

RWSP Cost Estimates

RWSP reporting policies call for including in RWSP annual reports an update of the RWSP cost estimates through the year 2030. The cost estimates presented in this chapter include estimates for projects in various stages of development including planning, predesign, final design, and construction. Costs of completed RWSP projects are also included.

Details on RWSP capital projects in design and construction are provided as Appendix B. In accordance with RWSP reporting policies, the appendix presents a schedule, an expenditures summary (including staff labor and miscellaneous services), a description of any adjustments to costs and schedules, and the status of contracts for each project as of December 31, 2008.

This chapter presents the following:

- Discussion of the accuracy of cost estimates
- A table that compares 2008 and 2007 cost estimates
- Explanation of the entries in the cost comparison table
- Presentation of cost estimates organized by four categories: (1) completed RWSP projects; (2) Brightwater cost trend update; (3) RWSP projects in design or construction; and (4) projects planned for the future
- Information on the Wastewater Treatment Division's (WTD) Productivity Initiative Pilot Program.

9.1 Accuracy of Cost Estimates

The accuracy of cost estimates increases as projects become more defined and are specified in greater detail. Often the scopes of work and estimated costs for projects in the planning phase will change significantly as more detailed information becomes available over time.

Planning-level cost estimates are based on generic facility concepts. Specific details of a project such as location, technologies, and environmental impacts and potential mitigation of such impacts are determined later during project predesign. Costs for projects in planning can have a rough order-of-magnitude estimate in the range of -50 to +100 percent.^{1, 2} By the time a project enters the construction phase, estimates typically narrow to a range of -10 to +15 percent of the final cost.

¹ Project Management Institute's *A Guide to the Project Management Body of Knowledge*, third edition, 2004.

² Order-of-magnitude estimates are estimates without detailed engineering data; they are often referred to as "ball park" estimates.

King County assumes a standard increase of 3 percent per year in projecting costs for its wastewater projects to account for price increases in project components such as materials, labor, equipment, supplies, and contractor markups. This rate is used because it closely approximates the actual rate of inflation over a long period of time.

9.2 Table Comparing 2008 and 2007 RWSP Cost Estimates

Table 9-1 summarizes the 2008 RWSP cost estimates and compares them to the 2007 cost estimates. The 2008 estimate for implementing the projects and programs associated with the RWSP through 2030 is approximately \$3.35 billion in 2008 dollars, an increase of about \$24 million, or 0.69 percent, from the 2007 RWSP cost estimate of \$3.33 billion in 2008 dollars.

Total project cost estimates reflect anticipated costs from the initial planning stage through construction and startup. The estimates also include the costs for RWSP projects that have been completed and projects that are in the planning, design, or construction phase. Nearly one-fourth of the total 2008 RWSP cost estimate represents planning-level costs. As noted earlier in the chapter, planning-level cost estimates have a rough-order-of magnitude estimate in the range of -50 to +100 percent.

A complication to providing a meaningful comparison of costs is that the RWSP is an ongoing plan that includes expenditures incurred in the past plus expenditures planned for the future. In presenting the comparison shown in Table 9-1, expenditures that have occurred through 2008 are included at their original value and future expenditures, planned for 2009 to 2030, are adjusted for inflation to a base year of 2008.

An explanation of the columns and categories (including cost changes in each category) follows the table.

Table 9-1. Comparison of 2007 and 2008 RWSP Cost Estimates (1999–2030)

RWSP Element	2007 RWSP Cost Estimates (2007\$ x 1M)	2007 RWSP Cost Estimates (2008\$ x 1M)	2008 RWSP Cost Estimates (2008\$ x 1M)	Cost Change (2008\$ x 1M)
Total RWSP	\$3,264	\$3,328	\$3,351	\$24
Total Brightwater Treatment System^a	\$1,732	\$1,764	\$1,764	--
Brightwater Treatment Plant	\$623	\$638	\$647	\$9
Brightwater Conveyance	\$861	\$877	\$867	(\$10)
Land and Right-of-Way	\$102	\$102	\$103	\$1
Mitigation	\$145	\$147	\$147	--
Total Treatment & Odor Control Improvements	\$174	\$177	\$185	\$8
Odor Control at South Plant	\$7	\$7	\$8	\$1
West Point Odor Control	\$2	\$2	\$1	--
West Point Digestion Improvements	\$6	\$6	\$10	\$4
King Street Regulator Odor Control Project	\$5	\$5	\$6	\$1
South Plant Expansion	\$109	\$113	\$113	--
Vashon Treatment Plant Upgrade	\$22	\$22	\$22	--
Carnation Treatment Plant	\$20	\$20	\$22	\$2
Chinook Wetlands Enhancement	\$3	\$3	\$3	--
Total Conveyance System Improvements (CSI)	\$791	\$804	\$821	\$17
Completed CSI projects, acquisitions, and planning	\$172	\$172	\$172	--
CSI projects in design or construction in 2008	\$192	\$193	\$210	\$17
Planned CSI projects, acquisitions, and planning	\$426	\$439	\$439	--
Total Infiltration/Inflow (I/I) Reduction^b	\$44	\$44	\$42	(\$2)
Total Combined Sewer Overflow (CSO) Control	\$456	\$469	\$471	\$1
CSO Control Projects ^c	\$400	\$412	\$412	--
CSO Planning and Updates	\$8	\$9	\$10	\$1
Sediment Management/Lower Duwamish Superfund	\$47	\$48	\$48	--
Total Reclaimed Water	\$41	\$42	\$42	--
Technology Demonstration (completed in 2004)	\$1	\$1	\$1	--
Future Water Reuse	\$6	\$6	\$6	--
Water Reuse Satellite Facility (cancelled in 2003)	\$5	\$5	\$5	--
Reclaimed Water Backbone	\$25	\$26	\$26	--
RWSP Water/Wastewater Conservation (completed in 2005)	\$1	\$1	\$1	--
Reclaimed Water Comprehensive Plan	\$3	\$3	\$3	--
Water Quality Protection (completed in 2006)	\$16	\$16	\$16	--
Habitat Conservation Plan (HCP)/ Programmatic Biological Assessment	\$8	\$8	\$8	--
RWSP Planning and Reporting	\$2	\$2	\$2	--

Notes: All costs in 2008 column are as of December 31, 2008; projects shown are not exhaustive, but are listed to illustrate changes. Totals may not add because of rounding to the nearest million. Expenditures that have occurred through 2008 are included at their original value.

^a The Brightwater cost estimates are shown in constant dollars to be consistent with other components of total RWSP costs. Section 9.4.2 of this chapter discusses presenting Brightwater costs in nominal dollars, consistent with the Brightwater Cost Update: Current Conditions and Trends, January 2009.

^b Design and construction costs for the initial I/I reduction projects are funded by the CSI program in accordance with the recommended program approved by the King County Council in 2006; therefore, costs associated with these projects are not shown in this line item.

^c The 2007 and 2008 cost estimates for the CSO control projects are the 1998 planning-level estimates adjusted for inflation. Updated estimates for the CSO Puget Sound Beach projects are anticipated at the end of pre-design. Planning-level cost estimates for the remainder of the CSO control projects are expected to be updated as part of the 2011 CSO Control program review.

9.3 Explanation of RWSP Cost-Estimate Comparison Table

Table 9-1 includes four columns:

- **2007 RWSP Cost Estimates (2007\$ x 1M) column.** This column shows the 2007 RWSP cost estimates that were developed based on project details as of December 31, 2007, and that were presented in 2007 dollars in the RWSP 2007 Annual Report. The 2007 cost estimates include costs expended through 2007 at their original value and costs anticipated for 2008 through 2030 adjusted for 3 percent inflation to a base year of 2007.
- **2007 RWSP Cost Estimates (2008\$ x 1M) column.** This column shows the 2007 RWSP cost estimates adjusted to 2008 dollars to create a common base for comparison with current estimates. Adjustments for inflation are based on the assumption of a standard increase of 3 percent per year. Expenditures that occurred through 2007 are included at their original value and not adjusted for inflation.
- **2008 RWSP Cost Estimates (2008\$ x 1M) column.** This column shows the 2008 cost estimates in 2008 dollars that were developed based on project details as of December 31, 2008. Future expenditures—costs anticipated for 2009 through 2030—have been adjusted for 3 percent inflation to a base year of 2008. Expenditures that occurred through 2008 are included at their original value.
- **Cost Change (2008\$ x 1M) column.** This column shows the changes in cost estimates from the 2007 cost estimates to the 2008 cost estimates in 2008 dollars.

The following sections provide more information on each category presented in Table 9-1.

9.3.1 Brightwater Treatment System

Brightwater costs planned for 2009 through 2012 have been adjusted to 2008 dollars to be consistent with the other RWSP costs. This is a different approach than the one used in the cost trend reports that are published annually.

The Brightwater 2008 cost estimate indicates a decrease in costs of 0.02 percent or \$300,000 from the 2007 estimate. Because costs are rounded to the nearest million in Table 9-1, the table shows no change in the Brightwater costs from the 2007 estimate.

The Brightwater January 2009 cost trend update, which presents the Brightwater costs in nominal dollars (includes inflation), expresses the Brightwater cost trend in a range and indicates a decrease in costs of 0.13 percent (\$2.3 million) to an increase in costs of 2.33 percent (\$42 million) from the January 2008 cost trend update. The Brightwater cost trend update is discussed later in this chapter.

Chapter 2 provides more information on the Brightwater Treatment System.

9.3.2 Treatment and Odor Control Improvements

Costs for treatment and odor control improvements include treatment plant improvements and specific odor control improvements that result from implementing RWSP policies. The 2008 cost estimate for these projects is \$185 million, an increase of about \$8 million from the 2007 cost estimate. The following sections describe the projects and programs that make up the total cost estimate for this category.

- **Odor Control at South Plant.** The lifetime cost for this project increased by approximately \$900,000. This increase is attributed to the additional structural work that was required to support the aeration basin covers.

This project was complete as of summer 2008. No additional expenditures are expected for this project. The next phase of odor control will have a new project number.

- **West Point Odor Control.** The lifetime cost for this project decreased by approximately \$200,000 because it was determined that a structural canopy intended to cover the sodium hypochlorite storage tank was not needed. Because costs are rounded to the nearest million in Table 9-1, the table shows no change in the cost change column for this project.

Closeout activities for this project were completed in 2008. The 2008 cost estimate reflects the total expenditures for this project.

- **West Point Digestion Improvements.** The 2008 cost estimate for this project increased by approximately \$4 million from the 2007 cost estimate. This change reflects updated construction cost estimates based on the final predesign report. Baseline costs will be developed during final design, which is expected to be complete in 2010.
- **King Street Regulator Odor Control Project.** The 2008 cost estimate for this project increased by approximately \$700,000 from the 2007 cost estimate. This increase is attributed to necessary project changes, such as changing the structure to a buried facility, meeting requirements for a deep pile foundation design, disposing of contaminated on-site soils and groundwater, and adding an above-grade security enclosure to house electrical switch gear.
- **South Treatment Plant Expansion.** Because the South plant expansion is planned for 2029, the cost estimate for this project has not been updated since the 1998 RWSP cost estimate. The current estimate of \$113 million reflects the 1998 preliminary planning-level estimate adjusted for inflation, using the 3 percent per year assumption, to 2008 dollars.
- **Vashon Treatment Plant Upgrade.** There were no cost changes from the 2007 cost estimate for this project. It was completed in spring 2007; closeout activities are expected to be complete in 2009.
- **Carnation Treatment Plant.** The lifetime cost for this project increased by approximately \$2.5 million from the 2007 cost estimate. This change is attributed to (1) extending the project schedule to accommodate weather-related delays and equipment delivery delays and (2) the need for minor engineering and construction improvements,

which also resulted in the need for additional project management and project control services. The Carnation plant began operating in spring 2008; close-out activities are expected to occur in 2009.

- **Chinook Wetlands Enhancement.** There were no cost changes for this project from the 2007 cost estimate. This project is complete and no additional expenditures are expected.

9.3.3 Conveyance System Improvements

The 2008 cost estimate for RWSP conveyance system improvements is \$821 million, an increase of approximately \$17 million from the 2007 cost estimate. Over one-half of the total conveyance costs represent preliminary planning-level cost estimates.

There were no changes in costs associated with the completed projects or the planned projects categories.

The cost estimates for projects in design or construction increased by approximately \$17 million. The majority of this increase is due to changes from the 2007 cost estimates for the following projects:

- **Black Diamond Infrastructure Upgrade.** The planning-level cost estimate for this project increased by approximately \$7 million from the 2007 estimate. This change is a result of a more detailed project cost estimate that was developed based on the costs of wastewater storage facilities that were recently built in Western Washington.
- **North Creek Interceptor.** The cost estimate for this project increased by approximately \$6 million. Design and construction costs increased to accommodate the requirements for additional micro-tunnel and dewatering locations. There have also been schedule delays and higher than anticipated costs in obtaining permits and easements. In addition, there were delays in awarding contracts because of a bid protest, which resulted in the need to re-bid the North Segment contract.
- **Bellevue Pump Station.** The cost estimate for the Bellevue Pump Station project increased by approximately \$3 million. The lifetime budget for this project was updated to reflect the actual construction bid amount. The previous estimate was prepared prior to receiving construction bids and awarding the contract and notice to proceed.

Chapter 3 provides more information on RWSP conveyance system improvements.

9.3.4 Infiltration/Inflow

The regional infiltration/inflow (I/I) control program cost estimate was updated as part of the 2009-2015 budget preparation process. The total costs include expenditures of \$40 million through 2007, which cover costs associated with the six-year I/I control study, including systemwide flow monitoring, construction of 10 pilot projects, and development of draft standards, procedures, policies, guidelines to reduce I/I in local systems, and overall program recommendations. The total costs also include \$2 million in projected costs related to flow

monitoring for the initial I/I reduction projects; ongoing modeling, cost-benefit analysis, planning, and reporting; public education; and regional I/I clearinghouse and other program-related costs. These projected costs represent a decrease of \$2 million from the 2007 estimate.

In accordance with the recommended I/I control program that was approved by the King County Council in May 2006, design and construction costs for the initial I/I reduction projects are funded by the Conveyance System Improvement Program and are not included as part of I/I program costs. The purpose of the recommended I/I control program is to invest in I/I reduction in lieu of investing in larger conveyance system improvements when it is cost-effective to do so.

Chapter 4 provides more information on the I/I Control Program.

9.3.5 Combined Sewer Overflow Control Program

The 2008 total Combined Sewer Overflow (CSO) Control Program cost estimate is \$471 million, which is an increase of \$1 million from the program's total cost estimate in 2007.

The CSO Control Program total cost estimate includes costs associated with CSO control projects, CSO planning and updates, the Sediment Management Program, and the Lower Duwamish Waterway Superfund projects.

- The cost estimates associated with CSO control projects represent the 1998 RWSP planning-level cost estimates of the 21 planned CSO control projects adjusted for inflation to 2008 dollars. Updated cost estimates for the CSO Puget Sound Beach projects (see chapter 5) will be available when predesign for these projects is completed. Planning-level costs for the remainder of the CSO control projects are expected to be updated as part of the 2011 CSO program review.
- The cost estimates associated with CSO planning and updates increased by approximately \$1 million. This increase is due to additional staff needs associated with preparing the 2011 CSO program review and extending the timeline of the hydraulic model recalibration work.
- There were no cost changes from the 2007 cost estimate for the Sediment Management/Lower Duwamish Superfund category.

Chapter 5 provides more information on the CSO Control Program.

9.3.6 Reclaimed Water

There were no changes in the reclaimed water cost estimates from the 2007 cost estimates. The projects and programs that make up the total reclaimed water cost estimate are as follows:

- **Technology Demonstration Project.** This project was complete as of December 31, 2004. The costs shown in Table 9-1 reflect the total expenditures for this project.

- **Future Water Reuse.** The future water reuse category includes activities to support the existing reclaimed water program. There were no changes from the 2007 cost estimates in this category.
- **Sammamish Valley Reclaimed Water Facility (Water Reuse Satellite Facilities).** This project was cancelled in favor of the reclaimed water capabilities at the Brightwater Treatment Plant. The amount shown in Table 9-1 reflects the total expenditures for this project prior to its cancellation.
- **Reclaimed Water Backbone.** There were no changes in costs from the 2007 cost estimate for this project.
- **RWSP Water/Wastewater Conservation Program.** This project was completed in 2005. The costs shown in Table 9-1 reflect the total expenditures for this project.
- **Reclaimed Water Comprehensive Plan.** There were no changes in costs from the 2007 cost estimate for this project.

Chapter 8 provides more information on the Reclaimed Water Program.

9.3.7 Water Quality Protection

This program provided scientific information on water quality and hydrologic conditions in both the Lake Washington and Green River watersheds and was complete as of December 2006. The amount shown in Table 9-1 reflects the total expenditures for this program.

9.3.8 Habitat Conservation Plan/Programmatic Biological Assessment

There were no changes from the 2007 cost estimate for this project.

9.3.9 RWSP Planning and Reporting

There were no changes from the 2007 cost estimate for this program.

9.4 Alternative Ways to Show RWSP Cost Estimates

This section presents RWSP costs in a manner to provide an informative snapshot of the progress being made and costs associated with implementing the RWSP. The RWSP costs are broken down by the following categories:

- **Completed RWSP Projects.** This category consists of projects for which all activity has been completed.

- **Brightwater Cost Trend Update.** This category consists of the trend estimate that is developed on an annual basis for the Brightwater project.
- **RWSP Projects in Design or Construction.** This category consists of all RWSP projects that are in the current capital improvement plan (CIP) budget for WTD.
- **Projects Planned for the Future.** This category consists of projects that have not yet begun.

Presenting costs this way provides a means to track incurred, current, and future costs separately as projects move through the categories. Because some categories present costs in nominal dollars and others in base-year or constant dollars, the sum of these categories will not yield a meaningful total cost comparison as is done with the estimates in Table 9-1.

An explanation and a summary table of each category follow.

9.4.1 Completed RWSP Projects

Completed RWSP projects refer to projects or programs that have been completed and for which no future expenditures are anticipated. Table 9-2 summarizes the expenditures associated with completed projects and compares expenditures as of December 31, 2008, to those as of December 31, 2007.

**Table 9-2. Completed RWSP Projects
(million dollars)**

	Expenditures as of Dec. 31, 2007	Expenditures as of Dec. 31, 2008	Change from 2007
Total completed projects	\$236	\$291	\$55
Total completed Conveyance System Improvement projects, acquisitions, planning	\$172	\$172	--
Total completed Treatment and Odor Control projects	\$1	\$56	\$55
West Point Odor Control	\$1	\$1	--
South Plant Odor Control	--	\$8	\$8
Vashon Treatment Plant Upgrade	--	\$22	\$22
Carnation Treatment Plant	--	\$22	\$22
Chinook Wetlands Enhancement	--	\$3	\$3
Total completed Reclaimed Water projects	\$7	\$7	--
Technology Demonstration	\$1	\$1	--
Water Reuse Satellite Facility	\$5	\$5	--
RWSP/WW Conservation	\$1	\$1	--
Total completed I/I Pilot Study projects and program	\$40	\$40	--
Total completed Water Quality Protection	\$16	\$16	--

Note: Expenditures are shown at their original value. Totals may not add because of rounding to the nearest million.

The 2008 expenditures for completed projects are \$55 million more than the expenditures as of December 31, 2007. This increase reflects completion of four projects in 2008: South Plant Odor

Control, Vashon Treatment Plant Upgrade, Carnation Treatment Plant, and Chinook Wetlands Enhancement.³

9.4.2 Brightwater Cost Trend Update

King County has prepared eight Brightwater cost estimates to date, beginning with the first conceptual estimate in 2001. The first estimate was a conceptual estimate developed in 2001 as part of the Brightwater siting analysis. The second and third estimates were released in 2002 and 2003 as part of the Draft and Final Environmental Impact Statements, respectively. These two estimates were based on the current Brightwater system configuration and included preliminary design information for the treatment plant and conveyance system. The fourth estimate was presented in October 2004 at the completion of 30 percent design. This estimate was subsequently adopted by the King County Council as the project's baseline budget. The fifth estimate, prepared in December 2005, reflected the completion of 60 percent design for the treatment plant and 100 percent design for much of the conveyance system. The sixth cost estimate, prepared in January 2007, described the project's transition from design to construction, a change that also necessitated a shift from constant (base year) dollars to nominal (inflated) dollars as a significant portion of the project's construction costs were established by contracts that included inflation. The seventh cost estimate, issued January 2008, reflected the project's near complete transition to construction, with over 98 percent of the construction contracts awarded, as well as actual costs incurred through 2007. It also included the costs for land and mitigation as part of the treatment and conveyance costs instead of being listed separately. The eighth estimate was prepared in January 2009 and is the subject of this section.

January 2009 Cost Estimate

Table 9-3 shows the current lifetime cost estimates for the Brightwater project expressed as a range. The low estimate reflects what is believed to be the most probable outcome based on current assumptions and known uncertainties. This estimate reflects WTD's assumption that King County will receive a tax exemption from the Washington State Department of Revenue related to the production and sale of reclaimed water and biosolids at the treatment plant. The high estimate in this range reflects the possibility that the county will not receive any exemption. Table 9-3 also shows that the high range of the January 2009 estimate falls within the range of lifetime costs estimated by R.W. Beck, the Brightwater project's independent Oversight Monitoring Consultant.

As of January 2009, the current lifetime cost estimate for the Brightwater project is \$1.799 to \$1.844 billion (including inflation).⁴ This represents an overall decrease of \$2.3 million, or about 0.13 percent to an increase of \$42 million or about 2.3 percent as compared to the estimate presented in the January 2008 cost update (see Table 9-3).

³ Although no additional expenditures are anticipated for these projects, close-out activities will occur through 2009 for some of these projects, and adjustments to the lifetime costs are possible.

⁴ More details on the January 2009 Brightwater cost estimate are provided in Brightwater Cost Update: Current Conditions and Trends, Department of Natural Resources and Parks, Wastewater Treatment Division, January 2009. A copy of the report is available on request.

**Table 9-3. Comparison of January 2008 and January 2009 Brightwater Cost Estimates
(million dollars with inflation)**

Brightwater Component	January 2008	January 2009		Dollar Change		Percent Change		November 2008 OMC Estimate	
		Low	High	Low	High	Low	High	Low	High
Treatment Plant	\$875.3	\$878.7	\$889.6	\$3.4	\$14.3	0.39	1.64	\$901 – \$905	
Conveyance	\$926.9	\$921.2	\$954.6	(\$5.7)	\$27.7	-0.62	2.99	\$ 942 – \$945	
Total	\$1,802.2	\$1,799.9	\$1,844.3	(\$2.3)	\$42.0	-0.13	2.33	\$1,843–\$1,849	

OMC = Oversight Monitoring Consultant

9.4.3 RWSP Projects in Design or Construction

Table 9-4 shows the cost estimates of projects in design or construction as of December 31, 2008, and as of December 31, 2007. These projects were included as part of the 2009 and 2008 King County adopted budgets, respectively. The cost estimates are shown in inflated dollars. Some costs have been spent; some are allocated to out-years. For the 2007 estimate, the expenditures that occurred through 2007 are included at their original value; for the 2008 estimates, the expenditures through 2008 are included at their original value.

The cost estimates for projects in design or construction in 2008 is \$348 million, a decrease of \$22 million from the 2007 estimate of \$370 million. This change is the net result of completion of the South Treatment Plant Odor Control, Vashon Treatment Plant Upgrade, Carnation Treatment Plant, and Carnation Wetland Enhancement projects, whose 2008 lifetime costs are included earlier in Table 9-2, and increases in costs of some of the projects in design and construction.

**Table 9-4. RWSP Projects in Design or Construction
(million dollars)**

	2007 Cost Estimates ^a	2008 Cost Estimates ^b	Cost Change
Total Costs for RWSP Projects in Design/Construction	\$370	\$348	(\$22)
Total Conveyance Projects	\$197	\$221	24
Hidden Lake Pump Station/Boeing Trunk	\$38	\$38	--
Bellevue Pump Station	\$32	\$34	\$3
Juanita Bay Pump Station	\$37	\$38	\$1
Kent/Auburn Conveyance Improvements	\$46	\$51	\$5
Black Diamond Storage	\$5	\$13	\$8
North Creek Pipeline Project	\$38	\$45	\$7
Northshore Utility District Acquisition	\$1	\$1	--
Total Treatment and Odor Control	\$63	\$17	(\$46)
Odor Control at South Plant ^c	\$7	--	(\$7)
West Point Digestion Improvements	\$6	\$11	\$5
King St Odor Control	\$5	\$6	\$1
Vashon Treatment Plant ^c	\$22	--	(\$22)
Carnation Treatment Plant ^c	\$20	--	(\$20)
Chinook Wetland Enhancement ^c	\$3	--	(\$3)
Total I/I^d	\$4	\$2	(\$2)
Total CSO Control Program^e	\$59	\$61	\$2
Sediment Management/Lower Duwamish Superfund	\$50	\$51	\$1
CSO Planning and Updates	\$9	\$10	\$1
Habitat Conservation Plan (HCP)/Programmatic Biological Assessment	\$8	\$8	--
Reclaimed Water	\$36	\$36	--
Brightwater Reclaimed Water Backbone	\$27	\$27	--
Future Water Reuse	\$6	\$6	--
Reclaimed Water Comprehensive Plan	\$3	\$3	--
RWSP Planning and Reporting	\$3	\$3	--

Note: Totals may not add because of rounding to the nearest million.

^a Project costs in this column reflect costs reported in the 2008–2013 WTD CIP budget submittal (October 2007).

^b Project costs in this column reflect costs reported in the 2009–2014 WTD CIP budget submittal (October 2008).

^c These projects were in design or construction in 2007, and completed during 2008. Their total expenditures for 2008 are reflected in Table 9-2, Completed RWSP Projects.

^d These costs reflect projected costs related to flow monitoring for the initial I/I reduction projects; ongoing modeling, cost-benefit analysis, planning, and reporting; public education; and regional I/I clearinghouse and other program related costs. The expenditures associated with the I/I pilot programs are reflected in Table 9-2, Completed RWSP Projects.

^e Although the Puget Sound Beach CSO control projects were included in the 2009–2014 WTD CIP budget submittal, they are not reflected in this table. Updated cost estimates for these projects will occur at the completion of predesign. Because their costs reflect planning-level costs, these project costs are included in Table 9-5, RWSP Projects Planned for the Future.

9.4.4 RWSP Projects Planned for the Future

Table 9-5 shows the planning-level cost estimates for projects planned in the future for 2007 and 2008. As was noted previously in the chapter, costs for projects in planning can have a rough order-of-magnitude estimate in the range of -50 to +100 percent. The costs in Table 9-5 are presented in constant (2008) dollars. Costs shown in constant dollars are adjusted for inflation (deflated) to reflect base-year prices and therefore do not include the effects of changing prices and inflation.

There were no cost changes in projects planned for the future from the 2007 estimates.

Table 9-5. RWSP Projects Planned for the Future

	2007 Cost Estimates (2007\$ x 1M)	2007 Cost Estimate (2008\$ x 1M)	2008 Cost Estimate (2008\$ x 1M)	Cost Change (2007 x 1M)
Total Planned Projects	\$935	\$964	\$964	--
Planned Conveyance Projects ^a	\$426	\$439	\$439	--
Planned CSO Control Projects ^b	\$400	\$412	\$412	--
Planned South Plant Expansion ^c	\$109	\$113	\$113	--

^a Conveyance project costs reflect the planning-level cost estimates that were developed as part of the 2007 Conveyance System Improvement Program Update and adjusted for inflation, using the 3 percent per year assumption, to 2008 dollars.

^b CSO control project cost estimates for the planned CSO control projects reflect the 1998 planning-level estimates adjusted for inflation, using the 3 percent per year assumption, to 2008 dollars.

^c South Plant expansion cost estimates reflect the 1998 planning-level estimate adjusted for inflation, using the 3 percent per year assumption, to 2008 dollars.

9.5 Productivity Initiative Pilot Program

RWSP Financial Policy-3 directs the King County Executive to maintain an ongoing program of reviewing business practices and potential cost-effective technologies and strategies for savings and efficiencies. To meet this policy guidance, the WTD Productivity Initiative Pilot Program was developed to identify and implement ways to increase efficiency. This 10-year incentive program applies certain private-sector business practices, including the establishment of an incentive-based cash payment to employees in the wastewater program, to reduce operating costs, increase productivity, and continue a high level of service and environmental protection for WTD's customers. The Productivity Initiative Pilot Program was approved by the King County Council for WTD's operating program in 2001.

The Productivity Initiative Pilot Program identifies specific levels of service, cost reductions and efficiencies over the period 2001–2010 that are anticipated to result in an estimated \$75.9 million savings for ratepayers, while increasing levels of service to these same customers. Savings are achieved by undertaking an intensive review of current business practices, identifying and implementing cost-saving practices, working to increase employee involvement in business decisions, and ensuring that the wastewater program receives the best possible services from its partner agencies inside and outside the agency. Since the program was launched, it has expanded to include three pilot programs in the capital program: Major Capital Projects Pilot, Small In-House Capital Construction Projects Pilot, and Asset Management Pilot.

Positive productivity results were generated in 2008, the seventh year of the pilot program. The results marked the fifth time since 2001 that employees achieved an established productivity target for the operating program and earned a financial incentive for their work. Since 2001, a savings of \$61.9 million for ratepayers has been achieved.

More information on WTD's Productivity Initiative is available at <http://www.kingcounty.gov/environment/wtd/About/Finances/PI.aspx>