

City of Bellingham, WA



Draft Report for  
2012 STORMWATER  
RATE UPDATE

September 2012

**FCS GROUP**

7525 166th Avenue NE, Suite D-215  
Redmond, WA 98052  
T: 425.867.1802 | F: 425.867.1937

This entire report is made of readily recyclable materials, including the bronze wire binding and the front and back cover, which are made from post-consumer recycled plastic bottles.



Redmond Town Center  
7525 166th Ave. NE., Suite D-215  
Redmond, Washington 98052  
T: 425.867.1802 F: 425.867.1937

225 Bush Street  
Suite 1825  
San Francisco, California 94104  
T: 415.445.8947 F: 415.398.1601

4380 SW Macadam Avenue  
Suite 220  
Portland, OR 97239  
T: 503.841.6543 F: 503.841.6573



September 18, 2012

William M. Reilly, Storm and Surface Water Utility Manager  
City of Bellingham  
210 Lottie Street  
Bellingham, WA 98225

Subject: 2012 Stormwater Rate Study

Dear Mr. Reilly:

We are pleased to submit this draft report documenting the results of the 2012 Stormwater Rate Study for the City of Bellingham. Enclosed is a description of the assumptions and methodology followed for the study, as well as the recommended rates.

You and other City staff members have been helpful in this study, and we appreciate the time spent providing information and reviewing interim results. If you have questions or comments about it, feel free to call me at (425) 867-1802, extension 224.

Sincerely,

A handwritten signature in black ink, appearing to read "Gordon Wilson", written over a horizontal line.

Gordon Wilson  
Project Manager

# TABLE OF CONTENTS

---

EXECUTIVE SUMMARY .....	3
SECTION 1: POLICIES & ASSUMPTIONS .....	5
1.1. General Forecast Assumptions .....	5
1.2. Debt Assumptions .....	5
1.3. Rate Funded System Reinvestment .....	6
1.4. Utility Reserves .....	6
1.5. Expansion of Low-Income Discount Program .....	7
SECTION 2: REVENUES & EXPENSES .....	8
2.1. Revenue .....	8
2.2. Expenses .....	8
2.3. Debt Management .....	13
SECTION 3: REVENUE REQUIREMENT AND RATES .....	15
3.1. Cash Flow Sufficiency Test .....	15
3.2. Coverage Sufficiency Test .....	15
3.3. Evaluation of Revenue Sufficiency .....	16
3.4. Projected Rate Schedule .....	17
SECTION 4: MONTHLY BILLING SCENARIO .....	18
SECTION 5: RATE COMPARISON WITH OTHER JURISDICTIONS .....	19
SECTION 6: TOTAL MONTHLY CHARGES .....	21
6.1. Hypothetical Customers .....	21
6.2. Results .....	23
6.3. Impact of Stormwater Rate Increases .....	23

## EXECUTIVE SUMMARY

This report is to report the results of the storm and surface water (SSW or “stormwater”) rate study we conducted for the City of Bellingham, and to recommend 2013-2017 SSW rates. Based on a 10-year forecast, we recommend the five-year rate schedule shown in Exhibit 1.

### Exhibit 1: Monthly Rate Schedule

Customer Class	Existing 2012	2013	2014	2015	2016	2017
Small Footprint	\$ 4.20	\$ 5.08	\$ 5.39	\$ 5.71	\$ 6.05	\$ 6.42
Medium Footprint	\$ 7.00	\$ 8.47	\$ 8.98	\$ 9.52	\$ 10.09	\$ 10.69
ISA > 3,000 square feet	\$ 0.00233	\$ 0.00282	\$ 0.00299	\$ 0.00317	\$ 0.00336	\$ 0.00356
Across-the-Board % Increase		21%	6%	6%	6%	6%
<b>Average SFR Monthly Impact*</b>	\$ -	\$ <b>1.47</b>	\$ <b>0.51</b>	\$ <b>0.54</b>	\$ <b>0.57</b>	\$ <b>0.61</b>
Cumulative Impact	\$ -	\$ 1.47	\$ 1.98	\$ 2.52	\$ 3.09	\$ 3.69

\*Average Single-family Residential (SFR) is assumed to be Medium Footprint.

**Rate Increases** - The largest increase needed is at the outset of the five year forecast, in 2013. This increase would cost \$1.47 per month to medium-footprint customers, those parcels with between 1,000 and 3,000 square feet of impervious surface area (ISA). This represents a 21% increase over the current rates. (The medium-footprint class accounts for 69% of the City’s total stormwater customers, and it is used as the primary benchmark throughout this memo.) Over the five year horizon of this rate schedule, medium footprint accounts are projected to see rates increase by \$3.69 per month. The other rate classes receive the same percentage increases.

The projected financial needs of the stormwater utility stem from the following main factors:

- ◆ Revenue has not kept up with inflation; stormwater rates have not increased since 2007.
- ◆ An increased capital improvement program is needed in order to update or replace aging stormwater facilities, leading to new debt service costs.
- ◆ Increases in the operating and maintenance (O&M) budget are assumed, including:
  - Conversion of several positions from limited-term and part-time to full-time status.
  - Shifting of street sweeping costs from the Street Fund to the SSW Fund.
  - Additional staffing as part of creating a new Natural Resources Division, along with the allocation of existing staff to the SSW Fund.

**Debt** - Currently the SSW Fund does not have any outstanding debt. In order to accommodate the increased capital reinvestment proposed by the City, we assumed a series of debt issues beginning in 2013. These debt issues will have the effect of gradually increasing the SSW utility's outstanding debt to 22% of total plant-in-service by 2017, which we consider to be a prudent level of debt. At the same time as gradually increasing the debt, we are assuming a gradual implementation of system reinvestment funding from rates, with rate-funded capital growing from 10% of annual depreciation in 2013 to 50% of annual depreciation in 2021. Because an increasing share of replacement capital funding in future years comes from rates, the projected outstanding debt in the years beyond 2017 never exceeds 23% of total plant-in-service.

**Rate Structure** - With the exception of an expansion in the low-income discount program, the rate study does not assume any changes in the rate structure, credits, or customer classes. The customer base is assumed to continue to be divided into small, medium, and large-footprint parcels, with a flat monthly charge for small and medium-footprint parcels and a per-square-foot rate for large parcels, those with over 3,000 square feet of impervious surface area.

The remainder of this memo explains in more detail the assumptions on which the recommended rate increases are based.

# SECTION 1: POLICIES & ASSUMPTIONS

---

## 1.1. GENERAL FORECAST ASSUMPTIONS

The following assumptions shape the revenue requirements forecast:

- ◆ General Cost Inflation – We used projections from the Washington State Economic and Revenue Forecast Council’s June Forecast for years 2012-2015, which ranged from 1.7% to 2.2% per year. Beyond 2015, we assumed the 30-year average increase in the Seattle CPI-U, which was 3% per year.
- ◆ Construction Cost Inflation – Based on long-term trend analysis between general inflation indexes and the ENR Construction Cost Index, we assumed that construction cost inflation would be 0.25% above general cost inflation
- ◆ Personnel Costs - Salary and benefit costs are escalated at 2.0% and 5.0% per year, respectively, based on assumptions used for the City’s budget process. Because most current employees in Activity 311 (Stormwater) are relatively new hires, we also assumed annual step increases for them from 2014 through 2020.
- ◆ Fund Earnings – .20% in the early years, based on the current Local Government Investment Pool (LGIP) rate, growing to 2.13%, the 15-year LGIP average earnings rate.
- ◆ Customer Growth – These assumptions are based on "within City limits" population growth rates from Table 2-9 of the 2010 Water Comprehensive Plan. These rates are then discounted by 50% based on expectations for growth over the next five years. There are also two annexations included within our analysis: the first is projected to occur in 2016 and is relatively small, adding about 1% to the growth that would otherwise occur that year. The second is projected to occur in 2019 and is significantly larger than the 2016 annexation. This larger annexation is projected to increase growth 9-10% above the trendline for the year. Long term growth levels off at just under 1.3% per year.

## 1.2. DEBT ASSUMPTIONS

The stormwater utility currently does not have any debt. We assumed that when revenue bonds needed to be issued, they would have a 4-5% interest rate, depending on the year issued, and a 20-year term. This analysis assumes that revenue bonds would require a debt service reserve equal to one year’s debt service. Public Works Trust Fund (PWTF) loans are assumed to have a 1% interest rate with a 20-year term and State Revolving Fund (SRF) loans are assumed to have a 2.7% interest rate with a 20-year term.

### 1.3. RATE FUNDED SYSTEM REINVESTMENT

In order to fulfill its ongoing obligation to provide municipal utility service, the City needs to provide for replacement of aging system facilities. The cost of replacements is typically higher than the original cost of the facilities due to inflation, construction conditions, and absence of grant or developer investment.

The purpose of system reinvestment funding is to facilitate long-term financial viability by committing current rate revenue to current or future asset replacements. Funds generated through this mechanism are restricted for capital purposes, though not necessarily restricted for designated “repair and replacement” projects. In this forecast, the amount of system reinvestment is related to annual depreciation, which is a rough measure of the degree to which today’s assets are “used up” each year. System reinvestment funding is gradually incorporated into the forecast—it begins at 10% of annual depreciation in 2013 and grows each year until reaching 50% of annual depreciation in 2021. This gradual phasing strategy helps avoid large near-term impacts for ratepayers, while slowly building in a method to fund replacement capital over the long term through rate revenue. By 2021, system reinvestment funding is projected to be about \$725,000 per year.

### 1.4. UTILITY RESERVES

Reserves give the utility flexibility to manage variations in costs and revenues that could otherwise have an adverse impact on rates. Exhibit 2 summarizes the 2011 reserve balances.

**Exhibit 2: Existing Fund Balances as of 12/31/2011:**

Fund Balances	As of 12/31/2011
Operating Fund	\$ 563,516
Capital Fund	902,745
Bond Reserve Fund	-
<b>Total</b>	<b>\$ 1,466,261</b>

For future years in the forecast, we assumed the following target minimum reserves:

- ◆ **Operating Fund:** Operating (“working capital”) reserves provide a minimum unrestricted fund balance needed to accommodate short-term fluctuations in revenues and expenses. For the operating reserve, this analysis assumes a target minimum balance equal to 45 days (about 12%) of projected operating expenses. This policy differs from the existing policy outlined in the City’s Financial Management Guidelines, which is 5% of budgeted operating expenses. The target minimum operating reserve in 2013 is about \$725,000.

Note that our recommended minimum balance for water and sewer operating reserves is 60 days (about 16%) of projected operating expenses. Compared to water and sewer utilities, stormwater utilities tend to have more stability on their revenues and fewer risks in their expenditures, so we feel that a lower minimum balance is adequate for the short term cash variations in the City’s stormwater utility. Because of that revenue stability, we also did not assume a stormwater rate stabilization fund at this time.

- ◆ **Capital Fund:** The Capital Fund accounts for the SSW utility's capital-related revenues and expenditures. Inflows include interest earnings, SDCs, rate-funded transfers for system reinvestment, bond and loan proceeds, grant reimbursements, and the Watershed surcharge for Lake Whatcom watershed projects. These resources are used to fund planned capital projects. However, there can also be unexpected capital projects that must be undertaken on a short time frame; to address these contingencies, the forecast assumes a minimum Capital Fund balance equal to 1% of the fixed asset cost. Based on current asset records and the planned addition of new assets, the 2013 minimum balance in the Capital Fund is about \$450,000.
- ◆ **Bond Reserve Fund:** When the City issues revenue bonds to fund capital costs, it agrees to comply with the covenants established for those bonds. A typical bond covenant requires the City to set aside from the proceeds a bond reserve equal to one year's debt service and keep that money separate over the life of the bonds. Analogous to a typical residential rental contract that requires "first and last month's rent," the bond reserve constitutes the last year of debt service for a given bond issue.

## 1.5. EXPANSION OF LOW-INCOME DISCOUNT PROGRAM

Consistent with our water and sewer forecasts, we assumed in our baseline scenario for the stormwater forecast that the City's low-income discount program would be expanded. This would occur by raising the income thresholds to match the thresholds used by the County for its low-income designation for property tax purposes. Because the income thresholds would be higher than at present, about twice as many people would be eligible for a reduced stormwater rate. This assumption reduces stormwater revenue by about .3% and does not significantly affect the rate forecast.

The program would still be limited to owner-occupied properties, due to the practical limitations of the utility bill as a tool for helping low-income residents. There can be a variety of programmatic ways to help low-income residents, and differential utility rates are one of those ways. Unfortunately, the nature of that tool is that the benefit of the discount goes to the person who pays the bill. With rental units, there is no way to know whether the person paying the bill is the same as the qualifying low-income resident, and if not, whether the benefit of the lower rate is passed on to the resident. So the benefits of a differential utility rate are naturally limited to low-income people who own their residences. As a policy matter, that limitation feels unsatisfactory, because low-income homeowners are clearly a subset of the qualifying low-income residents. Other programs are conceivable that could help low-income renters, but those programs are not the same as differential utility rates. Differential utility rates are the tool that is explicitly authorized by state statute, whereas other uses of utility income to support low-income residents might be on shakier ground legally. For these practical reasons, we assumed that the low-income discount would be broadened by raising its income thresholds but not by expanding it to renters.

Compared with other cities, the City of Bellingham stormwater utility is unusual in having a "small footprint" rate for properties with less than 1,000 square feet of impervious surface area. To the degree that there is any relationship between small lots and low income, then the lower "small footprint" rate serves as another type of help for low-income homeowners.

## SECTION 2: REVENUES & EXPENSES

---

The revenue requirement forecast evaluates the sufficiency of revenue levels at current rates to cover the utility's projected costs from 2012 – 2017. The forecast is initially based on estimates from the City's 2012 Budget and projections for 2013, with future-year projections generally based on an escalation of those estimates.

### 2.1. REVENUE

Based on current customer counts and rates, 2012 rate revenue totals about \$4.8 million. This figure is escalated based on customer growth which ranges from 0.7% -1.3% in most years, with an increase of 10.9% in 2019 due to an assumed annexation.

For non-rate revenues, the 2012 – 2013 projections are based on estimates from City staff. Projections for subsequent years are either escalated for customer growth (customer-related fees such as late fees) or assumed to remain constant (other miscellaneous revenues).

### 2.2. EXPENSES

**Operating and Maintenance (O&M) Budget:** The O&M forecast begins with the 2012 Budget and staff projections for 2013. For 2014 and beyond, expenses are escalated by an inflation factor unless particular line items were specifically adjusted by City staff. Total expenditures (excluding taxes) are adjusted by a 96% budget realization factor, which is an estimate of how much of the operating budget is actually spent in a given year.

Following are the major factors that affect the O&M forecast:

- ◆ Additional personnel costs associated with the creation of a new Natural Resources Division (a Division Manager position and the realignment of some existing staff costs), the conversion of staff positions from limited-term and part-time to full-time status, and other positions added to the budget. These combined changes add about \$295,000 per year to the ongoing O&M budget.
- ◆ A Wetland Banking Mitigation Study is projected to be approximately \$160,000 per year in 2013 and 2014.
- ◆ A reallocation of citywide overhead costs and Public Works Administration and Support costs leads to a shift of about \$140,000 per year to the stormwater budget.
- ◆ The shifting of street sweeping costs from the Street Fund to the SSW Fund adds about \$241,000 per year to the stormwater operating budget.

- ◆ The remainder of the O&M cost increase (about \$192,000 in 2013) comes from general inflation or smaller increases to specific line items, including the addition of merchant banking fees as a result of accepting credit cards for utility bills.

The impact of these changes to the O&M budget are detailed by year in Exhibit 3.

### Exhibit 3: Annual Incremental O&M Impacts

Incremental O&M Impacts	2012	2013	2014	2015	2016	2017
Realignment of Staff Costs	\$ -	\$ 121,037	\$ 124,394	\$ 127,864	\$ 131,453	\$ 135,165
Natural Resources Division Manager	-	88,697	90,471	92,281	94,126	96,009
Conversion of Limited-Term / P-T Employees	-	85,138	86,841	90,610	94,542	98,645
Shift Costs of Street Sweeping to SSWU	-	240,900	245,959	251,370	258,911	266,678
Credit Card Fees	-	5,850	5,890	5,933	6,047	6,091
Reallocation of Overhead Charges	-	139,698	142,632	145,770	150,143	154,647
Wetland Mitigation Banking Study	-	157,233	160,535	-	-	-
Other Changes and Inflationary Increases	-	191,568	306,169	454,987	617,486	777,818
<b>Total Impacts</b>	<b>\$ -</b>	<b>\$ 1,030,121</b>	<b>\$ 1,162,890</b>	<b>\$ 1,168,814</b>	<b>\$ 1,352,708</b>	<b>\$ 1,535,053</b>
Total Budgetary Changes Above 2012 Level	-	1,030,121	1,162,890	1,168,814	1,352,708	1,535,053
<i>Total Projected Operating Exp. Change (YOY)</i>	<i>0%</i>	<i>21%</i>	<i>2%</i>	<i>0%</i>	<i>3%</i>	<i>3%</i>

The largest increase is in the first year of the forecast, from 2012 to 2013. Due to inflation, the wetland mitigation study, and the above changes in cost allocation and staffing, total O&M costs in 2013 are projected to increase approximately 21% over 2012. Because spending on the Wetland Study drops off after 2014, total expenditures are flat between 2014 and 2015. After 2015, most of the O&M cost increases are attributable to normal inflation.

**Capital Improvement Program (CIP):** The CIP includes a variety of capital projects that update or replace existing stormwater facilities, or that expand system capacity, either to accommodate growth or to improve water quality in the Lake Whatcom watershed.

Exhibit 4 shows the detailed projects that comprise the stormwater capital improvement program. This list excludes projects that have no funding except for amounts that were re-appropriated from previous fiscal years. Project amounts are shown in 2012 dollars, without projected inflation. Exhibit 4 shows only the projects through 2017, but the actual CIP forecast extends for 20 years.

**Exhibit 4: Capital Improvement Projects 2012-2017**

Category	Grant?	Description	2012	2013	2014	2015	2016	2017
Grant Related		Make Ready on Vactor Site (Operations Capital)	\$ 42,500	-	-	-	-	-
Old Programmatic		Annual Overlay Storm Imp	250,000	150,000	-	-	-	-
Old Programmatic		Annual Storm Main Repl	100,000	-	-	-	-	-
Grant Related	Yes	WQual for Padden Creek Estuary (Grant)	-	<b>144,000</b>	<b>700,000</b>	-	-	-
Grant Related		WQual for Padden Creek Estuary (Match)	-	36,000	175,000	-	-	-
Grant Related	Yes	CBD Raingardens (Grant)	-	<b>450,000</b>	-	-	-	-
Grant Related	Yes	Net Zero Water (Grant)	-	<b>134,000</b>	-	-	-	-
Grant Related		Net Zero Water (Match)	45,000	-	-	-	-	-
Old Programmatic		City-wide Storm WQ Retrofits	250,000	-	-	-	-	-
Old Programmatic		Fish Passage Improvements	100,000	-	-	-	-	-
Structural Deficiencies		Squalicum Creek (Phase 1)	-	883,637	883,637	-	-	-
Structural Deficiencies		Squalicum Creek (Phase 2,3)	-	-	-	-	979,774	979,774
Structural Deficiencies		Guide Meridian s/o Bakerview	-	100,000	-	-	-	-
Structural Deficiencies		Midway Lane BTW Bakerview Spur and Irongate Rd	-	-	-	-	10,000	-
Structural Deficiencies		Midway Lane BTW Bakerview Spur and Irongate Rd	-	-	-	-	60,000	-
Structural Deficiencies		Undine St. 2445 - 2407	-	-	-	30,000	-	-
Structural Deficiencies		Electric at Kansas	-	-	-	-	-	35,000
Structural Deficiencies		ES Electric S/O Ohio toward Kansas	-	-	-	-	-	15,000
Structural Deficiencies		Texas St. From Toledo to Undine	-	-	-	30,000	-	-
Structural Deficiencies		Walnut St., Eldridge to Jefferson	-	-	300,000	-	-	-
Structural Deficiencies		Texas St. From St. Paul to Toledo	-	-	-	200,000	-	-
Structural Deficiencies		Modoc Dr., N/O Woodridge & E/O Clearbrook	-	-	-	26,000	-	-
Structural Deficiencies		Ontario St., Kentucky to Texas	-	-	-	45,000	-	-
Structural Deficiencies		St. Clair St. 2305 - 2335	-	-	-	20,000	-	-
Structural Deficiencies		Washington St., Park to Walnut	-	-	50,000	-	-	-
Structural Deficiencies		Williams St., Eldridge to W. Connecticut	-	-	520,000	-	-	-

**Exhibit 4: Capital Improvement Projects 2012-2017, continued**

Category	Grant?	Description	2012	2013	2014	2015	2016	2017
Structural Deficiencies		Park St., Jefferson to Washington	-	-	200,000	-	-	-
Structural Deficiencies		Humboldt St., E. Maryland to E. Illinois	-	-	-	-	70,000	-
Structural Deficiencies		E. Racine St, Whatcom to Racine	-	-	-	-	100,000	-
Structural Deficiencies		Gladstone St., Iron to James	-	-	-	-	-	50,000
Structural Deficiencies		Potter St., Grant to Ellis	-	-	-	-	100,000	-
Lake Whatcom		Geotechnical Eval	-	-	100,000	100,000	-	-
Lake Whatcom		Northshore Facility A-1	-	400,000	-	-	-	-
Lake Whatcom	Yes	Hip Grant	-	200,000	100,000	-	-	-
Lake Whatcom		Hip Grant Match	50,000	-	-	-	-	-
Lake Whatcom	Yes	Northshore Rd Grant	-	375,000	-	-	-	-
Lake Whatcom	Yes	Bloedel Donovan Grant	-	384,000	-	-	-	-
Lake Whatcom		Brentwood 4 Pond Forest System	-	-	50,000	-	-	-
Lake Whatcom		Facility B	-	-	-	-	-	400,000
Lake Whatcom		Facility Prop Acquisition B	-	-	-	-	450,000	-
Lake Whatcom		Home Owner Incentive Cont.	-	-	-	100,000	100,000	100,000
Lake Whatcom		Huntington & Shep.s/o Acad SF/Infiltr	-	-	-	400,000	-	-
Lake Whatcom		Northshore Facility A-2 (AHHS)	-	-	400,000	-	-	-
Lake Whatcom		Park Place Alum Fac	-	-	100,000	-	10,000	10,000
Annual Programatic		Programatic Replacements (Non Capacity)	-	100,000	-	450,000	410,000	650,000
Annual Programatic		Programatic Replacements (Capacity)	-	75,000	-	249,000	250,000	250,000
Annual Programatic		Programatic Fish Passage	-	-	250,000	250,000	250,000	250,000
Annual Programatic		EV-4 Padden Creek ( \$1,190,664 Prior Appropriations)	-	200,000	1,626,000	-	-	-
Annual Programatic	Yes	EV-4 Padden Creek (Grant)	-	-	500,000	-	-	-
Annual Programatic		Project WQ/Q Required Mitigation	-	-	300,000	300,000	300,000	300,000
Annual Programatic		Project WQ/Q Retrofits (System Improvement)	-	-	200,000	200,000	200,000	200,000
<b>Total Capital Projects</b>			<b>\$ 837,500</b>	<b>\$ 3,631,637</b>	<b>\$ 6,454,637</b>	<b>\$ 2,400,000</b>	<b>\$ 3,289,774</b>	<b>\$ 3,239,774</b>

Exhibit 5 summarizes the capital program through 2017, separating grant-funded projects and watershed projects.

**Exhibit 5: CIP Summary 2012-2017**

CIP Projection - Inflated Dollars	2012	2013	2014	2015	2016	2017
Watershed Capital Projects	50,000	1,366,800	780,909	645,189	636,427	598,440
Watershed Grants	-	959,000	100,000	-	-	-
Capital Projects less Grants	<b>50,000</b>	<b>407,800</b>	<b>680,909</b>	<b>645,189</b>	<b>636,427</b>	<b>598,440</b>
Other SWM Utility Projects	787,500	2,302,757	5,918,843	1,935,568	3,102,322	3,203,148
Other SWM Grants	-	728,000	1,200,000	-	-	-
Capital Projects less Grants	<b>787,500</b>	<b>1,574,757</b>	<b>4,718,843</b>	<b>1,935,568</b>	<b>3,102,322</b>	<b>3,203,148</b>
<b>Total Capital Expenditures</b>	837,500	3,669,557	6,699,752	2,580,757	3,738,749	3,801,588
<b>Total Grants</b>	-	1,687,000	1,300,000	-	-	-
<b>Total Capital less Grants</b>	<b>837,500</b>	<b>1,982,557</b>	<b>5,399,752</b>	<b>2,580,757</b>	<b>3,738,749</b>	<b>3,801,588</b>

Funding for these projects comes from a variety of sources. The following are all potential sources of revenues for capital projects:

- ◆ Grants
- ◆ Rate-funded system reinvestment
- ◆ Systems Development Charges (SDCs)
- ◆ Watershed surcharge revenue
- ◆ Debt proceeds, both revenue bonds and State Revolving Fund (SRF) loans
- ◆ Interest earnings

Exhibit 6 shows the capital funding strategy. SDCs, interest earnings, and rate-funded system re-investment are all included in the beginning fund balance for the SSW Capital Fund. Bonds are assumed to be sold every other year. SRF loans and grants are assumed where there are specific capital projects identified by the staff as good candidates for state funding.

**Exhibit 6: Capital Funding Strategy.**

Stormwater - Capital Funding Strategy	2012	2013	2014	2015	2016	2017
<b>Capital Projects (Inflated)</b>	\$ 837,500	\$ 3,669,557	\$ 6,699,752	\$ 2,580,757	\$ 3,738,749	\$ 3,801,588
Revenue Bond Net Proceeds	-	2,975,000	-	3,050,000	-	2,930,000
<b>Sources of Capital Funding:</b>						
Beginning Fund Balance*	\$ 837,500	\$ 467,279	\$ 3,090,115	\$ 1,033,328	\$ 2,625,259	\$ 1,370,950
SRF Loans	-	96,137	883,637	-	1,113,490	1,149,678
Revenue Bonds Used in Year of Issuance	-	631,642	-	1,547,429	-	1,280,960
Grants/Other Outside Sources	-	2,474,500	2,726,000	-	-	-
Direct Rate Funding	-	-	-	-	-	-
	<b>\$ 837,500</b>	<b>\$ 3,669,557</b>	<b>\$ 6,699,752</b>	<b>\$ 2,580,757</b>	<b>\$ 3,738,749</b>	<b>\$ 3,801,588</b>

\*Beginning fund balance may contain unused bond proceeds from prior issues

## 2.3. DEBT MANAGEMENT

Debt financing is one appropriate tool for capital funding. Compared with pay-as-you-go funding from current rates, debt requires smaller up-front rate increases. Debt smooths out the rate impact of a capital program by spreading the costs over time. It also provides intergenerational equity, because the future customers who use the assets are the ones paying for it. That is why debt is sometimes referred to as “pay-as-you-use” capital funding.

However, debt cannot be relied on too much because it carries the risk of default. By substituting fixed annual debt service for cash-financing of capital expenditures, debt also reduces the flexibility in the utility’s budget—capital projects can be delayed if there is a revenue shortfall, but debt service still needs to be paid. So while debt is a useful part of the toolbox, it needs to be monitored to ensure that the system does not become too heavily dependent on debt alone.

Because the capital funding strategy we are recommending increases the level of outstanding debt for the stormwater utility, we analyzed the overall debt load over the forecast time horizon. In doing so, we focused on two main indicators: (a) outstanding debt as a percentage of total plant-in-service, and (b) debt service coverage. The forecasted indicators are shown in Exhibit 7.

**Exhibit 7: Debt Management Indicators**

Debt Management Indicators	2013	2014	2015	2016	2017
Total Outstanding Debt	3,264,378	5,421,697	8,533,292	9,317,684	13,181,465
Total Plant-in-Service	43,884,299	50,203,820	52,667,012	56,067,400	59,541,472
Debt as % of Total Plant-in-Service <sup>2</sup>	7%	11%	16%	17%	22%
Bonded Debt Service as % of Net Revenues	42%	30%	42%	33%	44%
Debt Service Coverage - Bonds Only	2.40	3.32	2.37	3.00	2.29
Debt Service Coverage including SRF loans	2.34	2.34	1.97	2.19	1.64

- ◆ **Outstanding Debt as a Percentage of Total Plant-in-Service:** Exhibit 7 shows this indicator climbing through 2017, in which outstanding debt represents 22% of total plant-in-service. In our 10-year forecast, the peak year is 2019, with 23%. This indicator then comes down to 20% by the year 2020 and thereafter. As the amount of rate-funded system reinvestment dollars is phased in, the utility’s reliance on debt will gradually decrease. So at its highest point, this ratio indicated a capital structure of 23% debt and 77% equity. This level of indebtedness is well within the prudent range for a utility.
- ◆ **Debt Service Coverage:** In Exhibit 7, debt service coverage is the reciprocal of the row just above it: bonded debt service as a percentage of net revenues. “Net

revenues” are analogous to the operating profit of a private business; it refers to the total operating income minus operating expenses. If net revenues, for example, were \$200,000 and debt service were \$100,000, then debt service as a percentage of net revenues would be 50% (or \$100,000 divided by \$200,000), while the debt service coverage would be 2.0 (or \$200,000 divided by \$100,000). Debt service coverage is a common legal requirement that comes from the sale of revenue bonds; utilities are typically required to maintain debt service coverage of at least 1.25. In the simple illustration above, if annual bonded debt service were \$100,000, then net revenue each year would need to be at least \$125,000 in order to comply with bond covenants. So a coverage requirement of 1.25 is equivalent to saying that bonded debt service can be no higher than 80% of net revenue.

In the 10-year forecast for the Bellingham stormwater utility, bonded debt service never exceeds 44% of net revenues, which means that bonded debt service coverage is always projected to be 2.29 (which is the figure for 2017) or above. Again, this is an ample cushion, well above the minimum coverage of 1.25, which indicates that the recommended strategy for funding the stormwater capital program is a prudent one.

In Washington, state loans usually do not carry a debt service coverage requirement, and they are subordinate to bonded debt, which means that the State accepts the risk of being in second position if there were ever to be a default. As a result, the coverage calculation is usually applied only to bonded debt service. However, in this case, just to test how conservative the capital funding strategy is, we calculated the coverage ratio using all debt, including state loans. As Exhibit 7 shows, the debt service coverage still stays at or above 1.66, underscoring that the level of debt projected for the stormwater utility is not excessive.

## SECTION 3: REVENUE REQUIREMENT AND RATES

---

With revenues and expenses defined and projected, the next step is to define the amount of revenue needed to meet the utilities' financial needs and policy objectives. The financial forecast defines the level of revenue needed via a series of tests, which are described below.

### 3.1. CASH FLOW SUFFICIENCY TEST

Conceptually, the cash flow test determines the amount of revenue that a utility needs to generate in order to meet its cash obligations, including:

- ◆ Operating, maintenance and administrative expenses
- ◆ Debt service payments
- ◆ Rate-funded capital expenditures
- ◆ System reinvestment funding

Offsetting these obligations are various sources of revenue, including:

- ◆ Rate revenues
- ◆ Operating Fund interest earnings
- ◆ Miscellaneous operating and non-operating revenues

To satisfy this test, the utility's rate revenue must be sufficient to meet its projected cash flow needs.

### 3.2. COVERAGE SUFFICIENCY TEST

The requirement that bonded debt service stay above 1.25 applies to each year's operating results—past years' successes do not exempt the utility from having to meet coverage next year and the year after. Because cash reserves saved up in past years do not count in the "net revenue" calculation, it is possible for a utility to have enough cash but be short of its coverage requirement. Therefore, the coverage sufficiency test is separate from the cash flow test.

There is a special type of separate cash reserve called a "rate stabilization reserve" that can be provided for in the bond covenants, allowing utilities to manage their debt service

coverage requirements. Money transferred to a rate stabilization fund in one year can be charged as though it were an operating expense, while money transferred out of the rate stabilization fund in a later year is counted as an operating revenue. Rate stabilization reserves must be kept separate from other reserves. While we are recommending the use of rate stabilization reserves for the water and sewer utilities, we feel that for stormwater, a rate stabilization reserve is not necessary at this time, primarily because stormwater revenues tend to be stable and stormwater expenses tend to be more readily controllable.

### 3.3. EVALUATION OF REVENUE SUFFICIENCY

The cash flow and coverage sufficiency tests are each applied independently. In this particular forecast, the binding constraint in the rates each year is the cash flow, not the coverage. The rate adjustments are smoothed over a multi-year period and set at a level necessary to meet the utility's short-term constraints and long-term goals. Exhibit 8 summarizes the revenue requirement analysis and rate increases needed.

**Exhibit 8: Cash Flow Sufficiency Test**

<b>Cash Flow Sufficiency Test</b>		2012	2013	2014	2015	2016	2017
<b>EXPENSES</b>							
Cash Operating Expenses		\$ 4,836,501	\$ 5,866,622	\$ 5,999,391	\$ 6,005,316	\$ 6,189,209	\$ 6,371,555
New Debt Service		-	247,790	342,625	602,249	685,470	1,069,437
Direct-Rate Funding of Capital		-	-	-	-	-	-
Rate-Funded System Reinvestment		-	87,631	151,546	212,385	284,175	363,819
Additions Required to Meet Minimum Op. Fund Balance		-	-	-	-	-	-
<b>Total Expenses</b>		<b>\$ 4,836,501</b>	<b>\$ 6,202,044</b>	<b>\$ 6,493,563</b>	<b>\$ 6,819,949</b>	<b>\$ 7,158,854</b>	<b>\$ 7,804,810</b>
<b>REVENUES</b>							
Rate Revenue		\$ 4,793,928	\$ 4,813,382	\$ 4,846,443	\$ 4,881,762	\$ 4,975,229	\$ 5,011,487
Other Revenue		473,200	502,200	502,365	502,541	503,007	503,188
Operating Fund & Debt Reserve Fund Interest Earnings		1,127	1,590	2,059	5,392	11,479	16,704
<b>Total Revenue</b>		<b>\$ 5,268,256</b>	<b>\$ 5,317,172</b>	<b>\$ 5,350,867</b>	<b>\$ 5,389,695</b>	<b>\$ 5,489,715</b>	<b>\$ 5,531,379</b>
<b>NET CASH FLOW (DEFICIENCY)</b>		<b>\$ 431,754</b>	<b>\$ (884,872)</b>	<b>\$ (1,142,696)</b>	<b>\$ (1,430,254)</b>	<b>\$ (1,669,138)</b>	<b>\$ (2,273,432)</b>

<b>Rate Increases</b>		2012	2013	2014	2015	2016	2017
Rate Revenue with no Increase		\$ 4,793,928	\$ 4,813,382	\$ 4,846,443	\$ 4,881,762	\$ 4,975,229	\$ 5,011,487
Revenues from Prior Rate Increases		-	-	1,017,753	1,379,586	1,788,874	2,210,714
Rate Revenue Before Rate Increase (Incl. previous increases)		4,793,928	4,813,382	5,864,196	6,261,348	6,764,103	7,222,201
Required Annual Rate Increase		0.00%	21.17%	5.04%	4.22%	1.92%	5.57%
Number of Months New Rates Will Be In Effect		12	12	12	12	12	12
<i>Info: Percentage Increase to Generate Required Revenue</i>		0.00%	21.17%	5.04%	4.22%	1.92%	5.57%
<b>Policy Induced Rate Increases</b>		<b>0.00%</b>	<b>21.00%</b>	<b>6.00%</b>	<b>6.00%</b>	<b>6.00%</b>	<b>6.00%</b>
<b>ANNUAL RATE INCREASE</b>		<b>0.00%</b>	<b>21.00%</b>	<b>6.00%</b>	<b>6.00%</b>	<b>6.00%</b>	<b>6.00%</b>
<b>CUMULATIVE RATE INCREASE</b>		<b>0.00%</b>	<b>21.00%</b>	<b>28.26%</b>	<b>35.96%</b>	<b>44.11%</b>	<b>52.76%</b>

In this case, a significant share of the increased revenue requirement comes from the increase in operating expenses between 2012 and 2013; for that reason, much of the overall rate increase in this forecast is needed in the first year. Because the SSW utility has so much unused debt capacity, the increased capital program can be spread out over time. New debt service affects future rate increases but has a more limited effect in the first year.

### 3.4. PROJECTED RATE SCHEDULE

We have projected rates for the next five years (2013-2017). We have included impacts to Small, Medium, and per square footage customers on a monthly and bi-monthly basis. In 2013, there is a 21% rate increase, but the overall monthly impact to a single family customer is less than \$1.50. Exhibit 9 details the projected rate impacts through 2017. In general, only inflation-based increases are projected to be needed after 2017. Our analysis assumed that a large annexation would occur in 2019. If this occurs, the growth in customers will negate the need for inflation-based rate increases for the following two years.

#### Exhibit 9: Five-Year Rate Schedule

Monthly Rate Schedule		Existing					
Customer Class	2012	2013	2014	2015	2016	2017	
Small Footprint	\$ 4.20	\$ 5.08	\$ 5.39	\$ 5.71	\$ 6.05	\$ 6.42	
Medium Footprint	\$ 7.00	\$ 8.47	\$ 8.98	\$ 9.52	\$ 10.09	\$ 10.69	
ISA > 3,000 square feet	\$ 0.00233	\$ 0.00282	\$ 0.00299	\$ 0.00317	\$ 0.00336	\$ 0.00356	
<b>Average SFR Monthly Impact*</b>	\$ -	\$ 1.47	\$ 0.51	\$ 0.54	\$ 0.57	\$ 0.61	
Cumulative Impact	\$ -	\$ 1.47	\$ 1.98	\$ 2.52	\$ 3.09	\$ 3.69	

Bi-Monthly Rate Schedule		Existing					
Customer Class	2012	2013	2014	2015	2016	2017	
Small Footprint	\$ 8.40	\$ 10.16	\$ 10.77	\$ 11.42	\$ 12.11	\$ 12.83	
Medium Footprint	\$ 14.00	\$ 16.94	\$ 17.96	\$ 19.03	\$ 20.18	\$ 21.39	
ISA > 3,000 square feet	\$ 0.00466	\$ 0.00564	\$ 0.00598	\$ 0.00634	\$ 0.00672	\$ 0.00712	
<b>Average SFR Monthly Impact*</b>	\$ -	\$ 2.94	\$ 1.02	\$ 1.08	\$ 1.14	\$ 1.21	
Cumulative Impact	\$ -	\$ 2.94	\$ 3.96	\$ 5.03	\$ 6.18	\$ 7.39	

\*Average SFR assumed to be Medium Footprint

Storm & Surface Water Utility	2012	2013	2014	2015	2016	2017
<b>Across-the-Board Rate Increase:</b>	0.00%	21.00%	6.00%	6.00%	6.00%	6.00%
Cumulative Increase	0.00%	21.00%	28.26%	35.96%	44.11%	52.76%

## SECTION 4: MONTHLY BILLING SCENARIO

The City currently bills most of its customers on a bimonthly basis, but it has been considering the possibility of converting to monthly billing for all customers. Based on estimates from City staff, this conversion would cost between \$10,000 and \$30,000 and would increase the City’s ongoing billing costs by about \$361,750 per year. This cost is allocated between the water, sewer, and stormwater utilities based on the number of accounts served by each utility—35.5%, 33.8%, and 30.7%, respectively. Exhibit 10 shows the impacts of this program on the stormwater utility. There is a small one time cost, with on-going costs of approximately \$111,000 per year.

**Exhibit 10: Monthly Billing Costs – SSW**

Monthly Billing Costs - SSWU Portion	
Monthly Billing - One Time Conversion	\$ 9,215
Monthly Billing - Ongoing Staff	59,512
Monthly Billing - Ongoing Other	51,603
Total:	<b>\$ 120,330</b>

The effects of these costs on the rates can be seen in Exhibit 11. Without monthly billing, stormwater rates are projected to rise by 21% in 2013. With monthly billing, the 2013 increase is 23.5%. After 2013, the increases are the same with both scenarios.

**Exhibit 11: Rate Effects of Monthly Billing Conversion**

Monthly Billing Costs Included

Storm & Surface Water Utility	2012	2013	2014	2015	2016	2017
<b>Across-the-Board Rate Increase:</b>	0.00%	23.50%	6.00%	6.00%	6.00%	6.00%
Cumulative Increase	0.00%	23.50%	30.91%	38.76%	47.09%	55.92%

Monthly Billing Costs Excluded

Storm & Surface Water Utility	2012	2013	2014	2015	2016	2017
<b>Across-the-Board Rate Increase:</b>	0.00%	21.00%	6.00%	6.00%	6.00%	6.00%
Cumulative Increase	0.00%	21.00%	28.26%	35.96%	44.11%	52.76%

Monthly billing would have a larger relative impact on stormwater than on the water and sewer utilities, because billing is a larger share of the stormwater costs. Based on the staff recommendation not to implement monthly billing at this time, it is not assumed in the recommended rate schedule.

## SECTION 5: RATE COMPARISON WITH OTHER JURISDICTIONS

---

Exhibit 12 shows a comparison of stormwater rates for single-family residential customers in a variety of cities in Western Washington, from Tacoma on the south to Blaine on the north. The chart shows other cities' rates for 2012; for Bellingham, it shows existing 2012 rates and projected rates for 2013.

**Exhibit 12: Single-family Residential Stormwater Rate Comparison**

City	2012	Population
Sumas	\$ 1.50	1,307
Bellingham (Small) 2012	4.20	80,885
Blaine	4.37	4,684
Anacortes	5.00	15,778
Bellingham (Small) 2013	5.08	80,885
Arlington	5.82	17,926
Mount Vernon	6.05	31,743
Lynden	6.30	11,951
Burlington	6.30	8,388
Bellingham (Medium) 2012	7.00	80,885
Lynnwood	7.52	35,836
Mukilteo	8.32	20,254
Bellingham (Medium) 2013	8.47	80,885
Marysville	10.40	60,020
Kent	10.56	92,411
Renton	11.51	90,927
Ferndale	12.00	11,415
Stanwood	12.25	6,231
Seattle (< 3,000 sq. ft.)	12.44	608,660
Everett	12.80	103,019
Tacoma	17.82	198,397
Median 2012 (Medium-Footprint)	\$ 7.92	

Bellingham's medium-footprint rate of \$7.00 is currently less than the median rate of \$7.92 for this sample. If we compare the projected 2013 Bellingham rate against the 2012 rates from other communities, then the median rate would be \$8.40, with Bellingham at \$8.47. So Bellingham's medium-footprint rate is squarely in the middle of the comparison group, even after the big 21% increase in 2013.

There are several other things to note from this comparison. One is that the percentage increase in Bellingham appears high in part because it is applied to a low base. For example, a 21% increase to a medium-footprint customer in Bellingham would cost the customer \$1.47 per month. That same \$1.47 in Everett would only be an 11% increase. Secondly, even after five years of increases, the Bellingham medium-footprint house would still not be at the top of the group today. For example, five years from now a medium-footprint house in Bellingham is projected to pay \$10.69, which is less than a single-family residential customer now pays in Seattle, Tacoma, Ferndale, Renton, and Everett.

Finally, it appears that in this sample, cities with larger populations tend to have higher stormwater rates than smaller communities. This could be because of denser development patterns, with a greater overall percentage of impervious surface creating more requirements for stormwater retention and water quality facilities. Of the seven cities in this sample with a population greater than 50,000, Bellingham's medium-footprint stormwater rate is currently the lowest. Even after a 21% increase in 2013, Bellingham's rate would still be the lowest of the large cities, with nearly a \$2.00 per month difference between Bellingham and the next lowest large city.

## SECTION 6: TOTAL MONTHLY CHARGES

---

### 6.1. HYPOTHETICAL CUSTOMERS

Exhibit 13 shows the total impact on a hypothetical set of customers from the recommended increases in the water, sewer, and stormwater rates. We calculated a combined monthly charge for three types of single-family residential customers—unmetered, existing metered, and newly metered after having previously been unmetered (“transitional”). The unmetered customer is assumed to stay unmetered until the last of the meters are installed, in 2016. The hypothetical transitional customer is assumed to have a meter installed in 2012 and then use 7 ccf of water per month. The existing metered single-family customer is assumed to consume only 6 ccf of water per month. From 2016 on, the existing metered single-family customers and transitional customers are projected to pay the same rates, but for the first three years of the metering program, their rates are assumed to be separate, with the existing metered single-family group gradually moving toward the rate structure of the transitional class, in which 65% of the revenue comes from the fixed charge. All single-family customers are assumed to have a medium-footprint lot and 5/8”x3/4” meters (when they are metered).

We also projected a combined monthly charge for an apartment building and a commercial building. Our hypothetical apartment building is assumed to have a 1” meter and consume 25 ccfs of water per month. The commercial building is assumed to have a 2” meter and consume 80 ccf/month. Both the apartment and commercial buildings are assumed to occupy a lot with 29,000 square feet of impervious surface area, which is the average impervious surface area for stormwater customers in the “large footprint” classification.

In Exhibit 13, each type of customer is shown in a separate block.

**Exhibit 13: Summary of Total Monthly Charges – Water, Sewer, Stormwater**

Unmetered Single-Family Residence (metered in 2016)	2012	2013	2014	2015	2016
Water Bill	\$29.96	\$32.66	\$35.27	\$38.09	\$41.14
Watershed Surcharge	12.00	12.30	12.56	12.84	13.23
<b>Total Water Bill</b>	<b>\$41.96</b>	<b>\$44.96</b>	<b>\$47.83</b>	<b>\$50.93</b>	<b>\$54.37</b>
Sewer Bill	33.23	33.97	35.07	37.24	39.47
Stormwater Bill (Medium)	7.00	8.47	8.98	9.52	10.09
<b>Total Water/Sewer/Stormwater Bill</b>	<b>\$82.19</b>	<b>\$87.40</b>	<b>\$91.88</b>	<b>\$97.69</b>	<b>\$103.93</b>
<b>Change From Prior Year</b>		<b>\$5.21</b>	<b>\$4.48</b>	<b>\$5.81</b>	<b>\$6.24</b>
<b>% Change From Prior Year</b>		<b>6.3%</b>	<b>5.1%</b>	<b>6.3%</b>	<b>6.4%</b>

Transitional SFR Metered in 2012 (5/8" Meter, Monthly Usage: 7 ccf)	2012	2013	2014	2015	2016	2017	2018
Water Bill	\$29.96	\$32.66	\$35.27	\$38.09	\$31.39	\$33.07	\$35.04
Watershed Surcharge	12.00	9.75	9.92	10.11	10.48	10.78	11.09
<b>Total Water Bill</b>	<b>\$41.96</b>	<b>\$42.41</b>	<b>\$45.19</b>	<b>\$48.20</b>	<b>\$41.87</b>	<b>\$43.85</b>	<b>\$46.13</b>
Sewer Bill	33.23	33.97	35.07	37.24	39.47	41.66	43.16
Stormwater Bill (Medium)	7.00	8.47	8.98	9.52	10.09	10.69	11.01
<b>Total Water/Sewer Bill</b>	<b>\$82.19</b>	<b>\$84.85</b>	<b>\$89.24</b>	<b>\$94.96</b>	<b>\$91.43</b>	<b>\$96.20</b>	<b>\$100.30</b>
<b>Change From Prior Year</b>		<b>\$2.66</b>	<b>\$4.39</b>	<b>\$5.72</b>	<b>(\$3.53)</b>	<b>\$4.78</b>	<b>\$4.10</b>
<b>% Change From Prior Year</b>		<b>3.2%</b>	<b>5.2%</b>	<b>6.4%</b>	<b>-3.7%</b>	<b>5.2%</b>	<b>4.3%</b>

Metered Single-Family Residence (5/8" Meter, Monthly Usage: 6 ccf)	2012	2013	2014	2015	2016	2017	2018
Water Bill	\$20.79	\$22.58	\$23.99	\$25.44	\$29.67	\$31.25	\$33.10
Watershed Surcharge	8.84	9.09	9.25	9.43	9.77	10.05	10.34
<b>Total Water Bill</b>	<b>\$29.63</b>	<b>\$31.67</b>	<b>\$33.24</b>	<b>\$34.87</b>	<b>\$39.44</b>	<b>\$41.30</b>	<b>\$43.44</b>
Sewer Bill	33.23	33.97	35.07	37.24	39.47	41.66	43.16
Stormwater Bill (Medium)	7.00	8.47	8.98	9.52	10.09	10.69	11.01
<b>Total Water/Sewer/Stormwater Bill</b>	<b>\$69.86</b>	<b>\$74.11</b>	<b>\$77.29</b>	<b>\$81.63</b>	<b>\$89.00</b>	<b>\$93.65</b>	<b>\$97.61</b>
<b>Change From Prior Year</b>		<b>\$4.25</b>	<b>\$3.18</b>	<b>\$4.34</b>	<b>\$7.37</b>	<b>\$4.66</b>	<b>\$3.96</b>
<b>% Change From Prior Year</b>		<b>6.1%</b>	<b>4.3%</b>	<b>5.6%</b>	<b>9.0%</b>	<b>5.2%</b>	<b>4.2%</b>

Apartment Building - 29,000 imp. sf (1" Meter, Monthly Usage: 25 ccf)	2012	2013	2014	2015	2016	2017	2018
Water Bill	\$82.70	\$88.60	\$93.80	\$99.26	\$106.72	\$113.03	\$119.57
Watershed Surcharge	21.00	21.63	21.98	22.35	23.26	23.92	24.59
<b>Total Water Bill</b>	<b>\$103.70</b>	<b>\$110.23</b>	<b>\$115.78</b>	<b>\$121.61</b>	<b>\$129.98</b>	<b>\$136.95</b>	<b>\$144.16</b>
Sewer Bill	92.56	103.50	114.29	122.07	131.78	140.26	146.35
Stormwater	67.57	81.76	86.67	91.87	97.38	103.22	106.32
<b>Total Water/Sewer/Stormwater Bill</b>	<b>\$263.83</b>	<b>\$295.49</b>	<b>\$316.74</b>	<b>\$335.55</b>	<b>\$359.14</b>	<b>\$380.43</b>	<b>\$396.83</b>
<b>Change From Prior Year</b>		<b>\$31.66</b>	<b>\$21.25</b>	<b>\$18.81</b>	<b>\$23.59</b>	<b>\$21.29</b>	<b>\$16.40</b>
<b>% Change From Prior Year</b>		<b>12.0%</b>	<b>7.2%</b>	<b>5.9%</b>	<b>7.0%</b>	<b>5.9%</b>	<b>4.3%</b>

Commercial - 29,000 imp. sf (2" Meter, Monthly Usage: 80 ccf)	2012	2013	2014	2015	2016	2017	2018
Water Bill	\$258.29	\$276.68	\$293.09	\$310.34	\$333.20	\$352.47	\$372.57
Watershed Surcharge	56.20	57.93	58.83	59.75	62.31	64.07	65.84
<b>Total Water Bill</b>	<b>\$314.49</b>	<b>\$334.61</b>	<b>\$351.92</b>	<b>\$370.09</b>	<b>\$395.51</b>	<b>\$416.54</b>	<b>\$438.41</b>
Sewer Bill	309.01	328.45	370.59	396.52	430.43	459.26	480.20
Stormwater	67.57	81.76	86.67	91.87	97.38	103.22	106.32
<b>Total Water/Sewer/Stormwater Bill</b>	<b>\$691.07</b>	<b>\$744.82</b>	<b>\$809.18</b>	<b>\$858.48</b>	<b>\$923.32</b>	<b>\$979.02</b>	<b>\$1,024.93</b>
<b>Change From Prior Year</b>		<b>\$53.75</b>	<b>\$64.36</b>	<b>\$49.30</b>	<b>\$64.84</b>	<b>\$55.70</b>	<b>\$45.91</b>
<b>% Change From Prior Year</b>		<b>7.8%</b>	<b>8.6%</b>	<b>6.1%</b>	<b>7.6%</b>	<b>6.0%</b>	<b>4.7%</b>

## 6.2. RESULTS

**Residential Customers** – For residential customers, as long as a given property is remains unmetered, total monthly charges are expected to increase by between 5.1% and 6.3% per year.

For newly metered single-family customers who consume 7 ccf per month, the first year after converting from the unmetered to the transition schedule results in a smaller-than-average increase. The reason is that after metering, not only is the fixed charge for water reduced but the watershed fixed charge is also reduced from \$12.00 to \$5.00 per month. The \$7.00 reduction of the watershed charge amplifies the reduction in the water fixed charge. For instance, when a single-family customer goes from the unmetered 2012 rate to the transitional 2013 rates, the water and watershed fixed charges combined go from \$41.96 per month to \$21.33 per month. For someone using 7 ccf of water per month, that reduction significantly offsets the addition of the new consumption charge in the first year after metering. In this example, the newly metered customer's total monthly charge shown on Exhibit 13 goes from \$82.19 (in the unmetered block) to \$84.85 (in the transitional block), which is a 3.2% increase.

Once a customer has converted to the transitional rate class, the increase in total monthly charge after 2013 ranges from 4.3 to 6.4%, with the exception of 2016. In 2016, the existing metered single-family rate is merged with the transitional rate, which freezes the fixed charge for the transitional customers and increases it for the existing metered single-family customers. As a result, for newly metered customers using 7 ccf/month, the total monthly charge in 2016 drops by 3.7%. The opposite is true for the existing metered single-family class: in 2016 their increase is above-average (9.0%), whereas in other years the increase ranges from 4.2% to 6.1%.

**Multi-Family and Commercial Customers** – For our hypothetical apartment building, the 2013 increase is 12%, due to a one-time adjustment to make the relative distribution of sewer charges better reflect the actual cost of providing sewer service. After 2013, the total monthly charge for the apartment building increases by between 4.3% and 7.2% per year.

For the hypothetical commercial building, the increase in the total monthly charge ranges from 4.7% to 8.6% per year.

## 6.3. IMPACT OF STORMWATER RATE INCREASES

Between 2012 and 2013, the 21% increase in stormwater rates noticeable affects the total monthly charge. For single-family customers, the increase in total monthly charge ranges from \$2.66 to \$5.21 per month, and the stormwater rate accounts for \$1.47 of that increase. For our hypothetical apartment building and commercial building, the total increase in 2013 is either \$31.66 or \$53.75 per month, and the stormwater rate increase accounts for \$14.19 of that. After 2013, however, the impact of the stormwater rate increases is less noticeable compared with changes in the larger water and sewer bills.