



Sanitary Sewer User Rate Study Update

For

The City of Waukesha



October, 2019

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Sewer User Rate Study Update
Supporting Worksheets

City of Waukesha

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Table 1 - Comparison of Existing vs. Proposed Rates

	Current Rates Effective 1/1/2019	2020 Proposed Rates	\$ Change	% Change
<u>City (Inside) User Charges</u>				
Quarterly Fixed Charge	\$15.92	\$17.43	\$1.51	9.48%
Volumetric Charge per 1,000 gallons	\$7.25	\$7.90	\$0.65	9.00%
Quarterly flat charge (unmetered users only)	\$217.53	\$237.11	\$19.58	9.00%
Surcharge Rate BOD /lb	\$0.93	\$1.00	\$0.07	7.91%
Surcharge Rate SS /lb	\$0.50	\$0.53	\$0.04	7.35%
Surcharge Rate P /lb	\$8.48	\$8.48	\$0.00	0.00%
Surcharge Rate TKN /lb	\$1.72	\$1.72	\$0.00	0.00%
<u>Extraterritorial (Outside) User Charges</u>				
Quarterly Fixed Charge	\$15.92	\$17.43	\$1.51	9.48%
Volumetric Charge per 1,000 gallons	\$9.70	\$10.57	\$0.87	9.00%
Quarterly flat charge (unmetered users only)	\$290.96	\$317.15	\$26.19	9.00%
<u>Hauled Waste Charges</u>				
Septic Tank Rate per 1,000 gallons	\$59.52	\$65.38	\$5.86	9.85%
Holding Tank Rate per 1,000 gallons	\$19.67	\$21.61	\$1.94	9.85%
Chemical Toilet Waste Rate per 1,000 gallons	\$166.55	\$176.20	\$9.65	5.79%
Annual Cost for Average Residential User (48,000 gallons/year)	\$411.73	\$449.10	\$37.36	9.08%
Quarterly Increase			\$9.34	

Table 2 - Projected WWTF Flows and Loadings

Total	Equiv Customers	Flow (1,000 Gal)	BOD (Lbs)	SS (Lbs)	P (Lbs)	TKN (Lbs)
Residential	18,042	880,880	1,726,437	2,497,823	58,772	220,396
Commercial and Multi-Family ⁽¹⁾	2,183	690,000	1,352,331	1,956,564	46,037	172,638
Industrial	151	120,000	235,188	340,272	8,006	30,024
Public	106	65,000	127,394	184,314	4,337	16,263
Subtotal City Billable	20,482	1,755,880	3,441,349	4,978,973	117,152	439,321
Unmetered Customers	115	13,800	27,047	39,131	921	3,453
Outside Customers						
Residential	71	2,637	5,168	7,477	176	660
Commercial and Multi-Family	21	4,519	8,856	12,813	301	1,131
Industrial	2	139	273	395	9	35
Subtotal Outside Billable	94	7,295	14,297	20,685	487	1,825
High Strength Industrial						
Ventura Foods						
Excess Loadings			882,951	235,212	1,864	-
GE Medical Systems						
Excess Loadings			7,683	79,784	370	8,004
Waukesha Memorial Hospital						
Excess Loadings			2,966	-	-	5,489
Innio (GE/Waukesha Engine)						
Excess Loadings			15,808	-	259	6,867
SPX Transformer						
Excess Loadings			3,438	6,210	55	1,663
Lifeway Wisconsin, LLC						
Excess Loadings			421,446	39,280	2,916	14,923
DSM Food						
Excess Loadings			8,096	11,264	4,693	176
Midwest Finishing						
Excess Loadings			527	-	-	42
Gascoigne Co.						
Excess Loadings			-	-	267	-
Profile Finishing						
Excess Loadings			-	-	-	-
Eaton Badger						
Excess Loadings			-	-	65	-
Eaton Lincoln						
Excess Loadings			-	-	371	-
Class 2 Industrial Hauled Excess Loadings			1,971	-	269	1,539
Subtotal High Strength Industrial Billable			1,344,886	371,750	11,129	38,703
Septic Tank Waste		5,389	67,233	273,921	2,112	8,988
Chemical Toilet Waste		309	21,311	23,294	655	7,292
Holding Tank Waste		7,638	41,022	58,284	1,656	5,988
Subtotal Wastehaulers		13,336	129,566	355,500	4,424	22,268
Total Billable	20,576	1,790,310	4,957,144	5,766,039	134,112	505,570
I/I		1,296,432				
Total WTF		3,086,742				
Total For Rate Calcs	20,576	1,790,310	4,957,144	5,766,039	134,112	505,570

Notes:

(1) Includes customer connections and flows from the Village of Wales in 2016.

Table 3 - Allocation of Costs to Function

	Flow		BOD		TSS		P		TKN		
	2020 Budget	%	Cost - User Charge	Cost - Customer	%	Cost	%	Cost	%	Cost	
			65.0%	35.0%							
Operating & Maintenance											
Sewer Maintenance (7384)											
110 Personal Services											
51110 Salaries	\$67,658	100.0%	\$43,978	\$23,680	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
51210 Wages Permanent	\$421,197	100.0%	\$273,778	\$147,419	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
51220 Overtime	\$20,733	100.0%	\$13,476	\$7,257	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
51250 Wages Temporary	\$0	100.0%	\$0	\$0	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
51510 Social Security	\$38,983	100.0%	\$25,339	\$13,644	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
51520 Retirement	\$34,397	100.0%	\$22,358	\$12,039	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
51540 Health Insurance	\$113,976	100.0%	\$74,084	\$39,892	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
51550 Life Insurance	\$1,614	100.0%	\$1,049	\$565	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
51560 Dental Insurance	\$6,265	100.0%	\$4,072	\$2,193	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
120 Contractual Services											
52190 Other Professional Services	\$0	100.0%	\$0	\$0	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
52210 Water And Sewer	\$9,020	100.0%	\$5,863	\$3,157	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
52220 Electric	\$140,000	100.0%	\$91,000	\$49,000	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
52240 Heat	\$671	100.0%	\$436	\$235	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
52410 Vehicle Maintenance	\$50,000	100.0%	\$32,500	\$17,500	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
52435 Conveyance Maintenance	\$80,000	100.0%	\$52,000	\$28,000	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
52490 Pump Station Maintenance	\$100,000	100.0%	\$65,000	\$35,000	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
130 Supplies and Expenses											
53510 Gasoline, Oil, Grease Etc.	\$20,000	100.0%	\$13,000	\$7,000	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
53940 Other (Manhole repairs, inspect)	\$65,000	100.0%	\$42,250	\$22,750	0.0%	\$0	0.0%	\$0	\$0	\$0	\$0
Subtotal Sewer Maintenance	\$1,169,514	100.0%	\$760,184	\$409,330	0.0%	\$0	0.0%	\$0	0.0%	\$0	\$0
Sewer Plant Operations (7388)											
110 Personal Services											
51170 Accrued Compensatory time	\$0	35.0%	\$0	\$0	30.0%	\$0	25.0%	\$0	5.0%	\$0	5.0%
51180 Accrued Vacation	\$0	35.0%	\$0	\$0	30.0%	\$0	25.0%	\$0	5.0%	\$0	5.0%
51190 Sick Leave Accrual	\$0	35.0%	\$0	\$0	30.0%	\$0	25.0%	\$0	5.0%	\$0	5.0%
51210 Wages Permanent	\$960,644	35.0%	\$218,547	\$117,679	30.0%	\$288,193	25.0%	\$240,161	5.0%	\$48,032	5.0%
51220 Overtime	\$80,000	35.0%	\$18,200	\$9,800	30.0%	\$24,000	25.0%	\$20,000	5.0%	\$4,000	5.0%
51250 Wages Temporary	\$20,160	35.0%	\$4,586	\$2,470	30.0%	\$6,048	25.0%	\$5,040	5.0%	\$1,008	5.0%
51510 Social Security	\$79,902	35.0%	\$18,178	\$9,788	30.0%	\$23,971	25.0%	\$19,976	5.0%	\$3,995	5.0%
51520 Retirement	\$70,068	35.0%	\$15,940	\$8,583	30.0%	\$21,020	25.0%	\$17,517	5.0%	\$3,503	5.0%
51540 Health Insurance	\$247,903	35.0%	\$56,398	\$30,368	30.0%	\$74,371	25.0%	\$61,976	5.0%	\$12,395	5.0%
51550 Life Insurance	\$2,828	35.0%	\$643	\$346	30.0%	\$848	25.0%	\$707	5.0%	\$141	5.0%
51560 Dental Insurance	\$12,516	35.0%	\$2,847	\$1,533	30.0%	\$3,755	25.0%	\$3,129	5.0%	\$626	5.0%
120 Contractual Services											
52190 Lab Testing	\$30,000	0.0%	\$0	\$0	30.0%	\$9,000	20.0%	\$6,000	27.5%	\$8,250	22.5%
52210 Water And Sewer	\$31,300	100.0%	\$20,345	\$10,955	0.0%	\$0	0.0%	\$0	0.0%	\$0	0.0%
52220 Electric	\$770,352	17.5%	\$87,628	\$47,184	57.5%	\$442,952	15.0%	\$115,553	5.0%	\$38,518	5.0%
52240 Heat	\$122,584	25.0%	\$19,920	\$10,726	25.0%	\$30,646	25.0%	\$30,646	12.5%	\$15,323	12.5%
52410 Vehicle Maintenance	\$35,000	25.0%	\$5,688	\$3,063	25.0%	\$8,750	25.0%	\$8,750	12.5%	\$4,375	12.5%
52430 Computer Hardware Maint	\$22,000	25.0%	\$3,575	\$1,925	25.0%	\$5,500	25.0%	\$5,500	12.5%	\$2,750	12.5%
52450 Grounds Maintenance & Improv	\$60,000	25.0%	\$9,750	\$5,250	25.0%	\$15,000	25.0%	\$15,000	12.5%	\$7,500	12.5%
52490 Equipment Maintenance	\$185,000	15.0%	\$18,038	\$9,713	30.0%	\$55,500	30.0%	\$55,500	12.5%	\$23,125	12.5%
52990 Environmental Permit Fee	\$15,000	25.0%	\$2,438	\$1,313	25.0%	\$3,750	25.0%	\$3,750	12.5%	\$1,875	12.5%
130 Supplies and Expenses											
53140 Small Equipment	\$5,000	15.0%	\$488	\$263	30.0%	\$1,500	30.0%	\$1,500	12.5%	\$625	12.5%
53420 Chemistry/Lab/Medical Supplies	\$28,000	0.0%	\$0	\$0	25.0%	\$7,000	25.0%	\$7,000	25.0%	\$7,000	25.0%
53422 WWTP Processing Chemicals	\$317,400	0.0%	\$0	\$0	50.0%	\$158,700	25.0%	\$79,350	25.0%	\$79,350	0.0%
53440 Janitorial Supplies	\$8,000	10.0%	\$520	\$280	25.0%	\$2,000	25.0%	\$2,000	20.0%	\$1,600	20.0%
53460 Clothing And Uniforms	\$10,000	10.0%	\$650	\$350	25.0%	\$2,500	25.0%	\$2,500	20.0%	\$2,000	20.0%
53490 Other Operating Supplies	\$0	10.0%	\$0	\$0	25.0%	\$0	25.0%	\$0	20.0%	\$0	20.0%
53510 Gasoline, Oil, Grease Etc.	\$14,000	10.0%	\$910	\$490	25.0%	\$3,500	25.0%	\$3,500	20.0%	\$2,800	20.0%
53620 Consumable Tools	\$8,000	10.0%	\$520	\$280	25.0%	\$2,000	25.0%	\$2,000	20.0%	\$1,600	20.0%
53910 Sludge Disposal	\$160,000	0.0%	\$0	\$0	55.0%	\$88,000	40.0%	\$64,000	5.0%	\$8,000	0.0%
150 Fixed Charges											
55110 Property/Boiler Ins. & Expense	\$80,000	20.0%	\$10,400	\$5,600	20.0%	\$16,000	20.0%	\$16,000	20.0%	\$16,000	20.0%
Subtotal Sewer Plant Operations	\$3,375,657	23.5%	\$516,207	\$277,958	38.3%	\$1,294,505	23.3%	\$787,054	8.7%	\$294,392	6.1%

Table 3 - Allocation of Costs to Function

	Flow		BOD		TSS		P		TKN			
	2020 Budget	%	Cost - User Charge	Cost - Customer	%	Cost	%	Cost	%	Cost		
Pre-treatment Sampling (7381)												
110 Personal Services												
51110 Salaries	\$89,023	15.0%	\$8,680	\$4,674	25.0%	\$22,256	20.0%	\$17,805	20.0%	\$17,805	20.0%	\$17,805
51210 Wages Permanent	\$72,825	15.0%	\$7,100	\$3,823	25.0%	\$18,206	20.0%	\$14,565	20.0%	\$14,565	20.0%	\$14,565
51510 Social Security	\$12,381	15.0%	\$1,207	\$650	25.0%	\$3,095	20.0%	\$2,476	20.0%	\$2,476	20.0%	\$2,476
51520 Retirement	\$10,925	15.0%	\$1,065	\$574	25.0%	\$2,731	20.0%	\$2,185	20.0%	\$2,185	20.0%	\$2,185
51540 Health Insurance	\$41,638	15.0%	\$4,060	\$2,186	25.0%	\$10,410	20.0%	\$8,328	20.0%	\$8,328	20.0%	\$8,328
51550 Life Insurance	\$992	15.0%	\$97	\$52	25.0%	\$248	20.0%	\$198	20.0%	\$198	20.0%	\$198
51560 Dental Insurance	\$2,280	15.0%	\$222	\$120	25.0%	\$570	20.0%	\$456	20.0%	\$456	20.0%	\$456
120 Contractual Services												
52190 Pre-Treatment Sampling	\$10,000	15.0%	\$975	\$525	25.0%	\$2,500	20.0%	\$2,000	20.0%	\$2,000	20.0%	\$2,000
52410 Vehicle Maintenance	\$1,000	15.0%	\$98	\$53	25.0%	\$250	20.0%	\$200	20.0%	\$200	20.0%	\$200
52430 Computer Hardware Maint	\$0	15.0%	\$0	\$0	25.0%	\$0	20.0%	\$0	20.0%	\$0	20.0%	\$0
130 Supplies and Expenses												
53120 Office Supplies	\$100	15.0%	\$10	\$5	25.0%	\$25	20.0%	\$20	20.0%	\$20	20.0%	\$20
53220 Subscriptions-Office	\$0	15.0%	\$0	\$0	25.0%	\$0	20.0%	\$0	20.0%	\$0	20.0%	\$0
53260 Advertising	\$50	15.0%	\$5	\$3	25.0%	\$13	20.0%	\$10	20.0%	\$10	20.0%	\$10
53510 Gasoline, Oil, Grease Etc.	\$1,200	15.0%	\$117	\$63	25.0%	\$300	20.0%	\$240	20.0%	\$240	20.0%	\$240
Subtotal Pretreatment Sampling	\$ 242,414.00	15.0%	\$23,635	\$12,727	25.0%	\$60,604	20.0%	\$48,483	20.0%	\$48,483	20.0%	\$48,483
Subtotal Collector and Treatment	\$ 4,787,585.00	41.8%	\$1,300,027	\$700,014	28.3%	\$1,355,108	17.5%	\$835,537	7.2%	\$342,874	5.3%	\$254,024
Sewer Administration (7380)												
110 Personal Services												
51110 Salaries	\$389,797	41.8%	\$105,846	\$56,994	28.3%	\$110,331	17.5%	\$68,028	7.2%	\$27,916	5.3%	\$20,682
51180 Accrued Vacation	\$0	41.8%	\$0	\$0	28.3%	\$0	17.5%	\$0	7.2%	\$0	5.3%	\$0
51190 Sick Leave Accrual	\$0	41.8%	\$0	\$0	28.3%	\$0	17.5%	\$0	7.2%	\$0	5.3%	\$0
51210 Wages Permanent	\$271,636	41.8%	\$73,760	\$39,717	28.3%	\$76,886	17.5%	\$47,406	7.2%	\$19,454	5.3%	\$14,413
51220 Overtime	\$3,000	41.8%	\$815	\$439	28.3%	\$849	17.5%	\$524	7.2%	\$215	5.3%	\$159
51510 Social Security	\$50,545	41.8%	\$13,725	\$7,390	28.3%	\$14,307	17.5%	\$8,821	7.2%	\$3,620	5.3%	\$2,682
51520 Retirement	\$44,782	41.8%	\$12,160	\$6,548	28.3%	\$12,675	17.5%	\$7,815	7.2%	\$3,207	5.3%	\$2,376
51525 Retirement-GASB 68	\$50,000	41.8%	\$13,577	\$7,311	28.3%	\$14,152	17.5%	\$8,726	7.2%	\$3,581	5.3%	\$2,653
51540 Health Insurance	\$153,268	41.8%	\$41,619	\$22,410	28.3%	\$43,382	17.5%	\$26,749	7.2%	\$10,977	5.3%	\$8,132
51550 Life Insurance	\$2,088	41.8%	\$567	\$305	28.3%	\$591	17.5%	\$364	7.2%	\$150	5.3%	\$111
51551 Life Insurance-GASB 75	\$40,000	41.8%	\$10,862	\$5,849	28.3%	\$11,322	17.5%	\$6,981	7.2%	\$2,865	5.3%	\$2,122
51560 Dental Insurance	\$8,408	41.8%	\$2,283	\$1,229	28.3%	\$2,380	17.5%	\$1,467	7.2%	\$602	5.3%	\$446
51570 OPEB Expense	\$70,000	41.8%	\$19,008	\$10,235	28.3%	\$19,813	17.5%	\$12,217	7.2%	\$5,013	5.3%	\$3,714
120 Contractual Services												
52130 Accounting And Auditing	\$94,000	41.8%	\$25,525	\$13,744	28.3%	\$26,606	17.5%	\$16,405	7.2%	\$6,732	5.3%	\$4,988
52131 Utility Billing	\$761,000	41.8%	\$206,643	\$111,269	28.3%	\$215,398	17.5%	\$132,811	7.2%	\$54,501	5.3%	\$40,378
52135 Consulting	\$100,000	41.8%	\$27,154	\$14,621	28.3%	\$28,305	17.5%	\$17,452	7.2%	\$7,162	5.3%	\$5,306
52180 Management Services	\$53,712	41.8%	\$14,585	\$7,853	28.3%	\$15,203	17.5%	\$9,374	7.2%	\$3,847	5.3%	\$2,850
52190 Other Other Professional Services	\$120,000	41.8%	\$32,585	\$17,546	28.3%	\$33,966	17.5%	\$20,943	7.2%	\$8,594	5.3%	\$6,367
52250 Telephone	\$20,000	41.8%	\$5,431	\$2,924	28.3%	\$5,661	17.5%	\$3,490	7.2%	\$1,432	5.3%	\$1,061
52270 Trunk Radio System Startup F	\$234	41.8%	\$64	\$34	28.3%	\$66	17.5%	\$41	7.2%	\$17	5.3%	\$12
52430 Computer Hardware Maint	\$4,000	41.8%	\$1,086	\$585	28.3%	\$1,132	17.5%	\$698	7.2%	\$286	5.3%	\$212
130 Supplies and Expenses												
53110 Postage and Box Rent	\$1,000	41.8%	\$272	\$146	28.3%	\$283	17.5%	\$175	7.2%	\$72	5.3%	\$53
53120 Office Supplies	\$2,400	41.8%	\$652	\$351	28.3%	\$679	17.5%	\$419	7.2%	\$172	5.3%	\$127
53130 Printing/Photocopying	\$6,000	41.8%	\$1,629	\$877	28.3%	\$1,698	17.5%	\$1,047	7.2%	\$430	5.3%	\$318
53135 Internal Printing	\$5,380	41.8%	\$1,461	\$787	28.3%	\$1,523	17.5%	\$939	7.2%	\$385	5.3%	\$285
53220 Subscriptions-Office	\$600	41.8%	\$163	\$88	28.3%	\$170	17.5%	\$105	7.2%	\$43	5.3%	\$32
53240 Membership Dues	\$3,500	41.8%	\$950	\$512	28.3%	\$991	17.5%	\$611	7.2%	\$251	5.3%	\$186
53250 Conference And Training	\$15,000	41.8%	\$4,073	\$2,193	28.3%	\$4,246	17.5%	\$2,618	7.2%	\$1,074	5.3%	\$796
53260 Advertising	\$3,000	41.8%	\$815	\$439	28.3%	\$849	17.5%	\$524	7.2%	\$215	5.3%	\$159
53940 Other Chg	\$1,000	41.8%	\$272	\$146	28.3%	\$283	17.5%	\$175	7.2%	\$72	5.3%	\$53
150 Fixed Charges												
55120 Auto And Fleet Insurance	\$8,000	41.8%	\$2,172	\$1,170	28.3%	\$2,264	17.5%	\$1,396	7.2%	\$573	5.3%	\$424
55160 Workman's Comp Insurance	\$59,320	41.8%	\$16,108	\$8,673	28.3%	\$16,790	17.5%	\$10,353	7.2%	\$4,248	5.3%	\$3,147
55190 General Liability Insurance	\$41,000	41.8%	\$11,133	\$5,995	28.3%	\$11,605	17.5%	\$7,155	7.2%	\$2,936	5.3%	\$2,175
184 Interdepartmental Charges												
78422 Data Processing-Allocated	\$275,347	41.8%	\$74,768	\$40,260	28.3%	\$77,936	17.5%	\$48,054	7.2%	\$19,720	5.3%	\$14,610

Table 3 - Allocation of Costs to Function

	Flow		BOD		TSS		P		TKN			
	2020 Budget	%	Cost - User Charge	Cost - Customer	%	Cost	%	Cost	%	Cost		
	78650 Employee Safety Programs	\$14,000	41.8%	\$3,802	\$2,047	28.3%	\$3,963	17.5%	\$2,443	7.2%	\$1,003	5.3%
78690 Other Employee Benefits	\$0	41.8%	\$0	\$0	28.3%	\$0	17.5%	\$0	7.2%	\$0	5.3%	\$0
89280 TranSkvt	\$18,440	41.8%	\$5,007	\$2,696	28.3%	\$5,219	17.5%	\$3,218	7.2%	\$1,321	5.3%	\$978
Subtotal	\$ 2,690,457.00	41.8%	\$730,570	\$393,384	28.3%	\$761,524	17.5%	\$469,543	7.2%	\$192,684	5.3%	\$142,753
Total O & M	\$ 7,478,042.00	41.8%	\$2,030,597	\$1,093,398	28.3%	\$2,116,632	17.5%	\$1,305,080	7.2%	\$ 535,558.02	5.3%	\$ 396,777.40
Capital Costs												
Depreciation	\$5,225,352	41.8%	\$2,182,921	\$0	28.3%	\$1,479,016	17.5%	\$911,937	7.2%	\$374,226	5.3%	\$277,252
Return on Investment (ROI)	\$5,034,492	41.8%	\$2,103,188	\$0	28.3%	\$1,424,994	17.5%	\$878,628	7.2%	\$360,557	5.3%	\$267,125
Total Capital Costs	\$10,259,844		\$4,286,109	\$0		\$2,904,011		\$1,790,564		\$734,783		\$544,377
Subtotal Revenue Requirements	\$17,737,886		\$6,316,705	\$1,093,398		\$5,020,643		\$3,095,644		\$ 1,270,341.49		\$941,154
Other Income												
Delinquent Fees	(\$60,000)	41.8%	(\$16,292)	(\$8,773)	28.3%	(\$16,983)	17.5%	(\$10,471)	7.2%	(\$4,297)	5.3%	(\$3,184)
Pre-Treatment Charges - Public Charges	(\$60,000)	41.8%	(\$16,292)	(\$8,773)	28.3%	(\$16,983)	17.5%	(\$10,471)	7.2%	(\$4,297)	5.3%	(\$3,184)
Investment Income	\$0	41.8%	\$0	\$0	28.3%	\$0	17.5%	\$0	7.2%	\$0	5.3%	\$0
Total Other Income	(\$120,000)		(\$32,585)	(\$17,546)		(\$33,966)		(\$20,943)		(\$8,594)		(\$6,367)
Total Net Revenue Requirements	\$17,617,886		\$6,284,120	\$1,075,852		\$4,986,677		\$3,074,701		\$1,261,747		\$934,787
Summary												
Allocation of Costs to Function and Classification for City Rates												
			Flow	Fixed		BOD		SS		P		TKN
O&M and Replacement	\$7,478,042		\$2,030,597	\$1,093,398		\$2,116,632		\$1,305,080		\$535,558		\$396,777
Capital	\$10,259,844		\$4,286,109	\$0		\$2,904,011		\$1,790,564		\$734,783		\$544,377
Other Revenues	(\$120,000)		(\$32,585)	(\$17,546)		(\$33,966)		(\$20,943)		(\$8,594)		(\$6,367)
Total	17,617,886		6,284,120	1,075,852		4,986,677		3,074,701		1,261,747		934,787
Allocation of Costs to Function and Classification for Extraterritorial Rates												
			Flow	Fixed		BOD		SS		P		TKN
Total Allocation for City Rates	\$17,617,886		\$6,284,120	\$1,075,852		\$4,986,677		\$3,074,701		\$1,261,747		\$934,787
Deduct ROI for City	(\$5,034,492)		(\$2,103,188)	\$0		(\$1,424,994)		(\$878,628)		(\$360,557)		(\$267,125)
Add ROI for Computation of Extra Rates	\$13,665,051	41.8%	\$5,708,653	\$0	28.3%	\$3,867,842	17.5%	\$2,384,846	7.2%	\$978,656	5.3%	\$725,054
Total	26,248,444		9,889,585	1,075,852		7,429,525		4,580,920		1,879,846		1,392,716

Table 4 - Comparison of Operating Expenses and Customer Flows and Loadings

2019-2020 Operating and Maintenance Comparison

Operating and Maintenance Category	2019	2020	Difference	Percentage Change
Sewer Maintenance	\$ 1,152,865	\$ 1,169,514	\$16,649	1.44%
Sewer Plant Operations	\$ 3,322,521	\$ 3,375,657	\$53,136	1.60%
Pre-treatment Sampling	\$ 235,596	\$ 242,414	\$6,818	2.89%
Subtotal Collection and Treatment	\$ 4,710,982	\$ 4,787,585	\$76,603	1.63%
Sewer Administration	\$ 2,662,562	\$ 2,650,457	(\$12,105)	-0.45%
Total Operating and Maintenance Expenses	\$ 7,373,544	\$ 7,438,042	\$64,498	0.87%

2019-2020 Billable Flows Comparison

Customer Class	Billable Flow (1,000 Gal)		Difference (1,000 gal)	Percentage Change
	2019	2020		
Residential	867,570	880,880	13,310	1.53%
Commercial and Multi-Family	675,000	690,000	15,000	2.22%
Industrial	120,000	120,000	-	0.00%
Public	64,000	65,000	1,000	1.56%
Septic Tank Waste	7,120	5,389	(1,731)	-24.31%
Holding Tank Waste	7,760	7,638	(122)	-1.58%
Total	1,743,469	1,768,906	25,438	1.46%

Total Loadings all Customer Classes	2019	2020	Difference (Lbs)	Percentage Change
BOD (Lbs)	5,036,971	4,957,144	(79,826)	-1.58%
TSS (Lbs)	5,857,424	5,766,039	(91,385)	-1.56%
P (Lbs)	130,937	134,112	3,175	2.43%
TKN (Lbs)	492,741	505,570	12,829	2.60%

Table 5 - Wastewater Utility Assets and Depreciation

Estimated Asset Detail at 12/31/18

Description	Original Cost ⁽¹⁾	Accumulated Depreciation ⁽²⁾	Est. 2019	Est. 2020	Est. Accumulated Depreciation at 12/31/2020	Net Book Value
Subtotal	\$165,288,742	\$54,755,551	\$4,867,116	\$4,659,583	\$64,282,249	\$101,006,492
2019 Capital Projects ⁽³⁾	\$24,840,408		\$282,884	\$565,769	\$848,653	\$23,991,755
2020 Capital Projects ⁽³⁾	\$19,119,040		\$0	\$274,649	\$274,649	\$18,844,392
Total	\$209,248,190		\$5,150,000	\$5,225,352	\$65,405,551	\$143,842,638

Notes:

(1) From City of Waukesha 12/31/2018 Fixed Asset Master List.

(2) At 12/31/2018

(3) Source: City Finance Department.

Table 6 - Recovery of Depreciation and ROI

Return on Investment - City Customers

Asset Costs	\$209,248,190
Accumulated Depreciation	<u>\$65,405,551</u>
Estimated 2019 Net Investment Rate Base (NIRB)	\$143,842,638

Return on Investment (ROI) % 3.50%

ROI for test year \$5,034,492

Depreciation Expense for test year \$5,225,352

Total Capital Recovery \$10,259,844

Return on Investment - Extraterritorial Customers

Asset Costs	\$209,248,190
Accumulated Depreciation	<u>\$65,405,551</u>
Estimated 2019 Net Investment Rate Base (NIRB)	\$143,842,638

Return on Investment (ROI) % 9.50%

ROI for test year \$13,665,051

Depreciation Expense for test year \$5,225,352

Total Capital Recovery \$18,890,402

Table 7 - Rate Computation Worksheet

	City (Inside) Rates			Extraterritorial (Outside) Rates		
	Costs	Billable Units	City Rate	Costs	Billable Units	Extra. Rate
Fixed Charges						
Fixed Charge	1,075,852	20,482	\$52.53	1,075,852	20,482	\$52.53
Volumetric Charges						
Flow Charge per 1,000 gallons	6,284,120	1,794,171	\$3.50	9,889,585	1,790,310	\$5.52
BOD Charge per lb.	4,986,677	4,964,711	\$1.00	7,429,525	4,957,144	\$1.50
TSS Charge per lb.	3,074,701	5,776,986	\$0.53	4,580,920	5,766,039	\$0.79
P Charge per lb.	1,261,747	134,370	\$9.39	1,879,846	134,112	\$14.02
TKN Charge per lb.	934,787	506,536	\$1.85	1,392,716	505,570	\$2.75
BOD Charge per 1,000 gallons			\$1.97			\$2.94
TSS Charge per 1,000 gallons			\$1.51			\$2.25
P Charge per 1,000 gallons			\$0.63			\$0.94
TKN Charge per 1,000 gallons			\$0.46			\$0.69
Total Volumetric Rate per 1,000 gal			\$8.07			\$12.34
Wastehauler Charges						
Septic Charges						
Flow Charge per 1,000 gallons			\$3.50			\$5.52
BOD Charge per 1,000 gallons			\$12.53			\$18.70
TSS Charge per 1,000 gallons			\$27.05			\$40.38
P Charge per 1,000 gallons			\$3.68			\$5.49
TKN Charge per 1,000 gallons			\$3.08			\$4.59
Total			\$49.85			\$74.70
Holding Tank Charges						
Flow Charge per 1,000 gallons			\$3.50			\$5.52
BOD Charge per 1,000 gallons			\$5.39			\$8.05
TSS Charge per 1,000 gallons			\$4.06			\$6.06
P Charge per 1,000 gallons			\$2.04			\$3.04
TKN Charge per 1,000 gallons			\$1.45			\$2.16
Total			\$16.44			\$24.84
Chemical Toilet Waste Charges						
Flow Charge per 1,000 gallons			\$3.50			\$5.52
BOD Charge per 1,000 gallons			\$69.21			\$103.27
TSS Charge per 1,000 gallons			\$40.09			\$59.84
P Charge per 1,000 gallons			\$19.89			\$29.69
TKN Charge per 1,000 gallons			\$43.51			\$64.95
Total			\$176.20			\$263.28
Rate Summary						
Fixed charge per connection			City (Inside) \$52.53			Extraterritorial (Outside) \$52.53
Rate per 1,000 gallons			\$8.07			\$12.34
BOD rate per lb.			\$1.00			\$1.50
TSS rate per lb.			\$0.53			\$0.79
P rate per lb.			\$9.39			\$14.02
TKN rate per lb.			\$1.85			\$2.75

Table 8 - Rate Summary

		<u>COS</u>	<u>2020 Proposed</u>
City (Inside)	Fixed charge per connection (annual)	\$52.53	\$69.73
	Volumetric Rate per 1,000 Gallons	\$8.07	\$7.90
	BOD rate per lb.	\$1.00	\$1.00
	TSS rate per lb.	\$0.53	\$0.53
	P rate per lb.	\$9.39	\$8.48
	TKN rate per lb.	\$1.85	\$1.72
	Unmetered quarterly flat charge	\$242.06	\$237.11
Extraterritorial (Outside)	Fixed charge per connection (annual)	\$52.53	\$69.73
	Volumetric Rate per 1,000 Gallons	\$12.34	\$10.57
	BOD rate per lb.	\$1.50	\$1.50
	TSS rate per lb.	\$0.79	\$0.79
	P rate per lb.	\$14.02	\$14.02
	TKN rate per lb.	\$2.75	\$2.75
	Unmetered quarterly flat charge	\$370.16	\$317.15
Wastehauler	Septic Rate per 1,000 Gallons	\$74.70	\$65.38
	Chemical Toilet Rate per 1,000 Gallons	\$176.20	\$176.20
	Holding Tank Rate per 1,000 Gallons	\$24.84	\$21.61

Table 9 - Revenue Check (Based on COS)

		Units	Rate	Annual Total
Fixed Charge				
Residential	cust	18,042	\$52.53	\$947,687
Commercial and Multi-Family	cust	2,183	\$52.53	\$114,666
Industrial	cust	151	\$52.53	\$7,932
Public	cust	106	\$52.53	\$5,568
Subtotal		20,482		\$1,075,852
Volumetric Charges-Inside Customers				
Residential	Flow (000 gal)	880,880	\$8.07	\$7,107,408
Commercial & Multiple	Flow (000 gal)	690,000	\$8.07	\$5,567,287
Industrial	Flow (000 gal)	120,000	\$8.07	\$968,224
Public	Flow (000 gal)	65,000	\$8.07	\$524,455
Septic Waste Haulers	Flow (000 gal)	5,389	\$49.85	\$268,617
Chemical Toilet Waste Haulers	Flow (000 gal)	309	\$176.20	\$54,495
Holding Tank Waste Haulers	Flow (000 gal)	7,638	\$16.44	\$125,577
Subtotal		1,769,216		\$14,616,062
Industrial Excess BOD	Lbs	1,344,886	\$1.00	\$1,350,837
Industrial Excess TSS	Lbs	371,750	\$0.53	\$197,858
Industrial Excess P	Lbs	11,129	\$9.39	\$104,502
Industrial Excess TKN	Lbs	38,703	\$1.85	\$71,425
Subtotal		1,766,468		\$1,724,621
Unmetered Customers	cust	115	\$968.22	\$111,346
Volumetric Charges-Outside Customers				
Residential	Flow (000 gal)	2,637	\$12.34	\$32,534
Commercial & Multiple	Flow (000 gal)	4,519	\$12.34	\$55,753
Industrial	Flow (000 gal)	139	\$12.34	\$1,718
Subtotal				\$90,005
Total Revenues				\$17,617,886
Revenue Requirements				\$17,617,886
Difference				\$0

Table 10 - Revenue Summary

		Units	Rate	Annual Total
Fixed Charge				
Residential	cust	18,042	\$69.73	\$1,258,069
Commercial and Multi-Family	cust	2,183	\$69.73	\$152,221
Industrial	cust	151	\$69.73	\$10,529
Public	cust	106	\$69.73	\$7,391
Subtotal		20,482		\$1,428,210
Volumetric Charges - Inside Customers				
Residential	Flow (000 gal)	880,880	\$7.90	\$6,958,952
Commercial & Multiple	Flow (000 gal)	690,000	\$7.90	\$5,451,000
Industrial	Flow (000 gal)	120,000	\$7.90	\$948,000
Public	Flow (000 gal)	65,000	\$7.90	\$513,500
Septic Waste Haulers	Flow (000 gal)	5,389	\$65.38	\$352,315
Holding Tank Waste Haulers	Flow (000 gal)	7,638	\$21.61	\$165,052
Chemical Toilet Waste Haulers	Flow (000 gal)	309	\$176.20	\$54,494
Subtotal		1,768,906		\$14,443,313
Industrial Excess BOD	Lbs	1,344,886	\$1.00	\$1,344,886
Industrial Excess TSS	Lbs	371,750	\$0.53	\$197,028
Industrial Excess P	Lbs	11,129	\$8.48	\$94,374
Industrial Excess TKN	Lbs	38,703	\$1.72	\$66,569
Subtotal		1,766,468		\$1,702,857
Unmetered Customers	cust	115	\$948.44	\$109,071
Volumetric Charges - Outside Customers				
Residential	Flow (000 gal)	2,637	\$10.57	\$27,871
Commercial & Multiple	Flow (000 gal)	4,519	\$10.57	\$47,762
Industrial	Flow (000 gal)	139	\$10.57	\$1,471
Subtotal				\$77,104
Total Revenues				\$17,760,554
Revenue Requirements COS				\$17,617,886
Difference				\$142,668
Revenues as % of COS				100.8%

Table 11 - Test Year Cash Flow Analysis

	2020
Cash Sources	
Revenues from User Rates ⁽¹⁾	\$17,760,554
Allowance for Unknowns (ie. Timing of billing, customer loss)	(\$621,619)
Other Income ⁽²⁾	\$120,000
Investment Income on Unrestricted Cash ⁽³⁾	\$301,722
Other Fees ⁽⁴⁾	\$40,550
Total Cash Sources	\$17,601,206
Cash Uses	
O&M	\$7,478,042
Net Before Debt Service	\$10,123,164
Debt Service	
Pension State Trust Fund	\$27,070
2012 G.O. Promisary Note	\$346,000
2014 Sewer Revenue Bonds	\$551,475
2014 Clean Water Fund Loan	\$2,209,010
2015 Clean Water Fund Loan	\$968,828
2016 Sewer Revenue Bond	\$256,475
2017 Sewer Revenue Bond	\$455,650
2018 Sewer Revenue Bond	\$388,263
2018 Clean Water Fund Loan (Interceptor Project)	\$1,264,807
2019 Revenue Bond	\$204,319
2020 Revenue Bond	\$430,688
Total Debt Service	\$7,102,585
Capital Outlay (non reserve)	\$5,868,981
Addition to Replacement Fund	\$250,000
Subdivider Fees Received	\$1,000,000
Net Cash Flow	(\$2,098,402)
Unrestricted Cash Balances	
Estimated Beginning Year Balance	\$21,504,023
Net Additions	(\$2,098,402)
End of Year Balance	\$19,405,621
Replacement Fund Balances	
Beginning Year Balance	\$3,124,567
Additions from Rates	\$250,000
Fund Expenditures	(\$15,000)
Interest Income ⁽³⁾	\$48,631
End Year Replacement Fund Balance	\$3,408,198

Notes:

- (1) Estimated user rate projections assume that user rates are taking effect 1/1.
- (2) Subtotal delinquent fees plus pre-treatment sampling fees.
- (3) Estimate of investment income assuming an interest rate of 1.5%.
- (4) Other charges includes connection fees, impact fees and special assessments.