

**Bureau of Environmental Services
Preliminary Budgets and Rates Forecast
As of January 19, 2016**

BES Average SFR Monthly Bill Forecast

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
	3.45%	3.60%	3.55%	3.55%	3.55%

(Amounts are in FY 2016-17 dollars)

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Staffing (FTEs)	537.11	553.11	559.11	559.11	559.11	559.11
Operating Budget	\$133.6 M	\$139.2 M	\$146.5 M	\$147.6 M	\$149.4 M	\$147.7 M
5-Year Capital Program	\$104.4 M	\$112.5 M	\$112.1 M	\$110.3 M	\$113.6 M	\$112.4 M
Bond Sales		\$157 M		\$191 M		\$204 M
Rate Stabilization Fund Balance	\$61.3 M	\$58.1 M	\$52.3 M	\$36.1 M	\$33.8 M	\$29.7 M

	<u>\$ Amount</u>	<u>FTEs</u>	<u>New Operating FTEs</u>	
Condition Assessment	619,076	3.00	3.00	
Strategic Planning Initiatives	292,528	3.00	2.50	
Regulatory/Permit Compliance	356,490	1.00	1.00	
Support for Continued Levels of Service	394,976	6.00	6.00	3.0 contract conversions
Capital Programs and Support	500,000	3.00	1.60	1.0 contract conversion
Emergency Preparedness	70,000	0.00	0.00	
	2,233,070	16.00	14.10	
Current Service Level (CSL included in base budget)	2,189,464			
<p>External Materials and Services reductions of <\$925,000>: <325,000K> Clean Water Services diversion payments; <728,000> 25% reduction in biosolids land application due to CIP Lagoon project; <185,000> blower repairs (cyclical); <267,000> one-time operating projects; +443,000 Cogener rehab and minor equipment replacement; +137,000 chair and workstation replacements (treatment plants, WPCL)</p> <p>Capital Outlay increases of \$3,070,400: +334,000 tools, cutters, inspection and close circuit TV equipment (151,000 is for PBOT-MO); 2,736,500 vehicle replacements (2,359,500 is for PBOT-MO, 377,000 for BES).</p>				
Total Decision Packages and CSL Adds	4,422,534	16.00	14.10	

FY 2016-17 Decision Package Requests

Short Description	Program	Cost Category	Amount	FTEs	Long Description
Private Property Retrofit Program: Stephens Creek S/W System Plan	Stormwater System Implementation & Tech Assistance	External Materials and Services	\$100,000		Private Property stormwater facility construction: implementing Stephens Creek pilot program of the Stormwater System Plan.
FTE - Environmental Specialist - Stormwater System Plan	Stormwater System Implementation & Tech Assistance	Personal Services	\$107,671	1.00	Data support for SWSP - replacing staff borrowed in FY 2016 and adding capacity.
Portable Flow Meter	Treatment Plant	Capital Outlay	\$20,000		Purchase of a portable flow meter is needed to monitor and analyze water use and perform condition assessment. The plant water demand at CBWTP is 6 MG per day. Water is obtained through deep well pumps (plant water), the water reuse facility, and lastly city water. The information from the meter will allow a water audit to be completed to determine the gap between how much plant water is available and what is needed so decisions can be made on water system capacity improvements such as the water reuse upgrade and the dewatering projects. It will also identify areas for water efficiency improvement. A tool such as this provides the means to gather information in very specific process areas and assets unlike the main water meters (2) that only have the ability to monitor lump sum water usage at the CBWTP. The meter also has the capability to determine pipe thickness, struvite or grease build-up, and leaks which will be used for pipe condition assessment. Additionally, the meter will be used at pump stations to identify deterioration of pump capacity by applying the portable meter to discharge pipes.
Condition Assessment - Digester Gas Piping	Treatment Plant	External Materials and Services	\$135,000		Condition assessment needs to be completed for the digester gas piping system at CBWTP. Several of the pressure reducing valves (PRVs) are releasing digester gas out of the system at times outside of the intended design parameters of the PRVs; therefore, it is suspected that there may be a blockage/obstacle or another type of condition deficiency in the system causing this to occur. In addition, the gas piping has not been inspected for approximately 20 years and it is over 40 years old. This condition assessment will allow us to evaluate the condition of the piping system to determine if any systems repairs are required while also providing information to assist in determining the remaining useful life of the piping and appurtenances. This includes four (4) 10-inch valve replacements @ \$15k each (\$60k); vendor inspection of lines @ \$35k; replacement of flex lines from each digester @ \$10k each (\$40k).
Condition Assessment - CBWTP & TCWTP Outfalls	Treatment Plant	External Materials and Services	\$50,000		The CBWTP and TCWTP outfall pipes are critical assets located under water that require regular inspections to ensure they are functioning properly. A sonar survey and diver inspection of the diffusers is recommended to be conducted 50' upstream and 50' downstream of each outfall (CBWTP OF1, OF3, and TCWTP OF) every 3 years. An extensive interior/exterior assessment is recommended to be performed every 5 years to assess the condition while also providing data for the TCWTP and CBWTP mixing zone studies which are on a 5 year cycle. The next 3 year survey and diffuser inspection is needed for CBWTP OF1 and TCWTP OF in FY16/17 and is estimated to cost approximately \$50,000. As part of this work, the CBWTP OF1 diffuser will be repaired as detailed in the last inspection in 2012. The next complete interior/exterior inspection and assessment for CBWTP OF1 and TCWTP OF is needed in FY 18/19 and is estimated to cost \$100,000. Based on the 2012 inspection, CBWTP OF3 has several buried diffusers so it will be assessed and modified as part of a standalone CIP project.
FTE - Condition Assessment (Maintenance Planner & Engineer) (2.00)	Treatment Plant	Personal Services	\$228,120	2.00	Positions are needed to develop, implement and sustain an ongoing condition assessment program for the treatment plants and pump stations. Work includes assessing the condition of assets and transitioning these assessments into capital project requests (i.e. RR&M) and/or maintenance strategies to improve work effectiveness and optimize asset life. Best results will come from the involvement of both maintenance and engineering expertise thus why positions from both professions are being requested. Condition assessment is an essential component of a comprehensive and robust utility/asset management program. By better understanding the condition of facilities, systems and assets, BES can make strategic reinvestment decisions to address facility or asset issues. Connecting asset condition and risk-based decision making to reliably meet an established LOS provides the best opportunity to subsequently a) optimize reliability, b) extend useful life, c) lower life costs that meet LOS, and d) develop an effective maintenance strategy.

Condition Assessment \$640,791 3.00

FY 2016-17 Decision Package Requests

Short Description	Program	Cost Category	Amount	FTEs	Long Description
Payment to Lower Willamette Group (LWG)	Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)	External Materials and Services	(\$100,000)		Currently assume that Portland Harbor Record Of Decision will be issued in FY 2016-17 at the earliest. Estimates beyond FY 2016-17 anticipate a delay in receiving and paying invoices for EPA, DEQ, Tribal, administrative review close out costs, oversight costs, etc.
Portland Harbor Communications	Environmental Response, Compensation and Liability Act (CERCLA)	External Materials and Services	\$100,000		Record Of Decision is expected to be issued in late FY 2016-17. There will need to be an public engagement process and coordination with the City Council offices and other bureaus.
Offset to Portland Harbor Project Manager (Fall BMP)	Environmental Response, Compensation and Liability Act (CERCLA)	External Materials and Services	(\$109,500)		Offset required to fund Portland Harbor position. Mirrors the Fall BMP request.
Portland Harbor Project Manager (Fall BMP) - LT made Permanent	Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)	Personal Services	\$109,500	1.00	The Senior Program Manager position is needed to plan, organize and manage work related to Portland Harbor and the bureau's reponse and work related to the Portland Harbor remediation plan. This position is also coordinating internal and external communications and manage the PH public engagement process. This position was established in summer of 2016 and will be made permanent.
Capital Planning and Asset Management	Asset Systems Management	Personal Services	\$70,710	1.00	Increased modeling support for planning and CIP.
Professional Services contract support for SWSP	Stormwater System Plan	External Materials and Services	\$100,000		PTE support for Stormwater System Plan
Principal Business Systems Analyst	Info Management	Personal Services	\$129,658	1.00	Position will be responsible for organizing and implementing a Bureau-wide data management strategy, and will offload responsibility from the Mapping, Data and Application Services (MDAS) Division Manager allowing sharper focus on other mission-critical tasks. It is anticipated that this is a first, critical component of a longer-term Bureau effort to better utilize data to aid planning efforts, operational efficiency and decision-making.

Strategic Planning Initiatives \$300,368 3.00

FY 2016-17 Decision Package Requests

Short Description	Program	Cost Category	Amount	FTEs	Long Description
FTE - Water Resources Program Manager	Environmental Compliance	Personal Services	\$123,385	1.00	Position will be science-technical lead for CBWTP and TCWTP NPDES permits implementation, compliance, and renewal negotiation.
Columbia Slough Watershed - Mandatory 10-yr Contaminant Sampling Reporting	Columbia Slough	External Materials and Services	\$40,000		Mandatory Action: a large & infrequent expense. The DEQ issued Record of Decision (ROD) establishes mandatory 10 yr sediment sampling events. The City must implement the ROD to meet state and federal requirements for cleanup of contaminated sediment in the Columbia Slough. Budget requests reflect work plan followed by sampling and reporting.
Private Property Retrofit Program: Slough Sediment	Stormwater System Implementation & Tech Assistance	External Materials and Services	\$100,000		Private Property stormwater facility construction to manage contamination issues, in response to DEQ ROD and on-going negotiations.
NPDES New Permit Sampling and/or Studies - TCWTP	Treatment Plant	External Materials and Services	\$96,400		Anticipated funding for sampling and/or studies associated with a new TCWTP permit. Confidence rating on the numbers and schedule are low at this time and based on the most recent proposed permit. Projected funding is based on: FY 2016-17 (Tier 1 Analysis, Nutrient Scan, Mixing Zone Study and Bioassay).

Regulatory/Permit Compliance \$359,785 1.00

FY 2016-17 Decision Package Requests

Short Description	Program	Cost Category	Amount	FTEs	Long Description
Facility Maintenance	Water Pollution Control Lab	Internal Materials and Services	\$44,720		Restore O&M to effective maintenance levels, eliminate deferred maintenance and improve service.
Landscape Maintenance	Water Pollution Control Lab	Internal Materials and Services	\$53,364		Restore Parks IA back to needed service levels to provide effective maintenance, restore grounds to intended aesthetic appearance, and replace plantings as appropriate with reduced maintenance hybrid-native vegetation.
Tech I - Coordinated Site Analysis	Environmental Investigations	Personal Services	\$66,111	1.00	This position will take on a majority of the less technical work (field sampling, database research, data entry, records management, obtaining permits etc.) of this section, freeing up time for engineering staff, hydrogeologist, and the environmental specialist, and reducing the amount of services needing to be provided via on-call Professional Services Agreements.
Tree Program Seasonal Staff (CSA1 and CSA2)	Tree Program	Personal Services	(\$227,160)		Convert Seasonal-Casual staff to FTE positions
Tree Program FTE (Two-Env. Tech I, One-Env. Tech II)	Tree Program	Personal Services	\$220,771	3.00	Hire 2 Env. Tech I and 2 Env. Tech II positions for Tree Program
Maintenance - Treatment Plants	CBWTP & TCWTP	External Materials and Services	\$198,000		This funding is required to perform timely mechanical, electrical and instrumentation maintenance on existing assets to sufficiently meet levels of service. The Bureau has been expanding its facilities over the last 10 years with the completion of new projects such as the dry-weather clarifier expansion, wet-weather screening house, CEPT, digester expansion, Portsmouth odor control facility, digester mixing and the secondary process improvements. Since 2005, thousands of assets have been added yet the budget for parts and supplies to repair and maintain them has not adequately increased. We also have critical infrastructure that is reaching the end of its useful life resulting in decreased reliability and resiliency and additional maintenance and repair work until they can be addressed in the Capital Improvement Program.
Fleet - Replacements, Renewable Clean Natural Gas (CNG)	CBWTP Fleet	Capital Outlay	(\$288,000)		Fleet replacement schedule is based on an asset management approach. Adequate replacements improve O&M production and financial investment. It allows for the right assets to accomplish the necessary work, more reliable assets with increased up-time, and ultimately lower costs. This replacement schedule includes additional funding to convert some of the vehicle replacements to bi-fuel (RCNG and gasoline) in preparation for biogas (Renewable CNG) fueling facility that is estimated to start up in FY18 at CBWTP. Some replacements have been moved up to the first three fiscal years and replacement costs have been increased by approximately \$10k per vehicle. NOTE: An application for a tax credit will be submitted by March 2016 to pursue reimbursement for some of these costs. The time period for the credit is three (3) years, FY17 - FY19.
FTE - Treatment Operations (WW Operations Specialist) (1.00)	Treatment Plant	Personal Services	\$96,180	1.00	systems have continued to be added to the plant. Recent addition of the Wet Weather Screening Facility, CEPT, additional grinders at DWCL, modification of the Wet Weather Effluent Flow Control Structure, Secondary Improvements, Digester Mixing Improvements and the new stormwater pump station (in progress) have all added a large number of assets. The Op Specs have been tasked with ensuring this new equipment is operating properly, that operational Predictive Maintenance (PM's) are done as well as having a newly heightened level of responsibility of lockout-tagout procedures whenever equipment is maintained by other crafts. Additionally, with the large number of capital projects currently in progress and on the horizon, Op Spec involvement with these projects is expected to take more time compared to past years. Op Spec duties have also increased at Tryon Creek Wastewater Treatment Plant. 2) Operations' SOPs need to be updated as an extension project once the O&M Plan is complete. There are hundreds of SOPs with many of them needing to be updated in order for staff to have clear direction on system operations and for knowledge transfer since some experienced supervisors and staff will be retiring in the next several years. Op Specs will not only be involved in updating existing SOP's, but will be assisting to write new ones. One of the very large initial steps will be for them to identify SOP's that need to be updated and where SOP's are missing. This in itself will be a major undertaking requiring additional resources.
Windows Tablet (Surface Pro) Mobilization - Hardware Only	Info Management	External Materials and Services	\$94,800		Approximate cost: \$2,370/ea x 40 staff = \$94.8K ('16/17) cost reflects \$1300 for device, \$200/ea for docking stations, 2015/2016 BTS annual laptop support rate of \$870/yr (does not include a Lifecycle Replacement fund, as BTS is unsure if this will be included in support costs). \$34,800 are the BTS hardware support costs (\$870/yr x 40 devices), based on posted '15/'16 BTS rates: < http://www.portlandoregon.gov/bts/article/489934 >
IPS Mobile Solution - Software Implementation	Info Management	External Materials and Services	\$70,000		(Software) New IPS Mobile Module, Licensing = \$2K/ea x 30 staff = \$60K (20% annual maint, 3% escalation) + \$10K rollout/set up costs
Office Support Specialist III	Facilities	Personal Services	\$77,089	1.00	workload need for increased personnel movement/actions

Support for Continued Levels of Service \$405,875 6.00

FY 2016-17 Decision Package Requests

Short Description	Program	Cost Category	Amount	FTEs	Long Description
Maintenance - Emergency Generators	Maintenance-Pump Stations	External Materials and Services	\$20,000		Annual funding is needed for a newly established predictive maintenance program for standby (emergency) generators. This includes a fuel test (test kit) every 6 months for water and microbial and annual comprehensive fuel sampling Utilities
Emergency Preparedness	Emergency Management	External Materials and Services	\$50,000		The majority of this funding is for emergency preparedness kits that will improve the resiliency and continuity of operations of the bureau in the event of a natural disaster. Individual kits will be provided to every bureau employee to encourage personal emergency preparedness and larger kits will be placed throughout the City at bureau reporting and alternate reporting locations. Additionally a smaller amount of funding is being requested to support miscellaneous on-going needs for the bureau emergency management program.
Emergency Preparedness			\$70,000	0.00	

FY 2016-17 Decision Package Requests

Short Description	Program	Cost Category	Amount	FTEs	Long Description
Wastewater Treatment Engineering Design	Design Services	Personal Services	\$0	1.00	Convert existing contract position (PTE/Goods and Services) to City Design Engineer. Personnel only. 100% CIP funded.
Wastewater Treatment Engineering Design	Design Services	External Materials and Services	\$0		Reduction in PTE/Goods and Services for contract employee (City Design Engineer) above.
Material Testing Lab Technical Support	Materials Testing	Personal Services	\$88,550	1.00	Convert existing contract position (PTE/Goods and Services) to City Material Testing Technician. Three remaining contract positions will remain as contract. (note: this budgeted in operating and reimbursed from the CIP through MTL rates.
Material Testing Lab Technical Support	Materials Testing	External Materials and Services	(\$88,550)		Reduction in PTE/Goods and Services for contract employee (City Material Testing Technician) above.
Hydraulic Modeling	Asset Systems Management	External Materials and Services	(\$50,911)		Reduce PTE funds for Hydraulic Modeling. Use funds to convert contract employee to FTE. 60% is operating funded, 40% CIP funded. The plan reduces PTE support to zero in FY 2016-17.
Hydraulic Modeling	Asset Systems Management	Personal Services	\$50,911	1.00	Convert additional contract employee to FTE for Hydraulic Modeling. 60% is operating funded, 40% CIP funded.
Private Property Retrofit Program: combined basins	Stormwater System Implementation & Tech Assistance	External Materials and Services	\$500,000		Private Property stormwater facility construction in support of CIP projects: including rain garden and downspout on-call contract services, plants and recording fees.
Capital Programs and Support			\$500,000	3.00	