

### Overview of Facilities and Programs

Seattle Public Utilities (SPU) is responsible for maintaining the network of sewer and drainage systems throughout the City of Seattle. The system includes approximately:

- 530 miles of sanitary sewers
- 500 miles of storm drains
- 1,000 miles of combined sewers
- 768 pump stations
- 93 permitted combined sewer overflow outfalls
- 277 storm drain outfalls
- 34 combined sewer overflow control detention tanks/pipes

Seattle Public Utilities' Capital Improvement Program (CIP) is the vehicle for maintaining, upgrading, and expanding this infrastructure, as well as constructing projects that protect, conserve, and enhance our region's environmental resources. The overriding goal of the CIP is to ensure facilities are properly constructed and maintained, and regulatory requirements are met. Projects in the CIP are also guided by various federal regulations, City policies, long-term plan documents, and the SPU Asset Management Committee (AMC) benefit criteria. Many Drainage and Wastewater (DWF) CIP projects are outlined in the Combined Sewer Overflow Reduction Plan and the Comprehensive Drainage Plan.

Historically, the DWF CIP has been funded primarily by revenue bonds. However, new DWF financial policies adopted in 2003 gradually increase cash contributions from the Utility to the CIP to 25% of total CIP costs, by 2007. Overhead costs for the CIP are budgeted in the Seattle Public Utilities operating fund and are reimbursed as CIP expenditures are incurred.

### Highlights

- **Combined Sewer Overflow (CSO) Program:** Approximately \$30 million is included in the 2006-2011 Proposed CIP for the Combined Sewer Overflow Program. In many parts of Seattle, sewage and stormwater flow together in pipes through a Combined Sewer System. Heavy rains may cause these pipes to fill, causing overflows through outfalls into Lake Union, Lake Washington, or Puget Sound. Projects in the 2006-2011 Proposed CIP respond to federal regulations requiring that the City monitor and reduce CSOs. The South Lake Union (SLU) Combined Sewer Overflow –King County project coordinated and jointly funded by the City and King County, was completed in 2005 and is in close-out phase of the project. Other large construction projects identified in the 2001 CSO Reduction Plan (Plan) are being delayed to realize savings through optimization of the existing facilities prior to construction of large storage projects.
- **Flood Control, Local Drainage and Water Quality:** The City's Comprehensive Drainage Plan (CDP), originally written in 1988, was updated in 2004 to address flooding and water quality needs in a systematic manner citywide, and to establish a long-term schedule of both capital improvements and operating programs. This work is also intended to comply with the requirements of the pending renewal of Seattle's Federal Stormwater Permit. The CIP includes projects to implement both the CDP and the Mayor's Restore Our Waters Strategy to protect Seattle's aquatic environment. The CIP also includes funding from the Cumulative Reserve Subfund for an assessment of City-owned facilities stormwater for code compliance.
- **Habitat and Sediments:** The City of Seattle is named as a potentially responsible party (PRP) for the Duwamish River Superfund Site because of alleged contamination of sediments in the river from CSO and storm drain discharges. The City continues to work with the Washington State Department of Ecology (Ecology), King County, and other PRPs on an assessment of contaminants and sources.

### Project Selection Process

SPU has adopted an Asset Management approach for selecting which projects to build. This is a triple bottom line approach in which projects are evaluated on their economic, social and environmental benefits and their ability to meet customer service levels. The approach provides an elaborate analytical and modeling framework to find the most economical balance between capital investments and operation and maintenance expenditures to minimize life cycle costs of any facility.

A committee of senior SPU executives, the Asset Management Committee (AMC), reviews each project valued at \$250,000 or more and assures that only projects that meet the benefit criteria move forward. Several projects have been dropped, as their costs were higher than their benefits. Several cost-effective master planning efforts were approved to create up-to-date improvement and upgrade plans for several groups of assets. Other projects have been expanded or expedited because their benefits exceeded their costs.

### Program Category Summaries

The Drainage and Wastewater CIP totals almost \$42 million in 2006 (including Technology projects funded by the Drainage and Wastewater Fund, displayed in a separate section of this CIP). It is composed of 10 program categories, summarized below. A detailed listing of all projects in the Drainage and Wastewater CIP follows this overview.

**Combined Sewer Overflow (CSO):** This program contains projects to plan, design, construct, and monitor facilities to control overflows from the combined and partially separated sewer system areas. Of the 105 CSO points, control technologies have been applied to 99. Monitoring of the effectiveness of these controls has resulted in SPU initiating additional work at a number of locations, as noted in the adopted CSO Plan amendment. The adopted CSO Plan amendment also discusses the plan for control of those CSO locations where work has not yet been completed.

**Flood Control and Local Drainage:** This program makes improvements to the City's drainage system to address flooding and provide neighborhood drainage systems. The program continues SPU's expanded role in addressing flooding and installing Natural Drainage System projects to reduce runoff and improve water quality in areas without full street improvements. The program provides funds for major drainage projects including the High Point Drainage System, the Pinehurst Natural Drainage System, and the MLK Way/Norfolk St. Storm Improvement project. The program also funds projects identified in the City's neighborhood plans, such as flood control projects in the Thornton Creek and Densmore Drainage Basins.

**General Wastewater:** This program funds studies to assess the need for system improvements, projects to improve system capacity and reliability, facility upgrades, equipment purchases, and joint projects with other agencies to improve the wastewater system. For 2006, a Pump Station Improvements program will begin to design and construct projects identified in the Pump Station Rehab Study.

**Habitat and Sediments:** This program funds sediment remediation studies and analyses as well as cleanup of contaminated sediment sites in which the City is a participant. In 2006, the South Park Soil Project is included in this program. The project funds long-term mitigation of PCB contamination discovered in South Park across the street from the Terminal 117 Superfund Early Action cleanup site. Starting in 2005, as per Ordinance 121796, this program includes the Sediment Remediation – Drainage project.

## SPU – Drainage & Wastewater

**Other Drainage:** This program makes improvements to the City's drainage system through partnerships with other agencies. The program also includes funding for other capital costs, such as heavy equipment, and for projects that improve the efficiency of the overall drainage program. In 2006, the program provides funds for drainage designers for the Seattle Department of Transportation (SDOT) to design the drainage portion of street improvements.

**Protection of Beneficial Uses:** This program makes improvements to the City's drainage system to reduce the harmful effects of stormwater runoff on creeks and receiving water bodies by improving water quality and protecting or enhancing habitat. The program includes projects to improve water quality, protect creeks, meet regulatory requirements and use best available science to meet community expectations for habitat.

**Public Asset Protection:** This program makes improvements to the City's drainage system to reduce the risk to City infrastructure (such as roads and utilities) from landslides and to control stormwater runoff on steep hillsides so that stormwater does not contribute to landslides. The program includes funds for projects such as the SW Prescott/Admiral Way and the Burke Gilman/NE 144<sup>th</sup> landslide mitigation projects.

**Sewer Rehabilitation:** This program rehabilitates the City's collection system of sewer pipes. The Department establishes priorities for the program primarily based on the results of closed circuit television (CCTV) inspections and an asset management criticality analysis. The program funds full and partial replacement of sewer line segments, point repairs, and lining of pipes, as well as costs for emergency repairs.

**Shared Cost Projects:** This program includes capital improvement projects that receive funding from multiple SPU funds. In 2006, the program includes funding for the Alaskan Way Viaduct & Seawall, Facility Improvements, the SPU Operations Control Center Upgrade, a Utility Payment Center and Sound Transit Light Rail.

**Technology:** This program makes use of recent technological advances to increase the Department's efficiency and productivity. Drainage and Wastewater-supported technology projects are shown grouped with other technology projects following the Department's three CIP sections. In 2006, SPU will continue analyzing and evaluating data and systems to move drainage billing from the King County property tax system to the City's drainage billing system.

### **Anticipated Operating Expenses Associated with Capital Facilities Projects**

For most projects in the Drainage and Wastewater CIP, there are no new 2006 operations and maintenance costs, or these costs have not been calculated (N/C). In these cases, the cost impacts of the projects are either insignificant or offset by cost savings realized by other projects.