

October 23, 2018

## Sewer Utility Rate Study Update

City of Waukesha, Wisconsin



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# Sewer Utility Rate Study Supporting Worksheets

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**Table 1 - Comparison of Existing vs. Proposed Rates**

	Current Rates Effective 1/1/2018	2019 Proposed Rates	\$ Change	% Change
<b><u>City (Inside) User Charges</u></b>				
Quarterly Fixed Charge	\$14.86	\$15.92	\$1.06	7.13%
Volumetric Charge per 1,000 gallons	\$6.62	\$7.25	\$0.63	9.50%
Quarterly flat charge (unmetered users only)	\$198.66	\$217.53	\$18.87	9.50%
Surcharge Rate BOD /lb	\$0.90	\$0.93	\$0.03	3.43%
Surcharge Rate SS /lb	\$0.46	\$0.50	\$0.04	7.78%
Surcharge Rate P /lb	\$7.87	\$8.48	\$0.61	7.75%
Surcharge Rate TKN /lb	\$1.60	\$1.72	\$0.12	7.50%
<b><u>Extraterritorial (Outside) User Charges</u></b>				
Quarterly Fixed Charge	\$14.86	\$15.92	\$1.06	7.13%
Volumetric Charge per 1,000 gallons	\$8.86	\$9.70	\$0.84	9.50%
Quarterly flat charge (unmetered users only)	\$265.72	\$290.96	\$25.24	9.50%
<b><u>Hauled Waste Charges</u></b>				
Septic Tank Rate per 1,000 gallons	\$54.18	\$59.52	\$5.34	9.85%
Holding Tank Rate per 1,000 gallons	\$17.91	\$19.67	\$1.76	9.85%
Chemical Toilet Waste Rate per 1,000 gallons	\$150.69	\$166.55	\$15.86	10.53%
<b>Annual Cost for Average Residential User (48,000 gallons/year)</b>	<b>\$377.30</b>	<b>\$411.73</b>	<b>\$34.44</b>	<b>9.13%</b>
<b>Quarterly Increase</b>			<b>\$8.61</b>	

**Table 2 - Projected WWTF Flows and Loadings**

<b>Total</b>	<b>Equiv Customers</b>	<b>Flow (1,000 Gal)</b>	<b>BOD (Lbs)</b>	<b>SS (Lbs)</b>	<b>P (Lbs)</b>	<b>TKN (Lbs)</b>
Residential	17,948	867,570	1,700,350	2,460,081	57,884	217,066
Commercial and Multi-Family <sup>(1)</sup>	2,180	675,000	1,322,933	1,914,030	45,036	168,885
Industrial	151	120,000	235,188	340,272	8,006	30,024
Public	106	64,000	125,434	181,478	4,270	16,013
<b>Subtotal City Billable</b>	<b>20,385</b>	<b>1,726,570</b>	<b>3,383,905</b>	<b>4,895,862</b>	<b>115,197</b>	<b>431,988</b>
Unmetered Customers	115	13,800	27,047	39,131	921	3,453
<b>Outside Customers</b>						
Residential	63	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
<b>Subtotal Outside Billable</b>	<b>86</b>	<b>7,295</b>	<b>14,297</b>	<b>20,685</b>	<b>487</b>	<b>1,825</b>
<b>High Strength Industrial</b>						
Ventura Foods						
Excess Loadings			946,091	391,382	1,398	968
GE Healthcare						
Excess Loadings			5,703	13,341	409	5,605
Waukesha Memorial Hospital						
Excess Loadings			42,907	-	-	8,085
GE Distributed Power						
Excess Loadings			-	-	572	1,908
SPX Transformer						
Excess Loadings			-	-	111	1,881
Lifeway Wisconsin, LLC						
Excess Loadings			465,478	53,985	3,209	14,157
DSM Food						
Excess Loadings			8,420	12,042	2,203	196
Midwest Finishing						
Excess Loadings			1,459	-	-	71
Gascoigne Co.						
Excess Loadings			-	-	599	-
Profile Finishing						
Excess Loadings			-	-	-	-
Eaton Badger						
Excess Loadings			-	-	795	-
Eaton Lincoln						
Excess Loadings			-	-	-	-
<b>Class 2 Industrial Hauled Excess Loadings</b>			<b>2,132</b>	<b>-</b>	<b>286</b>	<b>1,558</b>
<b>Subtotal High Strength Industrial Billable</b>			<b>1,472,190</b>	<b>470,750</b>	<b>9,582</b>	<b>34,429</b>
Septic Tank Waste		7,120	88,831	361,916	2,791	11,876
Chemical Toilet Waste		131	9,023	9,863	277	3,087
Holding Tank Waste		7,760	41,679	59,217	1,683	6,084
<b>Subtotal Wastehaulers</b>		<b>15,011</b>	<b>139,533</b>	<b>430,996</b>	<b>4,751</b>	<b>21,047</b>
<b>Total Billable</b>	<b>20,471</b>	<b>1,762,675</b>	<b>5,036,971</b>	<b>5,857,424</b>	<b>130,937</b>	<b>492,741</b>
I/I		1,276,420				
<b>Total WTF</b>		<b>3,039,095</b>				
<b>Total For Rate Calcs</b>	<b>20,471</b>	<b>1,762,675</b>	<b>5,036,971</b>	<b>5,857,424</b>	<b>130,937</b>	<b>492,741</b>

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	
	2019 Budget	%	Cost - User Charge	Cost - Customer	%	Cost	%	Cost	%	Cost
<b>Operating &amp; Maintenance</b>			65.0%	35.0%						
<b>Sewer Maintenance (7384)</b>										
110 Personal Services										
51110 Salaries	\$66,008	100.0%	\$42,905	\$23,103	0.0%	\$0	0.0%	\$0	\$0	\$0
51210 Wages Permanent	\$410,945	100.0%	\$267,114	\$143,831	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
51250 Wages Temporary	\$0	100.0%	\$0	\$0	0.0%	\$0	0.0%	\$0	\$0	\$0
51510 Social Security	\$38,073	100.0%	\$24,747	\$13,326	0.0%	\$0	0.0%	\$0	\$0	\$0
51520 Retirement	\$32,598	100.0%	\$21,189	\$11,409	0.0%	\$0	0.0%	\$0	\$0	\$0
51540 Health Insurance	\$108,548	100.0%	\$70,556	\$37,992	0.0%	\$0	0.0%	\$0	\$0	\$0
51550 Life Insurance	\$1,546	100.0%	\$1,005	\$541	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
120 Contractual Services										
52190 Other Professional Services	\$0	100.0%	\$0	\$0	0.0%	\$0	0.0%	\$0	\$0	\$0
52210 Water And Sewer	\$7,525	100.0%	\$4,891	\$2,634	0.0%	\$0	0.0%	\$0	\$0	\$0
52220 Electric	\$145,100	100.0%	\$94,315	\$50,785	0.0%	\$0	0.0%	\$0	\$0	\$0
52240 Heat	\$524	100.0%	\$341	\$183	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
52435 Conveyance Maintenance	\$80,000	100.0%	\$52,000	\$28,000	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
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
53940 Other (Manhole repairs, inspect)	\$65,000	100.0%	\$42,250	\$22,750	0.0%	\$0	0.0%	\$0	\$0	\$0
<b>Subtotal Sewer Maintenance</b>	<b>\$1,152,865</b>	<b>100.0%</b>	<b>\$749,362</b>	<b>\$403,503</b>	<b>0.0%</b>	<b>\$0</b>	<b>0.0%</b>	<b>\$0</b>	<b>0.0%</b>	<b>\$0</b>
<b>Sewer Plant Operations (7388)</b>										
110 Personal Services										
51170 Accrued Compensatory time	\$0	35.0%	\$0	\$0	30.0%	\$0	25.0%	\$0	5.0%	\$0
51180 Accrued Vacation	\$0	35.0%	\$0	\$0	30.0%	\$0	25.0%	\$0	5.0%	\$0
51190 Sick Leave Accrual	\$0	35.0%	\$0	\$0	30.0%	\$0	25.0%	\$0	5.0%	\$0
51210 Wages Permanent	\$949,901	35.0%	\$216,102	\$116,363	30.0%	\$284,970	25.0%	\$237,475	5.0%	\$47,495
51220 Overtime	\$80,000	35.0%	\$18,200	\$9,800	30.0%	\$24,000	25.0%	\$20,000	5.0%	\$4,000
51250 Wages Temporary	\$19,253	35.0%	\$4,380	\$2,358	30.0%	\$5,776	25.0%	\$4,813	5.0%	\$963
51510 Social Security	\$79,067	35.0%	\$17,988	\$9,686	30.0%	\$23,720	25.0%	\$19,767	5.0%	\$3,953
51520 Retirement	\$67,459	35.0%	\$15,347	\$8,264	30.0%	\$20,238	25.0%	\$16,865	5.0%	\$3,373
51540 Health Insurance	\$238,938	35.0%	\$54,358	\$29,270	30.0%	\$71,681	25.0%	\$59,735	5.0%	\$11,947
51550 Life Insurance	\$3,069	35.0%	\$698	\$376	30.0%	\$921	25.0%	\$767	5.0%	\$153
51560 Dental Insurance	\$14,028	35.0%	\$3,191	\$1,718	30.0%	\$4,208	25.0%	\$3,507	5.0%	\$701
120 Contractual Services										
52190 Lab Testing	\$23,500	0.0%	\$0	\$0	30.0%	\$7,050	20.0%	\$4,700	27.5%	\$6,463
52210 Water And Sewer	\$30,000	100.0%	\$19,500	\$10,500	0.0%	\$0	0.0%	\$0	0.0%	\$0
52220 Electric	\$778,505	17.5%	\$88,555	\$47,683	57.5%	\$447,640	15.0%	\$116,776	5.0%	\$38,925
52240 Heat	\$112,500	25.0%	\$18,281	\$9,844	25.0%	\$28,125	25.0%	\$28,125	12.5%	\$14,063
52410 Vehicle Maintenance	\$35,000	25.0%	\$5,688	\$3,063	25.0%	\$8,750	25.0%	\$8,750	12.5%	\$4,375
52430 Computer Hardware Maint	\$22,000	25.0%	\$3,575	\$1,925	25.0%	\$5,500	25.0%	\$5,500	12.5%	\$2,750
52450 Grounds Maintenance & Improv	\$115,000	25.0%	\$18,688	\$10,063	25.0%	\$28,750	25.0%	\$28,750	12.5%	\$14,375
52490 Equipment Maintenance	\$185,000	15.0%	\$18,038	\$9,713	30.0%	\$55,500	30.0%	\$55,500	12.5%	\$23,125
52990 Environmental Permit Fee	\$15,000	25.0%	\$2,438	\$1,313	25.0%	\$3,750	25.0%	\$3,750	12.5%	\$1,875
130 Supplies and Expenses										
53140 Small Equipment	\$5,000	15.0%	\$488	\$263	30.0%	\$1,500	30.0%	\$1,500	12.5%	\$625
53420 Chemistry/Lab/Medical Supplies	\$28,000	0.0%	\$0	\$0	25.0%	\$7,000	25.0%	\$7,000	25.0%	\$7,000
53422 WWTP Processing Chemicals	\$250,000	0.0%	\$0	\$0	50.0%	\$125,000	25.0%	\$62,500	25.0%	\$62,500
53440 Janitorial Supplies	\$8,000	10.0%	\$520	\$280	25.0%	\$2,000	25.0%	\$2,000	20.0%	\$1,600
53460 Clothing And Uniforms	\$10,000	10.0%	\$650	\$350	25.0%	\$2,500	25.0%	\$2,500	20.0%	\$2,000
53490 Other Operating Supplies	\$0	10.0%	\$0	\$0	25.0%	\$0	25.0%	\$0	20.0%	\$0
53510 Gasoline, Oil, Grease Etc.	\$14,000	10.0%	\$910	\$490	25.0%	\$3,500	25.0%	\$3,500	20.0%	\$2,800
53620 Consumable Tools	\$8,000	10.0%	\$520	\$280	25.0%	\$2,000	25.0%	\$2,000	20.0%	\$1,600
53910 Sludge Disposal	\$160,000	0.0%	\$0	\$0	55.0%	\$88,000	40.0%	\$64,000	5.0%	\$8,000

Table 3 - Allocation of Costs to Function

	Flow		BOD		TSS		P		TKN			
	2019 Budget	%	Cost - User Charge	Cost - Customer	%	Cost	%	Cost	%	Cost		
150 Fixed Charges												
55110 Property/Boiler Ins.& Expense	\$71,301	20.0%	\$9,269	\$4,991	20.0%	\$14,260	20.0%	\$14,260	20.0%	\$14,260	20.0%	\$14,260
Subtotal Sewer Plant Operations	\$3,322,521	24.0%	\$517,383	\$278,591	38.1%	\$1,266,340	23.3%	\$774,040	8.4%	\$278,921	6.2%	\$207,246
Pre-treatment Sampling (7381)												
110 Personal Services												
51110 Salaries	\$86,852	15.0%	\$8,468	\$4,560	25.0%	\$21,713	20.0%	\$17,370	20.0%	\$17,370	20.0%	\$17,370
51210 Wages Permanent	\$71,049	15.0%	\$6,927	\$3,730	25.0%	\$17,762	20.0%	\$14,210	20.0%	\$14,210	20.0%	\$14,210
51510 Social Security	\$12,079	15.0%	\$1,178	\$634	25.0%	\$3,020	20.0%	\$2,416	20.0%	\$2,416	20.0%	\$2,416
51520 Retirement	\$10,342	15.0%	\$1,008	\$543	25.0%	\$2,586	20.0%	\$2,068	20.0%	\$2,068	20.0%	\$2,068
51540 Health Insurance	\$39,655	15.0%	\$3,866	\$2,082	25.0%	\$9,914	20.0%	\$7,931	20.0%	\$7,931	20.0%	\$7,931
51550 Life Insurance	\$989	15.0%	\$96	\$52	25.0%	\$247	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	\$ 235,596.00	15.0%	\$22,971	\$12,369	25.0%	\$58,899	20.0%	\$47,119	20.0%	\$47,119	20.0%	\$47,119
Subtotal Collector and Treatment	\$ 4,710,982.00	42.1%	\$1,289,716	\$694,462	28.1%	\$1,325,239	17.4%	\$821,159	6.9%	\$326,040	5.4%	\$254,365
Sewer Administration (7380)												
110 Personal Services												
51110 Salaries	\$351,098	42.1%	\$96,119	\$51,757	28.1%	\$98,767	17.4%	\$61,199	6.9%	\$24,299	5.4%	\$18,957
51180 Accrued Vacation	\$0	42.1%	\$0	\$0	28.1%	\$0	17.4%	\$0	6.9%	\$0	5.4%	\$0
51190 Sick Leave Accrual	\$0	42.1%	\$0	\$0	28.1%	\$0	17.4%	\$0	6.9%	\$0	5.4%	\$0
51210 Wages Permanent	\$277,439	42.1%	\$75,954	\$40,898	28.1%	\$78,046	17.4%	\$48,360	6.9%	\$19,201	5.4%	\$14,980
51220 Overtime	\$3,000	42.1%	\$821	\$442	28.1%	\$844	17.4%	\$523	6.9%	\$208	5.4%	\$162
51510 Social Security	\$48,313	42.1%	\$13,227	\$7,122	28.1%	\$13,591	17.4%	\$8,421	6.9%	\$3,344	5.4%	\$2,609
51520 Retirement	\$41,366	42.1%	\$11,325	\$6,098	28.1%	\$11,637	17.4%	\$7,210	6.9%	\$2,863	5.4%	\$2,234
51525 Retirement-GASB 68	\$150,000	42.1%	\$41,065	\$22,112	28.1%	\$42,196	17.4%	\$26,146	6.9%	\$10,381	5.4%	\$8,099
51540 Health Insurance	\$145,019	42.1%	\$39,702	\$21,378	28.1%	\$40,795	17.4%	\$25,278	6.9%	\$10,037	5.4%	\$7,830
51550 Life Insurance	\$1,821	42.1%	\$499	\$268	28.1%	\$512	17.4%	\$317	6.9%	\$126	5.4%	\$98
51560 Dental Insurance	\$8,352	42.1%	\$2,287	\$1,231	28.1%	\$2,349	17.4%	\$1,456	6.9%	\$578	5.4%	\$451
51570 OPEB Expense	\$125,000	42.1%	\$34,221	\$18,427	28.1%	\$35,164	17.4%	\$21,788	6.9%	\$8,651	5.4%	\$6,749
120 Contractual Services												
52130 Accounting And Auditing	\$83,325	42.1%	\$22,812	\$12,283	28.1%	\$23,440	17.4%	\$14,524	6.9%	\$5,767	5.4%	\$4,499
52131 Utility Billing	\$695,000	42.1%	\$190,269	\$102,452	28.1%	\$195,509	17.4%	\$121,144	6.9%	\$48,100	5.4%	\$37,526
52135 Consulting	\$100,000	42.1%	\$27,377	\$14,741	28.1%	\$28,131	17.4%	\$17,431	6.9%	\$6,921	5.4%	\$5,399
52180 Management Services	\$52,530	42.1%	\$14,381	\$7,744	28.1%	\$14,777	17.4%	\$9,156	6.9%	\$3,636	5.4%	\$2,836
52190 Other Other Professional Services	\$120,000	42.1%	\$32,852	\$17,690	28.1%	\$33,757	17.4%	\$20,917	6.9%	\$8,305	5.4%	\$6,479
52250 Telephone	\$20,000	42.1%	\$5,475	\$2,948	28.1%	\$5,626	17.4%	\$3,486	6.9%	\$1,384	5.4%	\$1,080
52270 Trunk Radio System Startup F	\$230	42.1%	\$63	\$34	28.1%	\$65	17.4%	\$40	6.9%	\$16	5.4%	\$12
52430 Computer Hardware Maint	\$4,000	42.1%	\$1,095	\$590	28.1%	\$1,125	17.4%	\$697	6.9%	\$277	5.4%	\$216
130 Supplies and Expenses												
53110 Postage and Box Rent	\$1,000	42.1%	\$274	\$147	28.1%	\$281	17.4%	\$174	6.9%	\$69	5.4%	\$54
53120 Office Supplies	\$2,400	42.1%	\$657	\$354	28.1%	\$675	17.4%	\$418	6.9%	\$166	5.4%	\$130
53130 Printing/Photocopying	\$6,000	42.1%	\$1,643	\$884	28.1%	\$1,688	17.4%	\$1,046	6.9%	\$415	5.4%	\$324
53135 Internal Printing	\$5,380	42.1%	\$1,473	\$793	28.1%	\$1,513	17.4%	\$938	6.9%	\$372	5.4%	\$290
53220 Subscriptions-Office	\$600	42.1%	\$164	\$88	28.1%	\$169	17.4%	\$105	6.9%	\$42	5.4%	\$32
53240 Membership Dues	\$3,500	42.1%	\$958	\$516	28.1%	\$985	17.4%	\$610	6.9%	\$242	5.4%	\$189

Table 3 - Allocation of Costs to Function

	Flow		BOD		TSS		P		TKN			
	2019 Budget	%	Cost - User Charge	Cost - Customer	%	Cost	%	Cost	%	Cost		
53250 Conference And Training	\$15,000	42.1%	\$4,107	\$2,211	28.1%	\$4,220	17.4%	\$2,615	6.9%	\$1,038	5.4%	\$810
53260 Advertising	\$3,000	42.1%	\$821	\$442	28.1%	\$844	17.4%	\$523	6.9%	\$208	5.4%	\$162
53940 Other Chg	\$0	42.1%	\$0	\$0	28.1%	\$0	17.4%	\$0	6.9%	\$0	5.4%	\$0
150 Fixed Charges												
55120 Auto And Fleet Insurance	\$5,976	42.1%	\$1,636	\$881	28.1%	\$1,681	17.4%	\$1,042	6.9%	\$414	5.4%	\$323
55160 Workman's Comp Insurance	\$75,061	42.1%	\$20,549	\$11,065	28.1%	\$21,115	17.4%	\$13,084	6.9%	\$5,195	5.4%	\$4,053
55190 General Liability Insurance	\$39,480	42.1%	\$10,808	\$5,820	28.1%	\$11,106	17.4%	\$6,882	6.9%	\$2,732	5.4%	\$2,132
184 Interdepartmental Charges												
78422 Data Processing-Allocated	\$250,690	42.1%	\$68,631	\$36,955	28.1%	\$70,521	17.4%	\$43,697	6.9%	\$17,350	5.4%	\$13,536
78650 Employee Safety Programs	\$14,000	42.1%	\$3,833	\$2,064	28.1%	\$3,938	17.4%	\$2,440	6.9%	\$969	5.4%	\$756
78690 Other Employee Benefits	\$0	42.1%	\$0	\$0	28.1%	\$0	17.4%	\$0	6.9%	\$0	5.4%	\$0
89280 TranSkivt	\$13,982	42.1%	\$3,828	\$2,061	28.1%	\$3,933	17.4%	\$2,437	6.9%	\$968	5.4%	\$755
<b>Subtotal</b>	<b>\$ 2,662,562.00</b>	<b>42.1%</b>	<b>\$728,924</b>	<b>\$392,498</b>	<b>28.1%</b>	<b>\$749,001</b>	<b>17.4%</b>	<b>\$464,104</b>	<b>6.9%</b>	<b>\$184,272</b>	<b>5.4%</b>	<b>\$143,763</b>
<b>Total O &amp; M</b>	<b>\$ 7,373,544.00</b>	<b>42.1%</b>	<b>\$2,018,640</b>	<b>\$1,086,960</b>	<b>28.1%</b>	<b>\$2,074,240</b>	<b>17.4%</b>	<b>\$1,285,263</b>	<b>6.9%</b>	<b>\$ 510,312.55</b>	<b>5.4%</b>	<b>\$ 398,128.13</b>
<b>Capital Costs</b>												
Depreciation	\$5,500,000	42.1%	\$2,316,498	\$0	28.1%	\$1,547,197	17.4%	\$958,691	6.9%	\$380,647	5.4%	\$296,968
Return on Investment (ROI)	\$3,941,353	42.1%	\$1,660,025	\$0	28.1%	\$1,108,736	17.4%	\$687,007	6.9%	\$272,775	5.4%	\$212,810
<b>Total Capital Costs</b>	<b>\$9,441,353</b>		<b>\$3,976,523</b>	<b>\$0</b>		<b>\$2,655,932</b>		<b>\$1,645,697</b>		<b>\$653,423</b>		<b>\$509,778</b>
<b>Subtotal Revenue Requirements</b>	<b>\$16,814,897</b>		<b>\$5,995,163</b>	<b>\$1,086,960</b>		<b>\$4,730,173</b>		<b>\$2,930,961</b>		<b>\$ 1,163,735.25</b>		<b>\$907,906</b>
<b>Other Income</b>												
Delinquent Fees	(\$60,000)	42.1%	(\$16,426)	(\$8,845)	28.1%	(\$16,879)	17.4%	(\$10,458)	6.9%	(\$4,153)	5.4%	(\$3,240)
Pre-Treatment Charges - Public Charges	(\$63,000)	42.1%	(\$17,247)	(\$9,287)	28.1%	(\$17,722)	17.4%	(\$10,981)	6.9%	(\$4,360)	5.4%	(\$3,402)
Investment Income	\$0	42.1%	\$0	\$0	28.1%	\$0	17.4%	\$0	6.9%	\$0	5.4%	\$0
<b>Total Other Income</b>	<b>(\$123,000)</b>		<b>(\$33,673)</b>	<b>(\$18,132)</b>		<b>(\$34,601)</b>		<b>(\$21,440)</b>		<b>(\$8,513)</b>		<b>(\$6,641)</b>
<b>Total Net Revenue Requirements</b>	<b>\$16,691,897</b>		<b>\$5,961,489</b>	<b>\$1,068,828</b>		<b>\$4,695,572</b>		<b>\$2,909,521</b>		<b>\$1,155,223</b>		<b>\$901,265</b>
<b>Summary</b>												
<b>Allocation of Costs to Function and Classification for City Rates</b>												
			Flow	Fixed		BOD		SS		P		TKN
O&M and Replacement	\$7,373,544		\$2,018,640	\$1,086,960		\$2,074,240		\$1,285,263		\$510,313		\$398,128
Capital	\$9,441,353		\$3,976,523	\$0		\$2,655,932		\$1,645,697		\$653,423		\$509,778
Other Revenues	(\$123,000)		(\$33,673)	(\$18,132)		(\$34,601)		(\$21,440)		(\$8,513)		(\$6,641)
<b>Total</b>	<b>16,691,897</b>		<b>5,961,489</b>	<b>1,068,828</b>		<b>4,695,572</b>		<b>2,909,521</b>		<b>1,155,223</b>		<b>901,265</b>
<b>Allocation of Costs to Function and Classification for Extraterritorial Rates</b>												
			Flow	Fixed		BOD		SS		P		TKN
Total Allocation for City Rates	\$16,691,897		\$5,961,489	\$1,068,828		\$4,695,572		\$2,909,521		\$1,155,223		\$901,265
Deduct ROI for City	(\$3,941,353)		(\$1,660,025)	\$0		(\$1,108,736)		(\$687,007)		(\$272,775)		(\$212,810)
Add ROI for Computation of Extra Rates	\$11,824,060	42.1%	\$4,980,075	\$0	28.1%	\$3,326,208	17.4%	\$2,061,021	6.9%	\$818,326	5.4%	\$638,430
<b>Total</b>	<b>24,574,604</b>		<b>9,281,539</b>	<b>1,068,828</b>		<b>6,913,044</b>		<b>4,283,535</b>		<b>1,700,774</b>		<b>1,326,884</b>

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

**2018-2019 Operating and Maintenance Comparison**

Operating and Maintenance Category	2018	2019	Difference	Percentage Change
Sewer Maintenance	\$ 1,168,814	\$ 1,152,865	(\$15,949)	-1.36%
Sewer Plant Operations	\$ 3,360,747	\$ 3,322,521	(\$38,226)	-1.14%
Pre-treatment Sampling	\$ 232,275	\$ 235,596	\$3,321	1.43%
Subtotal Collection and Treatment	\$ 4,761,836	\$ 4,710,982	(\$50,854)	-1.07%
Sewer Administration	\$ 2,457,809	\$ 2,662,562	\$204,753	8.33%
Total Operating and Maintenance Expenses	\$ 7,219,645	\$ 7,373,544	\$153,899	2.13%

**2018-2019 Billable Flows Comparison**

Customer Class	Billable Flow (1,000 Gal)		Difference (1,000 gal)	Percentage Change
	2018	2019		
Residential	868,330	867,570	(760)	-0.09%
Commercial and Multi-Family	711,220	675,000	(36,220)	-5.09%
Industrial	129,460	120,000	(9,460)	-7.31%
Public	73,000	64,000	(9,000)	-12.33%
Septic Tank Waste	7,340	7,120	(220)	-3.00%
Holding Tank Waste	8,000	7,760	(240)	-3.00%
Total	1,797,350	1,741,450	(55,900)	-3.11%

Total Loadings all Customer Classes	2018	2019	Difference (Lbs)	Percentage Change
BOD (Lbs)	4,963,014	5,036,971	73,957	1.49%
TSS (Lbs)	5,866,539	5,857,424	(9,115)	-0.16%
P (Lbs)	137,451	130,937	(6,514)	-4.74%
TKN (Lbs)	502,416	492,741	(9,675)	-1.93%



**Table 5 - Wastewater Utility Assets and Depreciation**

**Estimated Asset Detail at 12/31/17**

<b>Description</b>	<b>Original Cost <sup>(1)</sup></b>	<b>Accumulated Depreciation <sup>(2)</sup></b>	<b>Est. 2018</b>	<b>Est. 2019</b>	<b>Est. Accumulated Depreciation at 12/31/2019</b>	<b>Net Book Value</b>
Subtotal	\$160,896,215	\$50,188,183	\$4,714,475	\$5,046,066	\$59,948,724	\$100,947,491
2018 Capital Projects <sup>(3)</sup>	\$6,130,000		\$85,525	\$171,050	\$256,575	\$5,873,425
2019 Capital Projects <sup>(3)</sup>	\$24,840,408		\$0	\$282,884	\$282,884	\$24,557,524
<b>Total</b>	<b>\$191,866,623</b>		<b>\$4,800,000</b>	<b>\$5,500,000</b>	<b>\$60,488,183</b>	<b>\$131,378,440</b>

Notes:  
 (1) From City of Waukesha 12/31/2017 Fixed Asset Master List.  
 (2) At 12/31/2017  
 (3) Source: City Finance Department.

**Table 6 - Recovery of Depreciation and ROI**

**Return on Investment - City Customers**

Asset Costs	\$191,866,623
Accumulated Depreciation	<u>\$60,488,183</u>
Estimated 2018 Net Investment Rate Base (NIRB)	\$131,378,440

Return on Investment (ROI) %	3.00%
ROI for test year	\$3,941,353
Depreciation Expense for test year	\$5,500,000
Total Capital Recovery	\$9,441,353

**Return on Investment - Extraterritorial Customers**

Asset Costs	\$191,866,623
Accumulated Depreciation	<u>\$60,488,183</u>
Estimated 2018 Net Investment Rate Base (NIRB)	\$131,378,440

Return on Investment (ROI) %	9.00%
ROI for test year	\$11,824,060
Depreciation Expense for test year	\$5,500,000
Total Capital Recovery	\$17,324,060

**Table 7 - Rate Computation Worksheet**

	City (Inside) Rates			Extraterritorial (Outside) Rates		
	Costs	Billable Units	City Rate	Costs	Billable Units	Extra. Rate
<b>Fixed Charges</b>						
Fixed Charge	1,068,828	20,385	\$52.43	1,068,828	20,385	\$52.43
<b>Volumetric Charges</b>						
Flow Charge per 1,000 gallons	5,961,489	1,766,505	\$3.37	9,281,539	1,762,675	\$5.27
BOD Charge per lb.	4,695,572	5,044,477	\$0.93	6,913,044	5,036,971	\$1.37
TSS Charge per lb.	2,909,521	5,868,284	\$0.50	4,283,535	5,857,424	\$0.73
P Charge per lb.	1,155,223	131,192	\$8.81	1,700,774	130,937	\$12.99
TKN Charge per lb.	901,265	493,699	\$1.83	1,326,884	492,741	\$2.69
BOD Charge per 1,000 gallons			\$1.82			\$2.69
TSS Charge per 1,000 gallons			\$1.41			\$2.07
P Charge per 1,000 gallons			\$0.59			\$0.87
TKN Charge per 1,000 gallons			\$0.46			\$0.67
Total Volumetric Rate per 1,000 gal			\$7.65			\$11.57
<b>Wastehauler Charges</b>						
<b>Septic Charges</b>						
Flow Charge per 1,000 gallons			\$3.37			\$5.27
BOD Charge per 1,000 gallons			\$11.61			\$17.12
TSS Charge per 1,000 gallons			\$25.20			\$37.17
P Charge per 1,000 gallons			\$3.45			\$5.09
TKN Charge per 1,000 gallons			\$3.04			\$4.49
Total			\$46.69			\$69.15
<b>Holding Tank Charges</b>						
Flow Charge per 1,000 gallons			\$3.37			\$5.27
BOD Charge per 1,000 gallons			\$5.00			\$7.37
TSS Charge per 1,000 gallons			\$3.78			\$5.58
P Charge per 1,000 gallons			\$1.91			\$2.82
TKN Charge per 1,000 gallons			\$1.43			\$2.11
Total			\$15.50			\$23.15
<b>Chemical Toilet Waste Charges</b>						
Flow Charge per 1,000 gallons			\$3.37			\$5.27
BOD Charge per 1,000 gallons			\$64.14			\$94.57
TSS Charge per 1,000 gallons			\$37.34			\$55.08
P Charge per 1,000 gallons			\$18.65			\$27.52
TKN Charge per 1,000 gallons			\$43.04			\$63.49
Total			\$166.55			\$245.92
<b>Rate Summary</b>						
Fixed charge per connection			City (Inside) \$52.43			Extraterritorial (Outside) \$52.43
Rate per 1,000 gallons			\$7.65			\$11.57
BOD rate per lb.			\$0.93			\$1.37
TSS rate per lb.			\$0.50			\$0.73
P rate per lb.			\$8.81			\$12.99
TKN rate per lb.			\$1.83			\$2.69

**Table 8 - Rate Summary**

		<u>COS</u>	<u>2019 Proposed</u>
City (Inside)	Fixed charge per connection (annual)	\$52.43	\$63.66
	Volumetric Rate per 1,000 Gallons	\$7.65	\$7.25
	BOD rate per lb.	\$0.93	\$0.93
	TSS rate per lb.	\$0.50	\$0.50
	P rate per lb.	\$8.81	\$8.48
	TKN rate per lb.	\$1.83	\$1.72
	Unmetered quarterly flat charge	\$229.48	\$217.53
Extraterritorial (Outside)	Fixed charge per connection (annual)	\$52.43	\$63.66
	Volumetric Rate per 1,000 Gallons	\$11.57	\$9.70
	BOD rate per lb.	\$1.37	\$1.37
	TSS rate per lb.	\$0.73	\$0.73
	P rate per lb.	\$12.99	\$12.99
	TKN rate per lb.	\$2.69	\$2.69
	Unmetered quarterly flat charge	\$347.09	\$290.96
Wastehauler	Septic Rate per 1,000 Gallons	\$69.15	\$59.52
	Chemical Toilet Rate per 1,000 Gallons	\$166.55	\$166.55
	Holding Tank Rate per 1,000 Gallons	\$23.15	\$19.67

**Table 9 - Revenue Check (Based on COS)**

		Units	Rate	Annual Total
<b>Fixed Charge</b>				
Residential	cust	17,948	\$52.43	\$941,051
Commercial and Multi-Family	cust	2,180	\$52.43	\$114,302
Industrial	cust	151	\$52.43	\$7,917
Public	cust	106	\$52.43	\$5,558
Subtotal		20,385		\$1,068,828
<b>Volumetric Charges-Inside Customers</b>				
Residential	Flow (000 gal)	867,570	\$7.65	\$6,636,248
Commercial & Multiple	Flow (000 gal)	675,000	\$7.65	\$5,163,234
Industrial	Flow (000 gal)	120,000	\$7.65	\$917,908
Public	Flow (000 gal)	64,000	\$7.65	\$489,551
Septic Waste Haulers	Flow (000 gal)	7,120	\$46.69	\$332,408
Chemical Toilet Waste Haulers	Flow (000 gal)	131	\$166.55	\$21,810
Holding Tank Waste Haulers	Flow (000 gal)	7,760	\$15.50	\$120,267
Subtotal		1,741,581		\$13,681,426
Industrial Excess BOD	Lbs	1,472,190	\$0.93	\$1,370,365
Industrial Excess TSS	Lbs	470,750	\$0.50	\$233,400
Industrial Excess P	Lbs	9,582	\$8.81	\$84,373
Industrial Excess TKN	Lbs	34,429	\$1.83	\$62,850
Subtotal		1,986,950		\$1,750,989
Unmetered Customers	cust	115	\$917.91	\$105,559
<b>Volumetric Charges-Outside Customers</b>				
Residential	Flow (000 gal)	2,637	\$11.57	\$30,507
Commercial & Multiple	Flow (000 gal)	4,519	\$11.57	\$52,278
Industrial	Flow (000 gal)	139	\$11.57	\$1,610
Subtotal				\$84,395
Total Revenues				\$16,691,198
Revenue Requirements				\$16,691,897
Difference				(\$699)

**Table 10 - Revenue Summary**

		Units	Rate	Annual Total
<b>Fixed Charge</b>				
Residential	cust	17,948	\$63.66	\$1,142,570
Commercial and Multi-Family	cust	2,180	\$63.66	\$138,779
Industrial	cust	151	\$63.66	\$9,613
Public	cust	106	\$63.66	\$6,748
Subtotal		20,385		\$1,297,709
<b>Volumetric Charges - Inside Customers</b>				
Residential	Flow (000 gal)	867,570	\$7.25	\$6,289,883
Commercial & Multiple	Flow (000 gal)	675,000	\$7.25	\$4,893,750
Industrial	Flow (000 gal)	120,000	\$7.25	\$870,000
Public	Flow (000 gal)	64,000	\$7.25	\$464,000
Septic Waste Haulers	Flow (000 gal)	7,120	\$59.52	\$423,770
Holding Tank Waste Haulers	Flow (000 gal)	7,760	\$19.67	\$152,639
Chemical Toilet Waste Haulers	Flow (000 gal)	131	\$166.55	\$21,810
Subtotal		1,741,450		\$13,115,852
Industrial Excess BOD	Lbs	1,472,190	\$0.93	\$1,369,137
Industrial Excess TSS	Lbs	470,750	\$0.50	\$235,375
Industrial Excess P	Lbs	9,582	\$8.48	\$81,254
Industrial Excess TKN	Lbs	34,429	\$1.72	\$59,217
Subtotal		1,986,950		\$1,744,983
Unmetered Customers	cust	115	\$870.13	\$100,065
<b>Volumetric Charges - Outside Customers</b>				
Residential	Flow (000 gal)	2,637	\$9.70	\$25,577
Commercial & Multiple	Flow (000 gal)	4,519	\$9.70	\$43,830
Industrial	Flow (000 gal)	139	\$9.70	\$1,350
Subtotal				\$70,758
Total Revenues				\$16,329,366
Revenue Requirements COS				\$16,691,897
Difference				(\$362,531)
Revenues as % of COS				97.8%

**Table 11 - Test Year Cash Flow Analysis**

	2019
<b>Cash Sources</b>	
Revenues from User Rates	\$16,329,366
Allowance for Unknowns (ie. Timing of billing, customer loss)	(\$571,528)
Other Income	\$123,000
Investment Income on Unrestricted Cash	\$38,369
Other Fees	\$60,000
<b>Total Cash Sources</b>	<b>\$15,979,208</b>
<b>Cash Uses</b>	
O&M	\$7,373,544
Net Before Debt Service	\$8,605,664
<b>Debt Service</b>	
Pension State Trust Fund	\$27,261
2012 G.O. Promisary Note	\$343,200
2014 Sewer Revenue Bonds	\$550,625
2014 Clean Water Fund Loan	\$2,209,520
2015 Clean Water Fund Loan	\$968,998
2016 Sewer Revenue Bond	\$255,050
2017 Sewer Revenue Bond	\$456,475
2018 Sewer Revenue Bond	\$389,188
2018 Clean Water Fund Loan (Interceptor Project)	\$1,264,964
2019 Revenue Bond (Refinanced 2018 NAN)	\$319,745
2019 Bond Anticipation Note (Refinanced in 2020)	\$0
<b>Total Debt Service</b>	<b>\$6,785,026</b>
Capital Outlay (non reserve)	\$1,255,000
<b>Addition to Replacement Fund</b>	<b>\$250,000</b>
<b>Net Cash Flow</b>	<b>\$315,638</b>
<b>Unrestricted Cash Balances</b>	
Estimated Beginning Year Balance	\$18,760,204
Net Additions	\$315,638
<b>End of Year Balance</b>	<b>\$19,075,842</b>
<b>Replacement Fund Balances</b>	
Beginning Year Balance	\$3,562,155
Additions from Rates	\$250,000
Fund Expenditures	(\$72,000)
Interest Income <sup>(2)</sup>	\$7,302
<b>End Year Replacement Fund Balance</b>	<b>\$3,747,457</b>

Notes:

- (1) Subtotal delinquent fees plus pre-treatment sampling fees.
- (2) Estimate of investment income assuming an interest rate of 0.3%.
- (3) Other charges includes connection fees, impact fees and special assessments.
- (4) Estimated user rate projections assume that user rates are taking effect 1/1.
- (5) Links to Long Range Capital Improvement Plan.