thorough review of the capital prioritization and delivery systems needed to meet the future needs of the sewer/stormwater system and the Portland community, resulting in development of a Project Management Office (PMO) during FY 2018-19. The bureau has now begun the next phase of organizational adjustments, aimed at better integrating various operational groups and decision-making processes to improve efficiency and bureau-wide outcomes. The FY 2020-21 Requested Budget begins to implement important changes to processes and organizational alignment to better deliver objectives of the Strategic Plan. While this effort remains a work-in-progress, any known impacts of the organizational transition effort are reflected in this Preliminary Financial Plan.

For FY 2020-21 through 2024-25, the bureau's revenue requirements continue to largely revolve around repair and maintenance of the collection system, addressing deferred maintenance needs and deficiencies in the stormwater system, major improvements at the two treatment plants, improving watershed health, and meeting applicable regulatory requirements.

Estimated annual rate-generated revenue requirement increases are \$56.5 million over the entire five-year forecast period, a compounded annual increase of approximately 3%. Forecast monthly sewer and stormwater bills for an average single-family residential customer over the forecast interval are in the table below. Increases in forecast bills are due to cost increases partially offset by revenue growth from the addition of new accounts (after factoring for assumed impacts of customer conservation efforts).

Bureau projections produce a range of outcomes due to the high number of interactive assumptions, variables and risks (both known and unknown). BES staff identify and review multiple input assumptions and select the scenario that most reasonably reflects known realities and anticipated risks at the time the forecast is updated. The rate forecast in the following chart – 3.00% in FY2020-21 and 3.15% annually thereafter – reflects the scenario that the bureau believes is most likely based upon current information.

**Comparison of Forecast Bill Increases  
FY 2021-25 Preliminary Financial Plan vs. Prior FY 2020-24 Projections**

Fiscal Year Ending June 30	2020	2021	2022	2023	2024	2025
<b>FY 2020-24 Plan % Bill Increase</b> (Feb 2019 Preliminary Financial Plan)	3.00%	3.00%	3.00%	3.10%	3.10%	N/A
<b>FY 2020-24 Adopted Rate Ordinance % Bill Increase</b> (May 2019)	2.95%	3.00%	3.00%	3.00%	3.10%	N/A
<b>FY 2021-25 Plan % Bill Increase<sup>(1)</sup></b>	NA	3.00%	3.15%	3.15%	3.15%	3.15%
<b>Single-Family Residential Forecast Monthly Bill<sup>(2)</sup></b>	\$75.69	\$77.96	\$80.42	\$82.95	\$85.56	\$88.26

(1) Preliminary as of January 19, 2020. Final FY 2020-21 and forecast increase amounts will be determined in May 2020 based upon City Council FY 2020-21 budget deliberations and direction.

(2) Excludes any portion of customer service and billing costs incurred solely in the Water Bureau and not charged to BES.

The bureau acknowledges a number of challenges over the next five years with uncertain cost impacts including:

*Regulatory Considerations*

- National Pollutant Discharge Elimination System (NPDES) permit renewals and compliance
- Willamette Basin Total Maximum Daily Load (TMDL) future conditions
- Underground Injection Control (UIC) permit compliance
- Portland Harbor Superfund obligations

*System Asset Reinvestment and Risks*

- Columbia Boulevard Wastewater Treatment Plant (CBWTP) secondary treatment expansion, facility replacements and biosolids handling
- Tryon Creek Wastewater Treatment Plant (TCWTP) asset replacement
- Natural infrastructure investments and operational impacts
- Other collection system assets (pipes and pump stations)
- Seismic resiliency and impacts of climate change

When possible, the current financial forecast includes anticipated costs of meeting these challenges. However, there are potential costs associated with these risks that are currently unknown, uncertain, and/or subject to future increases. See the section titled “Risks to the Forecast” for further information.

## INTRODUCTION TO THE BUREAU

BES serves the Portland community by protecting public health, water quality, and the environment. The bureau provides sewage and stormwater collection and treatment services to accommodate Portland’s current and future service expectations. The bureau protects the quality of surface and ground waters and conducts activities that plan and promote healthy ecosystems in our watersheds.

The bureau operates and maintains the City’s sanitary and stormwater collection and transport systems, providing service to nearly all the City’s 657,100 residents (as of the July 1, 2019 estimate), numerous commercial and industrial facilities, and six wholesale contract customers located adjacent to the City. The existing system (as of July 1, 2019) consists of a network of 1,006 miles of separated sanitary sewers and 441 miles of separated storm pipe, each dedicated to carrying separate waste streams. There are also 913 miles of combined sewer lines that carry both stormwater runoff and sanitary waste, 98 active pumping stations and 2 wastewater treatment plants with a combined secondary treatment capacity of 118 million gallons per day serve the system. The bureau also maintains 2,638 stormwater pollution reduction facilities, including 2,234 green street facilities, and continues to add to that inventory. The City relies on natural resources, including over 300 miles of inventoried streams and rivers, to receive and convey stormwater runoff.

Bureau priorities are identified in the 10-Year Strategic Plan completed in FY 2017-18.



  
ENVIRONMENTAL SERVICES  
CITY OF PORTLAND  
working for clean rivers

City of Portland  
Bureau of Environmental Services  
**10-YEAR STRATEGIC PLAN**  
2018–2027

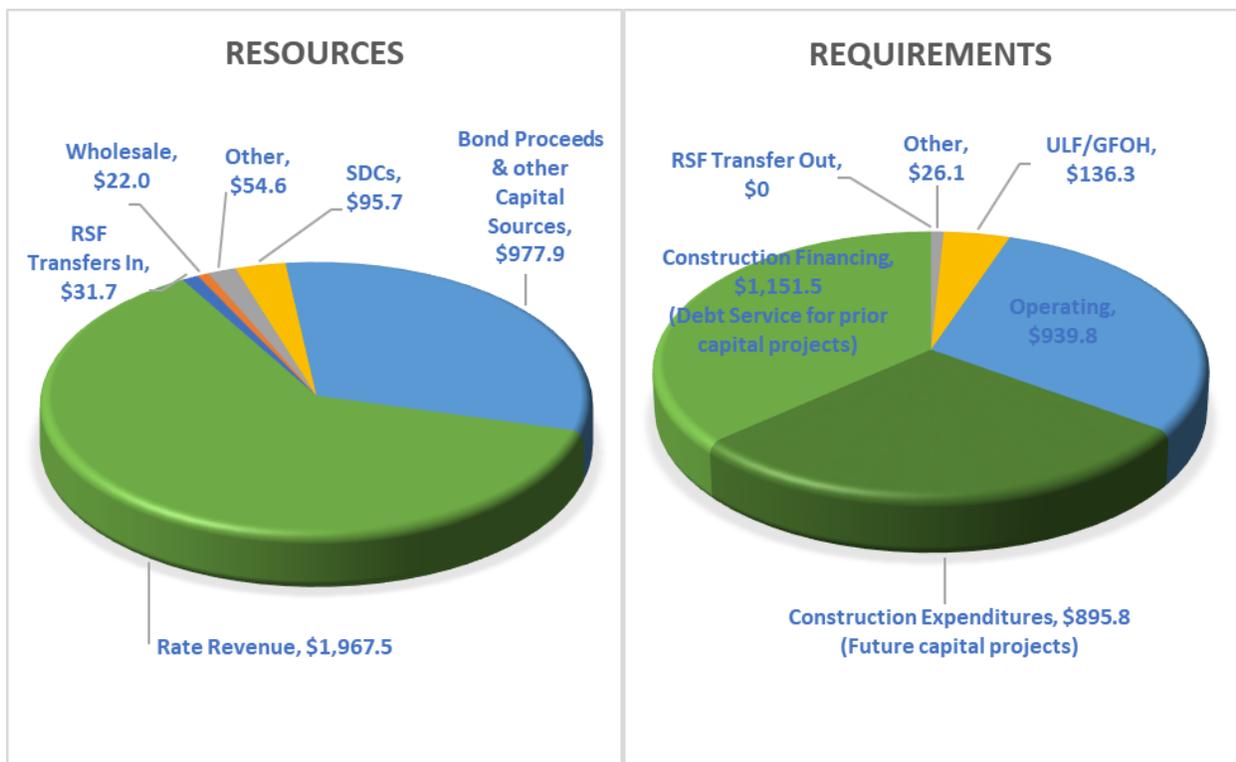
## FINANCIAL STRUCTURE

The Bureau's activities are supported by sewer and stormwater charges, System Development Charges (SDCs), wholesale contract revenues from other jurisdictions, charges for certain permits, fees, and reimbursements for services provided to other bureaus. Beginning in 2020, BES will collect revenue from generation of Renewable Compressed Natural Gas (RCNG).

The two charts below illustrate the bureau's financial status in terms of resources and requirements over the FY 2020-21 through FY 2024-25 interval. Sewer and stormwater rates make up a majority of the bureau's resources. At \$1.968 billion, rates account for 62.5% of the Bureau's resources over the 5-year interval. The next largest category is Bond Proceeds and other Capital Sources at \$977.9 million (or 31% of the total). SDCs, wholesale service charges, transfers from the Rate Stabilization Fund, and all other resources together make up about 6.5% of total projected resources.

Operating and capital construction expenditures (together totaling \$1.827 billion) account for about 58% of the bureau's requirements. The remainder is taken up largely by Construction Financing, primarily principal and interest payments on bonds sold to finance capital construction activity, which comprises 37% of the total requirements. Utility License Fee (ULF), General Fund Overhead (GFOH), transfers to the Rate Stabilization Fund (RSF), and Other expenditures total \$162.4 million, or approximately 5% of the total projected requirements over the five-year plan window.

**Projected Bureau Cumulative Financial Resources and Requirements for FY 2020-21 through 2024-25 (in millions)**  
**Total - \$3,149.4 million**



## **THE FINANCIAL PLANNING PROCESS**

The financial planning process has three key elements:

- 1) Development of the CIP;
- 2) Development of the 5-Year Operating Plan and FY 2020-21 Requested Budget; and
- 3) Development of Revenue Requirements and the Funding Plan.

### **The Capital Improvement Plan (CIP) Development Process**

Annually, BES prepares a one-, five-, and ten-year CIP. The CIP is developed using a multi-step process to identify, develop, review, score, and rank projects for funding and scheduling priority. This process ensures that the core needs of the sewer, and stormwater systems are appropriately funded and scheduled. Projects originate from recommendations in BES system plans, urgent and emergency projects to address asset failures, regulatory mandates, watershed planning, and inter-bureau collaborations. Development and delivery of the CIP is managed by the Project Management Office (PMO).

An internal BES stakeholder and subject matter expert review team investigates, scores, and ranks all proposed CIP projects in accordance with identified CIP criteria, to evaluate relative priorities across all systems and project types. CIP weighting criteria, scoring instructions, scheduling guidelines, estimating procedures, and project request forms ensure each proposed project is reviewed and scored based on detailed and consistent information regardless of where the project originated. The CIP management team evaluates all the information from the process, works with bureau project and program managers to refine cost and schedule data, and submits a recommendation to the Bureau Director for approval of the CIP. The Portland Utility Review Board (PUB) and Citizens Utility Board (CUB) are provided with periodic updates through the CIP development process. Those community advisory bodies provide oversight and input as desired on the overall CIP as well as specific projects or programs. As a result of the recent CIP-PREP work, the CIP planning process now includes “feasibility projects” that are funded with initial pre-design budgets only, in order to support more robust project scope and cost information to include in future CIP requests. Throughout the year, the PMO team reviews and monitors CIP performance, and manages mid-year adjustments as necessary.

### **The Operating Plan and Requested Budget Development Process**

Initial operating plan and budget prioritization occurs within each of the major bureau workgroups: Wastewater, Watershed, Engineering, Pollution Prevention, Business Services, the Project Management Office, and the Director’s Office. Prioritization includes assessment of existing programs, staffing, and group-level priorities against strategic objectives. This information is then compiled and reviewed by the Financial Planning team and bureau leadership comprehensively over multiple months within the context of bureau-wide priorities, the Strategic Plan, and the Budget Equity Tool. Input from the Portland Utility Board, Citizen’s Utility Board, City Budget Office, and any other public comment is considered prior to completion of this Preliminary Financial Plan and the Requested Budget.

The Operating Plan addresses two primary areas. The first includes the routine functions of the City’s sanitary and stormwater utility day-to-day operations and the maintenance of collection, transportation, treatment, and disposal systems. The second includes costs for activities and services that address regulatory requirements or that promote water quality and watershed health.

The two areas are closely interrelated: regulatory actions impose requirements on routine system operations, and a large share of day-to-day operations focus on watershed protection and environmental improvement to avoid future (more restrictive or expensive) regulatory requirements.

### *Routine Utility Operations*

The bulk of expenditures for the bureau's routine utility operations are for treatment plant operations, collection system maintenance and operations, laboratory and monitoring services, customer services, development permitting, and administrative support. Administrative support includes community relationships, workforce development, accounting, facilities, fleet, information technology, and financial management services.

### *Regulatory Response and Watershed Health*

Regulatory response and watershed health activities relate directly to anticipating and responding to environmental regulations, including the development of plans for protecting and enhancing water quality within Portland's watersheds. Activities also support ongoing system operations by managing stormwater using elements of the natural environment. This occurs under the umbrella of the 2006 Portland Watershed Management Plan (PWMP) which guides the City's watershed approach in addressing regulations. Planning for these activities begins with an assessment of the current regulatory environment. The status of rulemaking, recent guidance issued by state and federal environmental agencies, relevant court cases, and input from environmental trade associations is reviewed and evaluated in terms of the potential impact to programs and services. Data from bureau research and monitoring activities are also considered.

### **Development of Revenue Requirements and Funding Plan**

The bureau collects revenues based upon operating and capital needs. Capital needs are funded by a combination of cash from rates and issuance of long-term debt (which requires annual payments). The magnitude of the capital program and the annual payments on the borrowings necessary to finance it continue to be the largest driver of revenue requirements.

Not all system and community priorities can be met without modest annual rate increases. Funding of the highest priority CIP and Operating Plan requirements is projected to require annual rate increases of approximately 3.00%. The bureau aims to meet only the highest priority needs and to plan in a manner that creates level and consistent annual rate increases. Considering the general economic climate, and the bureau's commitment to keeping annual rate increases at or around 3.00%, the CIP and Operating Budgets are re-examined annually for opportunities to reduce or re-allocate expenditures before completing the Preliminary Financial Plan.

## **FINANCIAL REPORTING SYSTEM**

The bureau's financial reporting system is organized into the five funds described below:

### *Sewer System Operating Fund*

The Sewer System Operating Fund (Fund 600) provides for the day-to-day operation, maintenance, and management of bureau programs. All payments for Sewer System personnel and materials and services are made within the Sewer System Operating Fund, with reimbursement from the Sewer System Construction Fund for capital improvements.

### *Sewer System Construction Fund*

The Sewer System Construction Fund (Fund 614) provides for the funding of Sewer System capital improvements and reimburses the Sewer System Operating Fund for these capital related expenditures.

### *Sewer System Debt Redemption Fund*

The Sewer System Debt Redemption Fund (Fund 609) provides for the payment of principal and interest on revenue bonds, notes, and State loans issued to finance Sewer System improvements.

### *Sewer System Rate Stabilization Fund*

The Rate Stabilization Fund (Fund 617) provides the bureau with the ability to smooth rate increases by forecasting and offsetting fluctuations in sewer system revenues over several years.

### *Environmental Remediation Fund*

The Environmental Remediation Fund (Fund 608) is used to separate the budget of the Portland Harbor Superfund project and Guilds Lake, the site of a former municipal incinerator. Expenditures for the Portland Harbor Superfund project are financed through dedicated fees on City utility bills supplemented by Guilds Lake lease revenues and interest earnings within this fund. This allows the bureau to distinguish the Portland Harbor Superfund and Guilds Lake projects from routine sewer system operations, which are budgeted for and funded within the Sewer System Operating Fund.

## **FINANCIAL POLICIES, PRACTICES, AND OTHER ISSUES**

BES funds its operations, maintenance, and capital expenditures primarily from rates, revenue bonds, SDCs, and fund balances (such as the Rate Stabilization Fund, or RSF) when necessary. Key financial policies and forecast practices are described below.

### **Financial Policies and Practices**

#### *Rate Change Forecast Targets*

One of the bureau's foundational financial planning objectives is to provide consistent rate adjustments over time in order to maintain financial stability and predictability for the bureau as well as our customers. BES is targeting projected annual rate increases that remain essentially flat over the long-term to avoid annual rate spikes and to facilitate efficient long-term planning. The bureau's maximum increase target for the typical single-family customer is approximately 3.15% annually, a proxy for estimated annual inflation. As described below, the Rate Stabilization Fund is a key tool for meeting this planning objective.

The bureau will continue to work to maintain out-year forecast increases at target levels around 3.00% but will be challenged to do so without compromising operations or prudent capital investment, which pushes cost and risk to future ratepayers.

#### *Rate Stabilization Fund (RSF) Balance*

The RSF balance was drawn down in FY 2007-08 through FY 2012-13 to help offset the effects of increasing debt service for completion of the Combined Sewer Overflow (CSO) project. The RSF balance increased from the low balance of \$4.9 million in FY 2012-13 to \$165.4 million at the end of FY 2018-19. A large reduction in the balance is expected in FY 2019-20 to fund CIP expenditures until a new CIP borrowing occurs in mid-2020, and is then expected to be incrementally utilized to smooth future rate increases over the long-term. The forecast projects the RSF balance will be reduced by FY 2032-33 to a level that supports the policy minimum of 270 days of operating expenses (see below).

#### *Ending Fund Balances*

Beginning in FY 2018-19, bureau planning targets were updated so that the combined ending fund balances within the Operating Fund and the RSF must be equal to or greater than 270 days, or 75%, of each year's anticipated operating expenses. This minimum level supports fiscal sustainability and resiliency, affirms the bureau's commitment to strong financial management, and aligns with industry standards for comparable utilities with strong credit ratings.

The Construction Fund minimum ending fund balance is targeted at 50% of the following year's estimated capital improvement expenditures for planning purposes, assuming CIP borrowings occur in the spring. The actual ending fund balance will differ depending on the rate of expenditures within the capital program and the timing of CIP borrowings.

BES also maintains certain debt reserves, as described below. Changes in the total amount of debt reserves (as may be required related to revenue bond issuance) result in changes to fund balances.

## Use of Long-Term Borrowing

### *Revenue Bonds*

Targeting a long-term, stable payment structure spreads the costs, risks, and benefits of a reliable infrastructure system across many years – often referred to as intergenerational equity. Funding capital projects with long-term debt spreads costs over an extended period, aligning payment of costs with the users of the financed assets over time. The majority of the bureau’s CIP projects are financed by revenue bonds. The trade-off to long-term borrowing is that principal and interest payments on outstanding and projected debt are a substantial part of current and forecast revenue requirements. Covenants on outstanding first-lien and second-lien sewer revenue bonds contain coverage requirements that mandate a specified level of revenues that must be collected. The coverage requirements are defined for first-lien revenue bonds, as well as for first-lien and second-lien bonds on a combined basis. For outstanding first-lien bonds, the coverage requirements are:

- Net income without transfers to or from the Rate Stabilization Fund must be equal to, or greater than, 1.00 times the current year debt service.
- Net income including transfers to or from the Rate Stabilization Fund must be equal to, or greater than, 1.20 times the current year debt service.

For combined outstanding first-lien and second-lien bonds, the coverage requirements are:

- Net income without transfers to or from the Rate Stabilization Fund must be equal to, or greater than, 1.00 times the current year debt service.
- Net income including transfers to or from the Rate Stabilization Fund must be equal to, or greater than, 1.10 times the current year debt service.

The bureau’s planning standard is to set rates such that net income, including transfers to or from the Rate Stabilization Fund, is equal to or greater than 1.50 times the annual debt service requirement for first-lien bonds, and 1.30 times the annual debt service requirement for first-lien and second-lien bonds on a combined basis. This exceeds the 1.20 and 1.10 standards required by existing bond covenants, and serves three purposes:

- The absolute dollar difference between the planning standard and actual debt service coverage requirement provides a margin of safety for meeting coverage requirements.
- The 1.50 and 1.30 standards play a significant role in demonstrating the bureau's commitment to sound fiscal management of the sewer system. They also support the bureau's efforts to maintain strong credit ratings, which helps to minimize borrowing costs.
- The 1.50 and 1.30 standards strengthen the bureau’s financial position by providing ongoing cash contributions to the capital program.

The bureau’s coverage ratio on all bonds was 1.35 in FY 2018-19 and projected to be above 1.50 for FY 2019-20. This financial plan maintains continued annual coverage at or above 1.40 over the long-term.

### *Debt Service Reserves*

When issuing revenue bonds, BES typically uses either a debt reserve surety or cash reserves, depending on market preferences at the time of issue. In FY 2010-11 through FY 2012-13, cash reserves were required, which resulted in higher total fund balances until those bonds are repaid

and the reserves can be retired. In recent years, debt reserves (or bond insurance sureties) have not been required for new bond issues.

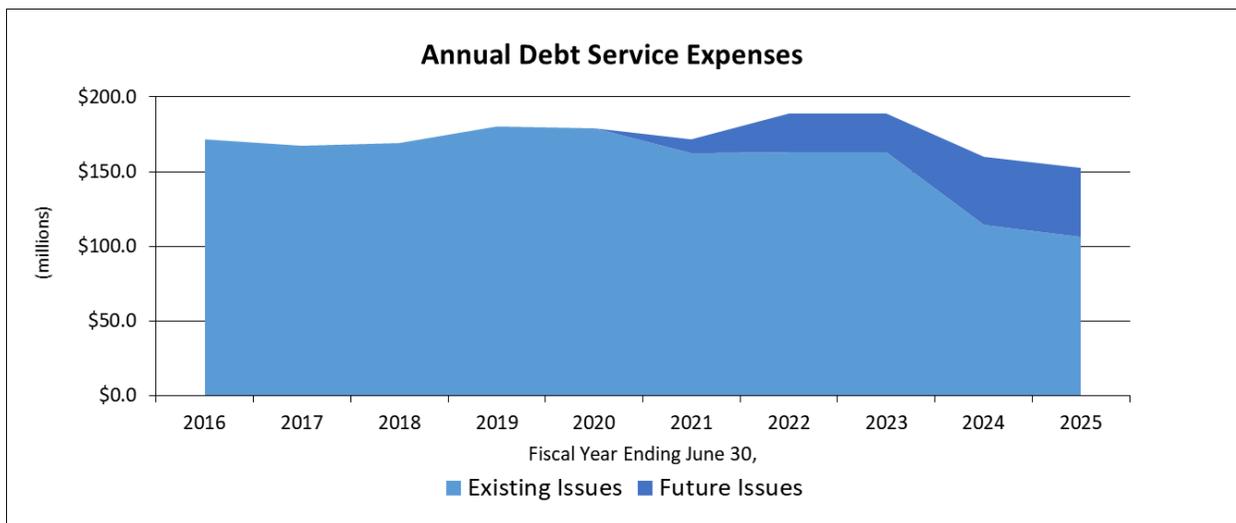
BES currently has approximately \$31.0 million in cash debt service reserves for outstanding bonds. The bureau also maintains a debt service reserve of \$180,000 for the nearly \$9.8 million of outstanding low-interest loans from the Oregon Department of Environmental Quality (ODEQ) State Revolving Fund. If the next borrowing in calendar 2020 requires a cash reserve, the total debt service reserve amount will increase.

### *Interest Rates*

The earnings rates on projected cash balances have leveled off at about 2% after recent increases but are projected to decrease slightly to a range of 1.75% to 1.85% over the forecast interval (as estimated by the Office of Management and Finance, Bureau of Revenue and Financial Services). The projected long-term interest rates for sewer revenue bonds are estimated at 5.0% for the duration of the Financial Plan. This difference between long-term interest rates on borrowings and short-term earnings potential places upward pressure on the rate forecast.

### *Credit Ratings*

The bureau's revenue bonds carry ratings from both Moody's Investors Service (Aa1 First Lien/Aa2 Second Lien) and Standard & Poor's (AA+ First Lien/AA Second Lien). The bureau received a credit rating upgrade from Standard & Poor's in November 2019. These ratings compare very favorably to similarly sized sewer utilities. Strong credit ratings result in lower costs of borrowing, and therefore minimize cost impacts to ratepayers. Credit rating analysis considers many factors including financial condition, historical trends, long-term planning, regulatory compliance, asset condition, management strength, and response to climate change. The bureau carefully manages its finances, operations, and forecast to maintain favorable credit ratings.



## **Revenue Considerations**

### *Projected Sewer Usage*

The bureau actively monitors and considers the financial impacts of reduced sewer usage as continued increases in water and sewer rates offer stronger incentives for customers to either conserve water or separately meter irrigation and other non-sewer water use.

The financial forecast assumes annual changes in sewer usage per account to reflect assumed water conservation efforts as follows: a 1.00% reduction per single-family residential account, 0.75% reduction per multi-family residential account, and 1.00% reduction per commercial account. These assumptions are reviewed periodically during the financial planning process.

#### *System Development Charges (SDCs)*

Sanitary and stormwater SDCs ensure customers pay for an equitable portion of the costs of building major Citywide sanitary and stormwater system facilities used by new development. Major facilities are generally considered to be facilities other than local collectors and include treatment plants, pump stations, trunk and interceptor sewers, Underground Injection Controls (UICs), and water quality facilities.

State law (ORS 223.307) allows the use of SDC revenues for capital construction or debt service payments. It is bureau policy to use cash SDC revenues to pay debt service, while SDC revenues received in the form of special assessment bond proceeds are used to fund the CIP. State law does not permit SDC revenues to be used to pay operating expenditures. However, by reducing the amount of debt service paid by rate revenues, SDC revenues help reduce the overall bureau revenue requirements from rates or other sources.

SDC revenues have been very robust during the recent economic recovery and period of rapid development within Portland, resulting in larger-than-anticipated growth in fund balances (as described above). However, SDC projections during the Financial Plan period assume that development will not retain these historical highs per typical recession/recovery cycles.

#### *Extra Strength Charges*

BES currently monitors and charges about 50 commercial/industrial customers for extra strength sanitary sewage discharges based upon samples taken and laboratory analysis of their sewage discharges (Measured Extra Strength). The majority of these facilities are large food/beverage processing plants. The number of Measured Extra Strength accounts has declined slightly over the past few years. This is due to conversions to the Class Average system described in the next paragraph. The bureau collected approximately \$5.7 million from these Measured Extra Strength customers in FY 2018-19.

The bureau developed a class average system of strength-based rates to appropriately charge commercial and industrial customers that have discharge strength significantly higher than the residential or baseline strength. The program provides an economic incentive to customers to reduce grease discharges, which is important for both regulatory compliance and reduced maintenance costs. As of January 1, 2020, about 2,500 Class Average Extra Strength customers currently have extra strength charges added to their accounts. Revenues from Class Average customers were about \$5.4 million in FY 2018-19.

#### *Revenues from Renewable Compressed Natural Gas (RCNG)*

The bureau's Renewable Compressed Natural Gas (RCNG) facility at CBWTP is scheduled to be completed in 2020, allowing for conversion of waste to produce biogas for vehicle fueling and for sale directly to NW Natural Gas. In FY2019-20, the bureau hired a new position with responsibility to manage, coordinate, measure, track and optimize the delivery and sale of biogas and maximize potential for revenue generation. The Preliminary Financial Plan assumes that the RCNG facility will generate a minimum of \$3 million dollars in annual gross revenue, though annual revenues could increase if market conditions align and operating costs remain stable.

### *State and Federal Funding*

Financial resources available from the state and federal level continue to be scarce, despite increasing regulatory expectations. Beyond very few, small grants for specific purposes, the financial forecast assumes no future funding from state or federal resources. Funding of state and federal mandates is expected to occur through standard rate collection and other existing revenue sources, which puts pressure on funding for other system and community priorities.

## **REGULATORY AND LEGAL ENVIRONMENT**

The City is subject to an array of federal and state regulations involving the protection and restoration of the environment. The federal regulations, which most often stem from public laws administered by the United States Environmental Protection Agency (USEPA), are typically managed, monitored, and enforced by the Oregon Department of Environmental Quality (ODEQ) by way of delegation from the USEPA. State-specific regulations also are managed by the ODEQ. Most of the services provided by the bureau through programs and projects are designed to respond to these regulations. Generally, the goal of such efforts is to protect human health and safety as well as the physical and biological health of area watersheds, streams, and rivers.

The Clean Water Act (CWA) was passed by Congress in 1972. The CWA requires all facilities that discharge to waters of the United States through a pipe to get a National Pollutant Discharge Elimination System (NPDES) permit. The bureau operates under three NPDES permits, one for each of the Wastewater Treatment Plants and one for the City's Municipal Separate Storm Sewer System (MS4). In 2000, Congress amended the CWA to require that subsequently issued permits and orders for wastewater discharges conform to a 1994 CSO Control Policy. As mentioned, BES completed construction of the CSO Control Program Facilities in December 2011. Operation of the CSO facilities and continued regulatory compliance requires ongoing investment in operations and capital.

Congress enacted Underground Injection Controls (UICs) rules in 1974 under the Safe Drinking Water Act (SDWA) and modified the rules in 1999. In part, the SDWA requires the USEPA to develop minimum federal requirements for UIC programs and other safeguards to protect public health by preventing UICs from contaminating underground sources of drinking water.

### **Water Quality Compliance**

#### *Willamette and Tualatin Basin Total Maximum Daily Load (TMDL) Orders*

Section 303 (d) of the CWA requires states, every two years, to identify those waters "for which existing required pollution controls are not stringent enough to achieve that state's water quality standards," and to prepare a list for approval by the USEPA. This list serves as the basis for developing TMDLs. A TMDL is the calculated pollutant amount that a water body can receive and still meet Oregon water quality standards and allow for its designated uses.

The Tualatin Basin TMDL, which applies to a part of the Fanno Creek watershed and other small tributaries to the Tualatin River within Portland's jurisdiction, was most recently revised in 2012. It includes parameters such as temperature, dissolved oxygen, phosphorus, and bacteria. The Willamette Basin TMDL was issued in 2006 and applies to the City of Portland's portions of the Columbia Slough, Johnson Creek, Tryon Creek, and the Willamette River. In response, the City of Portland submitted an implementation plan in 2008, revised in 2014, and most recently revised in 2019 that covers both the Willamette Basin and Tualatin Basin TMDLs. The TMDLs have been the subject of numerous legal actions over the years, including an ongoing suit related to temperature and mercury. In addition, recently the USEPA partially disapproved ODEQ's 303(d) submission and is in the process of listing additional pollutants and stream segments in Portland which might result in establishing TMDLs.

The City's ODEQ-approved TMDL Implementation Plan includes projects and programs in the bureau's Five-Year Operating Plan and Surface Water CIP. The combined estimates for FY 2020-

21 through 2024-25 to address TMDLs and NPDES MS4 requirements (discussed below) is approximately \$67 million for CIP in current dollars. Many of these projects and programs, in addition to meeting TMDL requirement to improve water quality, also achieve other regulatory objectives, broader watershed health, and City policy goals. Projects and programs range from public involvement and education to natural resource protection and restoration. Many are based on the City's Stormwater Management Plan for the MS4 Discharge Permit (below). TMDL compliance is reported through the MS4 permit.

#### *National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Discharge Permit*

The City of Portland and its co-permittee, the Port of Portland, hold a joint NPDES MS4 Discharge Permit for discharges to waters of the State. The ODEQ issued the City's first MS4 discharge permit in 1995 and renewed it for a second term in 2004 (with modifications in 2005). ODEQ issued the third-term permit on January 31, 2011. The five-year permit expired on January 30, 2016 and was administratively extended. Administrative extension of the permit requires the co-permittees to continue to implement the current stormwater management plan to reduce pollutant discharges "to the maximum extent practicable" from their respective municipal stormwater systems.

The 2011 permit includes assessments and program evaluation requirements beyond those required in previous permits. Permit requirements and program and technical evaluations are likely to be required in the terms of the next permit. The DEQ permit renewal process is underway with a new permit, expected in 2020. Technical resources and modeling services to meet the requirements of both NPDES MS4 and TMDL are expected to increase and continue to impact future budgets.

#### *Underground Injection Control (UIC) Water Pollution Control Facilities (WPCF) Permit*

The City of Portland holds a WPCF Permit for a Class V UIC System authorizing the City to operate approximately 9,000 public UIC structures. The ODEQ issued the City's first ten-year UIC permit in 2005 and renewed the permit for a second term on May 19, 2015. The current permit expires on April 30, 2025.

The permit specifies the criteria for the construction, operation, and maintenance requirements for UICs (sumps). As part of the first permit term the City implemented a structural and nonstructural corrective action plan to address UICs out of compliance with the permit criteria. The renewal process required the City to re-evaluate its UIC system and submit an updated system wide assessment. The assessment did not identify any compliance issues. As part of the permit requirement the City is required to perform a mid-permit system assessment that could identify smaller scale corrective action needs that would not significantly impact CIP funds. However, since the issuance of the current permit, two items materializing at the federal level (relating to UICs located in areas of shallow groundwater, and several lawsuits relative to whether discharges to groundwater should be regulated under the CWA) have potential to impact the City's UIC program. Either of these could impact the current service level and UIC stormwater management strategy within the next 5 years.

### **Endangered Species Act (ESA) Requirements**

An updated final Endangered Species Act (ESA) listing for salmon and steelhead was issued on January 5, 2006 (71 FR 834). This includes eight species of salmon and five species of steelhead that spawn, rear, and migrate through watercourses in the Portland area. In addition, ESA-protected

Pacific Eulachon (smelt), Bull Trout, and Green Sturgeon are present in the Columbia and Willamette Rivers and some local tributaries. Streaked Horned Lark (a bird found primarily in the Columbia Slough) was formally listed as a threatened species in October 2013 (78 FR 61451). Pacific Lamprey is an ESA candidate species as well and in 2012 the bureau signed a conservation agreement with the U.S. Fish and Wildlife Service and 15 other State and federal partners regarding Lamprey.

The basic requirements of the ESA are to avoid harming or harassing the listed species or adversely modifying their critical habitat and to work to recover these species through the development and implementation of recovery plans. Critical habitat is federally identified and mapped. Portland's waterways are designated as protected critical habitat, which triggers specific requirements for any projects including City infrastructure projects that involve federal actions such as funding or permitting. The bureau typically constructs 3-5 projects a year that require ESA review and permitting.

The National Oceanic and Atmospheric Administration (NOAA) Fisheries, the federal agency with jurisdiction over salmon and steelhead, adopted a federal recovery plan for salmon and steelhead in the Lower Columbia River, including Portland, in July 2013. The bureau participated with the State of Oregon and NOAA Fisheries on the development of the recovery plan. This plan includes many ongoing bureau programs and activities including stream restoration, green infrastructure investments, land acquisition, and code improvements. Their acknowledgement of City projects and programs in the recovery plan allows BES to leverage additional federal dollars to offset some planned costs. In addition, the inclusion of these projects in the recovery plan streamlines permitting review and authorizations thereby reducing costs. Funds for ESA response are included in the FY 2020-21 through 2024-25 operating and capital budget plans as a component of individual projects and programs as well as in other City bureaus' budgets.

### **Bond Covenants**

In addition to revenue bond coverage covenants described above, the City has covenanted with bondholders to operate the sewer system in a safe, sound, efficient, and economic manner, and to "cause the System to be maintained, preserved, reconstructed, expanded, and kept, with all appurtenances and every part thereof, in good repair, working order and condition."

## **SYSTEM-RELATED CAPITAL AND OPERATING ISSUES**

### **Collection System Maintenance and Reliability**

Over 24% of Portland's nearly 2,000-mile sanitary and combined sewer pipe system is more than 80 years old. As important as age, however, is condition. While 77% of the collection system pipe is in good or fair condition, a significant amount of pipe is in poor or very poor condition. As aging pipes deteriorate, pipe failures can lead to sewage spilling onto public and private property, into streams, or backing up into basements. Undersized sewer pipes can also cause basement sewer backups or surface flooding during storm events due to lack of capacity. One of the bureau's major long-term capital priorities is to incrementally replace aging collection system infrastructure to reduce risk of failures. In addition to improving system reliability over the long-term, investment also minimizes the more expensive operating costs of unexpected repair and maintenance.

The 2012 System Plan for the Combined and Sanitary Sewer Systems provides short- and long-range plans for addressing structural condition and pipe capacity risk in the service area. Projects were evaluated and prioritized by their ability to cost-effectively reduce structural and capacity risk in the system. The most high-priority and cost-effective projects have been placed into the CIP for implementation over the next five to ten years, described below. BES continues to refine its reinvestment strategy for collection system capital improvements to enhance maintenance, reliability, and to continue to meet regulatory requirements. The bureau is updating the 2012 System Plan to incorporate newer data and address drivers such as development pressures and changes to the City's Comprehensive Plan. The bureau recently completed a Pump Station Master Plan to guide future reinvestment in the City's 98 wastewater pump stations, and the Resiliency Master Plan, which addresses risks, response, and resiliency of the City's sewer infrastructure related to earthquake, landslide, and flood events. All of these plans will influence project prioritization and project design in out years.

The CIP includes \$245.1 million for FY 2020-21 through 2024-25 (in current dollars) to address the maintenance of the City's sewer system, including:

- Large Diameter Pipe Rehabilitation Projects, \$61.1 million;
- Phase 3 Pipe Rehabilitation, \$21.1 million;
- Downtown Oldtown Pipe Rehabilitation, \$22.2 million;
- Other capacity and rehab projects, \$121.5 million (including green street facilities to reduce stormwater inflow to the combined sewer system).

Most of these projects were developed and recommended as priority projects in the 2012 System Plan. Some of these projects, such as the Phase 3 Pipe Rehabilitation Program and the Large Diameter Pipe Rehabilitation, extend beyond FY 2024-25. \$19.2 million is included in the 5-year CIP for other capital maintenance of the collection system and non-process facilities.

### **Sewage Treatment**

The FY 2020-21 through 2024-25 CIP also includes significant, high-priority planned increases in reinvestment in the sewage treatment and pumping systems. Many facilities at the 68-year old CBWTP and 55-year old TCWTP are beyond their useful life, necessitating replacements or upgrades to avoid failure and meet regulatory requirements. These urgent and highly complex

projects outweigh other program areas in allocation of CIP resources. A total of \$546.2 million is in the CIP for FY2020-21 to FY24-25 for treatment and pumping related projects, including:

- Over \$320 million for secondary treatment expansion at CBWTP. This suite of projects is currently in design and slated for completion in 2024 to meet regulatory deadlines.
- \$90.7 million for other projects at CBWTP, such as improvements to the headworks and lagoon reconstruction.
- \$97 million for two ongoing programs to repair and replace existing assets as they reach the end of their useful life (Pump Station Improvement Program and Repair, Rehabilitation & Modification Program).
- \$12 million for improvements to the TCWTP and the interceptor leading into it
- \$25.8 million for individual pump station and force main improvements.

As with the collection system, failure to replace treatment assets in a timely fashion leads to greater asset deterioration, maintenance costs, operating inefficiencies, and risk of failure.

### **Surface Water Management**

Surface water projects and programs total \$118.0 million in the FY 2020-21 through 2024-25 CIP.

#### *Watershed Plan Implementation*

The Portland Watershed Management Plan (PWMP), adopted in 2006, lays out a comprehensive and integrated approach for meeting many of the bureau's regulatory drivers by improving watershed health through scientifically based strategies to address the sources and causes of environmental problems. The PWMP also provides direction for integrating activities to achieve multiple objectives. Using a watershed approach to meet regulatory requirements remains an efficient and cost-effective strategy which meets other city and community goals at the same time. Stormwater System Planning (below) identifies projects to implement the goals and intent of the PWMP.

#### *Stormwater System Planning*

As BES continues to implement the priority recommendations from the sanitary and combined sewer system plans, it has begun the next phase of work to identify priority areas for recommendations to reduce stormwater risk. This work incorporates collection, conveyance and treatment, evaluating risks and opportunities in both the natural and built assets. It guides the development of CIP projects and operating-funded solutions to reduce stormwater risk.

#### *Eastside Watersheds, including Johnson Creek*

Projects implementing the Johnson Creek Restoration Plan included in the CIP (\$22.4 million) address water quality, hydrology, and habitat impacts in the Johnson Creek watershed, including frequent flooding, stream restoration, ESA recovery plan implementation, TMDLs and stormwater management. The bureau is updating the plan and will continue cooperation and coordination with other agencies and jurisdictions outside Portland's boundaries. BES manages the City of Portland's Community Rating System which provides discounts to FEMA flood insurance policy holders because of active floodplain management and other actions taken by the City to reduce risk.

### *Westside Watersheds, including Fanno and Tryon Creeks*

Projects and programs in westside watersheds in the next five to ten years focus on addressing water quality (including TMDLs), hydrology and habitat impacts in the watersheds, and ESA recovery plan implementation. The Five-Year CIP and Operating Plans contain a variety of projects to address these goals, including stormwater projects that focus on managing runoff primarily from improved and unimproved streets and public rights-of-way. The Southwest Corridor BES Systems Development project is a major example. Work also includes efforts to reduce the inflow and infiltration of stormwater into the sanitary sewer system (included in the Maintenance and Reliability section of the CIP).

Scheduled CIP projects are primarily in the separated system in areas identified with system deficiencies in the Stormwater System Plan (SWSP). Multiple projects in the Stephens Creek sub-watershed are a pilot program for the SWSP. Habitat enhancement and water quality improvement elements typically are integrated with sanitary sewer rehabilitation and inflow and infiltration reduction work.

### *Columbia Slough*

In 2016, the City updated the Intergovernmental Agreement with ODEQ to implement remedial action to improve sediment quality in the Columbia Slough and is currently meeting specified deadlines. The Columbia Corridor Stormwater Program is examining options for efficiencies in meeting regulatory requirements. Projects in the current CIP 5-year plan to address outfalls (\$27.2 million) are integrated with source control actions, maintenance and monitoring solutions to take advantage of multiple approaches

Ongoing watershed health projects and programs in the Columbia Slough are aimed at addressing water quality TMDLs, ESA recovery plan implementation, and PWMP goals. Source reduction, revegetation, land acquisition, and related activities and projects needed to address these issues are in the current CIP and operating budgets.

### *Neighborhoods to the River Program*

The Neighborhoods to the River Program (which includes projects in the Maintenance and Reliability section of the CIP) has expanded beyond the eastside into an integrated project delivery model addressing water quality, pipe capacity, and flooding in the Columbia and Westside watersheds as well. The City is replacing and upgrading pipes while also utilizing sustainable stormwater infrastructure such as green street facilities and trees to manage stormwater. This results in a program that is less expensive and less intrusive to the neighborhood, while also providing additional benefits.

### *Willamette Mainstem*

Several projects related to hydrology, habitat, and water quality in the mainstem Willamette River and tributary watersheds are included in the CIP, including projects in the land acquisition program and federal partnership projects (below). Environmental Services continues to identify opportunities to protect and improve conditions along the Willamette mainstem, particularly those that relate to the City's TMDL, MS4, and ESA requirements.

### *Federal Partnerships*

The Water Infrastructure Improvements for the Nation Act (WIIN), signed by President Obama in 2016, authorizes the Army Corps of Engineers to partner with the City of Portland on five river

restoration projects in the Lower Willamette River including the Columbia Slough and Tryon Creek. The Federal FY20 budget includes Congressional direction to the Corps to fund the projects. The Tryon Creek Highway 43 culvert replacement, the City's highest priority among these five projects, is included in the CIP. Construction of the Oaks Bottom Section 206 Habitat Restoration Project, a project with significant federal funding, was completed in FY 2018-19.

### *Land Acquisition*

BES has acquired nearly 800 acres for flood storage and floodplain connection, stormwater management, and watershed restoration through the Grey to Green, Johnson Creek Willing Seller and Watershed Land Acquisition Programs, with associated completion of several significant floodplain and restoration projects on that land. The five-year CIP includes \$17 million for continued acquisition of priority floodplain, wetland, riparian areas, and headwaters to preserve and enhance watershed functions.

### **Pollution Prevention and Regulatory Issues**

In addition to capital projects that specifically address collection, treatment, and surface water infrastructure, the bureau must also respond to regulatory requirements including the National NPDES and UIC permits. As the size of the system increases to accommodate Portland's growing population, requirements related to monitoring and maintaining compliance with existing regulations also increase. While most of these costs are reflected on the operating side of the forecast, capital projects such as the secondary expansion at CBWTP and upgrades at TCWTP also address these system needs.

### **CIP-Related Operations and Maintenance**

During the capital planning process, the bureau attempts to identify and document O&M costs associated with existing and forecasted capital improvements. To the extent available, forecast O&M costs are included in this Financial Plan. Creation of the PMO is expected to more rigorously connect O&M cost impacts to the long-term forecast and may result in adjustments to future forecast efforts.

## **OPERATING PROGRAM CONSIDERATIONS**

### **Proposed Changes in Operating Program Expenditures and Customer Bill Impacts**

The bureau's FY 2020-21 Requested Budget accounts for cost inflation (salary, benefits, and materials), contract adjustments, equipment replacement, regulatory requirements, and increases in debt service associated with revenue bonds. The Financial Plan contains a total increase in revenue requirements of approximately \$56.5 million over the forecast interval, including \$39.6 million from increased operating expenditures, \$17.5 million from increased cash funding of the CIP, \$6.1 from increased General Fund overhead and utility license fees, and an offsetting reduction of \$26.3 million in debt service.

## FIVE-YEAR FINANCIAL FORECAST

### Forecast Assumptions

The following table shows the economic and other assumptions underlying the five-year forecast.

#### Economic and Other Assumptions – Current Year and Forecast Interval

	Current		Forecast			
	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
<b>Economic Assumptions</b>						
Inflation rates						
Personal Services (%)	3.90	2.90	3.19	3.19	3.19	3.19
External Materials & Services (%)	2.78	2.78	2.78	2.78	2.70	2.70
Internal Materials & Services (%)	2.92	2.65	2.65	2.65	2.65	2.65
Utilities (%)	4.18	2.40	2.40	2.40	2.40	2.40
Capital Outlay	2.80	2.57	2.57	2.57	2.57	2.57
Other (%)	2.79	2.56	2.56	2.56	2.56	2.56
Interest Earnings Rate (%)	2.05	1.85	1.75	1.75	1.75	1.75
Revenue Bond Interest Rate (%)	5.00	5.00	5.00	5.00	5.00	5.00
Bond Term (years)	20	25	25	25	25	25
Target Coverage - 1st Lien Debt	1.50	1.50	1.50	1.50	1.50	1.50
Target Coverage - 1st & 2 (Net Revenues/Debt Service)	1.30	1.30	1.30	1.30	1.30	1.30
<b>Forecast Assumptions</b>						
Minimum Operating Ending Fund Balance Target (# of Days' Operating Expenses)						
	270	270	270	270	270	270
City Overhead Growth Rate (%)	-11.04	16.62	6.57	6.85	8.72	8.14
Utility License Fee (% of Rate Revenues)	5.00	5.00	5.00	5.00	5.00	5.00
Expenditure Rates (% of Budget)						
CIP	85.00	90.00	90.00	90.00	90.00	90.00
Personal Services	99.50	99.50	99.50	99.50	99.50	99.50
Materials and Services - External	97.00	97.00	97.00	97.00	97.00	97.00
Materials and Services - Internal	100.00	100.00	100.00	100.00	100.00	100.00
<b>Other Assumptions</b>						
Annual Customer Account Growth (%)	0.50	0.50	0.50	0.50	0.50	0.50
Single-Family Residential Account	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
Annual Sewer Use Growth (%)						
Multi-Family Residential Account Sewer Use Growth (%)	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75
Commercial Account Sewer Use Growth (%)	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00

## Forecast Sewer System Costs and Resources

Maintaining the current level of service within the operating program and funding requested capital improvements is projected to require average annual single-family residential bill increases of 3.00% - 3.15% over the next five years. These increases are due to growth in annual system costs, partially offset by non-rate revenues and use of Rate Stabilization Fund balances.

### System Costs

Annual system costs increase from \$577 million to \$661 million over the five-year financial forecast. These costs result from increased operating costs to support operation of system infrastructure, increased debt service from borrowings to fund CIP expenditures, and increased cash funding of CIP expenditures as the bureau achieves its goal of a 60/40 split between cash and bond funding in FY 2024-25.

- CIP expenditures are projected to total \$896 million over the forecast interval (including inflation). These expenditures are funded by sewer system revenue bonds, but also include substantial cash contributions (\$282 million over the five-year forecast interval) made possible by the retirement of some existing bond payments in FY 2022-23 and coverage requirements on sewer system revenue bonds (which generate cash above the annual bond payment amounts).
- The financial forecast includes the issuance of \$905 million in additional bonded indebtedness, resulting in \$64 million of new annual debt service by the sixth year. However, as shown previously (see graph on page 10), retirement of existing debt issues in FY2021-22 and FY2022-23 will actually reduce total debt service in FY 2023-24 and beyond, resulting in total annual debt service in FY 2023-24 that is \$19.3 million lower than total annual debt service in FY 2019-20. New bond sales are currently projected in FY 2020-21, FY 2022-23, and FY 2024-25.
- Total operations and maintenance expenditures increase by \$44.3 million over the forecast interval, an average annual increase of 5.3%.
- Utility License Fees (ULF) are projected to rise an average of 3.2%.
- There are no cash transfers from the Operating Fund to the Rate Stabilization Fund projected during the term of this financial plan, as the forecast anticipates utilizing Rate Stabilization Fund balances through FY 2024-25.

### System Resources

Forecast annual system revenues from all sources (excluding changes in the Operating Fund balance) increase by \$79.2 million over the five-year forecast interval. This is due primarily to the following:

- Reimbursements from the Construction Fund to the Operating Fund increase by \$47.7 million over the forecast interval, as the capital improvement program increases in response to regulatory and capital needs at both treatment plants, as well as continued emphasis on replacing and maintaining an aging collection system.
- SDCs decrease by \$6.1 million (approximately -7.0% annually) over the five-year forecast as the strong construction climate slows from the current record levels of activity.
- Annual revenues from rates increase by \$47.2 million during the forecast interval, an annual average increase of 3.1% per year.

- All other various revenues are forecast to increase \$1.7 million in total (+2.4% annually), resulting primarily from sale of Renewable Compressed Natural Gas upon completion of the CBWTP biogas fuel conversion project in calendar 2020.

The table on the following page shows forecast system costs and resources in more detail.

## Forecast Revenue Requirement from Rates

In Thousands of Dollars

	2021	2022	2023	2024	2025
<u>O&amp;M and CIP Expenses</u>					
Personal Services	\$76,266	\$86,516	\$91,000	\$98,148	\$102,189
Materials & Services - External	37,670	37,229	34,401	38,038	43,874
Materials & Services - Internal	45,557	45,530	47,990	49,963	51,294
Capital Outlay (non-CIP)	2,177	2,531	6,455	5,624	3,079
CIP	153,750	203,215	186,644	157,541	194,612
Cash Transfers:					
General Fund Overhead	6,850	7,300	7,800	8,480	9,170
Utility License Fees	18,125	18,699	19,330	19,947	20,565
Rate Stabilization Fund	-	-	-	-	-
Pension Obligation Bonds	4,792	4,984	5,183	5,391	5,606
Misc Other Expenses	45	38	30	23	16
Total O&M and CIP Expenses	\$345,232	\$406,042	\$398,834	\$383,156	\$430,405
Cash Transfers to Debt Redemption Fund:					
Existing First Lien Debt Service	\$77,141	\$27,782	\$27,790	\$35,961	\$35,976
Existing Second and Subordinate Lien Debt Service	86,631	136,898	136,877	79,543	72,009
Projected New Second Lien Debt Service	9,211	25,856	25,845	45,990	45,977
Cash Transfers to Construction Fund:					
Cash Contributed to CIP	59,272	41,483	35,053	69,504	76,730
Subtotal	232,255	232,020	225,565	230,999	230,693
Annual System Costs	\$577,488	\$638,062	\$624,398	\$614,154	\$661,097
<u>Less: Other System Resources</u>					
Reimbursement from Construction Fund	\$165,490	\$218,796	\$203,834	\$176,546	\$213,185
Systems Development Charges	24,239	18,013	15,683	19,600	18,133
Wholesale Sewer Contracts	4,185	4,285	4,398	4,515	4,635
Other Service Charges	2,654	2,663	2,734	2,807	2,693
Service Reimbursements	1,904	1,955	2,007	2,060	2,114
Rate Stabilization Fund Transfer	12,850	12,850	-	6,025	-
Other Cash Transfers	200	205	211	216	222
Product Sales	3,500	5,593	3,688	3,785	3,886
Inspections	516	530	544	558	573
Rents	261	171	176	180	185
Licenses and Permits	2,120	2,176	2,234	2,293	2,354
Interest on Investments	1,324	1,422	1,432	1,629	1,643
Miscellaneous	588	588	604	620	636
Others:					
less: Portland Harbor Rate Revenues	(7,401)	(7,508)	(6,703)	(6,303)	(6,307)
Accrued User Charge Revenues	700	1,100	1,200	1,200	1,200
Use/(Replenish) Fund Balance	(4,842)	(5,166)	251	(5,617)	(452)
Total Other Resources	\$208,290	\$257,673	\$232,292	\$210,114	\$244,700
<b>Required Revenues from Rates (excluding accruals)</b>	<b>\$369,198</b>	<b>\$380,388</b>	<b>\$392,107</b>	<b>\$404,040</b>	<b>\$416,398</b>

The following sections present more detailed revenue and cost information for the past five years ending with the current year and for the five-year forecast interval.

## Financial Resources

### Historical and Current-Year Projected Sewer System Financial Resources

In Thousands of Dollars

Fiscal Year Ending June 30					Projected	Five-Year
	2016	2017	2018	2019	2020	Totals
Revenues from Rates	\$313,510	\$330,533	\$344,178	\$346,937	\$359,858	\$1,695,016
System Development Charges	24,345	30,964	39,131	23,416	23,346	141,200
Wholesale Sewer Contracts	3,545	3,490	3,611	4,073	3,868	18,587
Rate Stabilization Fund Transfers	1,485	-	5,000	-	37,400	43,885
Other Revenues	10,953	11,846	21,519	15,815	14,505	74,638
Decrease/(Increase) in Fund Balance	(334)	466	(23,350)	12,271	3,074	(7,873)
<b>Total</b>	<b>\$353,504</b>	<b>\$377,299</b>	<b>\$390,088</b>	<b>\$402,512</b>	<b>\$442,050</b>	<b>\$1,965,454</b>

- SDC revenues increased dramatically from FY 2009-10 through FY 2017-18, as construction activity rebounded from the most recent recession and development increased within the service area. As previously discussed, SDC increases contributed to larger fund balances and offset rate impacts over the long-term forecast.
- Revenues from rates increased at an average of 3.5% per year from FY 2015-16 through FY 2019-20 (projected), boosted by the growth in the customer base and a continued strong economy.

### Forecast Sewer System Financial Resources

In Thousands of Dollars

Fiscal Year Ending June 30						Five-Year
	2021	2022	2023	2024	2025	Totals
Revenues from Rates (including accruals)	\$369,898	\$381,488	\$393,307	\$405,240	\$417,598	\$1,967,531
System Development Charges	24,239	18,013	15,683	19,600	18,133	95,669
Wholesale Sewer Contracts	4,185	4,285	4,398	4,515	4,635	22,018
Rate Stabilization Fund Transfers	12,850	12,850	-	6,025	-	31,725
Other Revenues	13,069	15,304	13,628	14,148	14,306	70,455
Decrease/(Increase) in Fund Balance	(4,842)	(5,166)	251	(5,617)	(452)	(15,826)
<b>Total</b>	<b>\$419,399</b>	<b>\$426,774</b>	<b>\$427,268</b>	<b>\$443,911</b>	<b>\$454,219</b>	<b>\$2,171,571</b>

- Revenues from rates, as shown above, are forecast to increase by an average of 3.1% per year over the forecast interval.
- Customer account growth is forecast to be at the historical average infill rate of 0.5% per year but is offset by assumed decreases in average billed volumes.
- SDC revenues are forecast to decrease dramatically (-25.2% or -7.0% annually as the current robust construction activity is assumed to slow after a decade of growth. Decreases in development activity that are more severe than forecast would materially impact revenue collection and would likely compel adjustments to future year financial planning. (See *Other Factors Influencing the Forecast* section for additional information.)

- Transfers from the Rate Stabilization Fund to the Operating Fund are projected in three of the five years, FY 2020-21, FY 2021-22, and FY 2023-24, to smooth the additional debt service resulting from the prior year’s bond sale.
- While a comprehensive rate study began during calendar year 2019, the total amount of financial resources required to meet system needs is not expected to materially change. Projections in this Preliminary Financial Plan reflect current rate structures. Future financial plans (beginning in FY 2021-22, or later) are expected to reflect results of the Comprehensive Rate Study.

## Operating Expenditures by Expense Type

### Historical and Current-Year Projected Operating Expenditures by Expense Type

In Thousands of Dollars

Fiscal Year Ending June 30					Projected	Five-Year
	2016	2017	2018	2019	2020	Totals
Personal Services	\$49,026	\$50,809	\$55,308	\$60,481	\$70,393	\$286,016
Materials & Services						
External	25,402	22,418	24,032	35,364	36,936	144,152
Internal	32,543	33,384	34,073	36,904	41,217	178,121
Capital Outlay (non-CIP)	3,523	2,569	4,718	4,409	3,453	18,671
General Fund Overhead	5,874	6,064	6,170	6,602	5,874	30,583
Utility License Fee	15,571	16,251	16,885	17,106	17,780	83,592
Rate Stabilization Fund	25,100	31,500	34,000	24,000	-	114,600
Pension Obligation Bonds	2,569	2,929	4,024	4,157	4,608	18,287
Other	79	73	66	59	52	329
<b>Totals</b>	<b>\$159,687</b>	<b>\$165,996</b>	<b>\$179,275</b>	<b>\$189,081</b>	<b>\$180,311</b>	<b>\$874,351</b>

- Personal Services are projected to have increased an average of 9.5% per year over this five-year period, due mostly to large increases in pension and health care benefits, whereas the number of staff positions allocated as operating expenditures has increased only 3.8% annually over the same time period.
- External Materials and Services (excluding the Utility Franchise Fee) increased sizably beginning in FY 2018-19, in part due to an increase in the base budget, increased biosolids hauling and disposal, and operation of the RCNG facility.
- Internal Materials and Services had grown by about 3.2% annually in the first four years of the table above but is projected to increase by 12% in FY 2019-20 due to additional services requested in the current year, including increased maintenance services performed by the Bureau of Transportation’s Maintenance Operations division, additional contracting services from Procurement, services from the Bureau of Planning and Sustainability in regards to city-wide Sustainable Stormwater planning.
- Transfers from the Operating Fund to the Rate Stabilization Fund occurred in each of the first four years since FY 2015-16, mostly the result of additional SDC revenues reflecting the strong recovering economy after the Great Recession.
- Capital Outlay (non-CIP) increased due to planned vehicle replacement schedules.

- General Fund Overhead charges remained the same overall, but only due to a reduction in FY 2019-20 reflecting corrections from prior year overcharges
- Utility License Fee expenditures increased as rate revenues increased, at an average annual increase of 3.5%.

### Forecast Operating Expenditures by Expense Type

In Thousands of Dollars

Fiscal Year Ending June 30	2021	2022	2023	2024	2025	Five-Year Totals
Personal Services	\$76,266	\$86,516	\$91,000	\$98,148	\$102,189	\$454,119
Materials & Services						
External	37,670	37,229	34,401	38,038	43,874	191,212
Internal	45,557	45,530	47,990	49,963	51,294	240,335
Capital Outlay (non-CIP)	2,177	2,531	6,455	5,624	3,079	19,867
General Fund Overhead	6,850	7,300	7,800	8,480	9,170	39,600
Utility License Fee	18,125	18,699	19,330	19,947	20,565	96,665
Rate Stabilization Fund	-	-	-	-	-	-
Pension Obligation Bonds	4,792	4,984	5,183	5,391	5,606	25,956
Other	45	38	30	23	16	152
<b>Totals</b>	<b>\$191,482</b>	<b>\$202,827</b>	<b>\$212,190</b>	<b>\$225,615</b>	<b>\$235,793</b>	<b>\$1,067,907</b>

- Total operating expenditures are forecast to increase by approximately \$44.3 million, or 5.3% annually.
- Personal services expenditures are forecast to increase at an average annual rate of 7.6% based upon the projected average inflationary increase in wages and salaries of approximately 3.2%, an average annual increase in the number of positions of 2.4%, and an average annual increase for health care, PERS and other benefits of 9.6%. The City Economist has forecast that the PERS contribution rates (which have been weighted for the bureau's mix of employees) will increase 5.3% in FY 2021-22, and 6.4% in FY 2023-24, resulting in an estimated increase of \$6.0 million by the fifth year of the forecast.
- External Materials and Services are forecast to increase at an average annual rate of 3.9%, as continued emphasis on limited-duration planning, condition assessment, and biosolids application/inventory reduction increase in the later years.
- Expenses associated with Internal Materials and Services are forecast to increase at an average rate of 3.0%, compared to the 2.65% average annual increase projected for inflation over the same period, mostly the result of an additional maintenance crew projected to be added in FY 2022-23.
- Utility License Fee expenses will rise an average of 3.2%, reflecting the projected increase in rate revenues over this period.

## Capital Expenditures by Program

### Historical and Current-Year Projected Capital Improvement Expenditures by Program

In Thousands of Dollars

Fiscal Year Ending June 30	Projected					Five-Year Totals
	2016	2017	2018	2019	2020	
Maintenance and Reliability	\$51,988	\$54,457	\$56,016	\$72,403	\$52,403	\$287,267
Sewage Treatment Systems	11,339	13,890	21,173	33,935	48,717	129,054
Surface Water Management	8,163	10,875	9,843	9,532	13,839	52,252
Systems Development	3,411	8,269	1,371	4,266	41,550	58,867
Totals	\$74,902	\$87,491	\$88,404	\$120,137	\$156,508	\$527,441

- The Maintenance and Reliability portion of the CIP totaled \$287.3 million, or 55% of capital improvement expenditures over the five-year interval. Major expenditures included repair and rehabilitation work to address aging and failing pipes, and/or to address inadequate pipe capacity to mitigate sewage overflows. These projects are widely distributed throughout the older parts of the service area.
- Sewage Treatment Systems program expenditures at the Columbia Boulevard and Tryon Creek wastewater treatment plants totaled \$129.1 million over the interval, or 25% of capital improvement expenditures, and included the new SW 86<sup>th</sup> Ave pump station, Renewable Compressed Natural Gas (RCNG) facility, renovation of the sludge lagoons, and numerous pump station upgrades and improvements.
- The Surface Water Management program accounted for approximately \$52.3 million, or roughly 10% of capital improvement expenditures. Major expenditures in this program included the Bybee/Glenwood and Boones Ferry culvert replacements, flood plain restoration along Johnson Creek, the Grey to Green Initiative (including land acquisition and green street installations), UIC Improvements, and other culvert replacements to address water quality and fish passage.
- Systems Development projects totaled \$58.9 million, or roughly 11% of total capital improvement expenditures, of which \$37 million in FY 2019-20 is the bureau's allocation of the \$195 million Portland Building Renovation project. Other major expenditures included extension of sewers in the SW Terwilliger Blvd basin, stormwater improvements in association with streetcar and Milwaukie light rail projects, and the Party (non-conforming) Sewer abatement program.

### Forecast Capital Improvement Expenditures by Program

In Thousands of Dollars

Fiscal Year Ending June 30	Forecast					Five-year Totals
	2021	2022	2023	2024	2025	
Sewage Treatment Systems	\$63,948	\$128,447	\$126,990	\$102,377	\$96,102	\$517,864
Maintenance and Reliability	51,972	43,020	34,874	31,699	71,019	232,585
Surface Water Management	28,787	23,343	16,211	19,265	23,656	111,262
Systems Development	9,043	8,404	8,569	4,199	3,835	34,051
Totals	\$153,750	\$203,215	\$186,644	\$157,541	\$194,612	\$895,761

- Forecast total CIP expenditures for the five-year forecast interval are \$895.8 million.

- Forecast expenditures for the sewage treatment systems of \$517.9 million are 58% of total capital expenditures over the five-year planning interval. Major projects include the CBWTP Secondary Treatment Expansion, TCWTP Headworks, Tryon Creek Interceptor Replacement, Inverness Pump Station Force Main Improvements, and projects within the Pump Station Improvement and the Treatment Facilities Rehabilitation & Modification programs.
- Maintenance and reliability expenditures are forecast at \$232.6 million, or 26% of total capital expenditures over the five-year planning interval. This program rehabilitates or replaces segments of the system to protect the City's infrastructure investment in nearly all areas of the City. Major work will include the Large Diameter Sewer Rehabilitation projects, Pipe Rehabilitation Phase 3, Downtown Oldtown Pipe Rehabilitation, Oak Basin A – Sandy Blvd. Trunk, Hollywood-Stark-Sullivan Basin Replacement #17, and Sunnyside South Reconstruction and Green Street, all of which will replace deficient pipes and prevent basement flooding.
- Forecast expenditures for surface water management of \$111.3 million are 12% of the five-year CIP. This program includes projects in all of Portland's watersheds that address drainage and water quality issues while providing other watershed benefits such as flood management and fish and wildlife habitat. Projects for Columbia Slough Outfalls, watershed land acquisition, SW Capital Highway Stormwater Improvements, Springwater Wetland, Johnson Creek Willing Seller Phase 2, West Lents Floodplain Restoration, Johnson Creek Oxbow, stormwater retrofits, and numerous culvert replacement projects make up the largest of the planned expenditures.
- Systems Development program expenditures comprise \$34.1 million, or 4% of total capital expenditures over the five-year planning interval. Systems Development is the program that extends sewers to areas that are currently not served, including High Failure Risk Septic System Sewer Extension projects, and for the elimination of shared Party Sewers. This program also supports construction of sewer and stormwater infrastructure required to support the private development efforts of others.
- Forecast capital expenditures will require additional debt issues totaling \$905 million between now and the end of the five-year interval, resulting in an additional \$64 million in annual debt service by FY 2025-26, an increase of 36% over current FY 2019-20 levels. However, retirement of existing debt issues in FY 2022-23 and FY 2023-24 will actually reduce total debt service in FY 2023-24 and beyond, as shown in the graph earlier in the document. The results of enhanced Condition Assessment review and CIP right-sizing may alter five-year plans in future years and lead to increased investment as future years' CIPs are developed.

## **RISKS TO THE FORECAST**

The following are considered risks to the forecast that could have a significant impact over the long-term. When possible, the forecast assumes some level of future cost and/or investment to address these risks. However potential costs are uncertain, and in some cases unknown.

### **Regulatory Considerations**

#### *National Pollutant Discharge Elimination System (NPDES) permit renewals and compliance*

In January 2016, the ODEQ administratively extended the 2011 NPDES MS4 discharge permit. The new permit is expected to be issued in 2020. The City's NPDES MS4 discharge permit includes requirements to evaluate program effectiveness at reducing applicable TMDL parameters. These requirements include developing pollutant load reduction estimates for any parameter with a stormwater TMDL Waste Load Allocation (WLA) approved by the USEPA. Every five years, the City is required to assess progress towards achieving each WLA that has not yet been met. As new TMDLs are developed and approved and with the issuance of the new NPDES MS4 permit, additional internal and external technical support will likely be required to address new requirements impacting operating budgets in FY 2020-21 and beyond.

Sanitary Sewer Overflows (SSOs) are discharges of raw sewage from municipal sanitary and combined sewer systems at unapproved locations. The City's Columbia Boulevard Wastewater Treatment Plant NPDES Permit, which was administratively extended on July 1, 2016, prohibits SSOs. According to the Permit, ODEQ has enforcement authority for SSOs; however, ODEQ generally will not exercise this authority if the City is in compliance with the Capacity, Management, Operations, and Management (CMOM) Plan.

The CMOM Program Report, submitted to ODEQ in June 2013, identifies the work the bureau is currently implementing under the capital and operating funds to minimize SSOs and to properly operate and maintain the collection system. Annual reports document the performance of the CSO control and treatment system as well as the CMOM Program activities each fiscal year.

#### *Willamette Basin Total Maximum Daily Load (TMDL) future conditions*

The Willamette Basin TMDLs and temperature standard have been challenged under a series of suits which have yet to reach full resolution. Changes to the TMDLs could impact the City's future NPDES permits. The budgetary impact cannot be predicted at this time. Also, after partial disapproval of ODEQ's most recent 303 (d) listings, the USEPA is expected to list additional pollutants and stream segments which will lead to future additional TMDLs.

#### *Underground Injection Control (UIC) permit compliance*

In May 2016, ODEQ issued the City a WPCF Permit for a second term authorizing the City to operate approximately 9,000 public UICs. The WPCF permit is a ten-year permit and expires in 2025. The City's WPCF UIC permit includes requirements to perform a revised comprehensive system wide assessment every five years, perform stormwater monitoring, and evaluate emerging pollutants.

To meet these requirements operations, monitoring, modeling and technical resources will continue at current levels for FY 2020-21. Additional CIP funds are not expected in the near term however may impact CIP funds within the next five years if compliance status of UIC is impacted by pending federal decisions.

### *Portland Harbor Superfund obligations*

In December 2000, the USEPA listed a portion of the Lower Willamette River, known as Portland Harbor, as a Superfund site under the Federal National Priorities Listing process. The City of Portland received General Notice Letters from the USEPA stating that the City may have liability for releases of hazardous substances, pollutants, or contaminants in the Willamette River.

The Portland Harbor Superfund investigation focused on a stretch of the Willamette River from approximately River Mile 2 to River Mile 12. The City, Port of Portland, and several Portland businesses entered into an Agreement on Consent with the USEPA which required that they perform and fund the investigation of the contaminated sediments. That investigation is complete. On January 6, 2017 the USEPA issued a remedy for the site via a Record of Decision.

The City's involvement with the Superfund site, which includes the anticipated cost for management, technical and legal work, is currently forecast at approximately \$33 million over the next five fiscal years, supported by special rates on the water/sewer utility bill. The required clean-up and restoration plan identified in the January 6, 2017 Record of Decision is estimated to cost \$1.0 billion (in current dollars) sitewide. However, the share of total implementation costs that will be allocated to the City and the bureau are currently unknown, and the City cannot at this time predict the financial impact on the bureau. Potential future capital costs associated with cleanup and natural resource restoration activities required by the Record of Decision are not yet reflected in the forecast. Forecast amounts will continue to be modified as more information becomes available.

### **System Asset Reinvestment and Risks**

#### *CBWTP secondary treatment expansion and facility replacements*

The CBWTP NPDES Permit was administratively extended on July 1, 2016 and will likely be reissued in calendar year 2020. The Permit and the Mutual Agreement and Order (MAO) included numerous requirements to evaluate the need to expand secondary capacity. A primary component of the MAO was to complete and submit an Updated Facilities Plan and No Feasible Alternative Analysis by December 30, 2016, both of which were completed and submitted. The USEPA and ODEQ reviewed these submittals and approved the recommended alternative to add two secondary clarifiers. While the MAO required the installation of secondary upgrades by 2021, the bureau successfully renegotiated the MAO to extend the deadline to December 31, 2024.

#### *CBWTP biosolids handling*

In FY2018-19, the Bureau modified its strategy to reduce the biosolids inventory at the CBWTP solids lagoon. While this effort has stabilized, active evaluation for keeping up with incoming solids will continue to occur until the secondary process improvements project provides new solids handling process equipment. Operational cost increases to accelerate biosolids removal could develop in the next few years if biosolids inventories again exceed manageable levels prior to completion of the Secondary Expansion Project (estimated FY 2025-26 or later).

#### *Tryon Creek Wastewater Treatment Plant (TCWTP) asset replacement*

The City of Lake Oswego, which shares in the cost of operations and maintenance of TCWTP, is exploring redevelopment of the TCWTP site by building and operating a new alternative treatment plant nearby. Implementation of such a plan would require significant unknown changes in the financial arrangements between the two cities. The current Financial Plan reflects expectations

that TCWTP continues to operate under the current structure and agreement. Any future arrangement would need to be financially feasible and accommodable within the BES rate forecast prior to proceeding.

#### *Natural infrastructure investments and operational impacts*

The growing portfolio of green infrastructure assets, which includes natural areas and approximately 2,200 green street facilities, requires an increasing amount of operations and maintenance (O&M) funding to protect past capital investments and ensure stormwater management performance. Workload expectations of the Watershed Revegetation Program have increased significantly with the bureau's continued investment in green street assets and growing needs in vegetated natural areas. In FY 2019-20, BES began an incremental shift to a model that reduces currently contracted services in favor of in-house FTE to more efficiently address this challenge. If this strategy continues, increases in staffing costs are expected to be offset by more cost-effective maintenance and reductions to future capital reinvestment in these assets.

#### *Other collection system assets (pipes and pump stations)*

As discussed previously, BES has begun an ambitious plan to replace system collection and treatment infrastructure and to assess the need for increased investment in stormwater collection and management. Failure to complete these investments due to lack of revenue, major process delays, or competing priorities could result in increased risk and cost in years outside the forecast. Because the bureau's financial and rate plans extend beyond the five-year window of this report, increased costs/risks over the long-term could materially impact Five-Year Financial Plan development in future years.

In addition to upgrades at the two treatment plants, the bureau has committed to repairs of structurally deficient portions of the sewer collection system. The long-term financial forecast anticipates significant expenditures for capital maintenance of aging assets plus maintenance of new assets placed in service over the forecast interval. System cleaning, inspection, and repair are expected to remain a significant component of the operating budget over the next five years, accounting for nearly 12% of operating expenditures.

#### *Seismic resiliency and impacts of climate change*

The BES 10-year Strategic Plan includes a long-term commitment to improve system resiliency. This effort includes to develop a framework for incorporating resiliency into event response, system planning, facility design, and project implementation in order to improve resiliency of Portland's constructed and natural systems to climate change, emergencies, and other events. With this vision, the bureau has taken steps to prepare for such events, including taking actions to mitigate the potential effects of climate change and attempt to insulate the sewer and stormwater system against future seismic events.

The bureau completed a Resiliency Master Plan (RMP) to address resiliency to earthquakes and climate change by reducing the risk of infrastructure failure and improving the ability to provide critical services after a natural disaster. The RMP includes a range of capital and operating strategies to address both seismic vulnerability and climate change over a 50-year timeframe. Costs to address seismic resiliency are beginning to impact capital project design and are reflected in the capital forecast when known. Future costs to further address seismic resiliency and address impacts of climate change will be added into the forecast as specific strategies are put into action.

## OTHER FACTORS INFLUENCING THE FORECAST

This financial forecast makes assumptions about factors internal to the bureau and the City such as program levels, and external factors such as inflation and borrowing costs. Changes to some of these factors may change the forecast. The following is a description of some of these factors, and the risks involved in unanticipated changes.

- The financial forecast assumes a 1.0% decrease in average use per single-family residential customer, a 0.75% decrease in average use per multi-family customer, and a 1.0% decrease in average use per commercial and industrial customer, roughly consistent with recent history. If consumption is lower than assumed, adjustment to the forecast and future rate expectations could be required. Higher than projected consumption could facilitate a smaller increase in rates, increased capital investment, or an increase in the Rate Stabilization Fund balance to offset further unforeseen expenses or revenue reductions.
- Changes in interest rates will affect the cost of new debt. Any significant increase in interest rates over the forecast interval will increase the cost of new debt to fund capital improvements. New debt will account for nearly one-quarter of debt service requirements by the end of the five-year forecast interval. Lower than anticipated interest rates would reduce borrowing costs and therefore revenue requirements.
- The forecast increases include best estimates of inflation over the forecast interval. An increase in the actual rate of inflation over the forecast inflation rate causes correspondingly higher rate increases.
- The last decade has seen a stark recovery from the Great Recession, with a strong rebound in all construction related fees and permits, most notably System Development Charges. The financial plan assumes construction activities will decline from levels experienced in recent years. If actual construction activity is less than the assumed level, System Development Charges and other construction related fees and permits would be lower than projected, putting pressure on other rates or requiring future expenditure reductions.
- BES has set a target of stable and consistent annual rate increases over the long-term. Decisions to reduce rates in a single year of the forecast (or material adjustments to strategic priorities) will alter the long-term path, impacting the bureau's risk profile, forecast assumptions, and future year revenue/rate requirements.







City of Portland  
**Requested Budget Equity Report**

---

**Bureau of Environmental Services**

**Requested Budget & Racial Equity Plan Update:**

**QUESTION:** How does the Requested Budget advance the achievement of equity goals as outlined in the bureau's Racial Equity Plan?

**BUREAU RESPONSE:** The Bureau of Environmental Services ("The Bureau") operates and maintains Citywide sanitary sewer and stormwater collection systems and serves a population of approximately 650,000. The Bureau is also the City's lead agency for watershed protection and restoration and recovery of threatened salmon and steelhead species. In FY2017-18, Environmental Services completed a comprehensive update to its 10-Year Strategic Plan and is actively using the Strategic Plan to prioritize operational and capital investments, to identify and utilize performance measures, and to guide development of the Bureau's FY2020-21 Requested Budget in a manner that provides for equitable service delivery. To that end, the program-offer narratives included in the Bureau's FY2020-21 Requested Budget include proposed budgetary adjustments that align with the Bureau's strategic and equity goals and priorities.

**QUESTION:** In what ways does the Requested Budget benefit Indigenous people, Black people, immigrants and refugees, people of color, and people with disabilities?

**BUREAU RESPONSE:** Environmental Services' Requested Budget for FY2020-21 has benefit to Indigenous people, Black people, immigrants and refugees, people of color, and people with disabilities because it aligns resources that allows programs to engage in activities and identify strategies for addressing equity related considerations impacting these various communities. The following are examples of programs and actions within the bureau that have been budgeted and which have benefits to Indigenous people, Black people, immigrants and refugees, people of color, venerable communities and people with disabilities.

- The Portland Harbor Program recognizes past and current inequities and is actively promoting equity and environmental justice through meaningful involvement of Portland's diverse communities in the cleanup. Environmental Services developed the Portland Harbor Community Involvement Program in partnership with community groups to ensure that those who are disproportionately impacted by the contamination and/or cleanup itself have an opportunity to be involved in the cleanup process. Among these communities are people who live near Portland Harbor or who have current or historical connections to it. This includes tribal members, urban Native peoples, Black people, communities of color, immigrants, refugees, people who are houseless, and people who are low-income. The Portland Harbor Program will also make funds available through dedicated community grants and sponsorships to build capacity, support public involvement, and ensure Superfund-affected communities have a voice in the remedy design phase through FY2021-22.

- The Portland Brownfield Program was created directly in response to an environmental

City of Portland  
**Requested Budget Equity Report**

---

The Portland Brownfield Program was created directly in response to an environmental justice initiative at the U.S. Environmental Protection Agency (EPA). According to a recent Metro report, brownfields are three times more likely to exist in underserved communities. The program provides financial assistance to clean up sites that will provide benefit to existing community. Project partners that have received assistance from the Portland Brownfield Program include Verde, Black United Fund, Oregon Food Bank, Hacienda CDC, Dharma Rain Zen Center, Albina Youth Opportunity School, Community Energy Project, Proud Ground and REACH CDC.

- The Environmental Services Tree Program (ESTP) prioritizes its work in areas with low-tree canopy, low-income residents and communities of color; a minimum of 75 percent of ESTP's trees are planted in these geographies.

**QUESTION:** In what ways does the Requested Budget negatively impact Indigenous people, Black people, immigrants and refugees, people of color, and people with disabilities?

**BUREAU RESPONSE:** Environmental Services is actively working to build equity literacy throughout the Bureau to enhance equity integration into Bureau programs and activities. As equity skills are further developed, the integration of equity into the Bureau's budget development process will improve in successive years. In recognizing this learning opportunity for Bureau members, the Bureau's FY2020-21 Requested Budget is not fully developed to address or mitigate the scope of disparities impacting Indigenous people, Black people, immigrants and refugees, people of color, and people with disabilities.

Additionally, the below-referenced programs and actions are ways in which the Bureau's Requested Budget has the potential to negatively impact the above-described communities. While these programs offer benefit, the benefits they provide can also negatively impact Indigenous people, Black people, immigrants and refugees, people of color, and vulnerable communities by contributing to the displacement of said communities.

- The Portland Brownfield Program's goal has been to address the environmental burden that brownfields create in neighborhoods. While the cleanup of brownfields has benefit to community, such initiatives can also serve as a risk factor for community destabilization.
- The Science, Fish & Wildlife Program works closely with regional tribes on protecting and restoring healthy fish populations of significant cultural importance, including salmon and lamprey, and on opportunity areas for traditional First Foods. The program also aids in understanding and responding to environmental justice issues in Portland, including evaluating climate impacts across Portland and disparate impacts on low-income communities. While the development of mitigation banks could facilitate development in the Lents/ Foster neighborhoods, for example, and potentially provide economic opportunities for low-income and racially diverse communities in this area, such initiatives also bring risk of displacing these communities. However, these opportunities and risks are being addressed by The Lents Stabilization Collaborative project.

City of Portland  
**Requested Budget Equity Report**

---

**Racial Equity Plan Link:**

<https://www.portlandoregon.gov/oehr/article/589635>

**Requested Budget Community Engagement:**

**QUESTION:** How has the bureau engaged with communities in the budget request to identify the priorities, particularly with Indigenous people, Black people, people of color, immigrants and refugees, multilingual, multicultural, and people with disabilities. How are these priorities reflected in this Proposed Budget?

**BUREAU RESPONSE:** Instituted on September 1, 2015, the Portland Utility Board (PUB) is a citizen oversight body for the Portland Water Bureau and Bureau of Environmental Services. The PUB also serves the budget advisory role for both utility bureaus. PUB's purpose is to advise the City Council, on behalf of and for the benefit of the citizens of Portland, on the financial plans, capital improvements, annual budget development and rate setting for the City's water, sewer, stormwater and watershed services. The Board advises Council on the establishment of fair and equitable rates, consistent with balancing the goals of customer needs, legal mandates, existing public policies (such as protecting water quality and improving watershed health), operational requirements and the long-term financial stability and viability of the utilities.

Environmental Services actively seeks input from the Portland Utility Board (PUB) to inform our communications, policy development, and budget decision-making. Additionally, the Bureau maintains an active relationship with the Oregon Citizens' Utility Board (CUB) as an advocate for residential ratepayers to advise on and inform Bureau priorities.

City of Portland  
**Requested Budget Equity Report**

---

**Base Budget Constraints:**

**QUESTION:** What are the insufficiencies in the base budget that inhibit the Bureau's achievement of equity or the goals outlined in the Racial Equity Plan?

**BUREAU RESPONSE:** The BES Strategic and Equity Plans were developed with the expectation that implementation work would be led and completed by existing staff. The FY2019-20 Adopted Budget includes funding in support of ongoing implementation of the Strategic Plan, including equity-related initiatives. The FY2019-20 Adopted Budget includes funding for the Bureau's two Equity Managers, and we anticipate that future budget cycles will include funding to accelerate and support prioritized initiatives of the BES Equity Plan.

Equity is woven throughout the Bureau's Strategic Plan. The Bureau has within its base budget funds for the continuation of employment of the Bureau's Equity Managers, as well as funding support to the Office of Equity and Human Rights through an interagency agreement for support and technical assistance in implementing the Bureau's Equity Plan. Although there are encouraging signs that the Bureau is advancing toward the equity goals identified in its Strategic and Equity Plans, the Bureau's equity work would benefit from more dedicated funding and personnel embedded throughout Bureau programs to broaden implementation of the strategies that have been identified to move the work forward. In this regard and given the need to expand equity literacy and fortify equity integration throughout the Bureau, the work can be considered under-resourced. Despite insufficiencies in resources, equity-centered work and implementation of the Bureau's Equity Plan progresses.

City of Portland  
**Requested Budget Equity Report**

---

**Notable Changes:**

**QUESTION:** Have you made significant realignments or changes to the bureau's budget? If so, how/do these changes impact the community? Is this different for Indigenous people, Black people, immigrants and refugees, people of color, and/or people with disabilities?

**BUREAU RESPONSE:** Early in development of the FY2020-21 Requested Budget, Group Managers and sponsors of budget adjustments were explicitly encouraged to consider impacts to underserved communities for all adjustments to their program budget, and to allocate resources that beneficially impact and advance the Bureau's overall equity strategy and outcomes. The Bureau's Equity Managers provided guidance and tools on budgeting for equity and applying an equity lens to the work.

Rooted in the goals of the Bureau's Equity Plan and Strategic Plan, Environmental Services has made budget alignments that invest attention and resources to areas that directly impact our relationship with underserved communities. The Bureau's FY2020-21 Requested Budget leverages existing community assets such as human, social, cultural and natural assets to more effectively engage with traditionally underserved communities. As the Bureau moves toward more mature integration of equity into its planning and project management activities, Bureau leadership will continue to assess and revise operational objectives based on the changing needs of community – especially those communities most vulnerable to the risks of aging infrastructure, climate change, and the increasing pace of growth within the City's service area.

Specifically considering equity objectives during the budget development process positions BES to achieve the goals and metrics outlined in its Equity and Strategic Plans. Specific adjustments in the Bureau's FY2020-21 Requested Budget that have equity-focused impacts include:

- Continued support for the City's Low-Income Discount Programs (managed by the Water Bureau) and low-interest, deferred loans to qualifying low-income homeowners for mandatory and nonconforming sewer connections.
- Continued allocation of funds for various programming and policy initiatives that directly support equity goals (examples: The Neighbor to River Trees and Vegetation Program (N2R) into racially diverse communities with limited income, and Brownfield Program assistance).
- New FTEs to facilitate delivery of capital projects.

City of Portland  
**Requested Budget Equity Report**

**Equity Manager Role in Budget Development**

**QUESTION:** If the bureau has dedicated equity staff, such as an Equity Manager, how were they involved in developing the bureau’s Requested Budget?

**BUREAU RESPONSE:** To support budgeting for equity bureau wide, Environmental Services’ Equity Managers developed tools and enhanced practices and procedures to facilitate embedding equity into the Bureau’s budget development process. The Bureau’s Equity Managers created budget guidance that was distributed bureau wide. The guidance provided Bureau members with information and strategies to aid the allocation or realignment of existing and requested resources with the Bureau’s Equity Plan during the budget development process. The guidance elevates a community-centered outcomes approach to the Bureau’s budgeting process, which allows for enhanced performance analysis and accountability, as well as intentional alignment of Bureau resources to bring about program-specific service delivery outcomes detailed in the Bureau’s strategic and equity plans. The Equity Mangers conducted presentations and workshops for Bureau managers and teams, created budgeting for equity tools to assist Bureau members in identifying equity goals and impacts, and provided targeted support, coaching, and feedback, as requested.

In addition, the Bureau’s Equity Managers provided equity-centered feedback on the Equity Impact statements of the Bureau’s Program Offers and drafted the Bureau’s response to this Budget Equity Assessment Tool.

<b>Equity Manager:</b>	Angela Henderson / Shyvonne Williams	<b>Contact Phone:</b>	503.823.7376 / 503.865.6027
------------------------	--------------------------------------	-----------------------	-----------------------------

**ADA Title II Transition Plan:**

**QUESTION:** If applicable, how is funding being prioritized to meet obligations related to Title II of the Americans with Disabilities Act and the bureau’s Transition Plan barrier removal schedule?

**BUREAU RESPONSE:** Environmental Services has prioritized funding to meet obligations related to Title II of the Americans with Disabilities Act through the Bureau’s website re-design which is improving ADA accessibility and overall customer navigability for residential and commercial customers. The intent of this project is to address strategic initiatives related to communication improvements, providing equitable (ADA) access and making a community-oriented website where services are easier to find, access, and translate for all customers. In addition, the Bureau provides translation services, as needed, and ensures there is funding to maintain this service to community.

City of Portland  
**Requested Budget Equity Report**

---

**Accommodations:**

QUESTION: What funding have you allocated in the bureau's budget to meet the requirements of ADA (Americans with Disabilities Act) Title II and Civil Rights Title VI? This includes but is not limited to:

- Funding for translation, interpretation, video captioning, and other accommodations
- Translation of essential documents into safe harbor languages
- Engagement efforts with multilingual and multicultural communities

BUREAU RESPONSE: Environmental Services' Communications Program directly supports improved access to Bureau services and has funding allocated for language resources and culturally specific outreach. In addition, the Bureau has allocated funding for the BES website re-design to improve ADA accessibility and overall customer navigability. The intent of this project is to address strategic initiatives related to communication improvements, providing equitable (ADA) access and making a community-oriented website where services are easier to find, access, and translate for all customers. The FY2020-21 Requested Budget includes funding for continuation of these efforts.

City of Portland  
**Requested Budget Equity Report**

**Capital Assets & Intergenerational Equity**

QUESTION: If the bureau has capital assets, how does the Requested Budget take into consideration intergenerational equity (ensuring that those who are currently benefiting from the service are paying for its upkeep versus placing the financial burden on future generations)?

BUREAU RESPONSE: Environmental Services factors equity considerations into the risk evaluation and capital project prioritization processes, and infrastructure investments are identified through planning efforts based on risk, condition and the consequence of failure for existing assets, and new requirements such as regulatory or capacity needs. Aligning equity considerations across and throughout system planning, project delivery, and operations aims to address intergenerational equity by protecting current and future generations from environmental harms, such as system failures and climate change. The Bureau has requested additional FTEs in FY2020-21 in effort to increase staffing to support delivery of planned high-risk CIP projects.

The majority of the Bureau’s CIP projects are financed by revenue bonds. Funding capital projects with long-term debt distributes the costs of the project over an extended period, aligning payment of costs with the users of the financed assets over time. This long-term financing option provides a stable payment structure that spreads the costs, risks, and benefits of a reliable infrastructure system across many years, and, in so doing, addresses intergenerational equity.

The Bureau is also in a financially strong position – due in large part to a healthy fund balance in the Rate Stabilization Fund – and continues to apply a financial planning strategy that supports long-term financial stability, while providing ratepayers with predictable and manageable rates over a multi-decade period.

Measure Title	PM 2017-18 Actuals	PM 2018-19 Actuals	PM 2019-20 YTD Actuals	PM 2019-20 Target	PM 2020-21 Target	Strategic Target
---------------	-----------------------	-----------------------	---------------------------	----------------------	----------------------	---------------------

	<p>QUESTION: How does the bureau use quantitative and qualitative data to track program access and service outcomes for different populations? Please provide the data source(s)</p> <p>BUREAU RESPONSE: Environmental Services uses quantitative and qualitative data to understand the impact and success of its equity efforts, as well as to guide future strategies or policies to proactively achieve continuous quality improvement and equity outcomes. For example, Environmental Services uses the Bureau of Human Resources’ dashboard to monitor and track recruitment and hiring outcomes, including regular updates of key data to the Bureau Leadership Team by the Environmental Services</p>
--	---

City of Portland  
**Requested Budget Equity Report**

---

**Data Tracking  
Methodology:**

Facilities and Administrative Services manager. Environmental Services also makes use of the Contracting Opportunities Program, which encourages the utilization of State of Oregon-certified Disadvantaged, Minority, Women, and Emerging Small Businesses (DMWESB) in Bureau contracting. The Bureau provides strategic support to DMWESB businesses on how to conduct business with Environmental Services and meet City business requirements. The Bureau has tracked DMWESB business utilization in contracting since 2009 and utilizes Procurement's Contract Compliance Reporting System (CCRS) to more thoroughly analyze contracting equity metrics and qualitatively assess this work.

The Bureau has also identified a preliminary set of metrics for use in development of the FY2020-21 Requested Budget. In FY2019-2020, the Bureau's Equity Team and members of the Bureau's management team participated in Citywide and Bureau-specific trainings on racially-centered results-based accountability (RBA). The race-centered RBA trainings introduced a methodology for creating metrics by centering racial equity, a philosophy that will be incorporated into metrics development moving forward.

Currently, there is an ongoing effort to establish a bureau-wide data management strategy. As part of that strategy, the Bureau formed an IT Governance Committee (ITGC) to develop an equity-centered process to evaluate and prioritize incoming IT/data initiatives.

**QUESTION:** What additional disaggregated demographic data will the bureau collect, track, and evaluate to assess equity impacts in community moving forward, and inform future budget decisions?

**BUREAU RESPONSE:** The Bureau's Stormwater System Planning (SWSP) identifies and quantifies stormwater system risk within an asset management framework. This allows Environmental Services to compare stormwater system risk across all parts of the City, assign priorities based on risk, and integrate stormwater projects with other infrastructure needs. Stormwater System Planning is an ongoing effort that guides Bureau investments in stormwater, prioritizing project areas, informing policies and practices to reduce risk, protect existing infrastructure, comply with regulations and improve watershed conditions to protect public health and the environment. The Stormwater System Plan (SWSP) approach is to build equity

City of Portland  
**Requested Budget Equity Report**

---

considerations into the planning phase, rather than waiting to consider it later at design. The methodologies developed and implemented aid the creation of a risk methodology and ranking system that is equitable and transparent across the City. SWSP is using the Bureau of Planning and Sustainability's data on vulnerable communities from the City's Comprehensive Plan to inform where and how the Bureau prioritizes future stormwater investments.

Other programs within Environmental Services also utilize U.S. Census information on vulnerable communities, a practice that will continue into FY2020-21. In addition, the Bureau's Equity and Workforce Development Manager is working with the Bureau of Human Resources to obtain bureau-specific data to advance equity in hiring, retention, professional development and advancement. In addition, the Communications Program Public Involvement team members are working to pilot a survey in FY2020-21 to collect demographic data (race/ethnicity and disability status, accommodation requests etcetera) of individuals served in the outreach process. To track and collect data, the Post Engagement Accommodation Questionnaire (PEAQ), a tool for helping capture data on community needs related to accommodation and translation at Bureau events, will be piloted.

Environmental Services hired a Data Strategist in FY2018-19 to develop and manage a strategy to efficiently collect and use bureau-wide data. The work of the Data Strategist will direct future information management priorities and budgetary decisions in FY2020-21.

---

City of Portland  
**Requested Budget Equity Report**

---

**Hiring, Retention, & Employment Outreach:**

QUESTION: Please take a look at the City of Portland's workforce demographic dashboard: <https://www.portlandoregon.gov/oehr/article/595121>. How does the bureau's Requested Budget support employee equity in hiring, retention, and inclusion, particularly for Indigenous people, Black people, immigrants and refugees, people of color, and people with disabilities?

BUREAU RESPONSE: To support employee equity in hiring, retention, and inclusion, the Bureau hired an Equity and Workforce Development Manager to lead development of strategic analyses to embed equity into all Bureau workforce development policies, practices, and operations in effort to expand and support a diverse workforce throughout the breadth of positions in the Bureau. The Equity and Workforce Development Manager employs a holistic approach to advancing equity in hiring, retention, and inclusion by leading the bureau in proactive implementation of equitable workforce development policies, practices, and actions, as well as helping to influence culture and attitudes within the Bureau that will produce related equitable outcomes. The Equity and Workforce Development Manager aligns strategies and Bureau efforts with the City's equity goals and the Bureau's Strategic and Equity Plans, and partners Citywide on strategies, champions internal and inter-bureau workforce development initiatives, and works closely with internal Bureau members. Although all strategies aim to diversify the Bureau's workforce in a manner that reflects the demographics of the region, the Bureau still has much work to do to ensure continued improvement in hiring outcomes, including equitable opportunities for professional growth and advancement. This work includes disaggregating demographic data, developing specific racial equity measures, and conducting additional racial equity analyses to inform and improve future efforts.

As the Bureau of Human Resources (BHR) rolls out tools in FY2020-21 for managing performance reviews and professional development Citywide, the Equity and Workforce Development Manager will continue to work with BHR and the Environmental Services' Employee Development Program to integrate equity priorities and workforce development and training opportunities into the Bureau's processes.

City of Portland  
**Requested Budget Equity Report**

---

## **Contracting Opportunities**

**QUESTION:** If applicable, how does the bureau's budget create contracting opportunities for disadvantaged, minority, women, and emerging small businesses (D/M/W/ESB)?

**BUREAU RESPONSE:** Environmental Services supports the Contracting Opportunities Program, which encourages the utilization of State of Oregon-certified Disadvantaged, Minority, Women, and Emerging Small Businesses (DMWESB) in Bureau contracting. The following are examples of ways in which the Bureau creates contracting opportunities for D/M/W/ESB firms:

- The Bureau Support Program manages The Contracting Opportunity Program, which performs extensive outreach within the Disadvantaged, Minority, Women, Service Disable Veteran and Emerging Small Business (D/M/W/SDV/ESB) contracting community to support and encourage contracting and subcontracting opportunities with Environmental Services. Equity considerations are written into grants, Intergovernmental Agreements (IGA) and contracts to encourage increased utilization of historically underutilized D/M/W owned businesses.
- As part of its management of construction contracts, the Construction Services Program ensures that contractors comply with minority subcontracting requirements, including D/M/W/ESB participation and other City equity-driven contracting opportunities.
- The Asset Construction Services Program ensures that contractors comply with minority subcontracting requirements, including D/M/W/ESB participation and other City equity-driven contracting opportunities. This program utilizes D/M/W/ESB firms for contracting professional services when needed.
- In FY2020-21, the Bureau's Project Management Office (PMO) will continue to monitor and encourage D/M/W/ESB firm utilization and works to support D/M/W/ESB firms through direct contracting whenever possible as a first preference (per established City thresholds). Additionally, the PMO will continue to provide direct support to D/M/W/ESB firms around navigating the City's contracting processes and Environmental Services' project delivery processes.
- In FY2018-19, Administration and Support Program (DIR) contracted with a D/M/W/ESB firm to initiate a process to restructure the Bureau's Committee for Workplace Excellence and associated subcommittees, and the work of this contractor will continue into the FY2020-21 fiscal year.

City of Portland  
**Requested Budget Equity Report**

---

**Engaging Communities Most Impacted by Inequities**

**QUESTION:** How does this budget build the bureau's capacity to engage with and include communities most impacted by inequities? (e.g., improved leadership opportunities, advisory committees, commissions, targeted community meetings, stakeholder groups, increased engagement, etc.)

**BUREAU RESPONSE:** To better engage with these communities, Environmental Services is focused on building internal capacity and Bureau members' awareness of diversity and equity issues that have direct to communities most impacted by inequities through its Service Delivery, Community Relationships and Workforce Development goals. Building this internal capacity or understanding among Bureau members (especially the shift in mindset from a deficit view of communities to an asset-based approach that includes community engagement) positions Environmental Services to engage with communities around the assets that unite all of us: Watershed health and its people.

In addition, the Bureau's Portland Harbor Program recognizes past and current inequities and is actively promoting equity and environmental justice through meaningful involvement of Portland's diverse communities in the cleanup. Environmental Services developed the Portland Harbor Community Involvement Program in partnership with community groups to ensure that those who are disproportionality impacted by the contamination and/or cleanup itself have an opportunity to be involved in the cleanup process. Among these communities are people who live near Portland Harbor or who have current or historical connections to it. This includes tribal members, urban Native peoples, Black people, communities of color, immigrants, refugees, people who are houseless, and people who are low-income.

The team currently meets and will continue to meet regularly with Portland communities to identify opportunities to: inform the cleanup; support transparency; ensure ongoing communication about the Superfund process; and advance efforts to achieve community benefits related to the cleanup. The Bureau is dedicated to active engagement of these communities throughout the cleanup process, and the Portland Harbor Program will also make funds available through dedicated community grants and sponsorships to build capacity, support public involvement, and ensure Superfund-affected communities have a voice in the remedy design phase through FY2021-22.

The combination of the various initiatives and investments presented in this year's and the FY2020-21 Requested Budget better positions Environmental Services to continue implementing the internal and external changes necessary to better serve all Portlanders.

City of Portland  
**Requested Budget Equity Report**

---

**Empowering Communities Most Impacted by Inequities**

QUESTION: How does this budget build community capacity and power in communities most impacted by inequities? (e.g., improved leadership opportunities within Bureau Advisory Committees, community meetings, stakeholder groups, increased engagement, etc.)

BUREAU RESPONSE: The Bureau's FY2019-20 Adopted and FY2020-21 Requested Budget, enable Environmental Services to focus on building community capacity to empower awareness of communities most impacted by inequities. The following examples are ways in which Environmental Services currently and will continue to do (es) so:

- The Community Watershed Stewardship Program coordinates with the City's New Portlander Program to provide partnership outreach activities to immigrant and refugee communities.
- The Columbia Slough Sediment Program coordinates with Community Engagement Liaisons to do outreach about sediment contamination and fish consumption to immigrant and houseless communities who fish in the slough.
- Watershed Management partners with the Johnson Creek and Columbia Slough Watershed Councils, which serve racially diverse and low-income neighborhoods in N, NE and SE Portland.
- The Portland Harbor Program actively promotes equity and environmental justice through meaningful involvement of Portland's diverse communities in the cleanup. Environmental Services developed the Portland Harbor Community Involvement Program in partnership with community groups to ensure that those who are disproportionately impacted by the contamination and/or cleanup itself have an opportunity to be involved in the cleanup process.



**ON THE COVER:** The Downtown-Old Town Sewer Repair Program is a multi-year and multi-million-dollar investment to assess the condition of and repair the aging public sewer system serving Portland's Downtown and Old Town neighborhoods. Pipes in these neighborhoods were originally installed in the mid-1800s after Portland was founded in 1845. Environmental Services has several projects in various phases of planning, design, and construction to repair deteriorating 100 to 150-year-old public sewer pipes.



ENVIRONMENTAL SERVICES  
CITY OF PORTLAND

working for clean rivers



The City of Portland Bureau of Environmental Services is committed to providing meaningful access. To request translation, interpretation, modifications, accommodations, or other auxiliary aids, please call 503-823-7740 or Oregon Relay Service 711.

Traducción o interpretación | Chiakun mak me chiakun fos | Chuyển Ngữ hoặc Phiên Dịch  
| 翻译或传译 | 翻訳または通訳 | Письменный или устный перевод |

Traducere sau Interpretare | Письмовий або усний переклад | Turjumida ama Fasiraadda |  
الترجمة التحريرية أو الشفهية | ການແປພາສາ ຫຼື ການອະທິບາຍ | अनुवाद तथा दोभाषे सेवा

 503-823-7740