

**BEFORE THE CITY COUNCIL
FOR THE CITY OF HOOD RIVER, OREGON**

Resolution No. 2015-20

A Resolution adopting a new wastewater system development charge schedule for new or existing developments requesting connection to or increasing the connection to the City's sewerage collection system and repealing all prior wastewater system development charge schedules and resolutions

The Hood River City Council finds as follows:

WHEREAS, ORS Chapter 223 authorizes cities to assess System Development Charges (SDCs) to finance capacity increasing system improvements needed to serve development; and

WHEREAS, the City of Hood River recently revised its SDC regulations and consolidated all such regulations into Chapter 12.07 of the Hood River Municipal Code addressing SDCs for transportation, sanitary sewer, water, stormwater and park systems; and

WHEREAS, the City has implemented its authority from ORS Chapter 223 by the adoption of HRMC Chapter 12.07 (System Development Charges), pursuant to which it has adopted, and from time to time amended, a sanitary sewer SDC methodology; and

WHEREAS, the City's has adopted the *Wastewater Facilities Plan* (HBH, Consulting Engineers February 2015) which presents the list of needed capital improvements and their cost; and,

WHEREAS, Economic & Financial Analysis prepared *Update Wastewater System Development Charge* (April 2015); and

WHEREAS, the City Council reviewed the *Update Wastewater System Development Charges*, a copy of which is attached as Exhibit A and incorporated herein by this reference; and

WHEREAS, at its August 24, 2015 regular City Council meeting the City Council deliberated on the recommendations in the *Wastewater Facilities Plan* and the *Update Wastewater System Development Charges* that together comprise the Findings.

NOW, THEREFORE, based on the foregoing Findings, the Hood River City Council resolves that all prior wastewater SDC resolutions are hereby repealed and rescinded.

BE IT FURTHER RESOLVED that *Update Wastewater System Development Charge*, dated April 2015, attached hereto as Exhibit A and incorporated herein by this reference, is hereby adopted and approved as the basis for the calculation and assessment of Wastewater System Development Charges for all development in the City seeking connection to or expansion of its connection to the sewer utility.

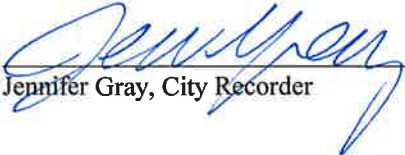
Approved this 24th day of August 2015 by a majority of the Hood River City Council and **effective** October 1, 2015.



Paul Blackburn, Mayor

ATTEST:

Approved as to form:



Jennifer Gray, City Recorder



Daniel Kearns, City Attorney

EXHIBIT A

City of Hood River, Oregon

UPDATE WASTEWATER SYSTEM DEVELOPMENT CHARGE

Prepared by:

ECONOMIC & FINANCIAL ANALYSIS

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April 2015

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INTRODUCTION

Economic & Financial Analysis (EFA) was retained by City of Hood River to prepare an update of the City's sewer system development charge (SDC), which was last updated in 2009. EFA updates the sewer SDC using the City of Hood River *Wastewater Facilities Plan*, February 2015, by HBH Consulting Engineers.

The State of Oregon Revised Statutes (ORS) 223.297 provides a uniform framework for establishing and updating SDCs. ORS 223.297 contains four major provisions: methodologies for calculating the SDC, policies that allow for credits against the SDC, restrictions on the use of SDC revenues, and accounting and management procedures.

This report addresses the calculation of the SDC. The City already has the other provisions in effect.

CALCULATION OF THE SEWER SYSTEM DEVELOPMENT CHARGE

The SDC contains three separate fees: a reimbursement fee, an improvement fee, and an optional administrative fee. EFA bases the reimbursement and improvement fees on the growth of population and equivalent residential units (ERUs). An ERU equals the volume of sewage produced by the average occupied single-family house. In calendar year 2011, 2,492 single-family ERUs used an average 6,900 gallons per month. From the City’s billing records, EFA determined that non-single-family residential customers used as much water as 2,254 single-family residences. The sum of single family ERUs and the number of non-single-family ERUs equals a total of 4,734 ERUs in 2011.

EFA assumes that the number of ERUs will increase at the same growth rate as population, which is 2%/year. EFA uses the ERUs to determine the reimbursement and improvement fees.

Table 1. Population and ERU growth

Year	Population	ERUs	% Δ	Avg. ann. % Δ
2011	8,842	4,734		
Growth	5,878	3,107		
2036	14,720	7,841	65.6%	2.0%
Growth	8,364	4,400		
2058	23,084	12,241	56.1%	2.0%

Sources: *Wastewater Facilities Plan* pp. 2–12, and City utility billing records for calendar year 2011.

Reimbursement Fee

The reimbursement fee equals to value of unused capacity in the existing wastewater system (defined as collection, transmission, treatment, and disposal of wastewater). EFA uses the book value (i.e., the original cost of constructing the system less accumulated depreciation) of existing fixed assets as the cost basis for the reimbursement fee. The City records all improvements to the system at the time of construction, and its auditor uses straight-line depreciation of the assets based on the asset’s expected useful life. In general, the collection system pipes are depreciated over seventy-five to one hundred years, while the mechanical elements—pump stations and the wastewater treatment plant (WWTP)—are depreciated over fifteen to thirty years.

The wastewater collection and transmission system is composed of over fifty-two miles of various sizes and materials of gravity collection pipes and six pump station and pressurized pipes. Mathematical modeling of the collection system indicates 0.69 miles of pipe in ten problem areas have capacity limits through the twenty-year planning period. The City is completing construction of a new Indian Creek pump station that relieves some of these problems. Other improvements to the five other pump stations are planned in the capital improvements list (discussed in the following section). With these improvements, most the existing collection system has excess capacity to handle growth in the flow of sewage. Most of the sewage collection system was designed to handle flows through build out (e.g., housing, commercial, and industrial land uses) of the geographic area. Much of the collection

system pipes were built by private developers as the City developed, and therefore these costs are not recorded on the City’s list of fixed assets. The City built all of the pump stations, and these assets are recorded in the City’s list of fixed assets.

The WWTP is the single largest fixed asset in the wastewater system, and its capacity is adjusted periodically to accommodate growth expected over the next twenty years. The WWTP has the shortest expected life owing to its mechanical nature and the nature of the material it treats.

WWTPs are built to accommodate current flows and flows not more than twenty years into the future.

Table 4-25 (pp. 4–39 of the *Wastewater Facilities Plan*) is summarized in table 2, and it shows that the City’s WWTP has the flow capacity to “...meet the 20-year design flow parameter.”¹

“The average biological oxygen demand (BOD) and total suspended solids (TSS) influent loads are approaching the average WWTP capacity...[that is]...caused by the capacity of the dewatered sludge storage bins.”² These improvements are itemized in the next section of this report.

In summary, the wastewater system has capacity to handle additional growth. The improvements discussed in the next section replace or enhance the current system.

Table 2 WWTP Capacities

Parameter	Units†	Used	Unused	Capacity	% Unused
Average daily dry-weather flow (ADDWF)	MGD	1.10	0.38	1.48	26%
Maximum monthly wet-weather flow (MMWWF)	MGD	2.34	0.56	2.90	19%
Peak daily flow (PDF)	MGD	5.71	0.50	6.21	8%
Peak instantaneous flow (PIF)	MGD	6.64	2.68	9.32	29%
Average BOD	PPD	5,400	(400)	5,000	-8%
Average TSS	PPD	5,000	(300)	4,700	-6%
Average aeration basin dissolved oxygen requirement	PPD	5,200	9,300	14,500	64%

†Units are million gallons/day (MGD) or pounds/day (PPD).
Source: *Wastewater Facilities Plan*, February 2015, pp. 4–39.

Table 3. Book value of wastewater system, June 30, 2014

Assets	2014 book value
Capital assets not being depreciated	\$802,243
Capital assets being depreciated	\$10,313,428
Capital Assets, Net	\$11,115,671

Source: City of Hood River, Annual Financial Report for the year ending June 30, 2014, p. 12.

¹ *Wastewater Facilities Plan*, pp. 4–39.

² Ibid.

The basic reimbursement fee for one ERU is the book value divided by the number of ERUs at build out, \$908 per ERU.

Improvement Fee

The basic improvement fee equals the value of capital improvements that must be built to meet the demands of forecast growth divided by the number of ERUs. EFA assumes two measures of growth: the number of ERUs at build out for the collection system projects and the number of ERUs in twenty years for the WWTP projects. The collection system projects are designed to handle the total flow of sewage in a drainage area assuming that the area is 100% built to urban zoning standards. The WWTP is built large enough to handle only growth over the next twenty years.

EFA worked with the City’s consulting engineers to establish which of the collection system projects provided capacity for growth and which simply replaced lines due to age or deterioration. In table 3, EFA labeled those projects that provided additional capacity by the eventual total number of ERUs at build out (12,241 ERUs) and for those projects that will be constructed exclusively due to growth (7,507 ERUs). Those projects that were simply replacing existing capacity EFA labeled as “Remedial.” The \$/ERU equals the project cost divided by the number of ERUs for that project. The sum of \$/ERUs is the basic improvement fee for the wastewater collection system (\$742/ERU).

Table 4 shows the list of WWTP improvement projects to be constructed over the next one to twenty years. Since these projects are primarily to increase capacity, it will increase the ERU capacity of the WWTP by 3,107 ERUs (\$986/ERU).

The sum of the collection system and WWTP costs per ERU constitutes the improvement fee: \$1,706.

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Table 4. Capital improvements list, collection system

Project no.	Problem ID	Description	Feet of pipe	Total cost (rounded)	Time line	ERUs	S/ERU
CIP A	PID 19	Replace and re-slope 15" Sewer Pipe Section Located between MH's N26CA01 and N26DB03 near Jaymar Rd and Wasco St.Re- route 15" Sewer Pipe Section Located between MH's N26DB03 and N26DB01.	800	\$245,000	1-5	12,241	\$72.00
CIP B	PID 8A & 24	Re-route 8" Sewer Pipe on 22nd St. from June St. to Prospect Ave.	780	\$273,000	1-5	12,241	\$0.00
CIP C	PID 6	Reroute and Upsize Existing 15" WWTP Influent Pipe to 24" Pipe.	510	\$487,000	1-5	12,241	\$0.00
CIP D	-	Replace Franktin, country club and East Marina Pump Stations		\$880,000	1-5	12,241	\$0.00
-	-	Aboveground Pipe Evaluation	-	\$50,000	1-5	Remedial	\$20.00
-	-	Pretreatment Study	-	\$100,000	1-5	Remedial	\$22.00
-	-	Update City Sewer Standards	-	\$10,000	1-5	Remedial	\$40.00
M-1	PID 10	Barrier for Aboveground Pipe along I-84.	2,000	\$330,000	2014	Remedial	\$0.00
M-2	PID 5	Replace 12" Main Sewer Pipe on 10th St. from Lincoln St. to Wasco St.	345	\$151,000	1-5	Remedial	\$0.00
M-3	PID 2	Replace 10" Clay Sewer Pipe on 2nd St. between Sherman and Montello Ave.	750	\$249,000	1-5	Remedial	\$0.00
M-4	PID 12	Replace 580' of 10" Sewer Pipe on Taylor Ave. West of 13th St.Replace 595' of 8" Sewer Pipe at 17th and C St. to Taylor Ave. Relocate 150' of Pipe into R/W.	1,175	\$360,000	1-5	Remedial	\$0.00
M-5	PID 3	Replace 8"Sewer Pipe on Wilson St. from 9th to 10th.	530	\$176,000	1-5	Remedial	\$0.00
F-1	-	Future Sewer Located Southeast of Country Club Pump Station.	1,160	\$213,000	1-5	Remedial	\$0.00
F-2	-	Future Sewer Located West of Frankton Rd.	380	\$88,000	1-5	Remedial	\$0.00
F-3	-	Future Extension Connected to the Discharge Manhole for County Club Pump Station.	1,149	\$212,000	1-5	Remedial	\$29.00
F-4	-	Future Extension of Rocky Rd.	965	\$234,000	1-5	Remedial	\$4.00
CIP E	PID 1	Upgrade 8" Sewer Pipe Columbia Ave. between 7th and 10th St. to 10".	1,090	\$361,000	5-20	12,241	\$0.00
CIP F	PID 18	Upgrade 12" Sewer Pipe Section Located between MH's N25CB13 and N25CB14 North of Industrial Loop to 15".	135	\$51,000	5-20	12,241	\$0.00

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Project no.	Problem ID	Description	Feet of pipe	Total cost (rounded)	Time line	ERUs	\$/ERU
CIP G	PID 20	Upgrade 8" Sewer Pipe on Frankton Rd. between MH's N34BA02 and N34BA03 to 10"	500	\$162,000	5-20	12,241	\$0.00
M-6	PID 9	Rebuild West Cliff Pump Station.	-	\$420,000	5-20	Remedial	\$0.00
M-7	PID 17	Replace 765' of 10" Sewer Pipe on 3rd St. between Pine and May. Replace 1560' of 8" Sewer Pipe on Pine St. between 3rd and 9th St. Replace 350' of 8" Sewer Pipe on 9th St. between Hull and Pine St. Replace 890' of 8" Sewer Pipe on Hull St.	3,565	\$978,000	5-20	Remedial	\$0.00
M-8	PID 8B	Replace 8" Sewer Pipe on 22nd St. from June St. to Belmont Ave. Replace 8" Sewer Pipe on Belmont Dr. from 22nd St. to Avalon Dr. and on Holly Dr.	4,480	\$1,168,000	5-20	Remedial	\$0.00
M-9	PID 13	Replace 10" Sewer Pipe on 13th St. between State St. and Montello Ave.	870	\$250,000	5-20	Remedial	\$0.00
M-10	PID 11	Replace 8" Sewer Pipe on 17th St. from Montello Ave. to Prospect Ave.	360	\$123,000	5-20	Remedial	\$0.00
M-11	PID 14	Replace 8" Sewer Pipe Segment on 7th St. between Eugene St. and Montello Ave.	215	\$72,000	5-20	Remedial	\$22.00
M-12	PID 16	Replace 8" Sewer Pipe Section on 8th St. between Marian St. and May St.	1,215	\$408,000	5-20	Remedial	\$37.00
M-13	PID 7	Re-route Section of 6" Force main for East Marina Pump Station. Hang on Existing Pedestrian Bridge.	440	\$81,000	5-20	Remedial	\$20.00
M-14	PID 4	Replace 300' of 12" Sewer Clay Pipe. Replace 2,700' of 10" Sewer Clay Pipe. Replace 31,000' of 8" Sewer Clay Pipe.	34,340	\$8,999,000	On-going Program	Remedial	\$9.00
F-5	-	Future Extension to the Discharge Manhole for County Club Pump Station (Phase II)	371	\$71,000	5-20	Remedial	\$13.00
F-6	-	Future Extension of Belmont Ave.	1,480	\$268,000	5-20	Remedial	\$0.00
F-7	-	Future Low-Pressure Sewer Located on West Cliff Dr.	5,160	\$601,000	5-20	Remedial	\$0.00
F-8	-	Future Gravity Sewer, Pump Station and Forcemain Located South of I-84, Exit 64.	3,085	\$1,192,000	5-20	Remedial	\$0.00
F-9	-	Future Extension of Mt. Adams Ave.	1,680	\$304,000	5-20	Remedial	\$0.00
F-10	-	Future Sewer Pipe Branch from Mt. Adams to Frankton Pump Station.	750	\$174,000	5-20	Remedial	\$0.00
F-11	-	Future Sewer Located West of Frankton Rd. (Phase II).	1,370	\$252,000	5-20	Remedial	\$0.00

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Project no.	Problem ID	Description	Feet of pipe	Total cost (rounded)	Time line	ERUs	\$/ERU
CIP H	PID 21	36" Bore and Casing for New 18" Sewer Pipe parallel to section between MH's N25DC03 and N25DC04 underneath Railroad.	100	\$273,000	Buildout	12,241	\$0.00
CIP I	PID 22	Re-slope 15" Main Sewer Pipe Located North of Cascade Ave. between MH's N26CB01 and N26CB02. Re-route into Wasco Ave. R/W and Re-slope 15" Main Sewer Pipe Located between MH's N26CB01 and N26CA06.	890	\$453,000	Buildout	12,241	\$0.00
CIP J	PID 23	Re-route Sewer Line Located Northwest of Sherman Ave. and 20th St. Install 440' of 10" Sewer along Sherman Ave. between 20th and 22nd St. Install 285' of 8" Sewer along 20th St. between Sherman Ave. and Armadale Ave.	725	\$249,000	Buildout	12,241	\$0.00
CIP K	PID 25	Upgrade 8" Sewer Pipe on 12th St. between Montello Ave. and Eugene St. to 10".	335	\$111,000	Buildout	12,241	\$0.00
Totals			73,700	\$21,079,000			\$288.00

Source: City of Hood River Wastewater Facilities Plan, February 2015, by HBH Consulting Engineers, pp. 6-27 - 6-30.

Notes: HBH Consulting Engineers define CIP as capital improvement project; M as maintenance project; F as a future new sewer line; PID as a specific Problem area. Total cost includes engineering, construction management and administration at 25% of Construction cost plus contingency at 25% of construction cost.

Table 5. Capital improvements list, WWTP

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Project No.	Description	Construction cost	Total cost (rounded)	Time line years	ERUs	\$/ERU
CIP WWTP-1	Additional dewatered sludge storage bays	\$376,000	\$564,000	1-5	3107	\$182
WWTP-2	Replace existing ultra violet system	\$460,000	\$690,000	1-5	Remedial	\$0
CIP WWTP-3	pH control system	\$50,000	\$76,000	1-5	3107	\$24
WWTP-4	Replace digester gas mixing system	\$311,000	\$467,000	1-5	Remedial	\$0
WWTP-5	Building maintenance	\$63,000	\$95,000	1-5	Remedial	\$0
WWTP-6	Miscellaneous process items	\$161,000	\$241,000	1-5	Remedial	\$0
CIP WWTP-7	Cover for waste activated sludge storage tank	\$179,000	\$311,000	5-20	3107	\$100
CIP WWTP-8	Add blower for activated sludge process	\$259,000	\$389,000	5-21	3107	\$125
CIP WWTP-9	Package tertiary treatment system	\$195,000	\$293,000	5-21	3107	\$94
Total Cost		\$2,054,000	\$3,126,000			\$525

Source: City of Hood River Wastewater Facilities Plan, February 2015, by HBH Consulting Engineers, pp. 6-31.

Note: Total cost includes engineering, construction management and administration at 25% of Construction cost plus contingency at 25% of construction cost.

Implementation of the Wastewater System Development Charge

The wastewater SDC equals the sum of the reimbursement fee and the improvement fee—\$2,614 for the basic SDC. Currently the City applies the SDC to a development based on the size water meter to be installed at the property. This update continues that policy.

The basic wastewater SDC is applied to the smallest size water meter installed in Hood River, which is a ¾-inch diameter meter. More than 85% of all meters installed in Hood River are ¾ inches. Larger meter sizes supply more water, and EFA assumes that most of that water enters the sewer system. Developments that need meters larger than ¾ inch are multiple-family apartments, large commercial businesses, and industry. The more sewage they produce, the more it costs the City to install collection system pipes, pump stations, and treatment capacity.

Since 2009 when the SDC was last updated, water meter technology has improved, and the City has been replacing all of its old meters with meters that are capable of delivering more water per inch of meter diameter. Table 5 shows the differences between the current SDC meter capacities and the current standards used by the City. EFA applies the 2015 meter standards to the SDC as shown in table 6. Table 7 shows the change in the wastewater SDC from 2009.

Table 6. Current and new water meter capacities

Meter size	2009 meters		2015 meters		Change	
	Meter capacity (gpm)	¾-inch equivalents	Meter capacity (gpm)	¾-inch equivalents	gpm	%
¾	25	1.00	30	1.00	5	20%
1	42	1.67	50	1.67	8	19%
1 1/2	83	3.33	100	3.33	17	20%
2	133	5.33	160	5.33	27	20%
3	292	11.67	500	16.67	208	71%
4	500	20.00	1,000	33.33	500	100%
6	1042	41.67	2,000	66.67	958	92%
8	1500	60.00	2,700	90.00	1,200	80%

Source: AWWA standards for cold-water meters—displacement type, AWWA C700-15, table 1.

Note: gpm = gallons per minute.

Table 7. 2015 Wastewater system development charge by meter size

Meter Size	Meter Capacity (gpm)	3/4-inch equivalents	Sewer System Development Charge		
			Reimbursement	Improvement	2015 SDC
3/4	30	1.00	\$908	\$813	\$1,721
1	50	1.67	\$1,516	\$1,358	\$2,874
1 1/2	100	3.33	\$3,024	\$2,707	\$5,731
2	160	5.33	\$4,840	\$4,333	\$9,173
3	500	16.67	\$15,136	\$13,553	\$28,689
4	1,000	33.33	\$30,264	\$27,097	\$57,361
6	2,000	66.67	\$60,536	\$54,203	\$114,739
8	2,700	90.00	\$81,720	\$73,170	\$154,890

Table 8. Comparison of 2009 and 2015 SDCs

Meter Size	Sewer System Development Charge		Change		
	2009 SDC	2015 SDC	\$	%	% Δ/Yr
3/4	\$1,408	\$1,721	\$313	22%	3%
1	\$2,347	\$2,874	\$527	22%	3%
1 1/2	\$4,692	\$5,731	\$1,039	22%	3%
2	\$7,507	\$9,173	\$1,666	22%	3%
3	\$16,424	\$28,689	\$12,265	75%	8%
4	\$28,154	\$57,361	\$29,207	104%	10%
6	\$58,655	\$114,739	\$56,084	96%	10%
8	\$84,463	\$154,890	\$70,427	83%	9%