Service Delivery Study

For

Sanitary Sewer and Surface Water Management Systems

Public Works Department

November 1, 2013

Hillsboro
Public Works

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Service Delivery Study Purpose

A service delivery study (SDS) was undertaken to assess the costs to provide services for the City's sanitary sewer collection (Sewer) and surface water management (SWM) programs. Current staff is unaware of a previous cost of service study ever being performed by the City for either the sewer or surface water management operations. The SDS has three purposes.

1. Review the current and future forecasted costs to provide services for both Sewer and SWM and compare it to the City's proportionate share of the fees charged for providing the City's services. The analysis will also include quantifying: a) the cost of services required under the Intergovernmental Agreement (IGA) with Clean Water Services (CWS), b) fleet and equipment replacement requirements, and c) infrastructure replacement costs. The analysis will provide a review of the sewer and SWM financial history, followed by financial forecasts assuming no rate increases as well as a proposed rate increase.
2. Determine if the local component of the rates set by Clean Water Services are sufficient to fund these programs now and into the future.
3. Make recommendations to Council based on the information obtained from the study.

This report summarizes the analyses, conclusions, and recommendations necessary to fund and maintain safe, reliable, and high quality Sewer and SWM services for Hillsboro customers.

Background

The City's Transportation, Sewer and SWM programs are organized as enterprise funds[1]. Along with the Facilities Development and Fleet Services, they comprise the core services managed by the Public Works Department. For the purpose of this study, only Sewer and SWM programs are analyzed.

Sewer - The City owns, operates, and maintains the gravity sewer collection system for lines less than 24" in diameter within the City's urban services boundary. Lines 24" and larger in diameter, pump stations, force mains, and treatment facilities are owned, operated, and maintained by CWS. Sewage from Hillsboro is conveyed via the City's piped collection system to either the Hillsboro West Treatment Plant or the Rock Creek Treatment Plant. The roles and responsibilities for the conveyance and treatment of sewage were established through a 1970 intergovernmental agreement. This IGA has been updated numerous times over the last 43 years to comply with federal and state regulations. The updated sewer requirements have been included in the IGA by CWS Resolutions and Orders (R&Os) and adopted without exception by City Council via resolution.

SWM - In the late 1980's, Washington County and cities in the Tualatin Basin were sued by a third party under the provisions of the Federal Clean Water Act. In that suit, the plaintiff argued that stormwater runoff from development in the basin was polluting the Tualatin River. A settlement was reached that resulted in the 1990 formation of a regional stormwater program managed by CWS. The cities partnered with CWS to cooperatively implement the standards necessary to manage stormwater quantity and quality within the District's service area. As a result, the roles and responsibilities for Hillsboro's SWM program are governed by an IGA with CWS. Periodically, this IGA has been adjusted to account for changes in program requirements and federal and state regulations relative to stormwater quality management. The updated SWM requirements have been included in the revised R&Os and adopted without exception via City Council resolution.

[1]Enterprise Funds – a fund established to account for operations that are financed and operated in a manner similar to private business enterprises.

Partnership Status with Clean Water Services

The City has maintained a long-term partnership with CWS. As discussed above, the working relationship between CWS and the City is structured and contractual. Under the current IGA, the City operates its Sewer and SWM systems within the boundaries of CWS' regional service area (ORS 451 County Service District). CWS holds the National Pollutant Discharge Elimination System (NPDES)[2] permit which is combined with CWS' Municipal Separate Storm Sewer System (MS4)[3] permit that encompasses all the cities and unincorporated areas within the CWS boundary. CWS is responsible for permits affecting the quality of discharges from their sewer treatment plants and for a district wide stormwater system permit. The Department of Environmental Quality (DEQ) has specific requirements in these permits directing CWS to establish operating and maintenance standards applicable to the entire service area (including cities) aimed at meeting these discharge conditions.

CWS and Hillsboro share maintenance responsibilities for the gravity sewer system with CWS responsible for the maintenance of pipes with diameters 24" and larger and the City for pipe diameters less than 24". The City is responsible to maintain the entire SWM system except for regional water quality facilities which CWS maintains. In its capacity as holder of the combined water quality watershed permit, CWS has established the primary operations and maintenance service levels that each city must meet as detailed in the CWS performance and inspection standards summarized in Table 1 below.

Table 1 – Summary of CWS-Required Sewer and SWM Operations and Maintenance Activities

Sanitary Sewer Collection System	Surface Water Management System
• Annual inspection and maintenance of 6,123 sewer manholes, including 230 manholes in stream corridors or environmentally sensitive areas.	• Annual inspection and maintenance of: ✓ 4,909 storm manholes, including bi-annual cleaning of 169 water quality manholes ✓ 7,663 catch basins cleaned annually ✓ 15 storm filter vaults inspected annually and filters replaced every 1-3 years
• Televised inspection every 8 years and cleaning at least every 4 years of 258 miles of sewer lines. Some "hot spot" lines are inspected and cleaned on a bi-annual, annual or semi-annual basis depending upon the amount of grease discharged to the system.	• Televised inspection every 8 years and cleaning at least every 6 years of 252 miles of storm drainage pipes.
• Annual inspection of 360 food service establishments for Fats, Oils and Grease (FOG) management and FOG separator and pump out inspections.	• 362 curb miles of street sweeping per month. This includes sweeping every City street at least once a month, high volume streets several times a month and the downtown area two times per month. The City also sweeps all county and State roads within the City.
• Emergency response to sanitary sewer system issues including overflows, clogging, and customer complaints.	• Inspection (4-6 visits annually) and maintenance of 192 public water quality facilities, which use vegetation to filter stormwater before it enters wetlands and streams.
• Ongoing maintenance of many lines to prevent sewer system overflows and reduces inflow and infiltration.	• Annual inspection of 220 private water quality facilities. Provide owners with condition report and best management practices (BMPs) for maintenance. A 4-year inspection cycle, 25% each year required.
	• Maintenance of 790 stormwater outfall structures, approximately 17 miles of ditches and an unknown number of road and driveway culvert and structures.
	• Annual leaf pick-up program over a 3-month period. The City's Leaf program includes curbside pick-up of leaves on City and private streets (with a storm drainage system), bulk leaf drop collection and disposal on 4 scheduled Saturdays to reduce flooding caused by clogs in storm drains.
	• Respond to illicit discharge and hazardous material spill response.
	• Enforcement of erosion control requirements at construction sites and inspection of environmentally sensitive areas and wetlands.

[2]National Pollutant Discharge Elimination System (NPDES) – a provision of the Clean Water Act that prohibits discharge of pollutants into waters of the U.S. unless a special permit is issued by the Environmental Protection Agency (EPA), a state or a tribal government.

[3]Municipal Separate Storm Sewer System (MS4) – a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains).

Fee Calculation Methodology

CWS sets the base user rates and system development charges (SDC) for Sewer and SWM throughout its service area. The rates are divided into a "Local" and a "District-wide" component. The "District-wide" component of the rate covers the cost for CWS to provide regional services—like treatment, pump station operations, regulatory permitting, etc.—across the entire service area. The "Local" component of the rate is based on CWS's average cost to accomplish each task itemized in Table 1 on the portions of the systems in the district they maintain. The CWS Board adopted the current CWS rates in June, 2013. As of July 1, 2013, the monthly service rates for a typical single family residential customer are $38.46 for Sewer ($25.10 District-wide portion and $13.36 Local portion) and $6.25 for SWM ($1.56 District-wide and $4.69 Local).

Business and industrial customers pay for sewer service using an equivalent dwelling unit (EDU) base charge plus a customer-specific volume charge based on average winter water usage. Customers are billed for SWM based on impervious area using a residential equivalent service unit (ESU) factor of 2,640 square feet equaling 1 ESU. This represents the impervious service area of an average home.

Under the IGA, Cities retain the right to add a rate surcharge to recover program costs not recovered by the local component of the CWS regional Sewer or SWM rates. Historically, Hillsboro has not elected to apply a local rate surcharge and has simply adopted the regional rates. All other cities in Washington County have opted to implement local surcharges on Sewer, SWM, or both.

Historical trends in the regional sewer rate

Since 1970 when the Unified Sewage Agency of Washington County (USA) was formed, Hillsboro has relied on the ratemaking authority of USA (now CWS) for funding. Historically, CWS sets the District-wide and local components of the sewer rate for implementation on July 1 of each year. When USA was formed in 1970, the sewer revenue split between the District and cities was 70% to USA and 30% to the cities. Over the years, this revenue sharing percentage has changed. Currently, CWS retains 84% of sewer rate revenue and the cities retain the remaining 16%. This shift in sewer revenue sharing was based on rate studies performed by CWS and reflects the District's expanding role in taking on more responsibility for capital replacement projects within the cities. For this greater share of the sewer revenue, CWS is now responsible for pipe replacement projects of sewer lines greater than 12" in diameter while the City is still responsible to maintain sewer lines 21" in diameter and smaller. For fiscal year 2013-14, the sewer rate was increased by 3% resulting in an average residential increase of $1.13 per month from the previous year, equivalent to an average residential rate of $38.46 per month.

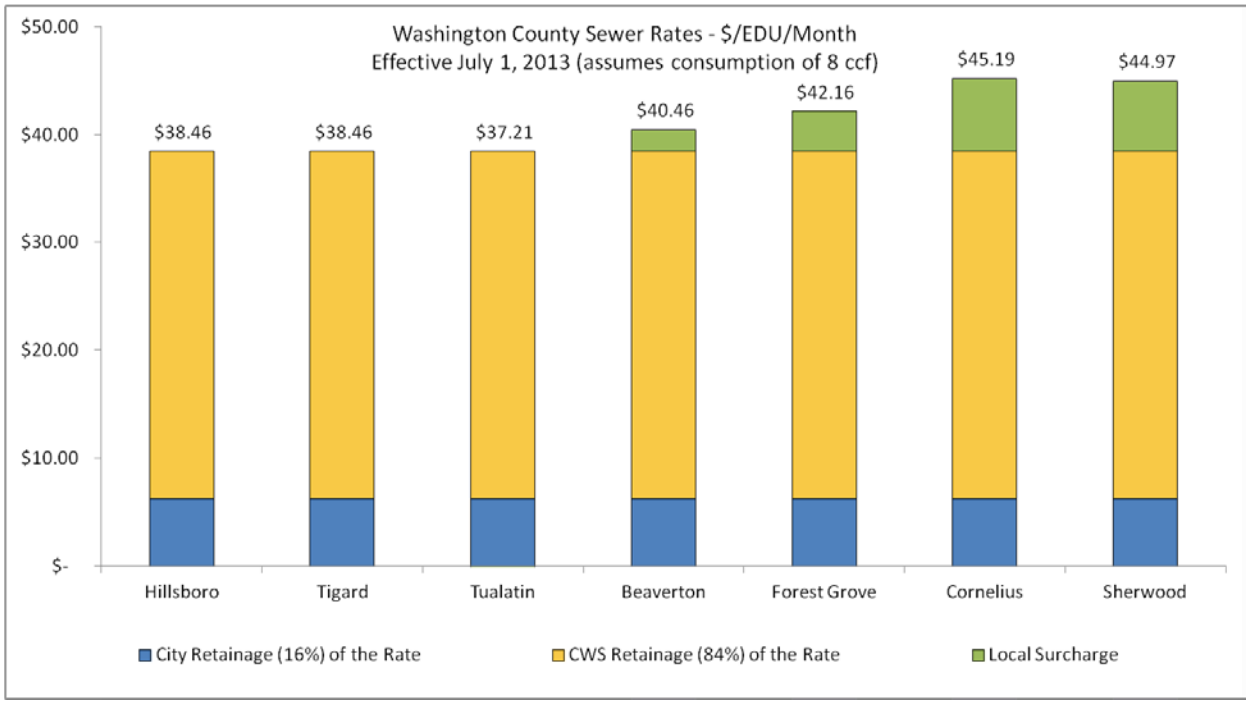
Historical trends in the regional SWM rate

Since the implementation of the SWM program in 1990, the SWM revenue split between the District and cities has remained constant. CWS retains 25% of SWM rate revenues for funding of the regional stormwater management program. The cities retain 75% for SWM system maintenance outlined in Table I. When the SWM program was implemented in 1990, the initial monthly rate was set at $3.00 per ESU. This rate remained constant for eight years. Starting in 1999, the regional SWM rate was increased to $4.00 per month. This rate remained in place for another 10 years. Over the 2000-2009 timeframe, CWS recognized its SWM program operating costs exceeded SWM program revenues on a recurring basis. To fund the void, CWS (like Hillsboro) began spending down its SWM program operating reserves. In 2010, CWS conducted its own SWM service delivery study, and concluded the appropriate regional SWM monthly rate should be at least $7.50 per ESU. This information was presented to the CWS Board which concluded that such a large, one-time percentage rate increase was not acceptable due to the depressed economy. However, the CWS Board did agree to start phasing in regional SWM rate increases. In fiscal year 2010, the monthly rate increased by $0.25 per ESU. In each of the next four

years, CWS raised the monthly rate by $0.50, resulting in the current adopted fiscal year 2013-14 monthly rate of $6.25 per ESU. Although progress has been made on the rate side, the current rates are still 17% behind the rate determined to be needed in 2010. With increased maintenance requirements, system growth, and modest inflation, the program remains underfunded.

Figures 1 and 2 shows the status of Sewer and SWM rates respectively for cities within Washington County, as of July 1, 2013.

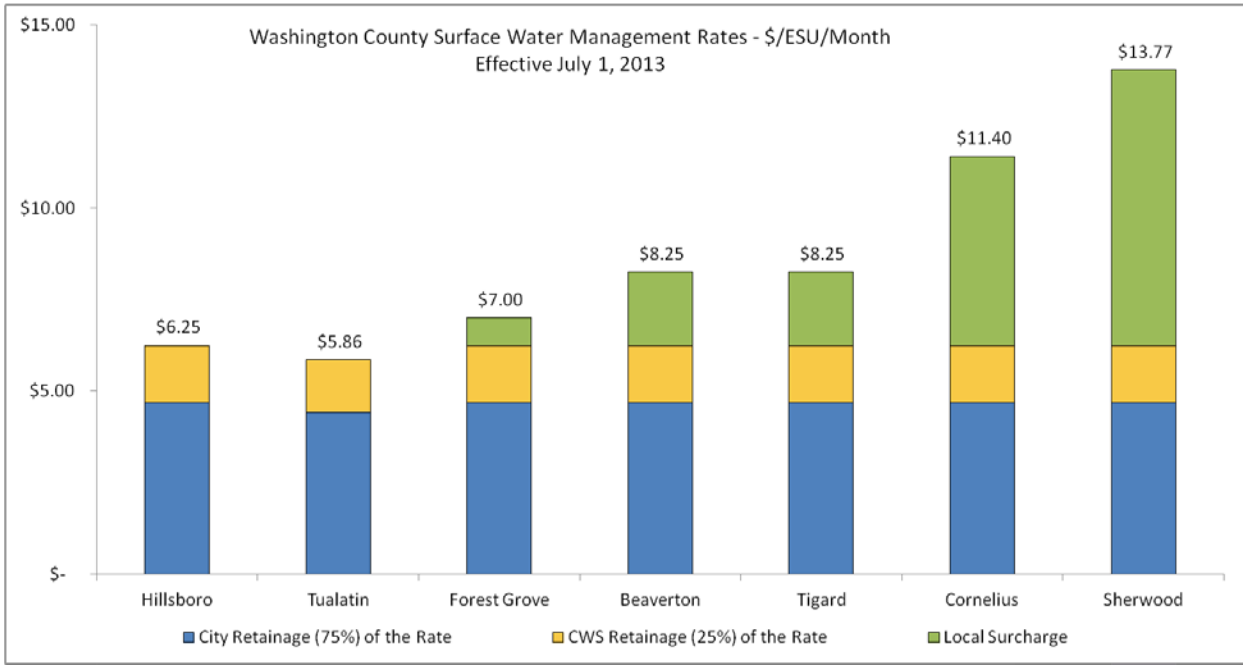
Figure 1 - Sewer Rates by Jurisdiction in the CWS Service Area



Sewer Surcharge Summary

Jurisdiction	District-wide and Local Rate	Local Surcharge July 2012	Local Surcharge July 2013	Percent Increase
Hillsboro	**38.46**	**-**	**-**	
Tigard	38.46	-	-	
Tualatin	38.46	1.09	1.28	3.4%
Beaverton	38.46	2.00	2.00	
Forest Grove	38.46	3.59	3.70	3.0%
Cornelius	38.46	5.93	6.73	4.3%
Sherwood	38.46	6.51	6.51	

Figure 2 - SWM Rates by Jurisdiction in the CWS Service Area



SWM Surcharge Summary

Jurisdiction	District-wide and Local Rate	Local Surcharge July 2012	Local Surcharge July 2013
Hillsboro	**6.25**	**-**	**-**
Tigard	6.25	2.00	2.00
Tualatin*	5.86	(0.11)	(0.39)
Beaverton	6.25	2.00	2.00
Forest Grove	6.25	0.75	0.75
Cornelius	6.25	5.15	5.15
Sherwood	6.25	7.52	7.52

*City collects reduced amount

Status of Hillsboro's Sewer and SWM Program Funding

Over the past five years, Hillsboro has funded the Sewer and SWM maintenance programs with revenues from regional rates and reserves. In order to maintain necessary service levels, both programs have drawn down reserves to the point where there is insufficient revenue to fund depreciation for facility (which created a backlog of projects), fleet, and equipment replacements. In the SWM Fund, the City has effectively exhausted its operating reserve base. Financial modeling of the Sewer and SWM programs indicate the ability to continue to match the current service levels with the current CWS rate funding is not sustainable.

Sewer Funds

The Sewer Program encompasses three funds collectively known as the Sewer Funds. The funds are Operating, Funded Depreciation, and System Development Charge (SDC). The Sewer Operating Fund covers the majority of costs associated with providing services under the CWS IGA. The Sewer Depreciation Fund is funded through transfers from the Sewer Operating Fund. It pays for the cost to replace vehicles, equipment, and sewer line rehabilitation and replacements. The SDC Fund collects system development charges on new development within Hillsboro and is used to construct new sewer lines to provide additional system capacity. SDC Funds cannot be used for general operations or system replacement costs. This is not an SDC study, and therefore, the SDC Fund is not included in the following analysis.

Table 2 below shows the history of the Sewer Operating Fund and Sewer Depreciation Fund over the last five years.

Table 2: Sewer Fund History (excluding SDC Fund)

Sewer Operating Fund					
	2007-08	**2008-09**	**2009-10**	**2010-11**	**2011-12**
Beginning Working Capital	1,737,490	1,606,198	2,518,543	2,694,578	2,512,706
Sewer Billings	15,491,335	17,236,463	17,608,927	18,586,602	19,657,654
Other Revenues	813,731	56,209	55,205	99,093	40,713
Surcharge	-	-	-	-	-
Total Revenues	16,305,066	17,292,672	17,664,132	18,685,695	19,698,367
Personnel Services/Material & Services/Special Payments	2,791,388	2,351,367	2,226,639	2,409,836	2,709,235
Capital Outlay	429,843	406,500	52,277	154,733	40,795
Franchise Fees	516,738	556,713	580,148	599,014	646,539
CWS Payments	12,025,656	12,595,926	13,816,456	15,145,984	15,521,560
Transfers to Depreciation Fund	617,054	-	-	-	-
Transfer - Other Departments	55,679	469,821	812,577	558,000	455,000
Total Expenditures	16,436,358	16,380,327	17,488,097	18,867,567	19,373,129
Net	(131,292)	912,345	176,035	(181,872)	325,238
Ending Working Capital	1,606,198	2,518,543	2,694,578	2,512,706	2,837,944
% of Ending Working Capital to Expenditure	*10%*	*15%*	*15%*	*13%*	*15%*

	2007-08	2008-09	2009-10	2010-11	2011-12
Sewer Depreciation Fund					
Beginning Working Capital	11,884,813	12,608,658	11,145,692	11,329,648	11,296,559
Transfers from Sewer Operating Fund	617,054	-	-	-	-
Interest & Other	555,875	361,423	211,429	111,898	80,105
Total Revenues	1,172,929	361,423	211,429	111,898	80,105
Projects & Equipment Replacements	449,084	1,824,389	27,473	144,987	83,793
Transfer to Facility	-	-	-	-	2,591,928
Total Expenditures	449,084	1,824,389	27,473	144,987	2,675,721
Net	723,845	(1,462,966)	183,956	(33,089)	(2,595,616)
Ending Working Capital	12,608,658	11,145,692	11,329,648	11,296,559	8,700,943
Total Working Capital Both Funds	14,214,856	13,664,235	14,024,226	13,809,265	11,538,887

Over the last four years, the Sewer Operating Fund has not been able to fund the Sewer Depreciation Fund as that transfer would have resulted in the Sewer Operating Fund reserves going below the recommended operating level reserves. Fortunately, the Sewer Depreciation Fund had built up reserves prior to the discontinuation of these fund transfers. Based on projected line replacement, vehicle, and equipment replacement, these reserves will also quickly be depleted without beginning to reestablish fund transfers annually.

At the end of fiscal 2011-12, the Sewer Operating Fund had an ending fund balance of $2,837,944 representing approximately eight months of total expenditures. Funding a healthy adequate operating reserve is vital to allow for unanticipated expenditures as well as a significant decrease in revenues associated with a loss of a large customer. Although there is no formal reserve policy for Enterprise Funds, the City's target for the General Fund is to maintain a 3-to-4 month operating reserve which equates to approximately 15% of the total expenditures. For the Sewer Operating Fund to maintain a similar operating reserve of three months, it equates to approximately 7% of the total expenditures in any given fiscal year. The reason for the significant difference in the percentage from the General Fund is a result of the payments to CWS. For Sewer, the City remits 84% to CWS - money that the City collects on CWS' behalf which is therefore not an operating expense.

Table 3 shows both the Sewer operating and funded depreciation fund reserve balances assuming capital and equipment replacements occur on the optimal five year schedule reflected in Table 5. Based on the reserve forecasts, funding for facility, vehicle and equipment replacements would need to be delayed well beyond five years. The forecast assumes annual user rate increases passed through from CWS of 3% plus a growth assumption in the customer base of 2%, as well as cost escalators of 6% related to personnel services for existing staff[4].

[4]Cost escalators of 6% includes PERS, benefits, and cost of living expenditures.

Table 3: Sewer Fund Forecast (excluding SDC Fund)

Sewer Operating Fund		**Current Year**	**Forecast**			
	2012-13	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**
Beginning Working Capital	2,837,944	3,451,012	3,741,369	3,204,458	2,566,095	1,983,945
Sewer Billings	20,624,680	22,368,462	23,500,306	24,689,421	25,938,706	27,251,204
Other Revenues	46,649	30,076	30,678	31,291	31,917	32,555
Surcharge	-	-	-	-	-	-
Total Revenues	20,671,328	22,398,538	23,530,983	24,720,712	25,970,623	27,283,760
Personnel Services/Material & Services/Special Payments	2,952,700	3,659,615	3,797,121	4,098,239	4,251,800	4,445,813
Capital Outlay	23,008	65,080	68,334	71,751	75,338	79,105
Franchise Fees	678,844	760,093	861,340	903,736	948,253	994,999
CWS Payments	16,198,708	17,246,624	18,661,099	19,605,350	20,597,381	21,639,608
Transfers to Depreciation Fund	-	196,769	500,000	500,000	500,000	500,000
Transfer - Other Departments	205,000	180,000	180,000	180,000	180,000	180,000
Total Expenditures	20,058,260	22,108,181	24,067,894	25,359,075	26,552,772	27,839,525
Net Increase (Decrease)	613,068	290,357	(536,911)	(638,363)	(582,150)	(555,765)
Ending Working Capital	3,451,012	3,741,369	3,204,458	2,566,095	1,983,945	1,428,180
% of Ending Working Capital to Expenditure	*17%*	*17%*	*13%*	*10%*	*7%*	*5%*
Sewer Depreciation Fund						
Beginning Working Capital	8,700,943	7,040,773	4,868,045	3,419,066	1,593,718	831,530
Transfers from Sewer Operating Fund	-	196,769	500,000	500,000	500,000	500,000
Interest & Other	1,732,422	1,295,550	146,041	102,572	47,812	24,946
Total Revenues	1,732,422	1,492,319	646,041	602,572	547,812	524,946

Sewer Depreciation Fund (continued)		Current Year	Forecast			
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Projects & Equipment Replacements	3,392,592	2,820,600	2,095,020	2,427,920	1,310,000	1,295,000
Transfer to Facility	-	844,447	-	-	-	-
Total Expenditures	3,392,592	3,665,047	2,095,020	2,427,920	1,310,000	1,295,000
Net Increase (Decrease)	(1,660,170)	(2,172,728)	(1,448,979)	(1,825,348)	(762,188)	(770,054)
Ending Working Capital	7,040,773	4,868,045	3,419,066	1,593,718	831,530	61,476
Total Working Capital Both Funds	10,491,785	8,609,413	6,623,524	4,159,813	2,815,475	1,489,655

FY 2012-13 are unaudited numbers

The Sewer Operating Fund indicates an adequate operating reserve percentage but the transfer to Depreciation Fund is insufficient to fund the capital improvement projects.

The above table reflects the specific issues facing the sewer program over the next five years:

a. The City will not have transferred adequate resources to the Depreciation Fund for sewer infrastructure, vehicle, and equipment replacements. The Depreciation Fund balance will be inadequate to meet replacement requirements based on the forecasted projects and equipment replacements.

   Public Works Department personnel are in the process of converting antiquated hand-written records to an electronic Asset Management software system. When fully implemented, the Cartegraph system will assist staff in identifying a 5-year capital replacement plan based on a pipe condition rating system to determine when facility replacement is needed, much like the rating system used in the pavement management program (PMP). Additionally, ongoing rehabilitation of the 1911/1936 Sanitary Sewer District is anticipated to extend another five years with an annual project cost of $1,200,000 followed by other areas with old and ageing sewer lines.

   The information utilized for this report on asset depreciation is the Finance Department's Comprehensive Annual Financial Report (CAFR) dated June 30, 2012 that indicates $1,030,431 in annual depreciation should be set aside for infrastructure replacement.

b. In lieu of using the annual depreciation for infrastructure replacement and equipment depreciation, the best data available is the 5-year capital improvement plans with an average cost of $1,990,000 (rounded).

Proposed Sewer Surcharge

Modeling the sewer program costs and anticipated depreciation funding needed to adequately fund items a. and b. above, the City would need to implement a surcharge of $1.85 per equivalent dwelling unit as reflected in the following table.

Calculation of Annual Cost and Sewer Surcharge:	
Sewer system capital projects (annual average)	1,990,000
Projects covered under the current fees collected	(900,000)
Total unfunded obligations	1,090,000
Divided by current total billable EDUs	48,994
Equals total annual local sewer surcharge per EDU	22.25
Monthly local Sewer surcharge per EDU	**$ 1.85**

Table 4 represents the Sewer Operating and Sewer Depreciation Funds assuming a $1.85 local surcharge and no additional personnel.

Table 4: Sewer Fund Forecast with Surcharge (excluding SDC Fund)

Sewer Operating Fund		**Current Year**		**Forecast**		
	2012-13	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**
Beginning Working Capital	2,837,944	3,451,012	1,710,055	1,782,564	1,775,809	1,847,900
Sewer Billings	20,624,680	22,368,462	23,500,306	24,689,421	25,938,706	27,251,204
Other Revenues	46,649	30,076	30,678	31,291	31,917	32,555
Surcharge ($1.85/EDU/Month)	-	**271,917**	**1,109,420**	**1,131,609**	**1,154,241**	**1,200,872**
Total Revenues	20,671,328	22,670,455	24,640,403	25,852,321	27,124,864	28,484,632
Personnel Services/Material & Services/Special Payments	2,952,700	3,659,615	3,797,121	4,098,239	4,251,800	4,445,813
Capital Outlay	23,008	65,080	68,334	71,751	75,338	79,105
Franchise Fees	678,844	760,093	861,340	903,736	948,253	994,999
CWS Payments	16,198,708	17,246,624	18,661,099	19,605,350	20,597,381	21,639,608
Transfers to Depreciation Fund	-	2,500,000	1,000,000	1,000,000	1,000,000	1,000,000
Transfer - Other Departments	205,000	180,000	180,000	180,000	180,000	180,000
Total Expenditures	20,058,260	24,411,412	24,567,894	25,859,075	27,052,772	28,339,525
Net Increase (Decrease)	613,068	(1,740,957)	72,509	(6,755)	72,091	145,107
Ending Working Capital	3,451,012	1,710,055	1,782,564	1,775,809	1,847,900	1,993,007
% of Ending Working Capital to Expenditure	*17%*	*7%*	*7%*	*7%*	*7%*	*7%*

FY 2013-14 surcharge amount reflects three months of revenue (implemented by April 1, 2014)

		Current Year	Forecast			
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Sewer Depreciation Fund						
Beginning Working Capital	8,700,943	7,040,773	5,946,134	4,909,595	3,530,691	3,255,998
Transfers from Sewer Operating Fund	-	2,500,000	1,000,000	1,000,000	1,000,000	1,000,000
Interest & Other	1,732,422	70,408	59,461	49,096	35,307	32,560
Total Revenues	1,732,422	2,570,408	1,059,461	1,049,096	1,035,307	1,032,560
Projects & Equipment Replacements	3,392,592	2,820,600	2,096,000	2,428,000	1,310,000	1,295,000
Transfer to Facility	-	844,447	-	-	-	-
Total Expenditures	3,392,592	3,665,047	2,096,000	2,428,000	1,310,000	1,295,000
Net Increase (Decrease)	(1,660,170)	(1,094,639)	(1,036,539)	(1,378,904)	(274,693)	(262,440)
Ending Working Capital	7,040,773	5,946,134	4,909,595	3,530,691	3,255,998	2,993,558
Total Working Capital Both Funds	10,491,785	7,656,188	6,692,159	5,306,500	5,103,898	4,986,565

FY 2012-13 are unaudited numbers

The financial plan presented at the end of 2017-18 recommends a cash reserve sufficient to cover sewer operating and maintenance for 3 months and future infrastructure replacements and emergency reserves of an additional $3 million.

The City plans for capital improvements during the forecast period for the sewer system are outlined in Table 5. The financial plan in Table 4 assumes the 5-year capital improvements in Table 5 will be constructed by 2017-18. Construction costs in 2013 dollars are estimated at $9,949,600 with an average of 2.5% calculated annually for inflation.

Table 5: Sanitary Sewer 5-year Capital Projects

Sanitary Sewer					
	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
Capital Projects:					
Bendemeer Re-route			118,000	110,000	
Country Haven Lateral		454,000	490,000		
North Hillsboro Trunk		442,000	560,000		
1911/1936 Sanitary I&I Abatement	2,775,600	1,200,000	1,200,000	1,200,000	1,200,000

Sanitary Sewer (continued)	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
Fleet Vehicle and Equipment	45,000		60,000		95,000
Total	**2,820,600**	**2,096,000**	**2,428,000**	**1,310,000**	**1,295,000**
			Average	**9,949,600/5 = 1,989,920**	

Surface Water Management (SWM)

Similar to Sewer, SWM has three funds commonly known as the Surface Water Management Funds. The funds are Operating, Funded Depreciation, and System Development Charge (SDC). The Operating Fund covers the majority of costs associated with providing services under the CWS IGA. The Depreciation Fund is supported through transfers from the Operating Fund. It pays for the cost of replacement of vehicles, equipment, and facility rehabilitation and replacements. The SDC Fund collects system development charges on new development within Hillsboro and is used to construct new SWM infrastructure to provide additional system capacity. SDC Funds cannot be used for general operations or system replacement costs and therefore, the SDC Fund was not included in the study.

Table 6 shows the history of the SWM Operating Fund and SWM Depreciation Fund over the last five years.

Table 6: SWM Fund History (excluding SDC Fund)

SWM Operating Fund	**2007-08**	**2008-09**	**2009-10**	**2010-11**	**2011-12**
Beginning Working Capital	387,352	(62,953)	514,629	618,794	834,536
SWM Billings	2,968,795	3,044,545	3,250,158	3,637,611	4,061,770
Other Revenues	401,513	1,073,855	234,561	231,898	152,645
Surcharge	-	-	-	-	-
Total Revenues	3,370,308	4,118,400	3,484,719	3,869,509	4,214,415
Personnel Services/Material & Services/Special Payments	2,362,879	2,498,929	2,340,518	2,481,582	2,785,695
Capital Outlay	565,482	174,103	-	31,219	35,799
Franchise Fees	103,679	107,538	113,266	123,130	140,720
CWS Payments	728,166	738,070	806,770	932,336	1,011,860
Transfers to Depreciation Fund	-	-	-	-	125,000
Transfer - Other Departments	60,407	22,178	120,000	85,500	45,000
Total Expenditures	3,820,613	3,540,818	3,380,554	3,653,767	4,144,074
Net	(450,305)	577,582	104,165	215,742	70,341
Ending Working Capital	(62,953)	514,629	618,794	834,536	904,878
	-2%	15%	18%	23%	22%

	2007-08	2008-09	2009-10	2010-11	2011-12
SWM Depreciation Fund					
Beginning Working Capital	1,214,973	1,269,431	338,085	219,238	202,792
Transfers from SWM Operating Fund	-	-	-	-	125,000
Interest & Other	58,009	26,575	5,433	2,021	2,287
Total Revenues	58,009	26,575	5,433	2,021	127,287
Projects & Equipment Replacements	3,551	32,989	24,280	18,467	10,881
Transfer to SWM Operating Fund	-	924,932	100,000	-	-
Total Expenditures	3,551	957,921	124,280	18,467	10,881
Net	54,458	(931,346)	(118,847)	(16,446)	116,406
Ending Working Capital	1,269,431	338,085	219,238	202,792	319,198
Total Working Capital Both Funds	1,206,478	852,714	838,032	1,037,328	1,224,076

In fiscal years 2008-09 and 2009-2010, the Depreciation Fund transferred $924,932 and $100,000 respectively back to the Operating Fund to meet operating requirements. Over the last five years, the Operating Fund saw an increasing reserve balance primarily due the lack of annual transfers to the Depreciation Fund, as well as delaying necessary water quality facility maintenance requirements. As a result of not making annual contributions to fund depreciation, the depreciation reserves are nearly depleted, while the need for capital and equipment replacements has not been met. Also, additional program requirements continue to grow as the system has expanded.

At the end of fiscal 2011-12, the SWM Operating Fund had an ending fund balance of $904,878 representing approximately three months of total expenditures. Although no formal reserve policy exists for the Enterprise Funds, the City's target for the General Fund is to maintain a 3-to-4 month operating reserve which equates to approximately 15% of the total expenditures. For the SWM Operating Fund to maintain a similar operating reserve of three months, approximately 20% of the total expenditures in any given fiscal year are needed. The reason for the significant difference in the percentage is a result of the payments to CWS. For SWM, the City remits 25% to CWS - money the City collects on CWS's behalf and not an operating expense.

Table 7 shows the negative impact of not including a recommended level of transfer from the Operating Fund to the Depreciation Fund for facility, vehicle, and equipment replacements over the next five years. The forecast assumes annual CWS rate increases of $0.50 per ESU plus a growth assumption in the customer base of 2% as well as cost escalators of 6% related to personnel services for existing staff[5].

[5]Cost escalators of 6% includes PERS, benefits, and cost of living expenditures.

Table 7: SWM Fund Forecast (excluding SDC Fund)

SWM Operating Fund		Current Year	Forecast			
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Beginning Working Capital	904,878	843,050	1,173,553	1,230,824	1,326,288	1,447,380
SWM Billings	4,464,287	5,451,732	6,005,627	6,579,499	7,173,922	7,789,491
Other Revenues	173,442	176,911	180,449	184,058	187,739	191,494
Surcharge	-	-	-	-	-	-
Total Revenues	4,637,729	5,628,642	6,186,076	6,763,557	7,361,661	7,980,985
Personnel Services/Material & Services/Special Payments	2,958,790	3,501,928	3,634,764	4,156,167	4,304,783	4,493,780
Capital Outlay	46,879	105,080	108,232	111,479	114,824	118,268
Franchise Fees	155,484	175,546	264,402	285,571	307,482	330,155
CWS Payments	1,118,404	1,253,898	1,501,407	1,644,875	1,793,481	1,947,373
Transfers to Depreciation Fund	300,000	141,688	500,000	350,000	600,000	850,000
Transfer - Other Departments	120,000	120,000	120,000	120,000	120,000	120,000
Total Expenditures	4,699,557	5,298,140	6,128,805	6,668,093	7,240,570	7,859,577
Net	(61,828)	330,502	57,272	95,464	121,091	121,408
Ending Working Capital	843,050	1,173,553	1,230,824	1,326,288	1,447,380	1,568,788
	18%	22%	20%	20%	20%	20%
SWM Depreciation Fund						
Beginning Working Capital	319,198	433,938	214,966	(1,109,005)	(2,657,760)	(4,468,123)
Transfers from SWM Operating Fund	300,000	141,688	500,000	350,000	600,000	850,000
Interest & Other	2,834	4,339	2,150	(11,090)	(26,578)	(44,681)
Total Revenues	302,834	146,027	502,150	338,910	573,422	805,319

SWM Depreciation Fund (continued)		Current Year	Forecast			
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Projects & Equipment Replacements	188,094	365,000	1,826,120	1,887,665	2,383,786	2,111,329
Transfer to SWM Operating Fund	-	-	-	-	-	-
Total Expenditures	188,094	365,000	1,826,120	1,887,665	2,383,786	2,111,329
Net	114,740	(218,973)	(1,323,970)	(1,548,755)	(1,810,364)	(1,306,010)
Ending Working Capital	433,938	214,966	(1,109,005)	(2,657,760)	(4,468,123)	(5,774,134)
Total Working Capital Both Funds	1,276,989	1,388,518	121,820	(1,331,472)	(3,020,744)	(4,205,346)

FY 2012-13 are unaudited numbers

The SWM Operating Fund indicates an adequate operating reserve percentage but the transfer to Depreciation Fund is insufficient to fund the capital improvement projects.

Table 7 identifies the specific issues facing the SWM program over the next five years.

a. The current SWM regional rate is insufficient to fund mandated program requirements as identified in CWS' 2010 analysis which concluded the appropriate monthly rate should be $7.50 per ESU. Since 2010, the incremental rate increases have only added $2.25 to the rate, which is 83% of the increase recommended in 2010.
b. Hillsboro cannot fully fund storm water depreciation under the current rate. For fiscal year 2012-13, a $300,000 transfer was budgeted from the Operating Fund to the Depreciation Fund for vehicle and equipment replacements and some facility replacements. However, in prior years, between fiscal year 2008 to 2011, the City made no transfers of rate revenues in support of capital replacements. A 5-year vehicle replacement and equipment depreciation schedule have been prepared and resulted in an annual depreciation of $133,288.
c. Since fiscal year 2008, the City has relied on the Depreciation Fund balance as the primary funding source for infrastructure replacement projects, which has been minimal due to the lack of funding. As the system ages, demands for replacements will grow, and the Depreciation Fund balance is inadequate to meet future replacement requirements. The information available on asset depreciation is the Finance Department's Comprehensive Annual Financial Report (CAFR) dated June 30, 2012 that indicates $611,504 annual depreciation should be set aside for infrastructure replacements.
d. In lieu of using the annual depreciation for infrastructure replacement and equipment depreciation, the best data available is the 5-year capital improvement plans with an average cost of $1,715,000 (rounded).
e. The Department has deferred maintenance on 158 water quality facilities (WQFs) located throughout Hillsboro. The IGA establishes regular maintenance schedules for all WQFs

requiring an average of 4 to 6 site visits per year. Based on inventory records, 141 out of 158 WQFs are in fair to very poor condition. The department will need to budget an average of $417,130 per year to rehabilitate its public WQFs (included in the 5-year CIP average).

f. Hillsboro has deferred maintenance on 790 outfall structures. To date, only 50 of these structures have been inspected. The analysis estimates the City will need to budget approximately $129,274 per year for annual routine maintenance related to these outfalls (included in the 5-year CIP average).

g. Maintenance of culverts, including large box culvert structures, has been deferred due to lack of funding and resources. Public Works staff is currently working on an inventory and rating for culverts. Without a good inventory and rating, it is not possible to request additional funding for culverts at this time.

Proposed SWM Surcharge

To adequately fund items a. thru g. above, the City would need to implement a surcharge of $1.94 per equivalent service unit as reflected in the following table:

Calculation of Annual Cost and SWM Surcharge:	
SWM system capital projects (annual average)	1,715,000
Projects covered under the current fees collected	(200,000)
Total unfunded obligations	1,515,000
Divided by current total billable ESUs	65,221
Equals total annual local sewer surcharge per ESU	23.23
Monthly local SWM surcharge per ESU	**$ 1.94**

Table 8 represents the SWM Operating and Sewer Depreciation Funds assuming a $1.94 local surcharge and no additional full time employee.

Table 8: SWM Fund Forecast with Surcharge (excluding SDC Fund)

SWM Operating Fund		Current Year	Forecast			
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Beginning Working Capital	904,878	843,050	1,553,139	1,759,122	1,884,272	2,116,643
SWM Billings	4,464,287	5,451,732	6,005,627	6,579,499	7,173,922	7,789,491
Other Revenues	173,442	176,911	180,449	184,058	187,739	191,494
Surcharge ($1.94/ESU/Month)	-	**379,586**	**1,548,712**	**1,579,686**	**1,611,280**	**1,643,505**
Total Revenues	4,637,729	6,008,228	7,734,788	8,343,243	8,972,941	9,624,490

FY 2013-14 surcharge amount reflects three months of revenue (implemented by April 1, 2014)

SWM Operating Fund (continued)		**Current Year**		**Forecast**		
	2012-13	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**
Personnel Services/Material & Services/Special Payments	2,958,790	3,501,928	3,634,764	4,156,167	4,304,783	4,493,780
Capital Outlay	46,879	105,080	108,232	111,479	114,824	118,268
Franchise Fees	155,484	175,546	264,402	285,571	307,482	330,155
CWS Payments	1,118,404	1,253,898	1,501,407	1,644,875	1,793,481	1,947,373
Transfers to Depreciation Fund	300,000	141,688	2,100,000	1,900,000	2,250,000	2,500,000
Transfer - Other Departments	120,000	120,000	120,000	120,000	120,000	120,000
Total Expenditures	4,699,557	5,298,140	7,728,805	8,218,093	8,890,570	9,509,577
Net	(61,828)	710,088	5,984	125,150	82,371	114,914
Ending Working Capital	843,050	1,553,139	1,559,122	1,684,272	1,766,643	1,881,557
	18%	29%	20%	20%	20%	20%
SWM Depreciation Fund						
Beginning Working Capital	319,198	433,938	214,966	490,995	508,240	379,537
Transfers from SWM Operating Fund	300,000	141,688	2,100,000	1,900,000	2,250,000	2,500,000
Interest & Other	2,834	4,339	2,150	4,910	5,082	3,795
Total Revenues	302,834	146,027	2,102,150	1,904,910	2,255,082	2,503,795
Projects & Equipment Replacements	188,094	365,000	1,826,120	1,887,665	2,383,786	2,111,329
Transfer to SWM Operating Fund	-	-	-	-	-	-
Total Expenditures	188,094	365,000	1,826,120	1,887,665	2,383,786	2,111,329
Net	114,740	(218,973)	276,030	17,245	(128,704)	392,466
Ending Working Capital	433,938	214,966	490,995	508,240	379,537	772,003
Total Working Capital Both Funds	1,276,989	1,768,104	2,050,118	2,192,512	2,146,180	2,653,560

FY 2012-13 are unaudited numbers

The financial plan presented at the end of 2017-18 reflects a cash reserve sufficient to cover SWM operating and maintenance for 3 months and future infrastructure replacements and emergency reserves of $1.7 million.

The City plans for capital improvements during the forecast period for the stormwater system as outlined in Table 9. The financial plan in Table 8 assumes the 5-year capital improvements in Table 9 will be constructed by 2017-18. Construction costs in 2013 dollars are estimated at $8,573,900 with an average of 2.5% calculated annually for inflation.

Table 9: SWM 5-year Capital Projects

SWM	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
Capital Projects:					
24th and Spruce Storm Replacement		132,600			
Culvert and Outfall Repairs		123,600	127,308	131,127	135,061
Storm Sewer Master Plan				500,000	500,000
Storm Sewer GIS Asset Inventory	100,000	300,000	300,000		
Water Quality Facility - Rehabilitation and routine maintenance		404,940	412,880	421,138	429,561
Replacement Cost for Storm Pipes with Structural Index of 4 or greater		438,600	447,372	456,319	465,445
1st Avenue Storm Sewer Replacement			250,920	263,160	
SE 12th Avenue Storm Sewer Replacement		130,780	97,340		
Hillwood Street Storm Improvement	40,000				
Connell & Garibaldi Street Improvements	135,000				
SE 60th Avenue Storm Outfall	40,000				
NE 24th Avenue Storm Sewer Replacement			11,424	127,500	
Hare Field Storm Sewer Replacement				65,892	74,562
Grant Street Storm Sewer Replacement				58,650	81,600
Flooding on Birch (between 230th and 229th)		155,600			
Flooding on Rachel (West of 1st Avenue)			157,621		
Upgrading Storm Sewer in Garibaldi (between railroad and Connell Ave)				255,000	

SWM (continued)	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
Capital Projects:					
Armco Storm Sewer					260,100
Flooding at Darnelle and 6th			52,800		
Fleet Vehicle and Equipment	50,000	140,000	30,000	105,000	165,000
Total	**365,000**	**1,826,120**	**1,887,665**	**2,383,786**	**2,111,329**
			Average	**8,573,900/5 = 1,714,780**	

Impacts on Utility Customers

Sanitary Sewer

A typical single family home in Hillsboro currently pays a total rate of $38.46 per month for sewer service. The Service Delivery Study is showing the need for a $1.85 per EDU per month local surcharge to recover revenues to fund critical program services. This local surcharge equates to a 4.8% rate increase. Sewer bills are comprised of two elements: a monthly base fee fixed at $25.10 per EDU per month and a usage component that varies based upon the amount of metered winter water consumption. That rate is $1.67 per hundred cubic feet. Due to this variable component, very large water users will see a relatively low percentage rate increase as a result of the recommended local sewer surcharge. In order to evaluate the impact of the sewer rate surcharge, nine representative customers were selected. Their bills were calculated using consumption data for the month of June 2013 and factored the CWS July rate increase.

Current regional sewer rate - Single Family Residential	$38.46
Proposed Hillsboro local sewer surcharge	$1.85

Customer	Equivalent Dwelling Units (EDUs)	July, 2013 Sewer Bill	Proposed Sewer Local Surcharge	July, 2013 Sewer Bill with Local Surcharge
Average Single Family Residence	1	38.46	1.85	$40.31
Wells Fargo	1.4	42.47	2.59	$45.06
McDonalds	6.6	307.80	12.21	$320.01
Target - Evergreen Parkway	7	347.77	12.95	$360.72
Regal Cinemas	25.7	801.50	47.55	$849.05
WinCo	38.2	1,213.16	70.67	$1,283.83
Hillsboro School District - Hillsboro High School	95.5	2,554.46	176.68	$2,731.14
250 Unit Multi-Family Residential Apartment Complex	250	3,018.06	462.50	$3,480.56
Intel - Ronler Acres	286.1	14,602.96	529.29	$15,132.25

Sample reflects monthly billing

Surface Water Management

The monthly total SWM rate is $6.25 per ESU. The Service Delivery Study demonstrates that the City needs an additional $1.94 per ESU to recover revenues to fund critical program services. This equates to a 31% increase from the current regional SWM monthly rate. The following actual bills for typical customers are calculated for the month of June 2013 and factored the CWS rate increase. The results are shown below.

Current regional SWM rate - Single Family Residential	$6.25
Proposed Hillsboro local SWM surcharge	$1.94

Customer	Equivalent Service Units (ESUs)	July, 2013 Sewer Bill	Proposed Sewer Local Surcharge	July, 2013 Sewer Bill with Local Surcharge
Average Single Family Residence	1	6.25	1.94	$8.19
Wells Fargo	10.7	66.88	20.76	$87.63
McDonalds	14.4	90.00	27.94	$117.94
Target - Evergreen Parkway	162.5	1,015.63	315.25	$1,330.88
Regal Cinemas	91.1	569.38	176.73	$746.11
WinCo	120	750.00	232.80	$982.80
200 Unit Multi-Family Residential Apartment Complex	121.6	760.00	235.90	$995.90
Hillsboro School District - Hillsboro High School	287.2	1,795.00	557.17	$2,352.17
Intel - Ronler Acres	744.7	4,654.38	1,444.72	$6,099.09

Sample reflects monthly billing

Funding Options for Council Consideration

The City operates and maintains its Sewer and SWM systems in accordance with the terms and conditions of the CWS IGA. As the Service Delivery Study (SDS) has shown, current regional rates do not generate the revenue necessary to fund IGA-required services and/or service levels, particularly in the case of the SWM program. This has resulted in an underfunded or, in some cases, unfunded service level mandate. Over the last five years, Hillsboro has achieved IGA compliance by supplementing rate revenues with sewer and SWM reserves with the exception of water quality facilities, culverts, and outfalls. In order to take appropriate action to address this situation, Public Works Department requests Council direction on four possible approaches.

1. Surcharges on Rates – The SDS has quantified monthly Sewer and SWM surcharges in the amounts of $1.85 per EDU per month and $1.94 ESU per month. These monthly surcharges would allow for adequate funding for replacements of sewer lines and storm facilities and would support required service levels for Sewer and SWM maintenance. If Council chooses to implement local surcharges, Hillsboro would join other large cities in the CWS service area that have determined the need and implemented additional funding in the way of a local surcharge to meet program requirements.
2. Phase-in Surcharges – Phasing-in these increases over time would reduce the rate impact on customers. The plan would not address all maintenance-related issues necessary at current levels of development in the City but by striking this balance, the Council can help the sewer and SWM rates move in a direction to provide the two utilities with sustainable funding into the future.
3. Reduced Surcharges – Reducing the surcharges reflected in option 2 would still make a difference in the SWM and Sewer program's ability to meet service level demands. With lower surcharges, projects would be scheduled out over a longer period, deferring the growing need for capital improvements and reinvestment in aging infrastructure, however additional funding in any amount will help the program meet current and future demands.
4. Status Quo – Under the status quo, the City will rely on CWS-established rates for total program funding. The City will need to review its IGA standards with CWS in order to either negotiate reduced levels of service for both programs or cut back on infrastructure replacements. Whether the conditions under which these reductions will be acceptable to CWS or allowed under current and anticipated NPDES/MS4 permit requirements is not known at this time.