

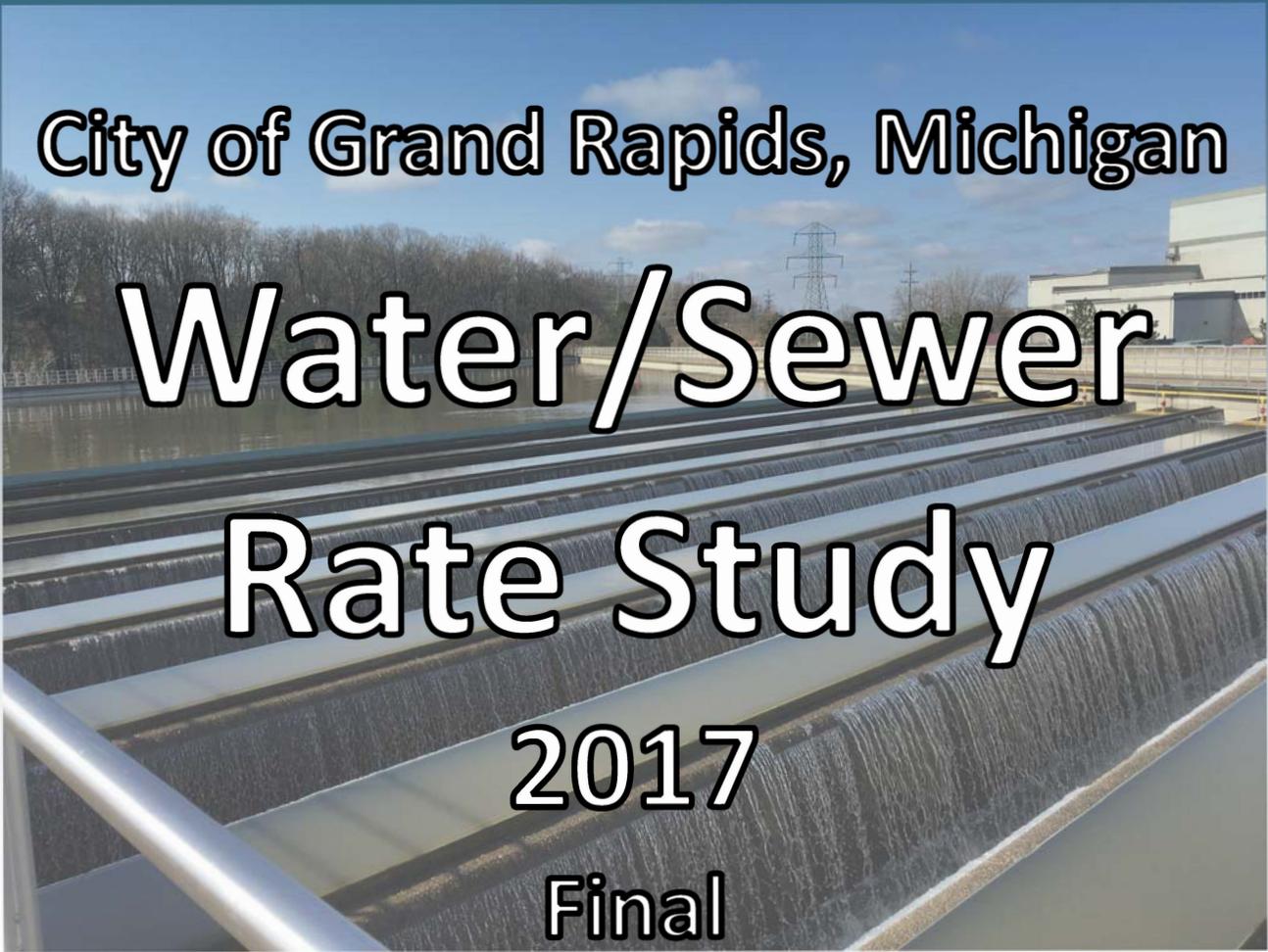
City of Grand Rapids, Michigan

# Water/Sewer

# Rate Study

2017

Final



# MEMORANDUM

CITY OF GRAND RAPIDS

**DATE:** January 1, 2018

**TO:** Eric R. DeLong, Deputy City Manager  
Members of the Utility Advisory Board

**FROM:** Molly J. Eastman  
Fiscal Service Manager

**SUBJECT: 2017 WATER/SEWER RATE STUDY – FINAL REPORT**

The final study, setting water and sewer rates effective January 1, 2018, for Grand Rapids and the retail and wholesale partner communities it serves, is submitted herein for reference and/or retention. A table of contents immediately precedes each of this report's three sections and lists the respective tasks performed in reviewing the operating and financial performance of the Water Supply System and Sewage Disposal System. The annual study consists of a comprehensive review of the operating and capital costs by community, in conjunction with customer base variation and usage, and calculates recommended commodity and service rates based upon adherence to: (a) the uniform rate-setting methodology established in 1976-77 for customer communities not party to the uniform water and sewer service agreements; and (b) rate methodology changes contractually agreed in the uniform water and sewer service agreements for Utility Advisory Board (UAB) member customer communities. The methodology yields consistent performance in providing for the long-term needs of the water and sewage systems and assuring adequate debt service coverage pursuant to the systems' master bond ordinance covenants.

The City's 2017 review marked the 41<sup>st</sup> annual water/sewer rate study report and resulted in utility rate increases as follows:

1. Water Supply System revenue requirements increased \$1,024,490, or 2.45% more than revenue generated by existing rates and charges.
2. Sewage Disposal System revenue requirements increased \$1,562,688, or 3.08% more than revenue generated by existing rates and charges.

The final rate study continues to provide funding from the penalty fees to support both of the City's circuit breaker programs. A contribution of \$231,183 will support the Individual Circuit Breaker program aimed to help eligible retail customers pay their water/sewer bills. Sufficient funding was also available to apply the City and Customer Community Circuit Breaker relief to the water and sewer utility rates in the City of Grand Rapids, City of Walker, City of

Kentwood, Wright Township, Cascade Township and Grand Rapids Township to limit each retail service area's revenue requirement change to a level in line with the overall systems' average change.

Five schedules supplement and immediately follow this memo. The first schedule summarizes the revenue requirement changes by customer community. The second and third schedules show water and sewer rate adjustment impacts to typical domestic and commercial customers using the system average quarterly consumption in each retail community. They also include a comparison of the approximate monthly charge for Wright Township's residential equivalent unit (REU) rate structure. The final two schedules show comparative water and sewer monthly service and commodity rate adjustments for the City's retail and wholesale customer communities.

Announcement of the proposed 2018 water and sewer rates to the UAB partners and other customer communities was made November 14, 2017. All partner communities participated in a thirty (30) day comment period following notification of the rates as provided in the water/sewer service agreements.

Pursuant to Section 2.33 and 2.94 of the City Code, on November 14, 2017, the preliminary rate study with explanatory materials were filed with the City Clerk, made available online at [www.grcity.us/watersewerratestudy](http://www.grcity.us/watersewerratestudy), and notice of availability of such information was published in the newspaper at least twenty (20) days prior to adoption of the resolution to provide for opportunities for public comment. The City Commission approved the final water and sewer rates by resolution on December 12, 2017.

Attachments as named

MJE: mje

**CITY OF GRAND RAPIDS, MICHIGAN  
2017 FINAL WATER/SEWER RATE STUDY  
SUMMARY OF REVENUE REQUIREMENT CHANGES  
FOR RATES EFFECTIVE JANUARY 1, 2018  
December 19, 2017**

	<u>WATER (1)</u>		<u>SEWER (1)</u>	
	<u>AMOUNT</u>	<u>PERCENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>
GRAND RAPIDS	\$ 835,377	3.38%	\$ 1,022,777	2.93%
WALKER	(150)	0.00%	129,690	2.93%
NET OF CONTRIBUTION OF:	109,500			
KENTWOOD	(240,102)	-5.48%	228,194	5.95%
CASCADE TWP	114,524	3.38%	(29,333)	-1.22%
GRAND RAPIDS TWP	73,105	3.38%	73,367	3.14%
TALLMADGE TWP	(13,517)	-7.09%	(34,362)	-7.97%
WRIGHT TWP	N/A	N/A	8,293	3.14%
EAST GRAND RAPIDS	39,335	5.22%	57,999	9.33%
ADA TWP	23,441	1.90%	83,979	7.04%
OTTAWA COUNTY	82,978	4.75%	NA	NA
GAINES TWP	N/A	N/A	7,383	3.39%
CALEDONIA TWP	N/A	N/A	14,701	12.16%
<b>SYSTEM</b>	<b>\$ 1,024,490</b>	<b>2.45%</b>	<b>\$ 1,562,688</b>	<b>3.08%</b>

(1) Change in revenue requirements based on revenues currently generated from rates, customer base and volumes reported in the preliminary rate study (Includes consideration for relief from CCCCB).

**DISCLOSE RELIEF PROVIDED BY CITY & CUSTOMER COMMUNITY CIRCUIT BREAKER (CCCB)**

	<u>WATER</u>		<u>SEWER</u>	
	<u>AMOUNT</u>	<u>PERCENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>
SYSTEM REVENUE REQUIREMENT	\$ 42,828,972	2.45%	\$ 52,319,981	3.08%
ADD: CCCCB RELIEF	390,549	0.93%	138,000	0.27%
LESS: CAPITAL INVESTMENT REIMBURSEMENT			(107,854)	-0.21%
<b>SYSTEM CHANGE- WITHOUT RELIEF</b>	<b>\$ 43,219,521</b>	<b>3.38%</b>	<b>\$ 52,350,127</b>	<b>3.14%</b>

**CITY OF GRAND RAPIDS, MICHIGAN**  
**2017 FINAL WATER/SEWER RATE STUDY**  
**IMPACT OF RATE ADJUSTMENTS ON DOMESTIC USERS**  
**BY CUSTOMER COMMUNITY \***  
**December 19, 2017**

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2017</u>	<u>2018</u>	<u>DOLLARS</u>	<u>PERCENT</u>
<b>GRAND RAPIDS</b>				
WATER	\$ 79.23	\$ 82.48	\$ 3.25	4.10%
SEWER	107.16	111.39	4.23	3.95%
	<u>\$ 186.39</u>	<u>\$ 193.87</u>	<u>\$ 7.48</u>	4.01%
BASE RATIO	1.00	1.00		
<b>WALKER</b>				
WATER	\$ 80.08	\$ 80.83	\$ 0.75	0.94%
SEWER	125.10	129.30	4.20	3.36%
	<u>\$ 205.18</u>	<u>\$ 210.13</u>	<u>\$ 4.95</u>	2.41%
RATIO TO GR	1.10	1.08		
<b>KENTWOOD</b>				
WATER	\$ 86.65	\$ 83.20	\$ (3.45)	-3.98%
SEWER	63.81	68.49	4.68	7.33%
	<u>\$ 150.46</u>	<u>\$ 151.69</u>	<u>\$ 1.23</u>	0.82%
RATIO TO GR	0.81	0.78		
<b>CASCADE TWP</b>				
WATER	\$ 122.28	\$ 127.48	\$ 5.20	4.25%
SEWER	142.89	142.11	(0.78)	-0.55%
	<u>\$ 265.17</u>	<u>\$ 269.59</u>	<u>\$ 4.42</u>	1.67%
RATIO TO GR	1.42	1.39		
<b>GRAND RAPIDS TWP</b>				
WATER	\$ 92.44	\$ 96.16	\$ 3.72	4.02%
SEWER	118.44	122.64	4.20	3.55%
	<u>\$ 210.88</u>	<u>\$ 218.80</u>	<u>\$ 7.92</u>	3.76%
RATIO TO GR	1.13	1.13		
<b>TALLMADGE TWP</b>				
WATER	\$ 114.17	\$ 105.15	\$ (9.02)	-7.90%
SEWER	296.04	273.96	(22.08)	-7.46%
	<u>\$ 410.21</u>	<u>\$ 379.11</u>	<u>\$ (31.10)</u>	-7.58%
RATIO TO GR	2.20	1.96		

\* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE DOMESTIC CUSTOMER  
QUARTERLY CONSUMPTION OF: WATER- 26.00 UNITS OR 19,448 GALLONS  
SEWER - 18.00 UNITS OR 13,464 GALLONS  
NO. OF MONTHS: 3

**REU (RESIDENTIAL EQUIVALENT UNIT) CUSTOMER COMMUNITY- APPROXIMATE QUARTERLY BILL**

<b>WRIGHT TWP-</b>				
SEWER (No. of REU 1.00)	<u>\$ 146.10</u>	<u>\$ 156.27</u>	<u>\$ 10.17</u>	6.96%

**CITY OF GRAND RAPIDS, MICHIGAN**  
**2017 FINAL WATER/SEWER RATE STUDY**  
**IMPACT OF RATE ADJUSTMENTS ON COMMERCIAL USERS**  
**BY CUSTOMER COMMUNITY**  
**December 19, 2017**

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2017</u>	<u>2018</u>	<u>DOLLARS</u>	<u>PERCENT</u>
<b>GRAND RAPIDS</b>				
WATER	\$ 460.20	\$ 477.18	\$ 16.98	3.69%
SEWER	779.91	776.67	(3.24)	-0.42%
	<u>\$ 1,240.11</u>	<u>\$ 1,253.85</u>	<u>\$ 13.74</u>	1.11%
BASE RATIO	1.00	1.00		
<b>WALKER</b>				
WATER	\$ 414.18	\$ 413.13	\$ (1.05)	-0.25%
SEWER	648.06	666.12	18.06	2.79%
	<u>\$ 1,062.24</u>	<u>\$ 1,079.25</u>	<u>\$ 17.01</u>	1.60%
RATIO TO GR	0.86	0.86		
<b>KENTWOOD</b>				
WATER	\$ 420.75	\$ 396.96	\$ (23.79)	-5.65%
SEWER	533.76	565.14	31.38	5.88%
	<u>\$ 954.51</u>	<u>\$ 962.10</u>	<u>\$ 7.59</u>	0.80%
RATIO TO GR	0.77	0.77		
<b>CASCADE TWP</b>				
WATER	\$ 592.77	\$ 613.20	\$ 20.43	3.45%
SEWER	715.29	706.68	(8.61)	-1.20%
	<u>\$ 1,308.06</u>	<u>\$ 1,319.88</u>	<u>\$ 11.82</u>	0.90%
RATIO TO GR	1.05	1.05		
<b>GRAND RAPIDS TWP</b>				
WATER	\$ 461.61	\$ 476.04	\$ 14.43	3.13%
SEWER	600.63	618.69	18.06	3.01%
	<u>\$ 1,062.24</u>	<u>\$ 1,094.73</u>	<u>\$ 32.49</u>	3.06%
RATIO TO GR	0.86	0.87		
<b>TALLMADGE TWP</b>				
WATER	\$ 804.15	\$ 743.28	\$ (60.87)	-7.57%
SEWER	2,440.02	2,245.83	(194.19)	-7.96%
	<u>\$ 3,244.17</u>	<u>\$ 2,989.11</u>	<u>\$ (255.06)</u>	-7.86%
RATIO TO GR	2.62	2.38		

\* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE COMMERCIAL CUSTOMER  
QUARTERLY CONSUMPTION OF : WATER- 216.00 UNITS OR 161,568 GALLONS  
SEWER - 210.00 UNITS OR 157,080 GALLONS  
NO. OF MONTHS: 3

**REU (RESIDENTIAL EQUIVALENT UNIT) CUSTOMER COMMUNITY- APPROXIMATE QUARTERLY BILL**

<b>WRIGHT TWP</b>				
SEWER (No. of REU 1.00)	<u>\$ 156.27</u>	<u>\$ 161.19</u>	<u>\$ 4.92</u>	3.15%

**CITY OF GRAND RAPIDS, MICHIGAN  
2017 FINAL WATER/SEWER RATE STUDY  
WATER & SEWER RATES FOR GRAND RAPIDS & RETAIL CUSTOMER COMMUNITIES  
EFFECTIVE JANUARY 1, 2018  
December 19, 2017**

**WATER RATES**

COMMODITY	METER CODE	GRAND RAPIDS	WALKER	KENTWOOD	CASCADE	GR. RAPIDS TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP
CHARGE (HCF)		\$ 2.00	\$ 1.64	\$ 1.52	\$ 2.33	\$ 1.85	\$ 3.33	NA
<b>MONTHLY SERVICE CHARGE BY METER SIZE</b>								
3/4" & Less	A	\$ 10.16	\$ 12.73	\$ 14.56	\$ 22.30	\$ 16.02	\$ 6.19	NA
1"	B	\$ 15.06	\$ 19.63	\$ 22.88	\$ 36.64	\$ 25.48	\$ 8.00	NA
1-1/4"	C	\$ 21.36	\$ 28.50	\$ 33.58	\$ 55.08	\$ 37.64	\$ 10.33	NA
1-1/2"	D	\$ 29.06	\$ 39.34	\$ 46.66	\$ 77.62	\$ 52.50	\$ 13.18	NA
2"	E	\$ 48.66	\$ 66.94	\$ 79.95	\$ 134.99	\$ 90.33	\$ 20.43	NA
3"	F	\$ 104.66	\$ 145.78	\$ 175.06	\$ 298.90	\$ 198.42	\$ 41.14	NA
4"	G	\$ 183.06	\$ 256.16	\$ 308.22	\$ 528.37	\$ 349.74	\$ 70.14	NA
6" & Over	H	\$ 407.06	\$ 571.54	\$ 688.66	\$ 1,184.02	\$ 782.10	\$ 152.98	NA

**SEWER RATES**

COMMODITY	METER CODE	GRAND RAPIDS	WALKER	KENTWOOD	CASCADE	GR. RAPIDS TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP
CHARGE (HCF)		\$ 3.30	\$ 2.50	\$ 2.54	\$ 2.60	\$ 2.30	\$ 9.93	NA
REU Charge (Monthly) *		NA	NA	NA	NA	NA	NA	\$ 53.73
<b>MONTHLY SERVICE CHARGE BY METER SIZE</b>								
3/4" & Less	A	\$ 17.33	\$ 28.10	\$ 7.59	\$ 31.77	\$ 27.08	\$ 31.74	NA
1"	B	\$ 27.89	\$ 47.04	\$ 10.58	\$ 53.56	\$ 45.23	\$ 53.51	NA
1-1/4"	C	\$ 41.47	\$ 71.39	\$ 14.42	\$ 81.58	\$ 68.56	\$ 81.50	NA
1-1/2"	D	\$ 58.07	\$ 101.15	\$ 19.11	\$ 115.83	\$ 97.07	\$ 115.71	NA
2"	E	\$ 100.32	\$ 176.91	\$ 31.06	\$ 203.00	\$ 169.65	\$ 202.79	NA
3"	F	\$ 221.03	\$ 393.35	\$ 65.19	\$ 452.07	\$ 377.03	\$ 451.59	NA
4"	G	\$ 390.02	\$ 696.37	\$ 112.98	\$ 800.76	\$ 667.36	\$ 799.91	NA
6" & Over	H	\$ 872.87	\$ 1,562.15	\$ 249.51	\$ 1,797.03	\$ 1,496.87	\$ 1,795.11	NA

\* REU - Residential Equivalent Unit (Wright Township Only)

**FIRE PROTECTION RATES- ALL GOVERNMENTAL UNITS**

6"	H	\$ 18.04	10"	J	\$ 50.15
8"	I	\$ 32.02	12"	K	\$ 72.16

**NOTE:** Monthly defined as 1/12th of 365 days.

**CITY OF GRAND RAPIDS, MICHIGAN**  
**2017 FINAL WATER/SEWER RATE STUDY**  
**IMPACT OF RATE ADJUSTMENTS ON WHOLESALE CUSTOMER COMMUNITIES**  
**EFFECTIVE JANUARY 1, 2018**  
**December 19, 2017**

	<u>2017</u>	<u>2018</u>	<u>PERCENTAGE CHANGE</u>
<b>EAST GRAND RAPIDS</b>			
WATER - SERVICE (MONTHLY)	\$15,291.00	\$14,728.00	-3.68%
- COMMODITY (100 CF)	\$0.99	\$1.07	8.08%
SEWER - SERVICE (MONTHLY)	\$1,818.00	\$2,198.00	20.90%
- COMMODITY (MG)	\$1,684.00	\$1,834.00	8.91%
<b>ADA TWP</b>			
WATER - SERVICE	\$44,400.00	\$41,158.00	-7.30%
- COMMODITY	\$1.12	\$1.22	8.93%
SEWER - SERVICE	\$45,939.00	\$45,942.00	0.01%
- COMMODITY	\$2,023.00	\$2,288.00	13.10%
<b>OTTAWA COUNTY</b>			
WATER - SERVICE	\$0.00	\$414	N/A
- COMMODITY	\$1.12	\$1.17	4.46%
<b>GAINES TWP</b>			
SEWER - SERVICE	\$1,620.00	\$1,488.00	-8.15%
- COMMODITY	\$1,482.00	\$1,549.00	4.52%
<b>CALEDONIA TWP</b>			
SEWER - SERVICE	\$755.00	\$719.00	-4.77%
- COMMODITY	\$4,040.00	\$4,587.00	13.54%

**NOTE: Monthly defined as 1/12th of 365 days.**

**CITY OF GRAND RAPIDS, MICHIGAN  
WATER SUPPLY SYSTEM FUND  
ANNUAL RATE REVIEW**

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**CITY OF GRAND RAPIDS, MICHIGAN  
WATER SUPPLY SYSTEM FUND  
SYSTEM ADDITIONS AND IMPROVEMENTS  
FOR THE YEAR ENDED JUNE 30, 2017  
TASKS NO. 1, 2, & 3**

COMMUNITY	LOCAL		INTERMEDIATE		PRIMARY		TOTALS	
	FEET	MILES	FEET	MILES	FEET	MILES	FEET	MILES
Grand Rapids								
Construction	13,616	2.58	6,112	1.16	383	0.07	20,111	3.81
Abandonment	(12,353)	(2.34)	(7,777)	(1.47)	(336)	(0.06)	(20,466)	(3.87)
CSO Construction	17,588	3.33	1,557	0.29	0	0.00	19,145	3.62
CSO Abandonment	(17,376)	(3.29)	(1,631)	(0.31)	0	0.00	(19,007)	(3.60)
	<u>1,475</u>	<u>0.28</u>	<u>(1,739)</u>	<u>(0.33)</u>	<u>47</u>	<u>0.01</u>	<u>(217)</u>	<u>(0.04)</u>
Kentwood								
Construction	1,519	0.29	2,878	0.55	0	0.00	4,397	0.84
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>1,519</u>	<u>0.29</u>	<u>2,878</u>	<u>0.55</u>	<u>0</u>	<u>0.00</u>	<u>4,397</u>	<u>0.84</u>
Cascade Twp.								
Construction	38	0.01	1,050	0.20	0	0.00	1,088	0.21
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>38</u>	<u>0.01</u>	<u>1,050</u>	<u>0.20</u>	<u>0</u>	<u>0.00</u>	<u>1,088</u>	<u>0.21</u>
G.R. Twp.								
Construction	0	0.00	0	0.00	0	0.00	0	0.00
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>
Tallmadge Twp.								
Construction	3,035	0.57	0	0.00	0	0.00	3,035	0.57
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>3,035</u>	<u>0.57</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>3,035</u>	<u>0.57</u>
Walker								
Construction	2,532	0.48	8,543	1.62	0	0.00	11,075	2.10
Abandonment	(10)	0.00	(98)	(0.02)	0	0.00	(108)	(0.02)
	<u>2,522</u>	<u>0.48</u>	<u>8,445</u>	<u>1.60</u>	<u>0</u>	<u>0.00</u>	<u>10,967</u>	<u>2.08</u>
<b>*TOTAL*</b>	<u><u>8,589</u></u>	<u><u>1.63</u></u>	<u><u>10,634</u></u>	<u><u>2.02</u></u>	<u><u>47</u></u>	<u><u>0.01</u></u>	<u><u>19,270</u></u>	<u><u>3.66</u></u>

	CONTRIBUTIONS		
	COMM	OTHER	TOTAL
Integrated	\$ 165,544	\$ -	\$ 165,544
Grand Rapids	601,544	-	601,544
Walker	1,009,890	-	1,009,890
Kentwood	388,672	-	388,672
Cascade Twp.	156,608	-	156,608
Grand Rapids Twp.	-	-	-
Tallmadge Twp.	170,150	-	170,150
<b>*TOTAL*</b>	<u><u>\$ 2,492,408</u></u>	<u><u>\$ -</u></u>	<u><u>\$ 2,492,408</u></u>

CITY OF GRAND RAPIDS, MICHIGAN  
 WATER SUPPLY SYSTEM FUND  
 OPERATING EXPENSE ALLOCATION BY COST CENTER - TASK #4, PART 1  
 FISCAL YEAR ENDED JUNE 30, 2017

	ACTIVITY	EXPENSE BY ACTIVITY	PUMPING STATIONS			WATERMAINS			RETAIL CUSTOMER METERING	ENGIN. SERVICES	ADMIN. EXPENSE
			FILTRATION PLANT	PRIMARY	INTERM.	PRIMARY TRANSPORT	INTERMED. TRANSPORT	LOCAL DISTRIBUTION			
253 (4010) 5910	TREASURER-CUSTOMER SERVICE	\$ 581,106						\$ 581,106			
536 (2110) 2700 5910	WATER-CUSTOMER SERVICE *	2,904,182						2,904,182			
536 (3010:70) 5910	ENGINEERING	1,099,908							1,099,908		
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	2,395,076		828,205	1,566,871						
536 (6010 / 6370) 5910	FIELD OPERATIONS	6,854,568		347,115	1,782,530						
536 (6500:90) 5910	FILTRATION	6,851,536	6,851,536								
536 (1000:10 / 8000) 5910	SUBTOTAL OPERATING EXPENSE ADMINISTRATION	20,686,376	6,851,536	828,205	1,566,871	347,115	1,782,530	3,485,288	1,099,908	-	
	TOTAL	\$ 23,175,420	\$ 6,851,536	\$ 828,205	\$ 1,566,871	\$ 347,115	\$ 1,782,530	\$ 3,485,288	\$ 1,099,908	\$ 2,489,044	

\* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

**METHOD OF DISTRIBUTION**

253 (4010) 5910	TREASURER-CUSTOMER SERVICE	100.000%						100.000%		
536 (2110) 2700 5910	WATER-CUSTOMER SERVICE	100.000%						100.000%		
536 (3010:70) 5910	ENGINEERING	100.000%							100.000%	
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	100.000%		34.580%	65.420%					
536 (6010 / 6370) 5910	FIELD OPERATIONS	100.000%		5.064%	26.005%			68.931%		
536 (6500:90) 5910	TOTAL MILES OF MAIN	1,178.35		59.67	306.43			812.25		
536 (1000:10 / 8000) 5910	FILTRATION	100.000%	100.000%							
	ADMINISTRATION	100.000%								100.000%

CITY OF GRAND RAPIDS, MICHIGAN  
 WATER SUPPLY SYSTEM FUND  
 OPERATING EXPENSE ALLOCATION BY GOVERNMENTAL UNIT - TASK #4, PART 2  
 FISCAL YEAR ENDED JUNE 30, 2017

COST CENTER	EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL						WHOLESALE				
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP		
FILTRATION PLANT	\$ 6,851,536	\$ 6,851,536											
PUMPING STATIONS:													
A. PRIMARY TRANSPORT	828,205	828,205											
B. INTERMEDIATE TRANSPORT	1,566,871		1,335,037	50,105	181,729								
WATERMAINS:													
A. PRIMARY TRANSPORT	347,115		286,557	18,730	26,645		9,771	5,412					
B. INTERMEDIATE TRANSPORT	1,782,530		675,438	378,930	320,338		237,504	144,438		25,882			
C. LOCAL DISTRIBUTION	4,724,923		3,459,069	371,804	322,618		261,005	292,756		17,671			
RETAIL CUSTOMER METERING	3,485,288		2,615,011	283,005	231,249		159,313	186,289		10,421			
SUBTOTAL OPERATING EXPENSE	19,586,468	7,679,741	8,371,112	1,102,574	1,082,579		667,593	628,895		53,974			
ENGINEERING SERVICES	1,099,908	431,273	470,090	61,914	60,792		37,485	35,318		3,036			
ADMINISTRATIVE EXPENSE	2,489,044	953,145	1,097,103	136,834	134,354		82,844	78,055		6,709			
<b>TOTAL</b>	<b>\$ 23,175,420</b>	<b>\$ 9,064,159</b>	<b>\$ 9,938,305</b>	<b>\$ 1,301,322</b>	<b>\$ 1,277,725</b>		<b>\$ 787,922</b>	<b>\$ 742,268</b>		<b>\$ 63,719</b>			<b>\$ -</b>

**METHOD OF DISTRIBUTION**

FILTRATION PLANTS	100.00%	100.00%											
PUMPING STATIONS													
A. PRIMARY TRANSPORT	100.00%	100.00%											
B. INTERMEDIATE TRANSPORT	100.00%		85.204%	3.198%	11.598%								
MEMO													
WATERMAINS													
TOTAL MILES:	1,178.35												
A. PRIMARY TRANSPORT		100.000%	82.554%	5.396%	7.676%		2.815%	1.559%					
MILES	59.67		49.26	3.22	4.58		1.68	0.93					
B. INTERMEDIATE TRANSPORT		100.000%	37.892%	21.258%	17.971%		13.324%	8.103%		1.452%			
MILES	306.43		116.11	65.14	55.07		40.83	24.83		4.45			
C. LOCAL DISTRIBUTION		100.000%	73.209%	7.869%	6.828%		5.524%	6.196%		0.374%			
MILES	812.25		594.63	63.92	55.46		44.87	50.33		3.04			
RETAIL CUSTOMER METERING (1)		100.000%	75.030%	8.120%	6.635%		4.571%	5.345%		0.299%			
NUMBER OF METERS	85,612.00		64,235.00	6,952.00	5,680.00		3,913.00	4,576.00		256.00			
ENGINEERING SERVICES (2)		100.000%	42.739%	5.629%	5.527%		3.408%	3.211%		0.276%			
ADMINISTRATIVE EXPENSE (3)		100.000%	44.077%	5.497%	5.398%		3.328%	3.136%		0.270%			

**NOTES:**

- (1) ALLOCATION BASED ON NUMBER OF METERS.
- (2) ALLOCATION BASED ON DIRECT OPERATING EXPENSE.
- (3) ALLOCATION BASED ON COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

CITY OF GRAND RAPIDS, MICHIGAN  
 WATER SUPPLY SYSTEM FUND  
 ADJUSTED OPERATING EXPENSE ALLOCATION BY COST CENTER - TASK #5, PART 1  
 FISCAL YEAR ENDED JUNE 30, 2017

	ACTIVITY	ADJUSTED EXPENSE BY ACTIVITY	PUMPING STATIONS		WATERMAINS		RETAIL CUSTOMER METERING	ENGIN. SERVICES	ADMIN. EXPENSE
			FILTRATION PLANT	PRIMARY	INTERM.	PRIMARY TRANSPORT			
253 (4010) 5910	TREASURER-CUSTOMER SERVICE	\$ 862,867					\$ 862,867		
536 (2110 / 2700) 5910	WATER-CUSTOMER SERVICE *	2,971,591					2,971,591		
536 (3010:70) 5910	ENGINEERING	1,256,564					1,256,564		
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	2,095,542		724,628	1,370,914				
536 (6010 / 6370) 5910	FIELD OPERATIONS	7,464,949				378,025	1,941,260		
536 (6500:90) 5910	FILTRATION	7,795,988	7,795,988						
536 (1000:10 / 8000) 5910	SUBTOTAL OPERATING EXPENSE ADMINISTRATION	22,447,500	7,795,988	724,628	1,370,914	378,025	1,941,260	1,256,564	-
	TOTAL	\$ 25,130,523	\$ 7,795,988	\$ 724,628	\$ 1,370,914	\$ 378,025	\$ 1,941,260	\$ 3,834,458	\$ 2,683,022

\* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

**METHOD OF DISTRIBUTION**

253 (4010) 5910	TREASURER-CUSTOMER SERVICE	100.000%						100.000%	
536 (2110 / 2700) 5910	WATER-CUSTOMER SERVICE	100.000%						100.000%	
536 (3010:70) 5910	ENGINEERING	100.000%							100.000%
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	100.000%		34.580%	65.420%				
536 (6010 / 6370) 5910	FIELD OPERATIONS	100.000%				5.064%	26.005%	68.931%	
536 (6500:90) 5910	TOTAL MILES OF MAIN	1,178.35				59.67	306.43	812.25	
536 (1000:10 / 8000) 5910	FILTRATION	100.000%	100.000%						
	ADMINISTRATION	100.000%							100.000%

CITY OF GRAND RAPIDS, MICHIGAN  
WATER SUPPLY SYSTEM FUND  
ADJUSTED OPERATING EXPENSE ALLOCATION BY GOVERNMENTAL UNIT - TASK #5, PART 2  
FISCAL YEAR ENDED JUNE 30, 2017

COST CENTER	ADJUSTED EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL						WHOLESALE					
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP			
FILTRATION PLANT	\$ 7,795,988	\$ 7,795,988												
PUMPING STATIONS:														
A. PRIMARY TRANSPORT	724,628	724,628												
B. INTERMEDIATE TRANSPORT	1,370,914		1,168,073	43,839	159,002									
WATERMAINS:														
A. PRIMARY TRANSPORT	378,025		312,076	20,398	29,017	10,641	5,893							
B. INTERMEDIATE TRANSPORT	1,941,260		735,583	412,673	348,864	258,653	157,300	28,187						
C. LOCAL DISTRIBUTION	5,145,664		3,767,090	404,912	351,346	284,246	318,825	19,245						
RETAIL CUSTOMER METERING	3,834,458		2,876,994	311,358	254,416	175,273	204,952	11,465						
SUBTOTAL OPERATING EXPENSE	21,190,937	8,520,616	8,859,816	1,193,180	1,142,645	728,813	686,970	58,897						
ENGINEERING SERVICES	1,256,564	505,252	525,357	70,757	67,754	43,213	40,738	3,493						
ADMINISTRATIVE EXPENSE	2,683,022	1,055,424	1,155,597	147,805	141,532	90,269	85,098	7,297						
<b>TOTAL</b>	<b>\$ 25,130,523</b>	<b>\$ 10,081,292</b>	<b>\$ 10,540,770</b>	<b>\$ 1,411,742</b>	<b>\$ 1,351,931</b>	<b>\$ 862,295</b>	<b>\$ 812,806</b>	<b>\$ 69,687</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>METHOD OF DISTRIBUTION</b>														
FILTRATION PLANTS	100.00%													
PUMPING STATIONS														
A. PRIMARY TRANSPORT	100.00%													
B. INTERMEDIATE TRANSPORT	100.00%		85.204%	3.198%	11.598%									
MEMO														
WATERMAINS														
TOTAL MILES:		1,178.35												
A. PRIMARY TRANSPORT	100.0000%		82.554%	5.396%	7.676%	2.815%	1.559%							
MILES		59.67	49.26	3.22	4.58	1.68	0.93							
B. INTERMEDIATE TRANSPORT	100.0000%		37.892%	21.258%	17.971%	13.324%	8.103%	1.452%						
MILES		306.43	116.11	65.14	55.07	40.83	24.83	4.45						
C. LOCAL DISTRIBUTION	100.0000%		73.209%	7.869%	6.828%	5.524%	6.196%	0.374%						
MILES		812.25	594.63	63.92	55.46	44.87	50.33	3.04						
RETAIL CUSTOMER METERING (1)	100.0000%		75.030%	8.120%	6.635%	4.571%	5.345%	0.299%						
NUMBER OF METERS		85,612.00	64,235.00	6,952.00	5,680.00	3,913.00	4,576.00	256.00						
ENGINEERING SERVICES (2)	100.0000%		41.809%	5.631%	5.392%	3.439%	3.242%	0.278%						
ADMINISTRATIVE EXPENSE (3)	100.0000%		43.071%	5.509%	5.275%	3.364%	3.172%	0.272%						

NOTES:  
 (1) ALLOCATION BASED ON NUMBER OF METERS.  
 (2) ALLOCATION BASED ON DIRECT OPERATING EXPENSE.  
 (3) ALLOCATION BASED ON DIRECT OPERATING EXPENSE, ADJUSTED FOR ANY COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

**CITY OF GRAND RAPIDS, MICHIGAN  
 WATER SUPPLY SYSTEM FUND  
 ADJUSTED ACTUAL EXPENSE  
 YEAR ENDED JUNE 30, 2017  
 RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: ADMINISTRATION

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 512,840.04	\$ 159,395.76	\$ 672,235.80
7040	TEMPORARY EMPLOYEES	36,188.86	1,563.36	37,752.22
7055	TIME & ONE-HALF	993.97	42.94	1,036.91
7105	EMPLOYERS SOCIAL SECURITY	33,889.15	9,884.95	43,774.10
7110	HOSPITALIZATION INSURANCE	64,577.01	20,586.17	85,163.18
7115	RETIREE HEALTH CARE	52,338.60	16,297.45	68,636.05
7120	RETIREMENT FUND CONTRIBUTION	101,761.72	34,587.26	136,348.98
7135	UNEMPLOYMENT COMPENSATION	1,639.93	-	1,639.93
7175	FOOD/CLEAN/CAR ALLOW	648.88	-	648.88
	TOTAL PERSONAL SERVICES	<u>804,878.16</u>	<u>242,357.88</u>	<u>1,047,236.04</u>
7520	SUPPLIES	952.44	-	952.44
8510	POSTAGE	22.95	-	22.95
	TOTAL SUPPLIES	<u>975.39</u>	<u>-</u>	<u>975.39</u>
9480	COMPUTER SERVICES	37,517.00	(9,600.00)	27,917.00
9460	ENGINEERING SERVICES	17,169.50	-	17,169.50
8010	CONTRACTUAL SERVICES	225,751.75	20,000.00	245,751.75
8450	GENERAL LIABILITY INSURANCE/CLAIMS	247,132.00	12,707.00	259,839.00
8400	INSURANCE PREMIUMS	149,031.00	-	149,031.00
8500	TELEPHONE	3,577.11	-	3,577.11
9000	PRINTING & PUBLISHING	5,538.54	-	5,538.54
9200	ELECTRICITY	3,261.02	-	3,261.02
9210	NATURAL GAS	97.18	-	97.18
9340	MAINTENANCE SERVICE	3,063.90	-	3,063.90
9410	EQUIPMENT RENTALS OR LEASE	704.70	-	704.70
9400	LAND RENTAL OR LEASE	2,799.36	-	2,799.36
9470	VEHICLE USAGE/CAR MILEAGE	7,486.73	-	7,486.73
9100	PROFESSIONAL DEVELOPMENT	21,279.84	-	21,279.84
9110	OTHER TRAVEL & TRAINING	7,831.61	-	7,831.61
9130	LOCAL BUSINESS EXPENSE	650.16	-	650.16
9150	MEMBERSHIPS	13,626.16	-	13,626.16
7910	SUBSCRIPTIONS AND PUBLICATIONS	1,424.72	-	1,424.72
8240	FEES	582.29	-	582.29
8030	ADMINISTRATIVE SERVICES (ICB)	92,139.38	(92,139.38)	-
9650	BAD DEBT WRITE-OFFS	9,502.55	-	9,502.55
6931	GAIN-LOSS ON SALE OF ASSETS-FA	18,464.00	-	18,464.00
8011	CONTRACT EMPLOYEES - TEMP SERVICES	23,031.91	-	23,031.91
	TOTAL OTHER SERVICES & CHARGES	<u>891,662.41</u>	<u>(69,032.38)</u>	<u>822,630.03</u>
9760	EQUIPMENT	32,001.69	-	32,001.69
9840	SOFTWARE	52.95	-	52.95
9880	CONSTRUCTION IN PROGRESS	2,607.23	-	2,607.23
	TOTAL CAPITAL	<u>34,661.87</u>	<u>-</u>	<u>34,661.87</u>
9955	OPERATING TRANS-MISC	61,500.00	-	61,500.00
9952	OPERATING TRANSFERS-A87 COST	695,366.00	20,653.00	716,019.00
	TOTAL TRANSFERS/FEES	<u>756,866.00</u>	<u>20,653.00</u>	<u>777,519.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 2,489,043.83</u>	<u>\$ 193,978.50</u>	<u>\$ 2,683,022.33</u>

**CITY OF GRAND RAPIDS, MICHIGAN  
 WATER SUPPLY SYSTEM FUND  
 ADJUSTED ACTUAL EXPENSE  
 YEAR ENDED JUNE 30, 2017  
 RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: CUSTOMER SERVICES

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 1,374,063.32	\$ 301,109.83	\$ 1,675,173.15
7025	ACT.ASSIGNMENT	6,646.48	261.21	6,907.69
7055	TIME & ONE-HALF	96,748.40	3,802.21	100,550.61
7105	EMPLOYERS SOCIAL SECURITY	105,840.89	21,825.68	127,666.57
7110	HOSPITALIZATION INSURANCE	324,606.40	43,988.10	368,594.50
7115	RETIREE HEALTH CARE	164,393.98	22,523.97	186,917.95
7120	RETIREMENT FUND CONTRIBUTION	319,265.13	66,347.16	385,612.29
7135	UNEMPLOYMENT COMPENSATION	1,889.72	315.42	2,205.14
7165	SHIFT DIFFERENTIAL	1,205.98	-	1,205.98
7195	INSURANCE OPT-OUT	1,810.35	-	1,810.35
	TOTAL PERSONAL SERVICES	<u>2,396,470.65</u>	<u>460,173.58</u>	<u>2,856,644.23</u>
7520	SUPPLIES	146,279.79	-	146,279.79
8510	POSTAGE	7,756.18	-	7,756.18
7670	CLOTHING/CLEANING ALLOWANCE	5,548.33	-	5,548.33
	TOTAL SUPPLIES	<u>159,584.30</u>	<u>-</u>	<u>159,584.30</u>
9480	COMPUTER SERVICES	175,269.00	(44,849.00)	130,420.00
9480	COMPUTER SERVICES (CIS-DEPR & ROI)	-	430,883.20	430,883.20
8010	CONTRACTUAL SERVICES	781,001.50	355,500.00	1,136,501.50
8500	TELEPHONE	21,627.38	-	21,627.38
9340	MAINTENANCE SERVICE	617,074.07	-	617,074.07
9410	EQUIPMENT RENTALS OR LEASE	1,948.13	-	1,948.13
9470	VEHICLE RENTAL/CAR MILEAGE	11,588.01	-	11,588.01
9100	PROFESSIONAL DEVELOPMENT	300.00	-	300.00
9110	OTHER TRAVEL & TRAINING	1,315.44	-	1,315.44
8011	CONTRACT EMPLOYEES - TEMP SERVICES	103,391.52	-	103,391.52
9450	311 CALL CENTER SERVICES	535,107.00	-	535,107.00
9440	FLEET MANAGEMENT EQUIPMENT	157,170.34	-	157,170.34
	TOTAL OTHER SERVICES & CHARGES	<u>2,405,792.39</u>	<u>741,534.20</u>	<u>3,147,326.59</u>
9800	FURNITURE	956.20	-	956.20
9760	EQUIPMENT	58,051.75	-	58,051.75
9840	SOFTWARE	2,507.25	-	2,507.25
	TOTAL CAPITAL	<u>61,515.20</u>	<u>-</u>	<u>61,515.20</u>
9952	OPERATING TRANSFERS-A87 COST	-	116,981.00	116,981.00
	TOTAL TRANSFERS/FEES	<u>-</u>	<u>116,981.00</u>	<u>116,981.00</u>
	ORGANIZATIONAL UNIT TOTAL (GROSS)	\$ 5,023,362.54	\$ 1,318,688.78	\$ 6,342,051.32
	LESS: SDSF CONTRIBUTION *	<u>(2,119,181.00)</u>	<u>(1,251,279.80)</u>	<u>(3,370,460.80)</u>
	ORGANIZATIONAL UNIT TOTAL (NET)	<u>\$ 2,904,181.54</u>	<u>\$ 67,408.98</u>	<u>\$ 2,971,590.52</u>

\* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

**CITY OF GRAND RAPIDS, MICHIGAN  
 WATER SUPPLY SYSTEM FUND  
 ADJUSTED ACTUAL EXPENSE  
 YEAR ENDED JUNE 30, 2017  
 RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: ENGINEERING

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 520,573.20	\$ 98,251.30	\$ 618,824.50
7025	ACT.ASSIGNMENT	3,111.48	134.42	3,245.90
7040	TEMPORARY EMPLOYEES	20,300.54	876.98	21,177.52
7055	TIME & ONE-HALF	10,399.01	1,891.01	12,290.02
7105	EMPLOYERS SOCIAL SECURITY	43,307.80	7,875.30	51,183.10
7110	HOSPITALIZATION INSURANCE	104,719.49	21,880.59	126,600.08
7115	RETIREE HEALTH CARE	66,872.69	13,477.84	80,350.53
7120	RETIREMENT FUND CONTRIBUTION	129,835.00	29,867.86	159,702.86
7135	UNEMPLOYMENT COMPENSATION	1,330.27	-	1,330.27
7195	INSURANCE OPT-OUT	1,135.38	-	1,135.38
	TOTAL PERSONAL SERVICES	<u>901,584.86</u>	<u>174,255.29</u>	<u>1,075,840.15</u>
7520	SUPPLIES	2,218.83	-	2,218.83
	TOTAL SUPPLIES	<u>2,218.83</u>	<u>-</u>	<u>2,218.83</u>
9480	COMPUTER SERVICES	68,782.00	(17,600.00)	51,182.00
8010	CONTRACTUAL SERVICES	71,040.75	-	71,040.75
8500	TELEPHONE	5,964.38	-	5,964.38
9340	MAINTENANCE SERVICE	1,178.54	-	1,178.54
9410	EQUIPMENT RENTALS OR LEASE	2,754.04	-	2,754.04
9470	VEHICLE RENTAL/CAR MILEAGE	700.00	-	700.00
9440	FLEET MANAGEMENT EQUIPMENT	19,346.04	-	19,346.04
	TOTAL OTHER SERVICES & CHARGES	<u>169,765.75</u>	<u>(17,600.00)</u>	<u>152,165.75</u>
9760	EQUIPMENT	428.32	-	428.32
9840	SOFTWARE	2,137.50	-	2,137.50
	TOTAL CAPITAL	<u>2,565.82</u>	<u>-</u>	<u>2,565.82</u>
9954	OPERATING TRANS-DEV CENTER	23,773.00	-	23,773.00
	TOTAL TRANSFERS/FEES	<u>23,773.00</u>	<u>-</u>	<u>23,773.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 1,099,908.26</u>	<u>\$ 156,655.29</u>	<u>\$ 1,256,563.55</u>

**CITY OF GRAND RAPIDS, MICHIGAN  
 WATER SUPPLY SYSTEM FUND  
 ADJUSTED ACTUAL EXPENSE  
 YEAR ENDED JUNE 30, 2017  
 RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: COLDBROOK DISTRIBUTION

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 228,859.68	\$ 104,001.09	\$ 332,860.77
7025	ACT.ASSIGNMENT	83.29	3.60	86.89
7055	TIME & ONE-HALF	6,358.01	274.67	6,632.68
7105	EMPLOYERS SOCIAL SECURITY	18,560.24	8,201.83	26,762.07
7110	HOSPITALIZATION INSURANCE	56,702.89	26,593.86	83,296.75
7115	RETIREE HEALTH CARE	30,588.55	14,119.79	44,708.34
7120	RETIREMENT FUND CONTRIBUTION	59,398.01	29,111.18	88,509.19
7135	UNEMPLOYMENT COMPENSATION	362.72	-	362.72
7165	SHIFT DIFFERENTIAL	525.52	-	525.52
7195	INSURANCE OPT-OUT	(138.30)	-	(138.30)
	TOTAL PERSONAL SERVICES	<u>401,300.61</u>	<u>182,306.02</u>	<u>583,606.63</u>
7520	SUPPLIES	70,806.49	-	70,806.49
	TOTAL SUPPLIES	<u>70,806.49</u>	<u>-</u>	<u>70,806.49</u>
9480	COMPUTER SERVICES	18,759.00	(4,800.00)	13,959.00
8010	CONTRACTUAL SERVICES	346,416.31	-	346,416.31
8500	TELEPHONE	2,738.47	-	2,738.47
9200	ELECTRICITY	1,381,301.62	-	1,381,301.62
9180	WATER	22,248.16	-	22,248.16
9210	NATURAL GAS	65,566.03	-	65,566.03
9340	MAINTENANCE SERVICE	3,246.87	35,000.00	38,246.87
9310	EQUIPMENT REPAIRS	5,249.76	-	5,249.76
9410	EQUIPMENT RENTALS OR LEASE	6,701.76	-	6,701.76
9400	LAND RENTAL OR LEASE	498.57	-	498.57
9130	LOCAL BUSINESS EXPENSE	25.53	-	25.53
8240	FEES	170.50	-	170.50
9440	FLEET MANAGEMENT EQUIPMENT	68,641.46	-	68,641.46
9550	MISCELLANEOUS	1,404.92	-	1,404.92
xxxx	FACILITY RENTALS		(612,039.88)	(612,039.88)
	TOTAL OTHER SERVICES & CHARGES	<u>1,922,968.96</u>	<u>(581,839.88)</u>	<u>1,341,129.08</u>
9760	EQUIPMENT	-	100,000.00	100,000.00
	TOTAL CAPITAL	<u>-</u>	<u>100,000.00</u>	<u>100,000.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 2,395,076.06</u>	<u>\$ (299,533.86)</u>	<u>\$ 2,095,542.20</u>

**CITY OF GRAND RAPIDS, MICHIGAN  
 WATER SUPPLY SYSTEM FUND  
 ADJUSTED ACTUAL EXPENSE  
 YEAR ENDED JUNE 30, 2017  
 RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: FIELD OPERATIONS

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 1,551,843.47	\$ 67,039.64	\$ 1,618,883.11
7025	ACT.ASSIGNMENT	2,173.90	93.91	2,267.81
7040	TEMPORARY EMPLOYEES	28,785.46	51,243.53	80,028.99
7055	TIME & ONE-HALF	253,965.64	10,971.32	264,936.96
7105	EMPLOYERS SOCIAL SECURITY	139,984.29	6,047.32	146,031.61
7110	HOSPITALIZATION INSURANCE	376,948.70	26,499.49	403,448.19
7115	RETIREE HEALTH CARE	199,829.49	12,569.27	212,398.76
7120	RETIREMENT FUND CONTRIBUTION	388,071.43	35,469.73	423,541.16
7135	UNEMPLOYMENT COMPENSATION	3,073.88	-	3,073.88
7165	SHIFT DIFFERENTIAL	1,255.49	-	1,255.49
7195	INSURANCE OPT-OUT	1,429.54	-	1,429.54
	TOTAL PERSONAL SERVICES	<u>2,947,361.29</u>	<u>209,934.21</u>	<u>3,157,295.50</u>
7520	SUPPLIES	593,346.79	-	593,346.79
7670	CLOTHING/CLEANING ALLOWANCE	10,409.67	-	10,409.67
	TOTAL SUPPLIES	<u>603,756.46</u>	<u>-</u>	<u>603,756.46</u>
9480	COMPUTER SERVICES	193,652.00	(49,553.00)	144,099.00
8010	CONTRACTUAL SERVICES	1,083,602.31	450,000.00	1,533,602.31
8500	TELEPHONE	23,913.51	-	23,913.51
9200	ELECTRICITY	21,591.24	-	21,591.24
9180	WATER	1,222.48	-	1,222.48
9210	NATURAL GAS	16,177.74	-	16,177.74
9340	MAINTENANCE SERVICE	105,870.79	-	105,870.79
8080	PAVEMENT REPAIR	688,166.18	-	688,166.18
9410	EQUIPMENT RENTALS OR LEASE	36,687.60	-	36,687.60
9470	VEHICLE USAGE/CAR MILEAGE	527.72	-	527.72
9100	PROFESSIONAL DEVELOPMENT	238.00	-	238.00
9150	MEMBERSHIPS	3,562.47	-	3,562.47
7910	SUBSCRIPTIONS AND PUBLICATIONS	609.90	-	609.90
8011	CONTRACT EMPLOYEES - TEMP SERVICES	128,091.90	-	128,091.90
9440	FLEET MANAGEMENT EQUIPMENT	886,129.07	-	886,129.07
	TOTAL OTHER SERVICES & CHARGES	<u>3,190,042.91</u>	<u>400,447.00</u>	<u>3,590,489.91</u>
9800	FURNITURE	3,030.48	-	3,030.48
9760	EQUIPMENT	110,376.68	-	110,376.68
	TOTAL CAPITAL	<u>113,407.16</u>	<u>-</u>	<u>113,407.16</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 6,854,567.82</u>	<u>\$ 610,381.21</u>	<u>\$ 7,464,949.03</u>

**CITY OF GRAND RAPIDS, MICHIGAN  
 WATER SUPPLY SYSTEM FUND  
 ADJUSTED ACTUAL EXPENSE  
 YEAR ENDED JUNE 30, 2017  
 RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: LAKE MI. FILTRATION

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 1,620,114.27	\$ 302,964.19	\$ 1,923,078.46
7025	ACT.ASSIGNMENT	16,755.75	723.85	17,479.60
7050	REGULAR HOURLY RATE	2,092.74	90.41	2,183.15
7055	TIME & ONE-HALF	119,315.88	22,001.53	141,317.41
7105	EMPLOYERS SOCIAL SECURITY	125,616.24	23,163.30	148,779.54
7110	HOSPITALIZATION INSURANCE	368,303.67	77,895.25	446,198.92
7115	RETIREE HEALTH CARE	193,626.00	39,518.55	233,144.55
7120	RETIREMENT FUND CONTRIBUTION	376,055.37	87,469.47	463,524.84
7135	UNEMPLOYMENT COMPENSATION	2,218.25	-	2,218.25
7165	SHIFT DIFFERENTIAL	8,262.73	-	8,262.73
7195	INSURANCE OPT-OUT	553.84	-	553.84
	TOTAL PERSONAL SERVICES	<u>2,832,914.74</u>	<u>553,826.56</u>	<u>3,386,741.30</u>
7520	SUPPLIES	210,656.00	150,000.00	360,656.00
7670	CLOTHING/CLEANING ALLOWANCE	845.55	-	845.55
7530	PROCESS CHEMICALS	821,355.79	-	821,355.79
	TOTAL SUPPLIES	<u>1,032,857.34</u>	<u>150,000.00</u>	<u>1,182,857.34</u>
9480	COMPUTER SERVICES	200,093.00	(51,201.00)	148,892.00
8010	CONTRACTUAL SERVICES	210,602.85	250,000.00	460,602.85
8500	TELEPHONE	12,263.08	-	12,263.08
9200	ELECTRICITY	1,807,933.85	(58,174.00)	1,749,759.85
9210	NATURAL GAS	116,640.31	-	116,640.31
9340	MAINTENANCE SERVICE	425,627.23	-	425,627.23
9310	EQUIPMENT REPAIRS	922.75	-	922.75
9410	EQUIPMENT RENTALS OR LEASE	3,895.03	-	3,895.03
9470	VEHICLE USAGE/CAR MILEAGE	73.15	-	73.15
9100	PROFESSIONAL DEVELOPMENT	180.00	-	180.00
8240	FEES	2,762.97	-	2,762.97
9190	REFUSE COLLECTION CHARGES	703.94	-	703.94
8011	CONTRACT EMPLOYEES - TEMP SERVICES	51,295.97	-	51,295.97
9440	FLEET MANAGEMENT EQUIPMENT	58,308.84	-	58,308.84
	TOTAL OTHER SERVICES & CHARGES	<u>2,891,302.97</u>	<u>140,625.00</u>	<u>3,031,927.97</u>
9800	FURNITURE	798.95	-	798.95
9760	EQUIPMENT	93,662.35	100,000.00	193,662.35
	TOTAL CAPITAL	<u>94,461.30</u>	<u>100,000.00</u>	<u>194,461.30</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 6,851,536.35</u>	<u>\$ 944,451.56</u>	<u>\$ 7,795,987.91</u>

**CITY OF GRAND RAPIDS, MICHIGAN  
 WATER SUPPLY SYSTEM FUND  
 ADJUSTED ACTUAL EXPENSE  
 YEAR ENDED JUNE 30, 2017  
 RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: TREASURER - CUSTOMER SERV'S

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
NO.	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	144,871.65	\$ 6,258.46	\$ 151,130.11
7040	TEMPORARY EMPLOYEES	744.98	32.18	777.16
7055	TIME & ONE-HALF	780.94	33.74	814.68
7105	EMPLOYERS SOCIAL SECURITY	10,170.94	439.38	10,610.32
7110	HOSPITALIZATION INSURANCE	35,820.62	2,518.19	38,338.81
7115	RETIREE HEALTH CARE	17,358.19	1,091.83	18,450.02
7120	RETIREMENT FUND CONTRIBUTION	33,702.64	3,080.42	36,783.06
7135	UNEMPLOYMENT COMPENSATION	226.12	-	226.12
	TOTAL PERSONAL SERVICES	<u>243,676.08</u>	<u>13,454.20</u>	<u>257,130.28</u>
7520	SUPPLIES	2,055.81	-	2,055.81
	TOTAL SUPPLIES	<u>2,055.81</u>	<u>-</u>	<u>2,055.81</u>
9480	COMPUTER SERVICES	19,617.00	10,322.00	29,939.00
8010	CONTRACTUAL SERVICES	5,160.29	-	5,160.29
8450	GENERAL LIABILITY INSURANCE/CLAIMS	2,798.00	181.00	2,979.00
8500	TELEPHONE	69.57	-	69.57
9340	MAINTENANCE SERVICE	623.45	-	623.45
9430	BUILDINGS RENTALS OR LEASE	8,822.00	-	8,822.00
9470	VEHICLE USAGE/CAR MILEAGE	36,087.63	-	36,087.63
8240	FEES	262,196.32	257,803.68	520,000.00
	TOTAL OTHER SERVICES & CHARGES	<u>335,374.26</u>	<u>268,306.68</u>	<u>603,680.94</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 581,106.15</u>	<u>\$ 281,760.88</u>	<u>\$ 862,867.03</u>

**CITY OF GRAND RAPIDS, MICHIGAN  
WATER SUPPLY SYSTEM FUND  
ADJUSTED ACTUAL EXPENSE  
YEAR ENDED JUNE 30, 2017  
RATE STUDY- TASKS NO. 4 & 5**

ORGANIZATIONAL SUMMARY

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				CURRENT
7020	PERMANENT EMPLOYEES	\$ 5,953,165.63	\$ 1,039,020.28	\$ 6,992,185.91
7025	ACT.ASSIGNMENT	28,770.90	1,216.99	29,987.89
7040	TEMPORARY EMPLOYEES	86,019.84	53,716.05	139,735.89
7050	REGULAR HOURLY RATE	2,092.74	90.41	2,183.15
7055	TIME & ONE-HALF	488,561.85	39,017.42	527,579.27
7105	EMPLOYERS SOCIAL SECURITY	477,369.55	77,437.76	554,807.31
7110	HOSPITALIZATION INSURANCE	1,331,678.78	219,961.64	1,551,640.42
7115	RETIREE HEALTH CARE	725,007.50	119,598.69	844,606.19
7120	RETIREMENT FUND CONTRIBUTION	1,408,089.30	285,933.09	1,694,022.39
7135	UNEMPLOYMENT COMPENSATION	10,740.89	315.42	11,056.31
7165	SHIFT DIFFERENTIAL	11,249.72	-	11,249.72
7175	FOOD/CLEAN/CAR ALLOW	648.88	-	648.88
7195	INSURANCE OPT-OUT	4,790.81	-	4,790.81
	TOTAL PERSONAL SERVICES	<u>10,528,186.39</u>	<u>1,836,307.74</u>	<u>12,364,494.13</u>
7520	SUPPLIES	1,026,316.15	150,000.00	1,176,316.15
8510	POSTAGE	7,779.13	-	7,779.13
7670	CLOTHING/CLEANING ALLOWANCE	16,803.55	-	16,803.55
7530	PROCESS CHEMICALS	821,355.79	-	821,355.79
	TOTAL SUPPLIES	<u>1,872,254.62</u>	<u>150,000.00</u>	<u>2,022,254.62</u>
9480	COMPUTER SERVICES	713,689.00	(167,281.00)	546,408.00
9480	COMPUTER SERVICES (CIS-DEPR & ROI)	-	430,883.20	430,883.20
9460	ENGINEERING SERVICES	17,169.50	-	17,169.50
8010	CONTRACTUAL SERVICES	2,723,575.76	1,075,500.00	3,799,075.76
8450	GENERAL LIABILITY INSURANCE / CLAIMS	249,930.00	12,888.00	262,818.00
8400	INSURANCE PREMIUMS	149,031.00	-	149,031.00
8500	TELEPHONE	70,153.50	-	70,153.50
9000	PRINTING & PUBLISHING	5,538.54	-	5,538.54
9200	ELECTRICITY	3,214,087.73	(58,174.00)	3,155,913.73
9180	WATER	23,470.64	-	23,470.64
9210	NATURAL GAS	198,481.26	-	198,481.26
9340	MAINTENANCE SERVICE	1,156,684.85	35,000.00	1,191,684.85
9310	EQUIPMENT REPAIRS	6,172.51	-	6,172.51
8080	PAVEMENT REPAIR	688,166.18	-	688,166.18
9430	BUILDINGS RENTALS OR LEASE	8,822.00	-	8,822.00
9410	EQUIPMENT RENTALS OR LEASE	52,691.26	-	52,691.26
9400	LAND RENTAL OR LEASE	3,297.93	-	3,297.93
9470	VEHICLE RENTAL/CAR MILEAGE	56,463.24	-	56,463.24
9100	PROFESSIONAL DEVELOPMENT	21,997.84	-	21,997.84
9110	OTHER TRAVEL AND TRAINING	9,147.05	-	9,147.05
9130	LOCAL BUSINESS EXPENSE	675.69	-	675.69
9150	MEMBERSHIPS	17,188.63	-	17,188.63
7910	PUBLICATIONS AND SUBSCRIPTIONS	2,034.62	-	2,034.62
8240	FEES	265,712.08	257,803.68	523,515.76
8030	ADMINISTRATIVE SERVICES	92,139.38	(92,139.38)	-
9650	BAD DEBT WRITE-OFFS	9,502.55	-	9,502.55
9190	REFUSE COLLECTION CHARGES	703.94	-	703.94
6931	GAIN-LOSS ON SALE OF ASSETS-FA	18,464.00	-	18,464.00
8011	CONTRACT EMPLOYEES - TEMP SERVICES	305,811.30	-	305,811.30
9450	311 CALL CENTER SERVICES	535,107.00	-	535,107.00
9440	FLEET MANAGEMENT EQUIPMENT	1,189,595.75	-	1,189,595.75
9550	MISCELLANEOUS	1,404.92	-	1,404.92
xxxx	FACILITY RENTALS	-	(612,039.88)	(612,039.88)
	TOTAL OTHER SERVICES & CHARGES	<u>11,806,909.65</u>	<u>882,440.62</u>	<u>12,689,350.27</u>
9800	FURNITURE	4,785.63	-	4,785.63
9760	EQUIPMENT	294,520.79	200,000.00	494,520.79
9840	SOFTWARE	4,697.70	-	4,697.70
9880	CONSTRUCTION IN PROGRESS	2,607.23	-	2,607.23
	TOTAL CAPITAL	<u>306,611.35</u>	<u>200,000.00</u>	<u>506,611.35</u>
9954	OPERATING TRANS-DEV CENTER	23,773.00	-	23,773.00
9955	OPERATING TRANS-MISC	61,500.00	-	61,500.00
9952	OPERATING TRANSFERS-A87 COST	695,366.00	137,634.00	833,000.00
	TOTAL TRANSFERS/FEES	<u>780,639.00</u>	<u>137,634.00</u>	<u>918,273.00</u>
	GRAND TOTAL- EXPENDITURES	\$ 25,294,601.01	\$ 3,206,382.36	\$ 28,500,983.37
	LESS: SDSF CONTRIBUTION	(2,119,181.00)	(1,251,279.80)	(3,370,460.80)
	NET TOTAL- EXPENDITURES	<u>\$ 23,175,420.01</u>	<u>\$ 1,955,102.56</u>	<u>\$ 25,130,522.57</u>

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 17, 2017

TO: Molly J. Eastman  
Fiscal Services Manager

FROM: Jenessa B. Carter  
Financial Analyst

**SUBJECT: 2017 WATER RATE STUDY TASK #4  
FY17 OPERATING EXPENSES - WATER PUMPING FACILITIES**

The attached schedule allocates the integrated and non-integrated adjusted expenses for operating and maintaining Coldbrook Distribution to the system pumping stations based on electricity costs. The operating expenses consist of direct labor, utilities, operating and maintenance supplies, repairs and maintenance, and equipment rental.

Attachment

JBC:jbc

ALLOCATION OF COLDBROOK PUMPING TO WATER PUMPING FACILITIES

STATION	ENERGY COST	PERCENT	EXPENDITURE ALLOCATION	
			ACTUAL	ADJUSTED
ALGER	\$ 61,230	4.44%	\$ 106,168	\$ 92,890
BOOSTER A	8,617	0.62%	14,941	13,073
BOOSTER D	35,776	2.59%	62,033	54,275
BRISTOL	28,897	2.09%	50,105	43,839
COLDBROOK	336,886	24.39%	584,137	511,081
COVELL	43,273	3.13%	75,032	65,649
EAST PARIS	104,808	7.59%	181,729	159,002
FRANKLIN	317,726	23.00%	550,914	482,015
LEFFINGWELL	1,443	0.10%	2,502	2,189
LIVINGSTON	234,097	16.95%	405,907	355,143
WILSON	113,922	8.25%	197,532	172,829
BURTON	26,839	1.94%	46,537	40,717
DEAN LAKE	67,788	4.91%	117,539	102,840
TOTAL	<u>\$ 1,381,302</u>	<u>100.00%</u>	<u>\$ 2,395,076</u>	<u>\$ 2,095,542</u>

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 10, 2017

TO: Molly Eastman  
isca e ices anage

FROM: Jeff Dood  
Chief Financial Officer

**SUBJECT: 2017 WATER RATE STUDY TASK #5  
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY17 operating costs are listed below.

Expense Object – 7060, 7020, 7040, 7055, 7025, 7045, 7050, 7030, 7035, 7190

GREIU wages were increased by 2.25% and 2.00% in FY2018 and FY2019, respectively. APA wages were increased by 2.25% and 2.00% in FY2018 and FY2019. After converting these increases from a 2017 fiscal year to a 2018 calendar year basis as well as factoring in the lump sum payments, the result is a 4.32% factor for GREIU employees and a 4.32% factor for APA employees. A blended rate was then computed by weighting the calendar year percentages according to the percentage of Water Fund employees in each union (83% GREIU and 17% APA). Executive and non-reps amounted to less than 2% of the population and were therefore excluded. **The wage increase factor to translate FY2017 actual costs to estimated calendar 2018 will be 4.32% [4.32 X 83% + 4.32 X 17%].**

Expense Object – 9480/8450/9952

Adjust FY2017 actual cost to reflect adjustments in charges for central services rendered by the Information Technology Fund (data charges), the Insurance Payment Fund (property and general liability) and the General Operating Fund (A-87 cost allocation). The “Exhibit” workbook (inclusive of cost center allocations) maintained by the Budget Office has been utilized to blend FY2018 and FY2019 budget amounts thus arriving at an estimated 2018 calendar year rate as follows:

<b>9480-Data Charges</b>			
Cost Center	FY2018 Request	FY2019 Forecast	Calendar 2018 Est.
253-4010-5910	\$29,417	\$30,461	<b>\$29,939</b>
536-1000-5910	\$27,430	\$28,404	<b>\$27,917</b>
536-2110-5910	\$128,146	\$132,695	<b>\$130,420</b>
536-3010-5910	\$50,289	\$52,074	<b>\$51,182</b>
536-4510-5910	\$13,715	\$14,202	<b>\$13,959</b>
536-6010-5910	\$141,586	\$146,613	<b>\$144,099</b>
536-6510-5910	\$146,295	\$151,489	<b>\$148,892</b>
Total	\$536,878	\$555,938	\$546,408

<b>8450-General Liability Insurance</b>			
Cost Center	FY2018 Request	FY2019 Forecast	Calendar 2018 Estimate
253-4010-5910	\$2,837	\$3,121	<b>\$2,979</b>
536-1000-5910	\$247,466	\$272,212	<b>\$259,839</b>
Total	\$250,303	\$275,333	\$262,818

<b>9952-Contributions to Other Funds (A-87 Allocation)</b>			
Cost Center	FY2018 Request	FY2019 Forecast	Calendar 2018 Estimate
536-1000-5910	\$754,875	\$677,164	<b>\$716,019</b>
536-2110-5910	\$115,823	\$118,139	<b>\$116,981</b>
Total	\$870,698	\$795,303	\$833,000

Expense Object - 7105

Increase FY2017 actual FICA expense by 4.32% consistent with the known wage impacts detailed above.

Expense Object - 7110

The FY2018 Trend Report is not completed at this time. However, unfavorable health insurance cost trends were anticipated in the FY2017 Trend Report. In addition, dollars from the Early Retiree Reinsurance Program (ERRP) ended after FY2014 increasing upward pressure on rates. Finally, the three-year smoothing is less favorable for calendar 2018 rates than it was for calendar 2017 rates but has nonetheless helped to limit the projected increase in health insurance to 7.03%. **Increase FY2017 health insurance actual by 7.03% to reflect these anticipated rate changes.**

The projected FY18 (\$12,334) and FY19 (\$13,982) health insurance rates were blended into a 2018 calendar year rate and divided by the FY2017 base amount (\$12,293) to arrive at the decrease factor [(((((\$12,334 + \$13,982) / 2)) / \$12,293) - 1) \* 100].

Expense Object - 7115

Retiree health care (“RHC”) rates are projected to trend up in FY2018 (to 12.59%) and FY2019 (to 12.46%) from a base year rate of 12.17% in FY2017. This increase is enhanced by the projected wage adjustments discussed above. Additionally, the Water Fund had only a negligible negative OPEB adjustment in the amount of \$81 for FY2017.

The RHC factor after consideration of the above rate and wage adjustments is 106.28% (or an increase of 6.28%) for both GREIU and APA members. These factors are then applied to the FY2017 RHC balance before the OPEB adjustment (\$725,101). This

result is compared to the FY2017 RHC balance after the OPEB adjustment and the revised factor is weighted in accordance with union membership within the Water Fund.

GREIU: Step 1>> [(\$725,101 \* 106.28%) = \$770,637]  
Step 2>> [(((\$770,637 - (\$725,101 - \$81)) / (\$725,101 - \$81)) \* 100)]  
Step 3>> [6.29% \* 83%]

APA: Step 1>> [(\$725,101 \* 106.28%) = \$770,637]  
Step 2>> [(((\$770,637 - (\$725,101 - \$81)) / (\$725,101 - \$81)) \* 100)]  
Step 3>> [6.29% \* 17%]

Step 4>> [5.22% + 1.07%]

The factor to establish calendar year 2018's retiree health care cost is 6.29%. **Increase the total of fiscal year 2017's retiree health care by this percent to establish the cost for calendar year 2018.**

Expense Object - 7120

The pension expense factor to translate FY2017 actual costs to estimated calendar 2018 will be 9.14%. **Increase the total of fiscal year 2017's pension expense by this percent to establish the cost for calendar year 2018.** This reflects the effect of a General Pension rate change increase from FY17 of 23.03% to a calendar 2018 rate of 24.34% and an estimated wage increase of 4.32%. The calendar 2018 rate is a blend of the FY2018 rate (23.89%) and the FY2019 rate (24.78%).

The pension factor after consideration of the above rate and wage adjustments is 109.14% (or an increase of 9.14%) for GREIU and APA members. These factors are then weighted in accordance with union membership within the Water Fund [(9.14 \* 83%) + (9.14 \* 17%)].

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 25, 2017

TO: Molly J. Eastman  
Fiscal Services Manager

FROM: David Harran  
Acting Water System Manager

**SUBJECT: 2017 WATER RATE STUDY TASK #5  
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY17 operating costs are listed below:

<u>ACCOUNT</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
5910-536-XXXX-7020*	Department vacancies	\$1,285,000.00
5910-536-1000-8010	Competitive Assessment Phase 2 (EMA)	\$20,000.00
5910-536-1000-8030	ACSET Program	(\$92,138.38)
5910-536-2110-9480*	Cayenta Customer Information System (ROI & Dep)	\$430,883.20
5910-536-2110-8010*	Advance metering infrastructure project, meter replacements and Cayenta bill data functionality enhancement	\$355,500.00
5910-536-4510-9340	Hatch and screen replacement	\$35,000.00
5910-536-4510-XXXX	Facility rental revenue	(\$612,039.88)
5910-536-4510-9760	Equipment replacement – Alger Pump 1 and Wilson Pump 2 cone valve replacement	\$100,000.00
5910-536-6010-7040	Field Ops – temp staffing increase	\$50,000.00
5910-536-6010-8010	Roofing repairs, lead service lines and trench repairs	\$450,000.00
5910-536-6510-XXXX	LMFP repairs to chemical feed area and sludge hauling	\$400,000.00
5910-536-6510-9200	Consumers Energy Green Generation participation	(\$58,174.00)

5910-536-6510-9760	Equipment replacement – turbidimeters, flow meters, chemical feed pumps, and lab equipment	\$100,000.00
5910-253-4010-8240	Paylt online bill pay program	\$257,803.68

\*Customer service related adjustments are shared with the Sewage Disposal Fund

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# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 17, 2017

TO: Molly J. Eastman  
Fiscal Services Manager

FROM: Jenessa B. Carter  
Financial Analyst

**SUBJECT: 2017 WATER RATE STUDY TASK #6**

The Water Supply System Fund's revenue and volumes by governmental unit for the year ending June 30, 2017, are disclosed on the attached page. In addition, actual volume comparisons for the past five (5) years by governmental unit are included herein.

Attachments

JBC:jbc



**CITY OF GRAND RAPIDS, MICHIGAN  
WATER SUPPLY SYSTEM FUND  
2017 RATE STUDY TASK NO. 6**

VOLUME COMPARISONS FOR FIVE (5) YEARS BY GOVERNMENTAL UNIT \*  
VOLUME = 1,000 GALLONS

MUNICIPALITY	FY13		FY14		FY15		FY16		FY17		FY13 - FY17	
	VOL BILLED	% CHANGE										
GRAND RAPIDS	6,838,225	-9.79%	6,168,995	-2.86%	5,992,342	-2.86%	6,102,682	1.84%	6,294,410	3.14%	6,294,410	3.14%
WALKER	962,373	-6.03%	904,358	-5.96%	850,477	-5.96%	853,911	0.40%	893,794	4.67%	893,794	4.67%
KENTWOOD	1,418,559	-8.48%	1,298,223	-4.79%	1,236,055	-4.79%	1,274,046	3.07%	1,314,005	3.14%	1,314,005	3.14%
CASCADE TWP	706,642	-12.69%	616,971	-3.18%	597,335	-3.18%	633,446	6.05%	708,744	11.89%	708,744	11.89%
GRAND RAPIDS TWP	600,669	-20.03%	480,353	-0.96%	475,723	-0.96%	473,584	-0.45%	495,024	4.53%	495,024	4.53%
TALLMADGE TWP	20,159	7.25%	21,621	-1.56%	21,283	-1.56%	24,635	15.75%	30,912	25.48%	30,912	25.48%
EAST GRAND RAPIDS**	461,100	-1.45%	454,401	0.52%	456,742	0.52%	416,499	-8.81%	419,574	0.74%	419,574	0.74%
OTTAWA COUNTY	828,241	8.44%	898,135	0.26%	900,454	0.26%	1,033,701	14.80%	1,167,086	12.90%	1,167,086	12.90%
ADA TWP	486,804	-6.71%	454,141	-2.13%	444,487	-2.13%	472,046	6.20%	482,549	2.22%	482,549	2.22%
<b>TOTAL</b>	<b>12,322,772</b>	<b>-8.32%</b>	<b>11,297,198</b>	<b>-2.85%</b>	<b>10,974,896</b>	<b>-2.85%</b>	<b>11,284,549</b>	<b>2.82%</b>	<b>11,806,098</b>	<b>4.62%</b>	<b>11,806,098</b>	<b>4.62%</b>
VOLUME PUMPED	13,438,000		12,997,000		12,362,000		12,684,000		12,649,000		12,649,000	
% BILLED TO PUMPED	91.7%		86.9%		88.8%		89.0%		93.3%		93.3%	
GRAND RAPIDS VOLUME COMPARED TO CUSTOMER COMMUNITIES												
VOLUME = 1,000 GALLONS	<b>FY13</b>	<b>FY14</b>	<b>FY15</b>	<b>FY16</b>	<b>FY17</b>	<b>% OF TOTAL</b>	<b>VOL BILLED</b>	<b>% OF TOTAL</b>				
GRAND RAPIDS	55.49%	6,168,995	54.61%	5,992,342	54.60%	6,102,682	54.08%	6,294,410	53.31%	6,294,410	53.31%	
CUSTOMER COMMUNITIES	44.51%	5,128,203	45.39%	4,982,554	45.40%	5,181,867	45.92%	5,511,688	46.69%	5,511,688	46.69%	
<b>TOTAL</b>	<b>100.00%</b>	<b>11,297,198</b>	<b>100.00%</b>	<b>10,974,896</b>	<b>100.00%</b>	<b>11,284,549</b>	<b>100.00%</b>	<b>11,806,098</b>	<b>100.00%</b>	<b>11,806,098</b>	<b>100.00%</b>	

\* Volumes were restated from previous Rate Studies to reflect actual billings without adjustment for accrued revenues.  
\*\* Volume billed for FY15 & FY16 is estimated based on three year average due to a faulty meter.

**CITY OF GRAND RAPIDS, MICHIGAN  
WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
TASK NO. 7**

OPERATING REVENUES OTHER THAN FROM SALES OF WATER:

536-1000-5910			
4788	CONTRACTOR UNDERGROUND LICENSE	\$	6,420.00
4916	TAPPING PERMITS		45,825.00
6260	SERVICE FEES-GENERAL		369,623.89
6265	SERVICES FOR CONTRACTORS		83,113.35
6140	INSPECTION FEES - UTILITIES		71,890.00
6151	METER SETTING FEES		33,305.00
6423	SALE OF SCRAP MATERIAL		10,166.01
6461	INVENTORY WITHDRAWALS		272.80
6434	UNMETERED WATER		149,575.98
6723	PENALTIES ON SPECIAL ASSESSMENTS		6,088.31
			6,088.31
		\$	776,280.34

CREDIT: UNDERUTILIZATION OF PENALTY CREDIT FROM PREVIOUS YEAR	\$	67,788.00
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INTEGRATED SYSTEM CREDITS

536-1000-5910			
6152	INTEGRATED WATER CONNECTION*		789,922.25
		\$	789,922.25

OFFSETTING CREDIT TO CUSTOMER ACCOUNTING ACTIVITY EXPENSES:

536-1000-5910			
6991	BILLABLE EXPENSE - SEWAGE DISPOSAL SYSTEM **	\$	2,119,181.00

\* Reflects adjustment for anticipated revenue loss from new integrated connection fee methodology. See Task9 and 15a for explanation.

\*\* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 17, 2017

TO: Molly J. Eastman  
Fiscal Services Manager

FROM: Dave Harran  
Acting Water System Manager

**SUBJECT: 2017 WATER RATE STUDY – TASK #8**

No significant changes in operating levels are anticipated to take effect by January 1, 2018, which would require adjustments to operating costs for the test period.

DH

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 17, 2017

TO: Molly J. Eastman  
Fiscal Services Manager

FROM: Dave Harran  
Acting Water System Manager

**SUBJECT: 2017 SEWER RATE STUDY – TASK #9**

No significant changes in water revenues are anticipated to take effect by January 1, 2018, which would require an adjustment to operating revenue estimates as a whole.

Commencing April 1, 2018, a new methodology for connection to the water and sewer systems will be implemented. The new calculation is based on a full cost recovery method for the City of Grand Rapids' involvement in connections. This will include a plan review and connection component ("PRC"), which recovers costs associated with account set-up and plan review, and a meter capacity component ("MCC") that will be based on meter acquisition cost. The projected impact of this methodology change from April 1, 2018 to June 30, 2018 is a reduction in water operating revenues of approximately \$124,075. See Task 15B for further explanation.

DH

# MEMORANDUM

CITY OF GRAND RAPIDS

**DATE:** October 18, 2017

**TO:** Molly J. Eastman  
Fiscal Services Manager

**FROM:** Wayne Jernberg, P.E.  
Assistant Water System Manager

**SUBJECT: 2017 WATER RATE STUDY- TASK #10**

The following are water system projects that should be considered operative as of January 1, 2018.

<u>Description</u>	<u>Location</u>	<u>Proj. Code</u>	<u>Cost</u>
Leonard St, Ashland to Ball Ave	Grand Rapids	591215184	\$2,900,000
Leonard St, Ashland to Ball Ave	Grand Rapids	591115170	1,650,000
Franklin Pump Station	Grand Rapids	591215155	1,508,828
Franklin Pump Station	Grand Rapids	591115155	121,692
Large valve Division and Newberry	Grand Rapids	591417052	555,521
Large valve Division and Newberry	Grand Rapids	Contribution	56,901
Oakland Ave to Franklin St	Grand Rapids	591116078	450,000
Nason St to Turner Ave	Grand Rapids	591417033	211,000
Melbourne St and Lawrence St	Grand Rapids	591417142	700,000
Fulton St to Maryland Ave	Grand Rapids	591417148	450,000
Sheldon, Weston to Fulton	Grand Rapids	591117139	114,246
Sheldon, Weston to Fulton	Grand Rapids	Contribution	118,056
Breton Village Mall Exp	Grand Rapids	Contribution	12,271
Breton Village Mall Exp	Grand Rapids	591117156	82,153
Hastings, Prospect to Trowbridge	Grand Rapids	591417036	112,358
		591417041	
Hastings, Prospect to Trowbridge	Grand Rapids	Contribution	120,500
Brix at Midtown, Benson and Grand	Grand Rapids	Contribution	60,317
Brix at Midtown, Benson and Grand	Grand Rapids	Contribution	18,000
Belknap Bluffs Condo	Grand Rapids	Contribution	40,000
Beckwith Place Expansion	Grand Rapids	Contribution	114,000
Knapp's Corner Flats	Grand Rapids	Contribution	213,076
Burton Ridge Apartments	Grand Rapids	Contribution	145,010
Knapp's Crossing	Grand Rapids	Contribution	107,275
Bayberry Pointe Apartments	Grand Rapids	Contribution	120,000
Lane Ave – Butterworth	Grand Rapids	Contribution	48,744
Wildflower Creek	Kentwood	Contribution	96,182
Meadow Springs	Walker	Contribution	240,000

Thornapple River Dr	Cascade	Contribution	30,050
Round Hill Court	Cascade	Contribution	75,000
Grooters Development	Cascade	Contribution	263,911
Balsam Waters	GR Township	Contribution	111,832
Springs at Knapp's Corner	GR Township	Contribution	412,505
Michigan St to Saddleback Dr	GR Township	Contribution	561,025
WJ\wj		Total	<u>\$11,820,453</u>

**CITY OF GRAND RAPIDS, MICHIGAN  
WATER SUPPLY SYSTEM FUND  
TASK NO. 11**

COMPUTE ACCUMULATED COST, DEPRECIATION AND DEPRECIATION EXPENSE AS OF JUNE 30, 2017

**INTEGRATED SYSTEM**

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 2,507,974	\$ -	\$ -
LAND IMPROVEMENTS	2,427,654	1,528,094	75,112
BUILDINGS & STRUCTURES	47,806,632	24,800,057	938,488
STORAGE	7,584,993	6,117,984	189,699
PROCESS EQUIPMENT	60,730,423	38,720,489	1,786,924
AUXILIARY EQUIPMENT	20,775,010	13,777,720	508,240
METERS	7,375,481	7,375,481	-
MACHINERY & EQUIPMENT	3,236,347	2,992,995	79,898
OFFICE EQUIPMENT & FURNITURE	622,184	622,184	-
WATERMAINS	55,592,968	20,140,705	709,138
	<u>\$ 208,659,666</u>	<u>\$ 116,075,709</u>	<u>\$ 4,287,499</u>

**NON-INTEGRATED SYSTEM**

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 2,440,283	\$ -	\$ -
LAND IMPROVEMENTS	1,204,988	985,176	40,600
BUILDINGS & STRUCTURES	13,511,299	4,210,328	288,622
STORAGE	12,706,875	6,075,495	288,050
PROCESS EQUIPMENT	6,735,373	3,305,902	187,275
AUXILIARY EQUIPMENT	5,438,160	4,130,891	467,192
MACHINERY & EQUIPMENT	2,184,186	2,150,173	(64,741)
OFFICE EQUIPMENT & FURNITURE	533,805	511,801	9,124
WATERMAINS - GRAND RAPIDS	154,216,098	35,779,588	2,002,927
WATERMAINS - WALKER	25,930,497	7,591,924	340,390
WATERMAINS - KENTWOOD	29,744,633	8,488,947	394,641
WATERMAINS - CASCADE TWP	22,526,820	6,280,211	299,469
WATERMAINS - GRAND RAPIDS TWP	18,242,837	4,746,956	242,060
WATERMAINS - TALLMADGE TWP	2,441,790	420,159	31,222
	<u>\$ 297,857,644</u>	<u>\$ 84,677,551</u>	<u>\$ 4,526,831</u>
TOTAL	<u>\$ 506,517,310</u>	<u>\$ 200,753,260</u>	<u>\$ 8,814,330</u>

SOURCE: GENERAL LEDGER, AS ADJUSTED, FOR JUNE 30, 2017.

**CITY OF GRAND RAPIDS, MICHIGAN  
 WATER RATE STUDY  
 WATER SUPPLY SYSTEM FUND  
 TASK NO. 12**

TASK 12A DETERMINE WORKING CAPITAL NEEDS FOR MATERIALS AND SUPPLIES ON HAND.

MATERIALS AND SUPPLIES INVENTORY AS OF JUNE 30, 2017: \$ 1,104,309

TASK 12B DETERMINE WORKING CAPITAL NEEDS FOR PREPAYMENT OF OPERATING COSTS.

NO REQUIREMENT FOR PREPAYMENT OF OPERATING COSTS IS CALLED FOR IN THE ORDINARY CYCLE OF BUSINESS.

TASK 12C DETERMINE CASH WORKING CAPITAL NEEDS & DETERMINE TOTAL WORKING CAPITAL NEEDS.

MINIMUM CASH WORKING CAPITAL IS DEFINED AS THE SUM OF 90 DAYS ADJUSTED OPERATING EXPENSES.

ADJUSTED CURRENT ANNUAL EXPENSES = \$ 25,130,523 @ 90/365 = \$ 6,196,567

TOTAL WORKING CAPITAL NEEDS CONSIST OF THE FOLLOWING:

12A	INVESTMENT IN INVENTORY	\$ 1,104,309
12B	PREPAYMENT OF OPERATING EXPENSES	-
12C	90 DAY OPERATING EXPENSES	<u>6,196,567</u>
		<u><u>\$ 7,300,876</u></u>

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 17, 2017

TO: Eric R. DeLong  
Deputy City Manager

FROM: Molly J. Eastman  
Fiscal Services Manager

**SUBJECT: 2017 WATER RATE STUDY TASK #13  
ZONEGATING & JOINT USE ALLOCATION METHODS**

Lengths and costs of all zoned primary and intermediate transmission mains as well as jointly used storage tanks and pumping stations are allocated to customer communities based on the 2016 Comprehensive Master Plan update performed by Fishbeck, Thompson, Carr, and Huber, Inc. and adjusted annually for the changes in billed flow for each customer community.

# MEMORANDU

CITY OF GRAND RAPIDS

DATE: August 1, 2017

TO: Molly Eastman  
Fiscal Services Manager

FROM: Wayne Jernberg, P.E.  
Assistant Water System Manager

**SUBJECT: 2017 WATER RATE STUDY- TASK #14**

Zonegating maps for the water system have been adjusted and revised to reflect the current 2017 zonegating information. Included in the 2017 zonegating information is the addition of Segment 126, a 30" transmission watermain in Leonard Street from Ashland Avenue to Ball Avenue.

All 2017 zonegating work papers and maps are on file at the Water Administration Building located at 1900 Oak Industrial Dr. NE, Grand Rapids, MI 49505.

WJ

**CITY OF GRAND RAPIDS, MICHIGAN  
 WATER RATE STUDY  
 WATER SUPPLY SYSTEM FUND  
 TASK NO. 15**

COMPUTE CONSTRUCTION COST RATE BASE (NET BOOK VALUE OF ASSETS, PLUS WORKING CAPITAL, LESS CONTRIBUTIONS BY OTHERS).

ORIGINAL CONSTRUCTION COST	- TASK #10	\$ 11,820,453	
	- TASK #11	506,517,310	
		\$ 518,337,763	
LESS: ACCUMULATED DEPRECIATION	- TASK #11	\$ 200,753,260	
		(200,753,260)	
		317,584,503	
WORKING CAPITAL REQUIREMENT	- TASK #12	\$ 7,300,876	
		7,300,876	
		324,885,378	
CONTRIBUTIONS BY OTHERS	- TASK #21	\$ 94,810,920	
LESS: AMORTIZATION		(32,336,478)	
		(62,474,442)	
CONSTRUCTION COST RATE BASE		\$ 262,410,936	

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 11, 2017

TO: Molly J. Eastman  
Fiscal Services Manager

FROM: Jenessa B. Carter  
Financial Analyst

**SUBJECT: 2017 WATER RATE STUDY TASK #15A  
INTEGRATED WATER CONNECTION FEES**

Attached is the Integrated Water Connection Fee Schedule as currently provided for in Chapter 26 of the City Code, with the addition of rates to be effective on January 1, 2018. The City Commission on June 27, 2000 established fees through calendar year 2004. Beginning January 1, 2005, the integrated water connection fees are to be calculated on a yearly basis as part of the annual Water/Sewer Rate Study. The Consumer Price Index used to determine rates effective January 1, 2018 is as follows:

August, 2015 Index	240.853
August, 2016 Index	245.519
Increase (decrease)	4.670
Percentage increase (decrease)	1.94%

JBC\jbc

Attachment

Section 2.35 Integrated Water Connection Fee Schedule

When a property owner or user is requested or required to connect to the System and has not previously paid or been assessed a connection fee, the following connection fee schedule shall apply:

Integrated Connection Base Fee Schedule

Water Meter Size (inches)	<u>1/01/17</u>	<u>1/01/18</u>
3/4 or less	\$ 2,959	\$ 3,016
1	4,942	5,037
1 ½	9,853	10,043
2	15,771	16,075
3	34,532	35,197
4	62,139	63,336
6 and over	138,097	140,757

Except as otherwise provided in the immediately succeeding paragraph, the foregoing integrated water connection base fee schedule for single-family and multi-family residential dwelling units shall be adjusted upward and downward as follows: A single-family residential dwelling unit located on a parcel containing twenty thousand (20,000) square feet shall pay the applicable integrated connection fee in accordance with the foregoing schedule. When determining the square footage of a residential parcel for the purposes of determining the appropriate integrated connection fee, parcel size may be adjusted downward to take into consideration such things as wetlands, lakes, streams and other unusual characteristics of the parcel in accordance with policies approved from time to time by the Utility Advisory Board. To the extent the size of a parcel, as adjusted, is greater than or less than twenty thousand (20,000) square feet, one-half the applicable integrated connection fee will increase or decrease by the same percentage increase or decrease in the parcel above or below twenty thousand (20,000) square feet. In the case of multi-family residential dwellings, in order to determine the size of the parcel assigned to each dwelling unit for purposes of calculating the integrated connection fee to be paid by each multi-family residential dwelling unit, the total square footage of the parcel, as adjusted, on which the multi-family residential dwelling is located shall be divided by the total number of residential units. Notwithstanding any other provision in this subsection, the integrated connection fee for a single-family residential dwelling unit or multi-family residential dwelling unit shall not exceed four and one-half times the applicable base integrated connection fee set forth in foregoing schedule.

There shall be no upward adjustment in the integrated water service connection fee payable for a single-family residential dwelling unit connecting to the Water System if (a) each of the following conditions are met (1) a building permit shall have been obtained, (2) the dwelling unit shall have been constructed, and (3) a certificate of occupancy shall have been issued prior to January 1, 2000 or (b) local building permit fees have been paid to the local governmental unit prior to January 1, 2000 for a single-family residential dwelling unit to be

constructed on or after January 1, 2000. When connecting to the Water System, Users living in or owning such single-family residential dwelling units shall pay the applicable base integrated connection fee set forth in the Integrated Connection Base Fee Schedule adjusted downward, if applicable, in accordance with the immediate preceding paragraph.

Effective January 1, 2005 and January 1<sup>st</sup> of every year thereafter, the Integrated Water Connection Base Fees shall be adjusted by a percentage, which is determined by the annual change in the Consumer Price Index (the "index") calculated as follows:

- (1) The Consumer Price Index shall be that Index referred to as the Consumer Price Index, US City Average, All Urban Consumers, published by the U.S. Department of Labor-Bureau of Statistics ((1982-84)=100). In the event the method of determining the Index is substantially altered, the basis for determining the annual change thereafter shall be the Index which is most comparable to the Index described above.
- (2) For the purpose of computing the percentage change each calendar year, the Index for the month of August for the prior calendar year shall be subtracted from the Index for the immediately-preceding August. The result so obtained (if positive) shall be divided by the Index for the month of August for the prior calendar year to obtain the percentage increase which shall be applied to the then current Integrated Water Connection Base Fee Schedule to determine the new calendar year schedule.

The foregoing Integrated Connection fee is due and payable at the time a User receives a permit to connect to the Water System. A permit issued by the City to connect to the Water System shall expire one hundred eighty (180) days from the date the permit was issued.

The user receiving services who applies for a larger water meter than the one presently in service shall pay an Integrated Connection Fee which is the difference in cost between the meter size in service and the one applied for in accordance with the Integrated Connection Fee in effect at the time of application. No credit or rebate shall be made in the case of application for a smaller meter size.

Existing commercial and industrial customers may request the installation of an additional meter to measure water used solely for irrigation purposes. There shall be no Integrated Connection Fee for the additional meter provided combined maximum capacity as defined by the American Water Works Association Standards C700-90 and C702-92, as amended, does not exceed the maximum capacity of the original meter. If the original maximum capacity is exceeded, the customer shall pay as an Integrated Connection Fee the difference between the fee for the original meter and what the fee would be if the maximum capacities of all meters were totaled. The additional Integrated Connection Fee shall be based upon the fees in effect at the time of installation of the additional meter.

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: November 14, 2017

TO: Eric R. DeLong  
Deputy City Manager

FROM: Molly J. Eastman  
Fiscal Services Manager

**SUBJECT: Integrated Connection Fees Rate Methodology Change – Task #15B**

In July 2017, the Utility Advisory Board (“UAB”) voted to recommend adoption of a new methodology for connection to the water and sewer systems. This change was made after the UAB assigned the Rate Review Sub-Committee to analyze the cost of connection to the water and sewer system, which evaluated each cost involved, including front footage and integrated connection fees. The Sub-Committee determined that the cost of connection was a deterrent to establishing new water and sanitary sewer connections. They recommended an adjustment in integrated connection fees, as the most feasible method of reducing the cost of connection and encouraging system growth within the active utility service district of the partnership communities.

The Rate Review Subcommittee report recommends, integrated connection fees should be based on a full cost recovery method for the City of Grand Rapids’ involvement in water and sewer connections. The calculation includes a plan review and connection component (“PRC”), which will recover the costs associated with the account set-up and plan review. Also included is a meter capacity component (“MCC”) that will be based on the meter acquisition cost. The PRC fee is based on the actual cost per hour for plan review at the Development Center, as well as review time spent by the Hydraulic Engineer, Utility Engineering Staff and Water System Management based on the hours required for review by meter size. The MCC fee is based on the cost of meters (also noted in Task #30 of the Water and Sewer Rate Study). Calculation for the residential and commercial residents are detailed on the attached schedule.

Integrated connection fee revenue is used as a credit against the revenue requirement in the Water and Sewer annual rate study. Since the rate study is based on revenues and expenses of the previous fiscal year ending on June 30<sup>th</sup>, with the new connection fee rate anticipated to be effective on April 1, 2018, the impact on rate payers will take place over the course of three rate years. For rates effective January 1, 2018, per the rate methodology, an adjustment has been made in the 2017 rate study (Task 9) because this is an anticipated change in the coming calendar year. This caused approximately a 0.25% rate increase for each utility. The fiscal year 2018 will experience three months of this new connection fee and fiscal year 2019

will experience a full year of the new rates. Therefore by rate year 2020, the estimated full impact of this change will be 1.34% for water and 1.25% for sewer rate increases.

The only two partner communities not impacted by the connection fee change is Ottawa County and Gaines Township as they do not currently benefit from connection fee revenue as an offset to revenue requirement, per their customer service agreement.

Further information on the new integrated connection fee methodology can be found in the Rate Review Subcommittee Report located on the Water and Sewer Systems website at: <http://grcity.us/enterprise-services/Water-System> under the UAB documents or can be provided through the Utility Business Office.

## Calculation of Integrated Connection Fees

### Base Fee Calculation:

Meter Size	Plan Reviewer time (hrs)	Plan Reviewer Rates	Plan Reviewer Cost	Customer Service	Business Office	Total PRC Fee
3/4"	5.42	\$53.54	\$290.00	\$40.00	\$20.00	\$350.00

Residential customers are defined as domiciles that are three units or less. They will only be charged the base PRC fee. For example, the total cost for a water and sewer customer would be calculated as: \$350 PRC water + \$350 PRC sewer + \$175 MCC = \$875. This amount is also the base fee for establishing the cost of connection for a commercial customer.

Commercial customers are classified as properties used to offer services and / or products, such as retail/wholesale stores, gas stations, restaurants, hotels, schools, churches, etc., and manufacturing or processing facilities (industrial). The Commercial PRC fee includes the Base Connection Fee for the account review, setup and/or modification. It also includes allowances for the additional requirements for review of commercial property including plan and site reviews, code reviews and documentation in the form of a Build Plan Review letter issued through the Development Center. The table below outlines the elements used to calculate the necessary total PRC fee for commercial customers.

### Plan Review and Connection Component (PRC)

Meter Size	Base Conn. Fee*	Plan reviewer time (hrs)	Plan Revwr. Rate	Plan Revwr. Cost	Hyd Eng. Time (hrs)	Hyd Eng. Rate	Hyd Eng. Cost	Utility Eng. Time (hrs)	Utility Eng. Rate	Utility Eng. Cost	Water Mgmt. Time (hrs)	Water Mgmt. Rate	Water Mgmt. Cost	Total	PRC FEE
3/4"	\$ 350.00	2	\$ 53.54	\$ 107.08	1	\$ 72.49	\$ 72.49	1	\$ 53.54	\$ 53.54	1	\$ 86.60	\$ 86.60	669.71	\$ 670.00
1"	\$ 350.00	3	\$ 53.54	\$ 160.62	2	\$ 72.49	\$ 144.98	2	\$ 53.54	\$ 107.08	1	\$ 86.60	\$ 86.60	849.28	\$ 850.00
1 1/2"	\$ 350.00	4	\$ 53.54	\$ 214.16	3	\$ 72.49	\$ 217.47	3	\$ 53.54	\$ 160.62	2	\$ 86.60	\$ 173.20	1,115.45	\$ 1,120.00
2"	\$ 350.00	6	\$ 53.54	\$ 321.24	5	\$ 72.49	\$ 362.45	5	\$ 53.54	\$ 267.70	3	\$ 86.60	\$ 259.80	1,561.19	\$ 1,570.00
3"	\$ 350.00	10	\$ 53.54	\$ 535.40	6	\$ 72.49	\$ 434.94	6	\$ 53.54	\$ 321.24	3	\$ 86.60	\$ 259.80	1,901.38	\$ 1,910.00
4"	\$ 350.00	16	\$ 53.54	\$ 856.64	8	\$ 72.49	\$ 579.92	8	\$ 53.54	\$ 428.32	5	\$ 86.60	\$ 433.00	2,647.88	\$ 2,650.00
6"+	\$ 350.00	24	\$ 53.54	\$ 1,284.96	12	\$ 72.49	\$ 869.88	12	\$ 53.54	\$ 642.48	8	\$ 86.60	\$ 692.80	3,840.12	\$ 3,850.00
FP**	\$ 350.00	2	\$ 53.54	\$ 107.08	1	\$ 72.49	\$ 72.49	2	\$ 53.54	\$ 107.08	0.5	\$ 86.60	\$ 43.30	679.95	\$ 680.00

\*See the base fee calculation above.

\*\*FP represents fire protection for all sizes.

Meter Capacity Component (MCC)	
Meter Size	2017 Cost
3/4" or smaller	\$ 175.00
1"	\$ 250.00
1 1/2"	\$ 800.00
2"	\$ 900.00
3"	\$1,100.00
4" or larger	At cost

**CITY OF GRAND RAPIDS, MICHIGAN  
WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
TASK NO. 16**

INCLUDE MAJOR PROJECT COST FOR SYSTEM IMPROVEMENTS (NON-INTEGRATED)  
THE ESTIMATED TOTAL PROJECT COST FOR RECOMMENDED WATER SYSTEM IMPROVEMENTS ARE  
SUMMARIZED IN THE FOLLOWING TABLE.

ITEM NO.	DESCRIPTION	ESTIMATED COST	BUDGET YEAR
1	BRISTOL BOOSTER STATION IMPROVEMENTS	600,000	2017
2	LEFFINGWELL PUMP STATION DECOMMISSION	500,000	2018
3	NORTHRIDGE WATERMAIN LOOPING	600,000	2018
4	WING WATERMAIN EXTENSION	1,000,000	2018
5	DUNNIGAN WATERMAIN EXTENSION	1,350,000	2018
6	LEAD SERVICE LINE REPLACEMENTS	1,000,000	2018
7	ADAMS/ALGER PRESSURE DISTRICT MODIFICATIONS	3,600,000	2019
8	MAYNARD WATERMAIN PHASE 2/3	600,000	2019
9	METER SYSTEM UPGRADES	2,500,000	2019
10	LEAD SERVICE LINE REPLACEMENTS	1,000,000	2019
11	BERKSHIRE WATERMAIN REPLACEMENT	1,200,000	2019
12	ESCSO #28B	2,643,000	2019
13	CAMBRIDGE TANK IMPROVEMENTS	500,000	2019
14	ROSEWOOD WATERMAIN REPLACEMENT	759,000	2019
15	MONTROSE & BOWNE WATERMAIN REPLACEMENT	1,000,000	2019
16	DIVISION AVE WATERMAIN REPLACEMENT	1,448,000	2019
17	GRIGSS WATERMAIN REPLACEMENT	822,000	2020
18	LEAD SERVICE LINE REPLACEMENTS	1,000,000	2020
19	SOUTH WALKER WATERMAIN PHASE 3	2,000,000	2020
20	COLDBROOK PUMP STATION DECOMMISSION PROJECTS	15,300,000	2020
21	CASCADE NORTH RIVER CROSSING	4,200,000	2020
22	VALLEY WATERMAIN REPLACEMENT	804,000	2020
23	EMERALD WATERMAIN REPLACEMENT	711,000	2020
24	WILSON RESERVOIR IMPROVEMENTS	500,000	2020
25	BOOSTER D IMPROVEMENTS	500,000	2020
26	TREMONT WATERMAIN REPLACEMENT	1,056,000	2020
27	BOOSTER A PUMP STATION IMPROVEMENTS	500,000	2021
28	WILSON PS IMPROVEMENTS	1,300,000	2021
29	LEAD SERVICE LINE REPLACEMENTS	1,000,000	2021
30	KNAPP TANK IMPROVEMENTS	500,000	2021
31	LAKE EASTBROOK WATERMAIN REPLACEMENT	700,000	2021
32	OMENA WATERMAIN REPLACEMENT	500,000	2021
33	FULTON WATERMAIN REPLACEMENT	1,210,000	2021
34	BUTTERWORTH LP DISTRICT IMPROVEMENTS	1,374,000	2022
35	GARFIELD WATERMAIN REPLACEMENTS	775,000	2022
36	LAKESIDE WATERMAIN REPLACEMENT	780,000	2022
37	COLLEGE WATERMAIN REPLACEMENT	792,000	2022
38	STEVENS WATERMAIN REPLACEMENT	1,000,000	2022
39	LEAD SERVICE LINE REPLACEMENTS	1,000,000	2022
40	OAK PARK WATERMAIN REPLACEMENT	519,000	2022
41	NORTHEAST ELEVATED STORAGE TANK	3,500,000	2022
		<u>\$ 62,643,000</u>	

NOTE: NONE OF THE PROJECTS ABOVE ARE INCLUDED IN RECOMMENDED REVENUE REQUIREMENTS FOR CALENDAR YEAR 2018. COSTS SHOWN ARE IN 2017 DOLLARS AND ARE TAKEN FROM THE FISCAL YEARS 2018-2022 CAPITAL PROJECT PLAN.

SOURCE: WAYNE JERNBERG, ASSISTANT WATER SYSTEM MANAGER, SEPTEMBER 2017

**CITY OF GRAND RAPIDS, MICHIGAN  
 WATER RATE STUDY  
 WATER SUPPLY SYSTEM FUND  
 TASK NO. 17**

**BONDS - PRINCIPAL & INTEREST PAYMENTS (SENIOR)**

FISCAL YEAR ENDING JUNE 30,	PRINCIPAL	INTEREST	PRIN & INT
2018	\$ 10,375,000	\$ 3,973,419	\$ 14,348,419
2019	5,620,000	3,485,419	9,105,419
2020	5,820,000	3,240,769	9,060,769
2021	2,230,000	2,983,869	5,213,869
2022	2,335,000	2,887,169	5,222,169
2023	2,455,000	2,775,231	5,230,231
2024	2,590,000	2,657,231	5,247,231
2025	2,720,000	2,532,600	5,252,600
2026	2,865,000	2,401,550	5,266,550
2027	3,010,000	2,263,100	5,273,100
2028	3,175,000	2,117,700	5,292,700
2029	3,040,000	1,961,750	5,001,750
2030	3,190,000	1,809,750	4,999,750
2031	3,345,000	1,650,250	4,995,250
2032	3,520,000	1,483,000	5,003,000
2033	3,695,000	1,307,000	5,002,000
2034	3,875,000	1,122,250	4,997,250
2035	4,075,000	928,500	5,003,500
2036	2,025,000	724,750	2,749,750
2037	2,125,000	623,500	2,748,500
2038	2,235,000	517,250	2,752,250
2039	2,345,000	405,500	2,750,500
2040	705,000	288,250	993,250
2041	745,000	253,000	998,000
2042	780,000	215,750	995,750
2043	820,000	176,750	996,750
2044	860,000	135,750	995,750
2045	905,000	92,750	997,750
2046	950,000	47,500	997,500
	<b>\$ 82,430,000</b>	<b>\$ 45,061,307</b>	<b>\$ 127,491,307</b>

**CITY OF GRAND RAPIDS, MICHIGAN  
WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
TASK NO. 18**

DETERMINE WATER SYSTEM EQUITY IN THE CONSTRUCTION COST RATE BASE BY  
SUBTRACTING DEBT OUTSTANDING FROM THE TOTAL RATE BASE.

CONSTRUCTION COST RATE BASE - TASK NO. 15	\$ 262,410,936
LESS: BONDED INDEBTEDNESS in CCRB (CASH BASIS) - TASK NO. 20	(99,705,871)
NET WATER SYSTEM EQUITY	<u><u>\$ 162,705,066</u></u>

**CITY OF GRAND RAPIDS, MICHIGAN  
WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
RATE OF RETURN ON EQUITY - TASK NO. 19**

AT THE APRIL 5, 1977, COMMITTEE OF THE WHOLE MEETING, THE CITY COMMISSION DECIDED THE LEVEL OF RETURN ON WATER SYSTEM EQUITY. THE LEVEL DECIDED UPON WAS ONE PERCENT MORE THAN THE AVERAGE BOND BUYER'S INDEX OF MUNICIPAL BONDS FOR THE PREVIOUS TWELVE MONTH PERIOD.

BOND BUYER'S INDEX OF 20 MUNICIPAL BONDS AVERAGE FOR FY17 WAS 3.512%.

**CITY OF GRAND RAPIDS, MICHIGAN  
 WATER RATE STUDY  
 WATER SUPPLY SYSTEM FUND  
 TASK NO. 20**

DETERMINE COMPOSITE RATE OF RETURN ON A CONSTRUCTION COST RATE BASE

	RATE BASE	RATE OF RETURN	RETURN ON INVESTMENT
WATER SYSTEM EQUITY IN THE CONSTRUCTION COST RATE BASE (CCRB)	\$ 162,705,066	@ 4.512%	= \$ 7,341,253
WATER SYSTEM INDEBTEDNESS IN THE CCRB			
1993 BONDS ( <i>Fixed Rate Conversion</i> )	10,500,000	@ 5.86%	= 615,300
2009 BONDS	715,000	@ 4.98%	= 35,607
2010 BONDS (refunded 2000 Bonds)	6,930,000	@ 4.59%	= 318,087
2011 DWRF BONDS	1,311,301	@ 2.50%	= 32,783
2011 DWRF BONDS	2,306,024	@ 2.50%	= 57,651
2012 DWRF BONDS	3,125,000	@ 2.50%	= 78,125
2012 DWRF BONDS	563,514	@ 2.00%	= 11,270
2013 BONDS	2,175,000	@ 2.76%	= 60,030
2014 DWRF BONDS	2,665,000	@ 2.50%	= 66,625
2014 QECB BONDS	1,418,296	@ 2.54%	= 36,025
2015 BONDS (refunded 2009 Bonds)	25,370,000	@ 5.00%	= 1,268,500
2015 DWRF BONDS (amount in CCRB)	6,042,539	@ 2.50%	= 151,063
2016 DWRF BONDS (amount in CCRB)	2,583,477	@ 2.50%	= 64,587
2016 BONDS (refunded 2009 & amt in CCRB)	34,000,719	@ 5.00%	= 1,700,036
LESS INTEREST ON BOND RESERVE ACCOUNTS			(32,426)
	\$ 262,410,936		\$ 11,804,516
COMPOSITE RATE OF RETURN ON INVESTMENT		\$ 11,804,516 \$262,410,936 =	4.498%

**Noted Disclosure:**

TOTAL BONDED INDEBTEDNESS IN CCRB (from above)	\$ 99,705,871	TASK NO. 18
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CITY OF GRAND RAPIDS, MICHIGAN  
 WATER SUPPLY SYSTEM FUND  
 CONSTRUCTION COST RATE BASE & RETURN ON INVESTMENT- TASK NO. 21- PART 1  
 FISCAL YEAR ENDED JUNE 30, 2017

PHYSICAL LOCATION

DESCRIPTION	RETAIL										WHOLESALE			
	CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP	TOTAL				
COST	\$ 208,659,666	\$ 26,771,276	\$ 36,376,014	\$ 22,892,353	\$ 17,771,761	\$ 2,441,790	\$ -	\$ -	\$ -	\$ 496,631,730				
LESS: ACCUMULATED DEPRECIATION	116,075,709	7,953,718	9,850,649	6,279,114	4,301,561	420,159	-	-	-	195,402,445				
NET BOOK VALUE	\$ 92,583,957	\$ 18,823,558	\$ 26,525,365	\$ 16,613,239	\$ 13,470,200	\$ 2,021,631	\$ -	\$ -	\$ -	\$ 301,229,285				
WORKING CAPITAL REQUIREMENT	2,935,537	2,855,080	411,769	325,546	274,221	22,268	17,084	-	43,732	7,300,876				
CONTRIBUTIONS	\$ 95,519,494	\$ 134,046,415	\$ 19,239,197	\$ 16,938,785	\$ 13,744,421	\$ 2,043,899	\$ 17,084	\$ -	\$ 43,732	\$ 308,530,160				
LESS AMORTIZATION	408,368	19,602,796	17,497,971	19,181,977	13,065,413	2,441,790	-	-	-	94,753,570				
	(37,821)	(11,463,462)	(5,385,607)	(5,366,604)	(3,608,285)	(426,103)	-	-	-	(32,279,870)				
CONSTRUCTION COST RATE BASE	\$ (370,547)	\$ (11,091,793)	\$ (13,610,808)	\$ (13,815,373)	\$ (9,457,128)	\$ (2,015,687)	\$ -	\$ -	\$ -	\$ (62,473,700)				
	\$ 95,148,947	\$ 122,954,622	\$ 5,628,389	\$ 3,123,412	\$ 4,287,293	\$ 28,212	\$ 17,084	\$ -	\$ 43,732	\$ 246,056,460				
RETURN ON INVESTMENT- TASK 4/5	32,473									\$ 32,473				
RETURN ON INVESTMENT- TASK 20	\$ 4,279,800	\$ 5,498,026	\$ 253,165	\$ 140,491	\$ 192,842	\$ 1,269	\$ 768	\$ -	\$ 1,967	\$ 11,035,146				
	4.498%													

ZONEGATED

COST	\$ -	\$ (4,782,307)	\$ 593,983	\$ 1,422,275	\$ 12,889,927	\$ 222,148	\$ 1,542,592	\$ -	\$ 4,846,516	\$ 21,706,033				
LESS: ACCUMULATED DEPRECIATION	-	(3,625,187)	449,199	1,162,733	3,538,169	109,779	508,158	-	1,599,156	5,350,815				
NET BOOK VALUE	-	(1,157,120)	144,784	259,542	9,351,758	112,369	1,034,434	\$ -	3,247,360	16,355,218				
WORKING CAPITAL REQUIREMENT	-	-	-	-	-	-	-	-	-	-				
CONTRIBUTIONS	\$ -	\$ (1,157,120)	\$ 144,784	\$ 259,542	\$ 9,351,758	\$ 112,369	\$ 1,034,434	\$ -	\$ 3,247,360	\$ 16,355,218				
LESS AMORTIZATION	-	-	-	6,933	3,457	-	10	-	23,396	57,350				
	-	-	-	(6,843)	(3,413)	-	(10)	-	(23,093)	(56,608)				
CONSTRUCTION COST RATE BASE	\$ -	\$ (1,157,120)	\$ 144,784	\$ 259,452	\$ 9,351,714	\$ 112,369	\$ 1,034,434	\$ -	\$ 3,247,057	\$ 16,354,476				
RETURN ON INVESTMENT- TASK 19/20	\$ -	\$ (92,708)	\$ 11,600	\$ 20,787	\$ 749,259	\$ 9,003	\$ 82,879	\$ -	\$ 260,154	\$ 1,310,320				
RETURN ON INVESTMENT- TASK 19/20	8.012%	8.012%	8.012%	8.012%	8.012%	8.012%	8.012%		8.012%					
TOTAL RETURN ON INVESTMENT	\$ 4,279,800	\$ 5,405,318	\$ 264,765	\$ 687,605	\$ 889,750	\$ 462,188	\$ 83,647	\$ -	\$ 262,121	\$ 12,345,466				

CITY OF GRAND RAPIDS, MICHIGAN  
 WATER SUPPLY SYSTEM FUND  
 CONSTRUCTION COST & ACCUMULATED DEPRECIATION- TASK NO. 21- PART 2  
 FISCAL YEAR ENDED JUNE 30, 2017

COST CENTER BY PHYSICAL LOCATION- TASK 11 IN SERVICE- TASK 10	AMOUNT	CONSTRUCTION COST										TOTAL
		RETAIL					WHOLESALE					
		CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OITAWA	ADA TOWNSHIP	TOTAL	
	\$ 208,659,666	\$ 187,819,168	\$ 26,763,089	\$ 40,063,340	\$ 22,526,820	\$ 18,242,837	\$ 2,441,790	\$ -	\$ -	\$ -	\$ 506,517,310	\$ 11,820,453
		10,029,948	240,000	96,182	368,961	1,085,362	-	-	-	-	-	-
<b>PUMPING STATIONS:</b>												
KNAPP SERVICE CENTER	\$ 3,379,233	(2,028,938)	-	150,813	64,536	999,254	-	79	-	-	814,256	-
LIVINGSTON	2,090,217	(878,866)	-	74,066	30,880	426,767	-	136	-	-	347,017	-
FRANKLIN	6,949,487	(4,029,578)	-	2,098,826	1,156,314	68,344	-	703,240	-	-	2,854	-
LEFFINGWELL	141,009	(70,136)	-	8,479	4,228	28,805	-	12	-	-	28,612	-
BRISTOL	612,700	-	-	-	-	-	-	-	-	-	-	-
EAST PARIS	6,379,717	573,929	-	(4,360,547)	3,537,688	157,781	-	-	-	-	91,149	-
BURTON	219,892	(211,409)	-	110,115	60,665	3,585	-	36,895	-	-	149	-
COLDBROOK PS PUMP 2	389,279	-	-	-	-	-	-	-	-	-	-	-
<b>STORAGE TANKS:</b>												
ELKS	236,335	(144,672)	143,338	-	-	-	1,334	-	-	-	-	-
KNAPP	118,570	(71,191)	-	5,292	2,264	35,062	-	3	-	-	28,570	-
CAMBRIDGE	116,070	(20,443)	-	18,005	688	1,580	-	169	-	-	1	-
PATTERSON	3,938,991	459,363	-	(2,968,923)	1,983,797	209,613	-	-	-	-	316,150	-
WALKER	2,583,477	-	-	-	-	-	-	-	-	-	-	-
WATERMANS		(14,497,212)	224,832	2,502,641	6,045,439	1,483,670	220,814	802,058	-	-	3,217,758	-
	\$ 208,659,666	\$ 176,930,563	\$ 27,371,259	\$ 37,798,289	\$ 35,782,280	\$ 22,742,660	\$ 2,663,938	\$ 1,542,592	\$ -	\$ 4,846,516	\$ 518,337,763	\$ -
<b>ADJUSTED BY ZONEGATING</b>												
LESS: ZONEGATING ADJUSTMENT		\$ (4,782,307)	\$ 593,983	\$ 1,422,275	\$ 12,889,927	\$ 4,970,899	\$ 222,148	\$ 1,542,592	\$ -	\$ 4,846,516	\$ 21,706,033	\$ -
<b>PHYSICAL LOCATION</b>												
	\$ 208,659,666	\$ 181,712,870	\$ 26,777,276	\$ 36,376,014	\$ 22,892,353	\$ 17,771,761	\$ 2,441,790	\$ -	\$ -	\$ -	\$ 496,631,730	\$ -
<b>ACCUMULATED DEPRECIATION</b>												
BY PHYSICAL LOCATION- TASK 11 IN SERVICE- TASK 10	\$ 116,075,709	\$ 54,300,561	\$ 8,064,794	\$ 10,864,870	\$ 6,280,211	\$ 4,746,956	\$ 420,159	\$ -	\$ -	\$ -	\$ 200,753,260	\$ -
<b>PUMPING STATIONS:</b>												
KNAPP SERVICE CENTER	\$ 2,268,793	(1,362,214)	-	101,255	43,329	670,892	-	53	-	-	546,685	-
LIVINGSTON	1,002,949	(421,705)	-	35,539	14,817	204,775	-	65	-	-	166,509	-
FRANKLIN	3,489,851	(2,023,549)	-	1,053,976	580,671	34,320	-	353,149	-	-	1,433	-
LEFFINGWELL	139,193	(69,234)	-	8,370	4,174	28,434	-	12	-	-	28,244	-
BRISTOL	317,390	-	-	-	-	-	-	-	-	-	-	-
EAST PARIS	1,969,602	177,188	-	(1,346,226)	1,092,186	48,712	-	-	-	-	28,140	-
BURTON	74,681	(28,188)	-	14,682	8,089	478	-	4,919	-	-	20	-
COLDBROOK PS PUMP 2	51,904	-	-	-	-	-	-	-	-	-	-	-
WILSON												
<b>STORAGE TANKS:</b>												
ELKS	236,335	(144,672)	143,338	-	-	-	1,334	-	-	-	-	-
KNAPP	116,070	(69,690)	-	5,180	2,217	34,322	-	3	-	-	27,968	-
CAMBRIDGE	116,070	(20,443)	-	18,005	688	1,580	-	169	-	-	1	-
PATTERSON	406,321	47,385	-	(306,255)	204,636	21,622	-	-	-	-	32,612	-
WALKER	80,799	-	-	-	-	-	-	-	-	-	-	-
WATERMANS		(3,489,091)	194,785	563,986	1,586,265	118,278	108,445	149,788	-	-	767,544	-
	\$ 116,075,709	\$ 46,896,348	\$ 8,402,917	\$ 11,013,382	\$ 9,817,283	\$ 5,910,369	\$ 529,938	\$ 508,158	\$ -	\$ 1,599,156	\$ 200,753,260	\$ -
<b>ADJUSTED BY ZONEGATING</b>												
LESS: ZONEGATING ADJUSTMENT		\$ (3,625,187)	\$ 449,199	\$ 1,162,733	\$ 3,538,169	\$ 1,608,808	\$ 109,779	\$ 508,158	\$ -	\$ 1,599,156	\$ 5,350,815	\$ -
<b>PHYSICAL LOCATION</b>												
	\$ 116,075,709	\$ 50,521,535	\$ 7,953,718	\$ 9,850,649	\$ 6,279,114	\$ 4,301,561	\$ 420,159	\$ -	\$ -	\$ -	\$ 195,402,445	\$ -



CITY OF GRAND RAPIDS, MICHIGAN  
 WATER SUPPLY SYSTEM FUND  
 RECONCILIATION OF CONSTRUCTION COST & ACCUMULATED DEPRECIATION- PHYSICAL LOCATION & ZONEGATING  
 FISCAL YEAR ENDED JUNE 30, 2017

COST CENTER	AMOUNT	RETAIL					WHOLESALE				
		CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP	TOTAL
COST BY PHYSICAL LOCATION- TASK 11		\$ 198,971,067	\$ 25,930,497	\$ 29,744,633	\$ 18,242,820	\$ 18,242,820	\$ 2,441,790	\$ -	\$ -	\$ -	\$ 506,517,310
IN SERVICE- TASK 10		10,029,948	240,000	96,182	348,961	1,085,362	-	-	-	-	11,820,453
BRISTOL		(612,700)	612,700	-	-	-	-	-	-	-	-
EAST PARIS		(6,379,717)	6,379,717	-	-	-	-	-	-	-	-
BURTON		(219,892)	219,892	-	-	-	-	-	-	-	-
PATTERSON TANK		(3,938,991)	3,938,991	-	-	-	-	-	-	-	-
WATERMANS		(725,425)	(725,425)	(10,825,800)	(6,200)	(2,208,247)	-	-	-	-	(40,813,452)
LESS: WATERMANS-TOTAL SUBS-HOME COMM		10,910,934	499,612	7,042,291	2,772	651,809	-	-	-	-	19,107,418
ADD: WATERMANS-TOTAL ADDS-HOME COMM		\$ 181,712,870	\$ 26,777,276	\$ 36,376,013	\$ 22,892,353	\$ 17,771,761	\$ 2,441,790	\$ -	\$ -	\$ -	\$ 496,631,729
TOTAL PHYSICAL LOCATION COST		\$ 208,659,666	\$ 26,777,276	\$ 36,376,013	\$ 22,892,353	\$ 17,771,761	\$ 2,441,790	\$ -	\$ -	\$ -	\$ 496,631,729
CONSTRUCTION COST-ZONEGATING											
PUMPING STATIONS:											
KNAPP SERVICE CENTER	\$ 3,379,233		\$ (2,028,938)	\$ 150,813	\$ 64,536	\$ 999,254	\$ -	\$ 79	\$ -	\$ 814,256	\$ -
LIVINGSTON	2,090,217		(878,866)	74,066	30,880	426,767	-	136	-	347,017	-
FRANKLIN	6,949,487		(4,029,518)	2,098,826	1,156,314	68,344	-	703,240	-	2,854	-
LEFFINGWELL	141,009		(70,136)	8,479	4,228	28,805	-	12	-	28,612	-
BRISTOL	612,700		-	-	-	-	-	-	-	-	-
EAST PARIS	6,379,717		573,929	(4,360,547)	3,537,688	157,781	-	-	-	91,149	-
BURTON	219,892		(211,409)	110,115	60,665	3,585	-	36,895	-	149	-
COLDBROOK PS PUMP 2	389,279		-	-	-	-	-	-	-	-	-
STORAGE TANKS:											
ELKS	236,335		(144,672)	143,338	-	1,334	-	-	-	-	-
KNAPP	118,570		(71,191)	5,292	2,264	35,062	-	3	-	28,570	-
CAMBRIDGE	116,070		(20,443)	18,005	688	1,580	-	169	-	1	-
PATTERSON	3,938,991		(459,363)	2,968,923	1,983,797	209,613	-	-	-	316,150	-
WATERMANS-ZONEGATED COST			1,639,634	450,645	6,048,867	3,040,108	220,814	802,088	-	3,217,758	21,706,033
TOTAL ZONEGATED COST		\$ (4,782,307)	\$ 593,983	\$ 1,422,275	\$ 12,889,927	\$ 4,970,899	\$ 222,148	\$ 1,542,592	\$ -	\$ 4,846,516	\$ 21,706,033
GRAND TOTAL- COST		\$ 176,930,563	\$ 27,371,259	\$ 37,798,288	\$ 35,782,280	\$ 22,742,660	\$ 2,663,938	\$ 1,542,592	\$ -	\$ 4,846,516	\$ 518,337,762
ACCUMULATED DEPRECIATION-BY PHYSICAL LOCATION											
ACC DEPREC BY PHYSICAL LOCATION- TASK 11		\$ 57,149,354	\$ 7,591,924	\$ 8,488,947	\$ 6,280,211	\$ 4,746,956	\$ 420,159	\$ -	\$ -	\$ -	\$ 200,753,260
BRISTOL		(317,390)	317,390	-	-	-	-	-	-	-	-
EAST PARIS		(1,969,602)	1,969,602	-	-	-	-	-	-	-	-
BURTON		(74,681)	74,681	-	-	-	-	-	-	-	-
PATTERSON		(406,321)	406,321	-	-	-	-	-	-	-	-
WATERMANS		(6,071,685)	(415,493)	(2,486,123)	(1,984)	(634,038)	-	-	-	-	(9,609,323)
LESS: WATERMANS-TOTAL SUBS-HOME COMM		2,292,659	304,417	1,471,902	887	188,644	-	-	-	-	4,258,509
ADD: WATERMANS-TOTAL ADDS-HOME COMM		\$ 50,602,334	\$ 7,872,919	\$ 9,850,649	\$ 6,279,114	\$ 4,301,562	\$ 420,159	\$ -	\$ -	\$ -	\$ 195,402,446
TOTAL PHYSICAL LOCATION ACC DEP		\$ 116,075,709	\$ 11,607,570	\$ 18,367,528	\$ 12,568,110	\$ 9,078,114	\$ 840,318	\$ -	\$ -	\$ -	\$ 200,753,260
ACCUMULATED DEPRECIATION-ZONEGATING											
PUMPING STATIONS:											
KNAPP SERVICE CENTER	\$ 2,268,793		\$ (1,362,214)	\$ 101,255	\$ 43,329	\$ 670,892	\$ -	\$ 53	\$ -	\$ 546,685	\$ -
LIVINGSTON	1,002,949		(421,705)	35,539	14,817	204,775	-	65	-	166,509	-
FRANKLIN	3,489,851		(2,023,549)	1,053,976	580,671	34,320	-	353,149	-	1,433	-
LEFFINGWELL	139,193		(69,234)	8,370	4,174	28,434	-	12	-	28,244	-
BRISTOL	317,390		-	-	-	-	-	-	-	-	-
EAST PARIS	1,969,602		177,188	(1,346,226)	1,092,186	48,712	-	-	-	28,140	-
BURTON	74,681		(28,188)	-	8,089	478	-	4,919	-	20	-
COLDBROOK PS PUMP 2	51,904		-	-	-	-	-	-	-	-	-
STORAGE TANKS:											
ELKS	236,335		(144,672)	143,338	-	1,334	-	-	-	-	-
KNAPP	116,070		(69,690)	5,180	2,217	34,322	-	3	-	27,968	-
CAMBRIDGE	116,070		(20,443)	18,005	688	1,580	-	169	-	1	-
PATTERSON	406,321		(47,385)	(306,255)	204,636	21,622	-	-	-	32,612	-
WATERMANS-ZONEGATED ACC DEP			289,935	305,861	1,578,207	1,587,362	108,445	149,788	-	767,544	5,350,815
TOTAL ZONEGATED ACC DEP		\$ (3,625,187)	\$ 449,199	\$ 1,162,733	\$ 3,538,169	\$ 1,608,808	\$ 109,779	\$ 508,158	\$ -	\$ 1,599,156	\$ 5,350,815
GRAND TOTAL- ACC DEP		\$ 116,075,709	\$ 46,977,147	\$ 18,367,528	\$ 12,568,110	\$ 9,078,114	\$ 840,318	\$ -	\$ -	\$ -	\$ 200,753,260

CITY OF GRAND RAPIDS, MICHIGAN  
WATER SUPPLY SYSTEM FUND  
ADJUSTED OPERATING EXPENSE ZONEGATED BY GOVERNMENTAL UNIT - TASK #22  
FISCAL YEAR ENDED JUNE 30, 2017

COST CENTER	ADJUSTED EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL						WHOLESALE				
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP		
FILTRATION PLANT	\$ 7,795,988	\$ 7,795,988											
PUMPING STATIONS:													
A. PRIMARY TRANSPORT	724,628	724,628											
B. INTERMEDIATE TRANSPORT	1,370,914		708,445	43,839	203,977	170,564	111,739		45,709				86,641
WATERMAINS:													
A. PRIMARY TRANSPORT	378,025		214,643	38,517	50,364	38,010	18,054	949	3,803				13,685
B. INTERMEDIATE TRANSPORT	1,941,260		719,722	407,859	335,003	276,707	142,353	33,001	-				26,615
C. LOCAL DISTRIBUTION	5,145,664		3,767,090	404,912	351,346	284,246	318,825	19,245	-				-
RETAIL CUSTOMER METERING *	3,834,458		2,876,994	311,358	254,416	175,273	204,952	11,465					
SUBTOTAL OPERATING EXPENSE	21,190,936	8,520,616	8,286,894	1,206,485	1,195,106	944,800	795,923	64,660	49,512				126,941
ENGINEERING SERVICES	1,256,564	505,239	491,392	71,536	70,870	56,030	47,197	3,833	2,940				7,527
ADMINISTRATIVE EXPENSE	2,683,022	1,055,399	1,084,647	149,433	148,041	117,042	98,589	8,006	6,142				15,723
TOTAL	\$ 25,130,522	\$ 10,081,254	\$ 9,862,933	\$ 1,427,454	\$ 1,414,017	\$ 1,117,872	\$ 941,709	\$ 76,499	\$ 58,594	\$ -	\$ -	\$ -	\$ 150,191

\* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

METHOD OF DISTRIBUTION

FILTRATION PLANTS	100.00%													
PUMPING STATIONS														
A. PRIMARY TRANSPORT	100.00%													
B. INTERMEDIATE TRANSPORT	100.00%		51.676%	3.198%	14.879%	12.442%	8.151%		3.334%				6.320%	
MEMO														
WATERMAINS														
TOTAL MILES:	1,178.35													
A. PRIMARY TRANSPORT	100.000%		56.780%	10.189%	13.323%	10.055%	4.776%	0.251%	1.006%				3.620%	
MILES	59.67		33.88	6.08	7.95	6.00	2.85	0.15	0.60				2.16	
B. INTERMEDIATE TRANSPORT	100.000%		37.075%	21.010%	17.257%	14.254%	7.333%	1.700%					1.371%	
MILES	306.43		113.61	64.38	52.88	43.68	22.47	5.21					4.20	
C. LOCAL DISTRIBUTION	100.000%		73.209%	7.869%	6.828%	5.524%	6.196%	0.374%						
MILES	812.25		594.63	63.92	55.46	44.87	50.33	3.04						
RETAIL CUSTOMER METERING (1)	100.000%		75.030%	8.120%	6.635%	4.571%	5.345%	0.299%						
NUMBER OF METERS	85,612.00		64,235.00	6,952.00	5,680.00	3,913.00	4,576.00	256.00						
ENGINEERING SERVICES (2)	100.000%		39.106%	5.693%	5.640%	4.459%	3.756%	0.305%	0.234%				0.599%	
ADMINISTRATIVE EXPENSE (3)	100.000%		40.426%	5.570%	5.518%	4.362%	3.675%	0.298%	0.229%				0.586%	

NOTES:

- (1) ALLOCATION BASED ON NUMBER OF METERS
- (2) ALLOCATION BASED ON DIRECT OPERATING EXPENSE.
- (3) ALLOCATION BASED ON DIRECT OPERATING EXPENSE, ADJUSTED FOR ANY COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

**CITY OF GRAND RAPIDS, MICHIGAN  
 WATER RATE STUDY  
 WATER SUPPLY SYSTEM FUND  
 TASK NO. 23**

ASSIGN OTHER OPERATING REVENUES TO EACH GOVERNMENTAL ENTITY. \*

BASIS OF ALLOCATION: RETAIL BILLINGS BY GOVERNMENTAL ENTITY - TASK NO. 6 & 7

	<u>RETAIL BILLINGS</u>	<u>PERCENTAGE OF TOTAL</u>	<u>ALLOCATION</u>
CITY OF GRAND RAPIDS	\$ 23,760,694	64.9481%	\$ 548,206
CITY OF WALKER	3,108,151	8.4959%	71,711
CITY OF KENTWOOD	4,195,702	11.4687%	96,804
CASCADE TOWNSHIP	3,299,919	9.0201%	76,136
GRAND RAPIDS TOWNSHIP	2,044,344	5.5881%	47,167
TALLMADGE TOWNSHIP	<u>175,262</u>	<u>0.4791%</u>	<u>4,044</u>
	<u>\$ 36,584,072</u>	<u>100.0000%</u>	<u>\$ 844,068</u>

\* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

CITY OF GRAND RAPIDS, MICHIGAN  
 WATER SUPPLY SYSTEM FUND  
 ASSIGN DEPRECIATION EXPENSE TO CUSTOMER COMMUNITIES- TASK NO. 24  
 FISCAL YEAR ENDED JUNE 30, 2017

COST CENTER	DEPRECIATION EXPENSE	INTEGRATED SYSTEM	RETAIL					WHOLESALE			TOTAL	
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA		ADA TOWNSHIP
BY PHYSICAL LOCATION- TASK 11		\$ 4,287,499	\$ 2,972,397	\$ 449,506	\$ 532,177	\$ 299,469	\$ 242,060	\$ 31,222	-	-	-	\$ 8,814,330
IN SERVICE- TASK 10		-	206,132	3,200	1,282	4,920	14,471	-	-	-	-	230,005
PUMPING STATIONS:												
KNAPP SERVICE CENTER	\$ 92,899		(55,778)	-	4,146	1,774	27,471	-	2	-	22,385	-
LIVINGSTON	51,792		(21,776)	-	1,835	765	10,575	-	3	-	8,598	-
FRANKLIN	208,505		(120,900)	-	62,971	34,693	2,051	-	21,099	-	86	-
LEFFINGWELL	908		(451)	-	55	27	185	-	-	-	184	-
BRISTOL	15,870			-				-	-	-		-
EAST PARIS	156,906		14,115	-	(107,246)	87,008	3,881	-	-	-	2,242	-
BURTON	12,447			-				-	-	-		-
COLDBROOK PS PUMP 2	12,976		(7,048)	-	3,671	2,022	120	-	1,230	-	5	-
STORAGE TANKS:												
ELKS	-		-	-	-	-	-	-	-	-	-	-
KNAPP	-		-	-	-	-	-	-	-	-	-	-
CAMBRIDGE	-		-	-	-	-	-	-	-	-	-	-
PATTERSON	101,837		11,876	-	(76,757)	51,288	5,419	-	-	-	8,174	-
WALKER	80,799			-				-	-	-		-
WATERMANS												
ADJUSTED BY ZONEGATING		4,287,499	(189,294)	2,998	31,272	79,472	19,701	2,944	10,006	-	42,901	-
			2,809,273	455,704	453,406	561,438	325,934	34,166	32,340	-	84,575	9,044,335
LESS DEPR ON CIS (TASK 4/5)		(398,504)										(398,504)
LESS CONTRIBUTIONS AMORTIZED		(5,445)	(296,013)	(265,237)	(235,788)	(257,043)	(176,224)	(32,558)	-	-	-	(1,268,308)
TASK NO. 21			\$ 2,114,756	\$ 190,467	\$ 217,618	\$ 304,395	\$ 149,710	\$ 1,608	\$ 32,340	\$ -	\$ 84,575	\$ 7,377,523
TOTAL		\$ 4,282,054										

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CITY OF GRAND RAPIDS, MICHIGAN  
 WATER SUPPLY SYSTEM FUND  
 ACCUMULATE REVENUE REQUIREMENTS BY CUSTOMER COMMUNITIES- TASK NO. 25  
 FISCAL YEAR ENDED JUNE 30, 2017

COST CENTER	INTEGRATED SYSTEM	RETAIL						WHOLESALE				TOTAL
		CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP		
OPERATION & MAINTENANCE EXPENSE- TASK NO. 22	\$ 10,081,254	\$ 9,862,933	\$ 1,427,454	\$ 1,414,017	\$ 1,117,872	\$ 941,709	\$ 76,499	\$ 58,594	\$ -	\$ 150,191	\$ 25,130,522	
DEPRECIATION EXPENSE TASK NO. 24	4,282,054	2,114,756	190,467	217,618	304,395	149,710	1,608	32,340	-	84,575	7,377,523	
RETURN ON SYSTEM INVESTMENT TASK NO. 21	4,279,800	5,405,318	264,765	687,605	889,750	462,188	10,272	83,647	-	262,121	12,345,466	
REVENUE CREDITS- TASK NO. 23	-	(548,206)	(71,711)	(96,804)	(76,136)	(47,167)	(4,044)	-	-	-	(844,068)	
ALLOCATE:												
INTEG CONN. FEE CREDIT (A)	-	(430,669)	(84,127)	(94,522)	(65,389)	(42,796)	(4,570)	(30,497)	-	(37,352)	(789,922)	
INTEGRATED SYSTEM (A)	(18,643,108)	9,166,311	1,790,544	2,011,799	1,391,716	910,874	97,276	649,102	1,830,486	795,000	-	
LESS: CIRCUIT BREAKER (B)		(19,751)	(172,831)	-	(59,421)	(138,546)	-	-	-	-	(390,549)	
	\$ -	\$ 25,550,691	\$ 3,344,561	\$ 4,139,713	\$ 3,502,787	\$ 2,235,972	\$ 177,041	\$ 793,186	\$ 1,830,486	\$ 1,254,535	\$ 42,828,972	

(A) ALLOCATED ON THE BASIS OF RELATIVE BILLED VOLUME & LAND AREA TO UAB PARTNERS. OTTAWA'S ALLOCATION IS BASED ON OLD CONTRACT AND EXCLUDES ANY COST OF COLDBROOK PUMPING.

(B) PURSUANT TO CITY AND CUSTOMER COMMUNITY CIRCUIT BREAKER, AS PROVIDED FOR BY THE THIRD AMENDMENT TO THE UNIFORM SERVICE AGREEMENTS.

**CITY OF GRAND RAPIDS, MICHIGAN  
WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
TASK NO. 25a**

REVIEW THE REVENUE REQUIREMENTS TO ASSURE COMPLIANCE WITH THE APPLICABLE BOND ORDINANCE PROVISIONS.

	<u>YEAR ENDED</u> <u>6/30/17</u>	<u>PRO FORMA *</u> <u>6/30/18</u>
<b>REVENUES:</b>		
RETAIL/WHOLESALE WATER SALES	\$ 40,383,539	\$ 41,530,205
CONNECTION FEES/FRONT FOOT FEES	1,075,768	1,025,000
BILLABLE TO SDS FUND	2,119,181	2,391,339
OTHER OPERATING REVENUES	2,192,821	1,909,384
INTEREST ON INVESTMENTS	184,287	310,626
MISCELLANEOUS	1,086,059	716,300
TOTAL REVENUES	<u>\$ 47,041,655</u>	<u>\$ 47,882,854</u>
<b>OPERATING EXPENSES:</b>		
OPERATIONS & MAINTENANCE	\$ 25,294,601	\$ 27,147,424
DEPRECIATION	<u>8,887,670</u>	<u>8,887,670</u>
TOTAL EXPENSES	<u>\$ 34,182,271</u>	<u>\$ 36,035,094</u>
ADDITIONS: DEPRECIATION	<u>8,887,670</u>	<u>8,887,670</u>
NET EARNINGS OF THE SYSTEM	<u>\$ 21,747,054</u>	<u>\$ 20,735,430</u>
<b>DEBT SERVICE</b>		
SERIES 2016 BONDS	\$ 498,424	\$ 1,812,450
SERIES 2015 BONDS	1,268,500	1,268,500
SERIES 2013 BONDS	389,869	203,369
SERIES 2010 BONDS	7,292,250	7,276,500
SERIES 2009 BONDS	642,808	28,600
SERIES 1993 BONDS	<u>3,684,550</u>	<u>3,759,000</u>
SENIOR LIEN	13,776,401	14,348,419
JUNIOR LIEN **	<u>993,343</u>	<u>1,767,135</u>
TOTAL	<u>14,769,744</u>	<u>16,115,554</u>
COVERAGE RATIO - SENIOR DEBT	<u>1.58</u>	<u>1.45</u>
COVERAGE RATIO - ALL DEBT	<u>1.47</u>	<u>1.29</u>

\* WATER SALES ADJUSTED FOR RATE REVISIONS OF 3.63% AND 2.45% EFFECTIVE 1/1/17 AND 1/1/18, RESPECTIVELY; OTHER REVENUES AND OPERATIONS & MAINTENANCE EXPENSE PER 2018 FISCAL PLAN, ADJUSTED FOR CARRYFORWARDS.

\*\* AMOUNTS IN PRO FORMA ARE BASED ON MAXIMUM PRINCIPAL AND DO NOT INCLUDE PRINCIPAL FORGIVENESS IF NOT YET FINALIZED.

**SUMMARY**

**WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
RATE ANALYSIS - TASK NO. 26**

INITIAL SYSTEM REVENUE REQUIREMENTS		\$ 43,219,521
REVENUES FROM CURRENT RATES		
MONTHLY METER CHARGE	\$ 11,610,114	
MONTHLY BILLING CHARGE	2,823,562	
COMMODITY CHARGE	26,612,360	
MONTHLY FIRE PROTECTION	722,815	
ANNUAL HYDRANT CHARGE	<u>35,631</u>	<u>(41,804,482)</u>
INITIAL REQUIRED REVENUE INCREASE (DECREASE)		<u>\$ 1,415,039.00</u>
INITIAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>3.38%</u>
INITIAL SYSTEM REVENUE REQUIREMENTS FROM ABOVE		\$ 43,219,521
LESS: AMOUNT OF CIRCUIT BREAKER RELIEF TO REDUCE RR's TO RETAIL		(390,549)
SYSTEM REVENUE REQUIREMENTS		<u>\$ 42,828,972</u>
ACTUAL REQUIRED AMOUNT OF REVENUE INCREASE (DECREASE)		<u>\$ 1,024,490</u>
ACTUAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>2.45%</u>

**WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
TASK NO. 26**

METER SIZE	EQUIV. FACTOR	CITY OF GR		CITY OF WALKER		CITY OF KENTWOOD		CASCADE TWP		GR TWP		TALLMADGE TWP	
		METERS	EQUIV.	METERS	EQUIV.	METERS	EQUIV.	METERS	EQUIV.	METERS	EQUIV.	METERS	EQUIV.
A 3/4" or less	1.0000	57,949	57,949	5,794	5,794	3,768	3,768	2,842	2,842	3,956	3,956	193	193
B 1"	1.7778	2,624	4,665	477	848	676	1,202	376	668	326	580	21	37
C 1 1/4"	2.7778	-	-	-	-	-	-	-	-	-	-	-	-
D 1 1/2"	4.0000	1,223	4,892	225	900	438	1,752	270	1,080	123	492	9	36
E 2"	7.1111	834	5,931	103	732	204	1,451	98	697	40	284	3	21
F 3"	16.0000	103	1,648	10	160	20	320	9	144	8	128	2	32
G 4"	28.4444	83	2,361	9	256	12	341	4	114	2	57	1	28
H 6" and over	64.0000	11	704	2	128	2	128	-	-	1	64	-	-
		<u>62,827</u>	<u>78,150</u>	<u>6,620</u>	<u>8,818</u>	<u>5,120</u>	<u>8,962</u>	<u>3,599</u>	<u>5,545</u>	<u>4,456</u>	<u>5,561</u>	<u>229</u>	<u>347</u>
<b>FIRE PROTECTION SERVICE</b>													
H 6"		1,072		231		313		172		98		21	
I 8"		299		75		210		114		21		4	
J 10"		15		6		11		2		-		-	
K 12"		22		20		26		26		1		2	
		<u>1,408</u>		<u>332</u>		<u>560</u>		<u>314</u>		<u>120</u>		<u>27</u>	
TOTAL		<u>64,235</u>		<u>6,952</u>		<u>5,680</u>		<u>3,913</u>		<u>4,576</u>		<u>256</u>	
TOTAL												<u>85,612</u>	

Source: City of Grand Rapids, Michigan, Water/Sewer Customer Accounts/Meters Report, dated November 1, 2017.

**CITY OF GRAND RAPIDS, MICHIGAN**

**WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS \$ 25,550,691

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

78,150 meter equivalents x \$ 6.93 x 12 = \$ 6,498,954

MONTHLY BILLING CHARGE

62,827 meters x \$ 2.84 x 12 = 2,141,144

COMMODITY CHARGE

8,194,935 units (100 CF) x \$ 1.92 = 15,734,275

MONTHLY FIRE PROTECTION

340,941

ANNUAL HYDRANT CHARGE

- (24,715,314)

REQUIRED REVENUE INCREASE (DECREASE)

\$ 835,377

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES

3.38%

\* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 19,751

**CITY OF GRAND RAPIDS, MICHIGAN**

**WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

$$\frac{\text{COMMODITY CHARGE @ 64\%}}{\text{BILLED UNITS}} = \frac{\$16,352,442}{8,194,935} = \underline{\underline{\$ 2.00 /100 CF *}}$$

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **		\$ 25,550,691
NEW COMMODITY CHARGE		
8,194,935 x \$ 2.00		\$ 16,389,870
NEW MONTHLY BILLING CHARGE		
62,827 x \$ 3.86 x 12		2,910,147
MONTHLY FIRE PROTECTION CHARGE		340,941
ANNUAL HYDRANT CHARGE		-
		<u>(19,640,958)</u>
		<u><u>\$ 5,909,733</u></u>

$$\text{MONTHLY METER CHARGE} = \frac{\$5,909,733}{78,150 \times 12} = \underline{\underline{\$ 6.30 \text{ MONTHLY}}}$$

<u>METER SIZE</u>	<u>EQUIVALENT</u>	<u>MONTHLY SERVICE CHARGE</u>			<u>PRESENT</u>
		<u>METER</u>	<u>BILLING</u>	<u>TOTAL</u>	
3/4" or less	1.0000	\$ 6.30	\$ 3.86	\$ 10.16	\$ 9.77
1"	1.7778	11.20	3.86	15.06	15.16
1 1/4"	2.7778	17.50	3.86	21.36	22.09
1 1/2"	4.0000	25.20	3.86	29.06	30.56
2"	7.1111	44.80	3.86	48.66	52.12
3"	16.0000	100.80	3.86	104.66	113.72
4"	28.4444	179.20	3.86	183.06	199.96
6" and over	64.0000	403.20	3.86	407.06	446.36

\* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2018

\*\* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 19,751

**CITY OF WALKER, MICHIGAN**

**WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS*	\$ 3,344,561
LESS: CASH CONTRIBUTION	(109,500)
SYSTEM REVENUE REQUIREMENTS	<u>\$ 3,235,061</u>

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE  
8,818 meter equivalents x \$ 9.64 x 12 = \$ 1,020,066

MONTHLY BILLING CHARGE  
6,620 meters x \$ 2.84 x 12 = 225,610

COMMODITY CHARGE  
1,157,835 units (100 CF) x \$ 1.64 = 1,898,849

MONTHLY FIRE PROTECTION 90,686

ANNUAL HYDRANT CHARGE - (3,235,211)

REQUIRED REVENUE INCREASE (DECREASE) \$ (150)

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 0.00%

\* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 172,831



**CITY OF KENTWOOD, MICHIGAN**

**WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS \$ 4,139,713

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

8,962 meter equivalents x \$ 12.09 x 12 = \$ 1,300,207

MONTHLY BILLING CHARGE

5,120 meters x \$ 2.84 x 12 = 174,490

COMMODITY CHARGE

1,704,147 units (100 CF) x \$ 1.61 = 2,743,677

MONTHLY FIRE PROTECTION

161,441

ANNUAL HYDRANT CHARGE

- (4,379,815)

REQUIRED REVENUE INCREASE (DECREASE)

\$ (240,102)

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES

-5.48%

**CITY OF KENTWOOD, MICHIGAN**

**WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 1.52 /100 CF \*  
 \$ 1.61 x 94.52%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS	\$ 4,139,713
NEW COMMODITY CHARGE 1,704,147 x \$ 1.52	\$ 2,590,303
NEW MONTHLY BILLING CHARGE 5,120 x \$ 3.86 x 12	237,158
MONTHLY FIRE PROTECTION CHARGE	161,441
ANNUAL HYDRANT CHARGE	<u>-</u> (2,988,902)
	<u>\$ 1,150,811</u>

MONTHLY METER CHARGE =  $\frac{\$1,150,811}{8,962 \times 12} = \underline{\underline{\$ 10.70 \text{ MONTHLY}}}$

<u>METER SIZE</u>	<u>EQUIVALENT</u>	<u>MONTHLY SERVICE CHARGE</u>			<u>PRESENT</u>
		<u>METER</u>	<u>BILLING</u>	<u>TOTAL</u>	
3/4" or less	1.0000	\$ 10.70	\$ 3.86	\$ 14.56	\$ 14.93
1"	1.7778	19.02	3.86	22.88	24.33
1 1/4"	2.7778	29.72	3.86	33.58	36.42
1 1/2"	4.0000	42.80	3.86	46.66	51.20
2"	7.1111	76.09	3.86	79.95	88.81
3"	16.0000	171.20	3.86	175.06	196.28
4"	28.4444	304.36	3.86	308.22	346.73
6" and over	64.0000	684.80	3.86	688.66	776.60

\* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2018

**CASCADE TOWNSHIP**  
**WATER RATE STUDY**  
**WATER SUPPLY SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS\* \$ 3,502,787

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE			
5,545 meter equivalents	x	\$ 18.42	x 12 = \$ 1,225,667
MONTHLY BILLING CHARGE			
3,599 meters	x	\$ 2.84	x 12 = 122,654
COMMODITY CHARGE			
864,315 units (100 CF)	x	\$ 2.25	= 1,944,709
MONTHLY FIRE PROTECTION			95,233
ANNUAL HYDRANT CHARGE			- <span style="float: right;"><u>(3,388,263)</u></span>
REQUIRED REVENUE INCREASE (DECREASE)			<u>\$ 114,524</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>3.38%</u>

\* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 59,421

**CASCADE TOWNSHIP**

**WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 2.33 /100 CF \*  
 \$ 2.25 x 103.38%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **		\$ 3,502,787
NEW COMMODITY CHARGE		
864,315 x \$ 2.33	\$ 2,013,854	
NEW MONTHLY BILLING CHARGE		
3,599 x \$ 3.86 x 12	166,706	
MONTHLY FIRE PROTECTION CHARGE	95,233	
ANNUAL HYDRANT CHARGE	<u>-</u>	<u>(2,275,793)</u>
		<u>\$ 1,226,994</u>

MONTHLY METER CHARGE =  $\frac{\$1,226,994}{5,545 \times 12} = \underline{\underline{\$ 18.44 \text{ MONTHLY}}}$

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 18.44	\$ 3.86	\$ 22.30	\$ 21.26
1"	1.7778	32.78	3.86	36.64	35.59
1 1/4"	2.7778	51.22	3.86	55.08	54.01
1 1/2"	4.0000	73.76	3.86	77.62	76.52
2"	7.1111	131.13	3.86	134.99	133.83
3"	16.0000	295.04	3.86	298.90	297.56
4"	28.4444	524.51	3.86	528.37	526.79
6" and over	64.0000	1,180.16	3.86	1,184.02	1,181.72

\* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2018  
 \*\* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 59,421

**GRAND RAPIDS TOWNSHIP**  
**WATER RATE STUDY**  
**WATER SUPPLY SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS\* \$ 2,235,972

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE			
5,561 meter equivalents	x	\$ 12.46	x 12 = \$ 831,481
MONTHLY BILLING CHARGE			
4,456 meters	x	\$ 2.84	x 12 = 151,860
COMMODITY CHARGE			
643,641 units (100 CF)	x	\$ 1.79	= 1,152,117
MONTHLY FIRE PROTECTION			27,409
ANNUAL HYDRANT CHARGE			- <span style="float: right;"><u>(2,162,867)</u></span>
REQUIRED REVENUE INCREASE (DECREASE)			<u>\$ 73,105</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>3.38%</u>

\* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 138,546

**GRAND RAPIDS TOWNSHIP**

**WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 1.85 /100 CF \*  
 \$ 1.79 x 103.38%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS \*\* \$ 2,235,972

NEW COMMODITY CHARGE  
 643,641 x \$ 1.85 \$ 1,190,736

NEW MONTHLY BILLING CHARGE  
 4,456 x \$ 3.86 x 12 206,402

MONTHLY FIRE PROTECTION CHARGE 27,409

ANNUAL HYDRANT CHARGE - (1,424,547)

\$ 811,425

MONTHLY METER CHARGE =  $\frac{\$811,425}{5,561 \times 12}$  = \$ 12.16 MONTHLY

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 12.16	\$ 3.86	\$ 16.02	\$ 15.30
1"	1.7778	21.62	3.86	25.48	24.99
1 1/4"	2.7778	33.78	3.86	37.64	37.45
1 1/2"	4.0000	48.64	3.86	52.50	52.68
2"	7.1111	86.47	3.86	90.33	91.44
3"	16.0000	194.56	3.86	198.42	202.20
4"	28.4444	345.88	3.86	349.74	357.26
6" and over	64.0000	778.24	3.86	782.10	800.28

\* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2018  
 \*\* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 138,546

**TALLMADGE TOWNSHIP**  
**WATER RATE STUDY**  
**WATER SUPPLY SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS \$ 177,041

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE			
347 meter equivalents	x \$	4.19	x 12 = \$ 17,447
MONTHLY BILLING CHARGE			
229 meters	x \$	2.84	x 12 = 7,804
COMMODITY CHARGE			
34,238 units (100 CF)	x \$	3.58	= 122,572
MONTHLY FIRE PROTECTION <span style="float: right;">7,104</span>			
ANNUAL HYDRANT CHARGE <span style="float: right;">35,631</span>			
			<u>(190,558)</u>
REQUIRED REVENUE INCREASE (DECREASE)			<u>\$ (13,517)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u><u>-7.09%</u></u>



**CITY OF EAST GRAND RAPIDS, MICHIGAN**

**WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
RATE ANALYSIS - TASK NO. 26**

INTEGRATED SYSTEM REVENUE REQUIREMENTS *		\$	618,605
COMMODITY CHARGE			
(100CF) 576,120 units	x	\$ 0.99	570,359
			<hr/>
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$	<u>48,246</u>
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$	174,581
MONTHLY SERVICE CHARGE			
\$15,291	x	12 MONTHS	183,492
			<hr/>
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$	<u>(8,911)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>5.22%</u>

\* NET OF INTEGRATED CONNECTION FEE CREDIT.

**CITY OF EAST GRAND RAPIDS, MICHIGAN**

**WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
RATE ANALYSIS - TASK NO. 27**

SYSTEM REVENUE REQUIREMENTS	\$	793,186
NEW COMMODITY CHARGE *		
576,120 x \$1.07 =		(616,448)
		<hr/>
	\$	<u>176,738</u>

MONTHLY SERVICE CHARGE \* = \$ 176,738 / 12 = \$14,728

\* NEW RATES EFFECTIVE ON JANUARY 1, 2018

**ADA TOWNSHIP**  
**WATER RATE STUDY**  
**WATER SUPPLY SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 26**

INTEGRATED SYSTEM REVENUE REQUIREMENTS *		\$ 757,648
COMMODITY CHARGE		
(100CF) 623,477 units x \$ 1.12		698,294
		698,294
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 59,354
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 496,887
MONTHLY SERVICE CHARGE		
\$44,400 x 12 MONTHS		532,800
		532,800
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ (35,913)
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		1.90%

\* NET OF INTEGRATED CONNECTION FEE CREDIT.

**ADA TOWNSHIP**  
**WATER RATE STUDY**  
**WATER SUPPLY SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 27**

SYSTEM REVENUE REQUIREMENTS		\$ 1,254,535
NEW COMMODITY CHARGE *		
623,477 x \$1.22 =		(760,642)
		<hr/>
		<u>\$ 493,893</u>

MONTHLY SERVICE CHARGE \* = \$ 493,893 / 12 = \$41,158

\* NEW RATES EFFECTIVE ON JANUARY 1, 2018

**OTTAWA COUNTY**  
**WATER RATE STUDY**  
**WATER SUPPLY SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 26**

INTEGRATED SYSTEM REVENUE REQUIREMENTS	\$ 1,830,486
COMMODITY CHARGE	
(100CF) 1,560,275 units x \$ 1.12	1,747,508
	<u>1,747,508</u>
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)	<u>\$ 82,978</u>
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS	\$ -
MONTHLY SERVICE CHARGE	
\$0 x 12 MONTHS	-
	<u>-</u>
REQUIRED SERVICE REVENUE INCREASE (DECREASE)	<u>\$ -</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES	<u>4.75%</u>

**OTTAWA COUNTY**

**WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
RATE ANALYSIS - TASK NO. 27**

SYSTEM REVENUE REQUIREMENTS	\$ 1,830,486
NEW COMMODITY CHARGE *	
1,560,275 x \$1.17 =	(1,825,522)
	<hr/>
	<u>\$ 4,964</u>

MONTHLY SERVICE CHARGE \* = \$ 4,964 / 12 = \$414

\* NEW RATES EFFECTIVE ON JANUARY 1, 2018

WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
RE-EVALUATE FRONT FOOT CHARGES  
TASK NO. 28

The City Engineer's Office has reviewed recent construction costs for water facilities and recommends the following front foot assessment rates:

Water User Type	Definition	2017 Rate	2018 Rate	% Change
Domestic	Property is domicile for single or multiple family use, such as homes, apartments, duplexes, condominium, etc.	\$ 81.00	\$ 89.00	9.88%
Commercial - Industrial	Property used to offer services and / or products, such as retail/wholesale stores, gas stations, restaurants, hotels, schools, churches, etc., and manufacturing or processing facilities (industrial).	\$ 132.00	\$ 147.00	11.36%

The above rates are based on an average of prices quoted in bid proposals which have been received by the City Engineer's Office during the period July 1, 2016 through June 30, 2017. Calculations of the rates are on file in the City Engineer's Office.

WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
EVALUATE WATER SERVICE CHARGES  
TASK NO. 29

The City Engineer's Office has evaluated the cost for water services and recommends the following water service charges:

Service Size	Year	50' R.O.W.	60' R.O.W.	66' R.O.W.	80' R.O.W.	100' R.O.W.
1" Water Service	2017	\$ 2,350	\$ 2,700	\$ 2,850	\$ 3,300	\$ 3,950
	2018	\$ 2,650	\$ 3,050	\$ 3,300	\$ 3,800	\$ 4,600
1-1/2" Water Service	2017	\$ 3,700	\$ 4,100	\$ 4,400	\$ 5,000	\$ 5,800
	2018	\$ 3,700	\$ 4,100	\$ 4,400	\$ 5,000	\$ 5,900
2" Water Service	2017	\$ 4,300	\$ 4,800	\$ 5,000	\$ 5,600	\$ 6,600
	2018	\$ 3,800	\$ 4,300	\$ 4,500	\$ 5,200	\$ 6,000

The percent increases of the water service pipe charges are as shown below:

Service Size	50' R.O.W.	60' R.O.W.	66' R.O.W.	80' R.O.W.	100' R.O.W.
1" Water Service	12.77%	12.96%	15.79%	15.15%	16.46%
1-1/2" Water Service	0.00%	0.00%	0.00%	0.00%	1.72%
2" Water Service	-11.63%	-10.42%	-10.00%	-7.14%	-9.09%

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 19, 2017

TO: Molly J. Eastman  
isca e ices anage

FROM: LaToya Black, Administrative Services Officer

**SUBJECT:** 2017 WATER RATE STUDY TASK #30  
FEES, CHARGES, and PENALTIES

Miscellaneous fees and penalties contained within the Water System Rules and Regulations have been reviewed with staff.

Minor wording changes were made for clarification and enforcement purposes. The following are recommended changes in fee amounts, aligned to support resource requirements:

## **Fire Protection Monthly**

- Fee for all sizes increased by 10%

## **Hydrant Use**

- Hydrant Connection Refundable Deposit Fee for Metered Connection (Non-Account Holder) is now \$500, from \$2,000

## **Meter Installation and Service On/Off Requests**

- Meter Installation fee for ¾ " meter increased to \$50
- On/Off Requests After Service Hours increased to \$75

## **Meter Reading**

- Final or Actual Reading increased to \$45

## **Meter Testing**

- Test Fee for 1" meter decreased to \$100

**Miscellaneous and Penalties**

- A \$10 increase applied to the following:

Water Inspection Permit (Within City Limits)
Water Inspection Permit (Outside City Limits)
Sanitary Service Line Inspection Permit (Within City Limits)
Sanitary Service Line Inspection Permit (Outside City Limits)
Storm Service Line Inspection Permit (Within City Limits)
Storm Service Line Inspection Permit (Outside City Limits)
Footing Drain Lateral Inspection Permit (Within City Limits)
Footing Drain Lateral Inspection Permit (Outside City Limits)
Sewer Lateral Service Demolition/Cap off Inspection Fee
Sewer Later Service Demolition/Cap off Inspection Fee
Plumbing Service Re-inspection Fee
Irrigation Service Cut/Cap Administrative Fee
Missed Appointment
Repeat Missed Appointment (each time related to same service)

LB

Cc: Dave Harran, Acting Water System Manager  
Mike Lunn, Environmental Services Manager  
Wayne Jernberg, Assistant Water System Manager  
Arden Postma, Hydraulic Engineer  
Chad Reul, Acting Utility Field Operations Superintendent

**CITY OF GRAND RAPIDS, MICHIGAN  
WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
FEES, CHARGES, AND PENALTIES  
TASK NO. 30**

<b>Fees, Charges, and Penalties</b>	<b>2017 Fee (\$)</b>	<b>2018 Fee (\$)</b>	<b>% Change</b>
<b>Fire Protection Monthly (based on pipe size)</b>			
6"	\$16.40	\$18.04	10%
8"	\$29.11	\$32.02	10%
10"	\$45.59	\$50.15	10%
12"	\$65.60	\$72.16	10%
<b>Hydrant Use Per Season</b>			
Hydrant Use Permit Fee (Non-Metered Hydrant Connection - Residential Customers)	\$50	\$50	0%
Hydrant Use Permit Fee (Metered Hydrant Connection)	\$300	\$300	0%
Non-Metered Hydrant Connection Use Fee (pool filling per connection)- City of Grand Rapids	\$100 (Refundable Deposit) +	\$100 (Refundable Deposit) +	
Water/Sewer Account Holder	\$75/week	\$75/week	0%
Metered Hydrant Connection Use Fee (per connection)- City of Grand Rapids Water/Sewer Account Holder	\$500 (Refundable Deposit) +	\$500 (Refundable Deposit) +	
Holder	\$25/week+	\$25/week+	0%
Non-Account Holder	\$2,000 (Refundable Deposit) +	\$500 (Refundable Deposit) +	
	Applicable fees	Applicable fees	0%
Hydrant Flow Test	\$200	\$200	0%
<b>* Plus metered volume (Commodity Charges at City of Grand Rapids Rate)</b>			
<b>Tapping Permits</b>			
All sizes	\$375	\$375	0%
<b>Meter Installation and Service On/Off Requests</b>			
<i>Normal Service Hours 8am - 7pm M-F all non-emergency service requests must be scheduled</i>			
¾"	\$45	\$50	11%
1"	\$50	\$50	0%
1 ½"	\$75	\$75	0%
2"	\$75	\$75	0%
3"	\$110	\$110	0%
4" or larger	\$220	\$220	0%
Seasonal Off Request Scheduled Meter Pull	\$50	\$50	0%
On/Off Request After Service Hours	\$60	\$75	25%
Inspection/ Repair Scheduled On & Off Request (may also need meter install)	\$110	\$110	0%
<b>Meter Replacement (Non-System Planned/Scheduled Replacement)</b>			
<i>Meter Replacement Fee: Charged to customer at time of discovery of a system known meter that requires replacement outside of Water System planned replacement program scheduling as a result of infrastructure loss (Frozen/Missing/Stolen/Damaged), unnecessary replacement, and/or customer request. Customer requested meter replacement requires meter testing prior to approval.</i>			
¾"	\$175	\$175	0%
1"	\$250	\$250	0%
1 ½"	\$800	\$800	0%
2"	\$900	\$900	0%
3"	\$1,100	\$1,100	0%
4" or larger	Cost	Cost	0%
<b>Meter Reading</b>			
Final or Actual Reading	\$35	\$45	29%
Meter Interface Unit Replacement	\$150	\$150	0%
<b>Meter Testing</b>			
<i>Meter Testing Fee: Charged and paid by customer prior to test, if test results find the meter to read in error beyond AWWA acceptance and in the benefit of the Water System, the fee will be refunded and a new meter will be set.</i>			
¾" and Smaller	\$100	\$100	0%
1"	\$200	\$100	-50%
1 ½ "	\$200	\$200	0%
2"	\$300	\$300	0%
3"	\$400	\$400	0%
4"	Cost	Cost	0%
<b>Security Deposit</b>			
Minimum Deposit Amount	\$500	\$500	0%
<b>Miscellaneous</b>			
Street Opening Permit	\$50	\$50	0%
Water Inspection Permit (Within City Limits)	\$55	\$65	18%
Water Inspection Permit (Outside City Limits)	\$70	\$80	14%
Sanitary Service Line Inspection Permit (Within City Limits)	\$55	\$65	18%
Sanitary Service Line Inspection Permit (Outside City Limits)	\$70	\$80	14%
Storm Service Line Inspection Permit (Within City Limits)	\$55	\$65	18%
Storm Service Line Inspection Permit (Outside City Limits)	\$70	\$80	14%
Footing Drain Lateral Inspection Permit (Within City Limits)	\$55	\$65	18%
Footing Drain Lateral Inspection Permit (Outside City Limits)	\$70	\$80	14%

**CITY OF GRAND RAPIDS, MICHIGAN  
 WATER RATE STUDY  
 WATER SUPPLY SYSTEM FUND  
 FEES, CHARGES, AND PENALTIES  
 TASK NO. 30**

<b>Fees, Charges, and Penalties</b>	<b>2017 Fee (\$)</b>	<b>2018 Fee (\$)</b>	<b>% Change</b>
Sewer Lateral Service Demolition/Cap off Inspection Fee (Within City Limits)	\$55	\$65	18%
Sewer Later Service Demolition/Cap off Inspection Fee (Outside City Limits)	\$70	\$80	14%
Plumbing Service Re-inspection Fee	\$55	\$65	18%
Cross Connection Re-inspection Fee	\$75	\$75	0%
Irrigation Service Cut/Cap Administrative Fee	\$55	\$65	18%
Delinquent Commercial Backflow Test Fee (Per Device)	\$25	\$25	0%
<b>Services</b>			
Customer requested on-site service (Customer Issue)	\$100	\$100	0%
Research Fee for document creation of account or location information (FOIA request may still be	\$55	\$55	0%
<b>Penalties</b>			
Late Payment Penalty	10% of Net	10% of Net	0%
Administrative Fee for review or processing of account for non-payment, returned payment, shut-off, posting of property, and/or backflow non-compliance	\$55	\$55	0%
Missed Appointment	\$35	\$45	29%
Repeat Missed Appointment (each time related to same service)	\$50	\$60	20%
Unauthorized operation, tampering, or removal of any Water or Sanitary Sewer System owned or maintained, valve, asset, infrastructure, or equipment (for example, but not limited to, bypass valves, distribution valves, service valves, meters, meter reading equipment, hydrants, and curb	\$500	\$500	0%
Unauthorized or Illegal connection to any Water or Sanitary Sewer System owned pipe, property, and/or private plumbing system served by the Water and/or Sanitary Sewer System ** & ***	\$500	\$500	0%
Failure to return or return of damaged beyond repair/ repairable hydrant connection equipment	Cost + 10%	Cost + 10%	0%
Repair/Replace damage to a fire hydrant	Cost + 10%	Cost + 10%	0%
Return check or payment charge (City Treasurer processing fee)	\$30	\$30	0%
Permit infractions/violations ** & ***	\$100	\$100	0%
Unauthorized service tap of Water or Sewer main** & ***	\$500	\$500	0%
<b>** Plus double the commodity rate for estimated volume and any unbilled readiness to serve charges that may apply</b>			
<b>*** Penalties shall double with each subsequent infraction</b>			
<b>Miscellaneous Damage or Loss</b>			
Any cost recovery due to damage caused or undue oversight of any location, account, or infrastructure of the Water and/or Sanitary Sewer System will be charged in accordance with cost recovery methodology for time and materials, including a 10% administrative charge for processing	Cost + 10%	Cost + 10%	0%

**CITY OF GRAND RAPIDS, MICHIGAN  
WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
TASK NO. 31**

*THERE IS NO TASK 31 FOR THE WATER RATE STUDY.*

# MEMORANDUM

CITY OF GRAND RAPIDS

**DATE:** September 28, 2017

**TO:** Molly Eastman  
isca e ices anage

**FROM:** Arden Postma, P.E.  
Hydraulic Engineer

**SUBJECT:** 2017 WATER RATE STUDY- TASK #32, WATER MAIN OVERSIZING RATES

Water main oversizing rates are established for this year as noted below:

<u>Pipe Size</u>	<u>2015 Rate</u>	<u>2016 Rate</u>	<u>2017 Rate</u>	<u>'16 - '17 % Change</u>
8"-12"	\$21.45/ft	\$18.85/ft	\$24.51/ft	30.0%
12"-16"	\$24.85/ft	\$23.59/ft	\$26.79/ft	13.6%
8"-16"	\$46.30/ft	\$42.44/ft	\$51.30/ft	20.9%

These rates have been determined in accordance with the Water System Rules and Regulations, and are approved for use from January 1, 2018 through December 31, 2018. Background information and calculations to establish these rates are on file in the Utility Engineering, Distribution and Collection Office.

Part of the increase in material costs this year is due to a revision in the required pipe material. In the spring of 2017, the City of Grand Rapids began requiring zinc coating on all new water main installations.

These costs will be reviewed and may be adjusted again next year. If you have any questions regarding this matter, please call me at 456-4201.

AP  
Cc: David Harran  
Wayne Jernberg  
Rick DeVries  
Mark DeClercq

**CITY OF GRAND RAPIDS, MICHIGAN  
 WATER RATE STUDY  
 WATER SUPPLY SYSTEM FUND  
 TASK NO. 33**

SERVICE AREA MAPS AND SERVICE AREA LAND MASS SUMMARIES

The following summarizes Utility Services Districts (USD) land mass square miles for UAB partner communities, per information on file as of October 30, 2017 :

UAB Partners	Sq. Miles of USD by CC	Percent
Grand Rapids	45.36	35.046%
Walker	25.48	19.686%
Kentwood	13.50	10.430%
Cascade	21.14	16.333%
Grand Rapids Township	10.91	8.429%
Tallmadge Township	2.46	1.901%
East Grand Rapids	3.37	2.604%
Ada	7.21	5.571%
Total	129.43	100.000%

**CITY OF GRAND RAPIDS, MICHIGAN  
 WATER RATE STUDY  
 WATER SUPPLY SYSTEM FUND  
 TASK NO. 34**

INDIVIDUAL CIRCUIT BREAKER AND CITY & CUSTOMER COMMUNITY CIRCUIT BREAKER

The Third Amendment to the Water and Sanitary Sewer Agreements stipulates penalty fees shall be used to fund the circuit breaker provisions noted above.

The following summarizes those values:

<u>Description</u>	<u>AMOUNT</u>	<u>PERCENT</u>
Individual Circuit Breaker (ICB)*	\$ 144,903	24.18%
City & Customer Community Circuit Breaker (CCCCB)	454,318	75.82%
Total	<u>\$ 599,221</u>	<u>100.00%</u>

The following tables summarize the amount, if any, of the Circuit Breaker to be applied as a revenue credit in next year's Rate Study:

<u>Description</u>	<u>AMOUNT</u>	<u>PERCENT</u>
City & Customer Community Circuit Breaker Amount- Above	\$ 454,318	100.00%
Less: Amount Applied in Current Rate Study	(390,549)	-85.96%
Total CCCCCB Revenue Credit- Next Year's Rate Study	<u>\$ 63,769</u>	<u>14.04%</u>

\*Per City Commission Resolution 84923 adopted on September 8, 2015, the Water and Sanitary Sewer Systems are authorized to utilize non-operating revenue to provide supplemental funding to the ICB. \$144,903 includes \$80,000 of facility rental revenue from fiscal year 2017 to supplement the 2018 ICB.

**CITY OF GRAND RAPIDS, MICHIGAN  
WATER RATE STUDY  
WATER SUPPLY SYSTEM FUND  
TASK NO. 35**

*THERE IS NO TASK 35 FOR THE WATER RATE STUDY.*

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
ANNUAL RATE REVIEW**

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**CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
SYSTEM ADDITIONS AND IMPROVEMENTS  
FOR THE YEAR ENDED JUNE 30, 2017  
TASKS NO. 1, 2, & 3**

COMMUNITY	LOCAL		TRUNK		INTERCEPTOR		TOTALS	
	FEET	MILES	FEET	MILES	FEET	MILES	FEET	MILES
Grand Rapids								
Construction	4,531	0.86	1,558	0.30	2,014	0.38	8,103	1.54
Abandonment	(3,035)	(0.57)	(784)	(0.15)	(2,771)	(0.52)	(6,590)	(1.24)
CSO Construction	11,797	2.23	540	0.10	2,170	0.41	14,507	2.74
CSO Abandonment	(9,106)	(1.72)	(2,446)	(0.46)	(3,322)	(0.63)	(14,874)	(2.81)
	<u>4,187</u>	<u>0.80</u>	<u>(1,132)</u>	<u>(0.21)</u>	<u>(1,909)</u>	<u>(0.36)</u>	<u>1,146</u>	<u>0.23</u>
Kentwood								
Construction	2,144	0.41	0	0.00	0	0.00	2,144	0.41
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>2,144</u>	<u>0.41</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>2,144</u>	<u>0.41</u>
Cascade Twp.								
Construction	0	0.00	1,046	0.20	0	0.00	1,046	0.20
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>0</u>	<u>0.00</u>	<u>1,046</u>	<u>0.20</u>	<u>0</u>	<u>0.00</u>	<u>1,046</u>	<u>0.20</u>
G.R. Twp.								
Construction	0	0.00	0	0.00	0	0.00	0	0.00
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>
Tallmadge Twp.								
Construction	410	0.08	0	0.00	0	0.00	410	0.08
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>410</u>	<u>0.08</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>410</u>	<u>0.08</u>
Walker								
Construction	5,065	0.96	0	0.00	0	0.00	5,065	0.96
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>5,065</u>	<u>0.96</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>5,065</u>	<u>0.96</u>
Wright Twp								
Construction	0	0.00	0	0.00	0	0.00	0	0.00
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>
<b>*TOTAL*</b>	<u><u>11,806</u></u>	<u><u>2.25</u></u>	<u><u>(86)</u></u>	<u><u>(0.01)</u></u>	<u><u>(1,909)</u></u>	<u><u>(0.36)</u></u>	<u><u>9,811</u></u>	<u><u>1.88</u></u>

	CONTRIBUTIONS		
	COMM	OTHER	TOTAL
Integrated	\$ 184,622	\$ -	\$ 184,622
Grand Rapids	1,130,950	-	1,130,950
Kentwood	268,543	-	268,543
Cascade Twp.	128,985	-	128,985
Grand Rapids Twp.	-	-	-
Tallmadge Twp.	45,730	-	45,730
Walker	373,919	-	373,919
Wright Twp.	-	-	-
<b>*TOTAL*</b>	<u><u>\$ 2,132,749</u></u>	<u><u>\$ -</u></u>	<u><u>\$ 2,132,749</u></u>

CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
OPERATING EXPENSE ALLOCATION BY COST CENTER - TASK #4, PART 1  
FISCAL YEAR ENDED JUNE 30, 2017

Dept-Unit-Fund	ACTIVITY	EXPENSE BY ACTIVITY	WASTEWATER TREATMENT PLANT			WASTEWATER LIFT STATIONS			SEWER LINES			BULK METERING STATIONS	CUSTOMER ACCOUNTING	INDUSTRIAL PRETREAT.	ADMIN. EXPENSE
			INTERCEPTOR	TRUNK	LOCAL COLLECTOR	INTERCEPTOR	TRUNK	LOCAL COLLECTOR	INTERCEPTOR	TRUNK	LOCAL COLLECTOR				
527 (3000:70) 5900	WASTEWATER TREATMENT (LESS 527 - 3040 - 5900)	\$ 16,496,175	\$ 242,991	\$ 119,780	\$ 485,992						\$ 5,642				
527 (4000 / 4290) 5900	SEWER MAINTENANCE	4,623,913				244,235	533,045	3,846,633							
527 (2000) 5900	CUSTOMER SERVICE *	2,119,181										2,119,181			
527 (3040) 5900	INDUSTRIAL PRETREATMENT	709,067											709,067		
527 (1000:10 / 8000) 5900	SUBTOTAL OPERATING EXPENSE ADMINISTRATION	23,948,336	242,991	119,780	485,992	244,235	533,045	3,846,633			5,642	2,119,181	709,067		
	TOTAL	\$ 26,140,588	\$ 242,991	\$ 119,780	\$ 485,992	\$ 244,235	\$ 533,045	\$ 3,846,633			\$ 5,642	\$ 2,119,181	\$ 709,067		\$ 2,192,252

\* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

METHOD OF DISTRIBUTION

Dept-Unit-Fund	ACTIVITY	EXPENSE BY ACTIVITY	WASTEWATER TREATMENT PLANT	WASTEWATER LIFT STATIONS	SEWER LINES	BULK METERING STATIONS	CUSTOMER ACCOUNTING	INDUSTRIAL PRETREAT.	ADMIN. EXPENSE
527 (3000:70) 5900	WASTEWATER TREATMENT	100.0000%	94.821%						
	A. TREATMENT PLANT								
527 (4000 / 4290) 5900	B. LIFT & METER STATIONS	5.179%	5.179%						
	NO. OF STATIONS	(57)	(1)	(7)	(45)	(4)			
	SEWER MAINTENANCE	100.0000%							
	TOTAL MILES	915.06							
	A. INTERCEPTOR MILES	48.33							
	B. TRUNK LINES MILES	105.49							
	C. LOCAL COLLECTOR MILES	761.24							
527 (2000) 5900	CUSTOMER SERVICE	100.0000%					100.0000%		
527 (3040) 5900	INDUSTRIAL PRETREATMENT	100.0000%						100.0000%	
527 (1000:10 / 8000) 5900	ADMINISTRATION	100.0000%							100.0000%

CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
OPERATING EXPENSE ALLOCATION BY GOVERNMENTAL UNIT - TASK #4, PART 2  
FISCAL YEAR ENDED JUNE 30, 2017

COST CENTER	EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL					WHOLESALE						
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP	
WASTEWATER TREATMENT	\$ 15,641,770	\$ 15,641,770												
LIFT STATIONS:														
A. INTERCEPTOR	242,991													
B. TRUNK	119,780		57,080				22,991							
C. LOCAL COLLECTOR	485,992		74,391				92,652	190,014	34,088	9,667			9,306	
SEWER LINES:														
A. INTERCEPTOR	244,235		34,921		61,704		6,773							
B. TRUNK	533,045		134,866		125,164		48,054	27,996	14,302	608				
C. LOCAL COLLECTOR	3,846,633		478,944		374,739		232,914	293,344	43,813	22,734				
BULK METERING STATIONS	5,642				4,087									291
CUSTOMER ACCOUNTING	2,119,181		160,909		132,957		55,099	106,341	6,188	6,527				426
INDUSTRIAL PRETREATMENT	709,067	709,067												
SUBTOTAL OPERATING EXPENSE	23,948,336	16,350,837	4,732,771	941,111	698,651	458,482	617,695	98,391	39,536	837		9,732		291
ADMINISTRATIVE EXPENSE	2,192,252	1,457,052	479,919	83,864	62,258	40,856	55,044	8,768	3,523	75		867		26
TOTAL	\$ 26,140,588	\$ 17,807,889	\$ 5,212,690	\$ 1,024,975	\$ 760,909	\$ 499,338	\$ 672,739	\$ 107,159	\$ 43,059	\$ 912	\$ -	\$ 10,599	\$ -	\$ 317
<b>METHOD OF DISTRIBUTION</b>														
WASTEWATER TREATMENT														
A. TREATMENT PLANT	100.000%	100.00%												
B. LIFT & METER STATIONS (57)	100.000%		(13)	(6)	(1)	(10)	(17)	(5)	(1)	(1)	(1)	(2)	(1)	
SEWER LINES:														
TOTAL MILES:	915.06													
A. INTERCEPTOR MILES	48.33		57,665%	14,298%	25,264%	2,773%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
B. TRUNK LINES MILES	105.49		27,87	6,91	12,21	1,34	5,252%	2,683%	0.114%	0.000%	0.000%	0.000%	0.000%	0.000%
C. LOCAL COLLECTOR MILES	761.24		34,154%	25,301%	23,481%	9,015%	5,252%	2,83	0.12	0.12	0.000%	0.000%	0.000%	0.000%
CUSTOMER ACCTG (2)	74,914.00		62,396%	12,451%	9,742%	6,055%	7,626%	1,139%	8,67	4,50				
NO. OF METERS			474,99	94,78	74,16	46,09	58,05	219,00	231,00					
INDUSTRIAL PRETREATMENT		100.00%	78,223%	7,593%	6,274%	2,600%	5,018%	0.292%	0.308%					
ADMINISTRATIVE EXPENSE (3)		100.00%	58,369.00	5,688.00	4,700.00	1,948.00	3,759.00	0.400%	0.161%	0.003%	0.000%	0.040%	0.001%	

NOTES:  
 (1) DIRECT COSTS PER SCHEDULE.  
 (2) ALLOCATION BASED ON NUMBER OF METERS, INCLUSIVE OF USERS FOR WRIGHT TWP.  
 (3) ALLOCATED ON DIRECT OPERATING EXPENSE, ADJUSTED FOR ANY COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
ADJUSTED OPERATING EXPENSE ALLOCATION BY COST CENTER - TASK #5, PART 1  
FISCAL YEAR ENDED JUNE 30, 2017

Dept-Unit-Fund	ACTIVITY	WASTEWATER TREATMENT PLANT			WASTEWATER LIFT STATIONS			SEWER LINES			BULK METERING STATIONS	CUSTOMER ACCOUNTING	INDUSTRIAL PRETREAT	ADMIN. EXPENSE
		ADJUSTED EXPENSE BY ACTIVITY	INTERCEPTOR	TRUNK	LOCAL COLLECTOR	INTERCEPTOR	TRUNK	LOCAL COLLECTOR	INTERCEPTOR	TRUNK				
527 (3000) / 5900	WASTEWATER TREATMENT (LESS 527 - 3040 - 5900)	\$ 16,443,657	\$ 256,913	\$ 126,642	\$ 513,836						\$ 5,965			
527 (4000) / 4290) 5900	SEWER MAINTENANCE	4,693,142				247,892		541,025						
527 (2000) / 5900	CUSTOMER SERVICE *	3,370,461									3,370,461			
527 (3040) / 5900	INDUSTRIAL PRETREATMENT	738,930										738,930		
527 (1000:10 / 8000) 5900	SUBTOTAL OPERATING EXPENSE ADMINISTRATION	25,246,190	256,913	126,642	513,836	247,892	541,025	541,025	3,904,225	5,965	3,370,461	738,930	-	
	TOTAL	\$ 27,440,606	\$ 256,913	\$ 126,642	\$ 513,836	\$ 247,892	\$ 541,025	\$ 541,025	\$ 3,904,225	\$ 5,965	\$ 3,370,461	\$ 738,930	\$ 2,194,416	

\* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

METHOD OF DISTRIBUTION

527 (3000:70) / 5900	WASTEWATER TREATMENT	100.000%											
	A. TREATMENT PLANT		94.506%										
	B. LIFT & METER STATIONS		5.494%										
	NO. OF STATIONS	(57)		(7)	(45)								(4)
527 (4000) / 4290) 5900	SEWER MAINTENANCE	915.06											
	TOTAL MILES												
	A. INTERCEPTOR MILES	48.33	5.282%										
	B. TRUNK LINES MILES	105.49	11.528%										
	C. LOCAL COLLECTOR MILES	761.24	83.190%										
527 (2000) / 5900	CUSTOMER SERVICE	100.000%											
527 (3040) / 5900	INDUSTRIAL PRETREATMENT	100.000%										100.000%	
527 (1000:10 / 8000) 5900	ADMINISTRATION	100.000%											100.000%

CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
ADJUSTED OPERATING EXPENSE ALLOCATION BY GOVERNMENTAL UNIT - TASK #5, PART 2  
FISCAL YEAR ENDED JUNE 30, 2017

COST CENTER	ADJUSTED EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL				WHOLESALE						
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP
WASTEWATER TREATMENT	\$ 15,540,301	\$ 15,540,301											
LIFT STATIONS:													
A. INTERCEPTOR	256,913												
B. TRUNK	126,642		60,349				24,308						
C. LOCAL COLLECTOR	513,836		78,654				97,959					9,839	
SEWER LINES:													
A. INTERCEPTOR	247,892		35,444		62,627		6,874						
B. TRUNK	541,025		136,885		127,038		48,773		28,415	14,516			
C. LOCAL COLLECTOR	3,904,225		486,115		380,350		236,401		297,736	44,469			
BULK METERING STATIONS	5,965				4,321								885
CUSTOMER ACCOUNTING	3,370,461		255,919		211,463		87,632		169,130	9,842			451
INDUSTRIAL PRETREATMENT	738,930	738,930											
SUBTOTAL OPERATING EXPENSE	25,246,190	16,279,231	5,769,021	1,053,366	795,799	501,947	696,182	104,868	44,293	885		10,290	308
ADMINISTRATIVE EXPENSE	2,194,416	1,377,490	546,328	89,132	66,491	42,473	58,908	8,874	3,748	75		871	26
TOTAL	\$ 27,440,606	\$ 17,656,721	\$ 6,315,349	\$ 1,142,498	\$ 852,290	\$ 544,420	\$ 755,090	\$ 113,742	\$ 48,041	\$ 960	\$ -	\$ 11,161	\$ 334

METHOD OF DISTRIBUTION

WASTEWATER TREATMENT													
A. TREATMENT PLANT	100.000%	100.000%											
B. LIFT & METER STATIONS (1)	100.000%		(13)	(6)	(1)	(10)	(17)	(5)	(1)	(1)	(2)	(1)	
NO. OF STATIONS													
SEWER LINES:													
TOTAL MILES:	915.06												
A. INTERCEPTOR	100.000%	57,665%	14,298%	25,264%	2,773%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
MILES	48.33	27.87	6.91	12.21	1.34								
B. TRUNK LINES	100.000%	34,154%	25,301%	23,481%	9,015%	5,252%	2,683%	0.114%	0.114%	0.000%	0.000%	0.000%	0.000%
MILES	105.49	36.03	26.69	24.77	9.51	5.54	2.83	0.12	0.12	0.000%	0.000%	0.000%	0.000%
C. LOCAL COLLECTOR	100.000%	62,396%	12,451%	9,742%	6,055%	7,626%	1,139%	1,139%	0.591%	0.000%	0.000%	0.000%	0.000%
MILES	761.24	474.99	94.78	74.16	46.09	58.05	8.67	4.50	4.50				
CUSTOMER ACCTG (2)	100.000%	77,915%	7,593%	6,274%	2,600%	5,018%	0.292%	0.292%	0.308%				
NO. OF METERS	74,914.00	58,369.00	5,688.00	4,700.00	1,948.00	3,759.00	219.00	231.00	231.00				
INDUSTRIAL PRETREATMENT	100.000%												
ADMINISTRATIVE EXPENSE (3)	100.000%	24,896%	4,062%	3,030%	1,936%	2,684%	0.404%	0.404%	0.171%	0.003%	0.000%	0.040%	0.001%

NOTES:

- (1) ADJUSTED DIRECT COSTS PER SCHEDULE.
- (2) ALLOCATION BASED ON NUMBER OF METERS, INCLUSIVE OF USERS FOR WRIGHT TWP.
- (3) ALLOCATED ON DIRECT OPERATING EXPENSE, ADJUSTED FOR ANY COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
ADJUSTED ACTUAL EXPENSE  
YEAR ENDED JUNE 30, 2017  
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: ADMINISTRATION

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 387,634.46	\$ 16,745.81	\$ 404,380.27
7105	EMPLOYERS SOCIAL SECURITY	28,325.43	1,223.66	29,549.09
7110	HOSPITALIZATION INSURANCE	61,283.03	4,308.20	65,591.23
7115	RETIREE HEALTH CARE	47,637.24	2,996.38	50,633.62
7120	RETIREMENT FUND CONTRIBUTION	92,888.59	8,490.02	101,378.61
7135	UNEMPLOYMENT COMPENSATION	553.05	-	553.05
7165	SHIFT DIFFERENTIAL	9.08	-	9.08
	TOTAL PERSONAL SERVICES	<u>618,330.88</u>	<u>33,764.07</u>	<u>652,094.95</u>
7520	SUPPLIES	2,447.24	-	2,447.24
8510	POSTAGE	31.50	-	31.50
	TOTAL SUPPLIES	<u>2,478.74</u>	<u>-</u>	<u>2,478.74</u>
9480	COMPUTER SERVICES	14,279.00	345.00	14,624.00
9460	ENGINEERING SERVICES	5,629.75	-	5,629.75
8010	CONTRACTUAL SERVICES	161,810.59	-	161,810.59
8011	CONTRACT EMPLOYEES - TEMP SERVICES	15,238.19	-	15,238.19
8450	GENERAL LIABILITY INSURANCE/CLAIMS	301,638.00	55,872.00	357,510.00
8400	INSURANCE PREMIUMS	179,536.00	-	179,536.00
8500	TELEPHONE	1,114.24	-	1,114.24
9010	ADVERTISING - ANY MEDIA	357.33	-	357.33
9000	PRINTING & PUBLISHING	854.75	-	854.75
7175	FOOD/CLEAN/CAR ALLOW	6,602.72	-	6,602.72
9430	BUILDINGS RENTALS OR LEASE	25,042.00	-	25,042.00
9470	VEHICLE USAGE/CAR MILAGE	4,707.53	-	4,707.53
9100	PROFESSIONAL DEVELOPMENT	4,120.64	-	4,120.64
9110	OTHER TRAVEL & TRAINING	5,291.51	-	5,291.51
9130	LOCAL BUSINESS EXPENSE	4,350.69	-	4,350.69
9150	MEMBERSHIPS	40,053.03	-	40,053.03
7910	SUBSCRIPTIONS AND PUBLICATIONS	103.25	-	103.25
8240	FEES	193.13	-	193.13
8030	ADMINISTRATIVE SERVICES	127,259.12	(127,259.12)	-
9650	BAD DEBT WRITE-OFFS	892.35	-	892.35
9450	311 CALL CENTER SERVICES	1,599.00	-	1,599.00
9550	MISCELLANEOUS	288.90	-	288.90
	TOTAL OTHER SERVICES & CHARGES	<u>900,961.72</u>	<u>(71,042.12)</u>	<u>829,919.60</u>
9760	EQUIPMENT	1,194.00	-	1,194.00
9840	SOFTWARE	1,710.00	-	1,710.00
9880	CONSTRUCTION IN PROGRESS	4,419.84	-	4,419.84
	TOTAL CAPITAL	<u>7,323.84</u>	<u>-</u>	<u>7,323.84</u>
9952	OPERATING TRANSFERS-A87 COST	594,127.00	39,442.00	633,569.00
9955	OPERATING TRANS-MISC	69,030.00	-	69,030.00
	TOTAL TRANSFERS/FEES	<u>663,157.00</u>	<u>39,442.00</u>	<u>702,599.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 2,192,252.18</u>	<u>\$ 2,163.95</u>	<u>\$ 2,194,416.13</u>

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
ADJUSTED ACTUAL EXPENSE  
YEAR ENDED JUNE 30, 2017  
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: SDFS - CUST.SERV'S

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
9951	OPERATING TRANS OUT-SUBSIDIES	\$ 2,119,181.00	\$ 1,251,279.80	\$ 3,370,460.80
	TOTAL TRANSFERS/FEES	2,119,181.00	1,251,279.80	3,370,460.80
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 2,119,181.00</u>	<u>\$ 1,251,279.80</u>	<u>\$ 3,370,460.80</u>

\* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
ADJUSTED ACTUAL EXPENSE  
YEAR ENDED JUNE 30, 2017  
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: WASTEWATER

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST FACTORS	CURRENT ANNUAL EXPENSES
7020	PERMANENT EMPLOYEES	\$ 3,166,777.81	\$ 611,804.80	\$ 3,778,582.61
7025	ACT.ASSIGNMENT	6,111.56	264.02	6,375.58
7050	REGULAR HOURLY RATE	5,603.68	242.08	5,845.76
7055	TIME & ONE-HALF	101,824.96	4,398.84	106,223.80
7105	EMPLOYERS SOCIAL SECURITY	230,572.62	9,960.74	240,533.36
7110	HOSPITALIZATION INSURANCE	652,051.84	45,839.24	697,891.08
7115	RETIREE HEALTH CARE	313,890.88	19,743.74	333,634.62
7120	RETIREMENT FUND CONTRIBUTION	770,453.85	70,419.48	840,873.33
7135	UNEMPLOYMENT COMPENSATION	4,253.15	-	4,253.15
7165	SHIFT DIFFERENTIAL	11,743.08	-	11,743.08
7195	INSURANCE OPT-OUT	2,564.40	-	2,564.40
	TOTAL PERSONAL SERVICES	<u>5,265,847.83</u>	<u>762,672.94</u>	<u>6,028,520.77</u>
7520	SUPPLIES	1,110,582.45	-	1,110,582.45
8510	POSTAGE	26.79	-	26.79
7670	CLOTHING/CLEANING ALLOWANCE	4,760.09	-	4,760.09
7530	PROCESS CHEMICALS	413,830.95	-	413,830.95
	TOTAL SUPPLIES	<u>1,529,200.28</u>	<u>-</u>	<u>1,529,200.28</u>
9480	COMPUTER SERVICES	369,371.68	(126,385.68)	242,986.00
8010	CONTRACTUAL SERVICES	6,406,423.11	(630,630.96)	5,775,792.15
8500	TELEPHONE	27,519.73	-	27,519.73
9010	ADVERTISING - ANY MEDIA	3,392.07	-	3,392.07
9000	PRINTING & PUBLISHING	5,294.79	-	5,294.79
9200	ELECTRICITY	2,199,357.24	(58,174.00)	2,141,183.24
9180	WATER	54,731.60	-	54,731.60
9210	NATURAL GAS	129,892.01	-	129,892.01
9340	MAINTENANCE SERVICE	5,350.50	-	5,350.50
9310	EQUIPMENT REPAIRS	26,790.07	-	26,790.07
9410	EQUIPMENT RENTALS OR LEASE	44,935.73	-	44,935.73
9470	VEHICLE USAGE/CAR MILAGE	4,227.72	-	4,227.72
9100	PROFESSIONAL DEVELOPMENT	53,845.73	-	53,845.73
9110	OTHER TRAVEL & TRAINING	19,668.28	-	19,668.28
9130	LOCAL BUSINESS EXPENSE	540.77	-	540.77
9150	MEMBERSHIPS	17,465.00	-	17,465.00
7910	PUBLICATIONS AND SUBSCRIPTIONS	230.00	-	230.00
8240	FEES	20,298.04	-	20,298.04
8030	ADMINISTRATIVE SERVICES	19.96	-	19.96
9190	REFUSE COLLECTION CHARGES	158.72	-	158.72
9440	FLEET MANAGEMENT EQUIPMENT	184,335.12	-	184,335.12
9550	MISCELLANEOUS	650.79	-	650.79
	TOTAL OTHER SERVICES & CHARGES	<u>9,574,498.66</u>	<u>(815,190.64)</u>	<u>8,759,308.02</u>
9800	FURNITURE	16,121.60	-	16,121.60
9760	EQUIPMENT	90,172.16	-	90,172.16
9840	SOFTWARE	20,334.27	-	20,334.27
	TOTAL CAPITAL	<u>126,628.03</u>	<u>-</u>	<u>126,628.03</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 16,496,174.80</u>	<u>\$ (52,517.70)</u>	<u>\$ 16,443,657.10</u>

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
ADJUSTED ACTUAL EXPENSE  
YEAR ENDED JUNE 30, 2017  
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: IND. PRETREATMENT

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 344,696.45	\$ 14,890.89	\$ 359,587.34
7025	ACT.ASSIGNMENT	262.11	11.32	273.43
7055	TIME & ONE-HALF	317.17	13.70	330.87
7105	EMPLOYERS SOCIAL SECURITY	25,671.73	1,109.02	26,780.75
7110	HOSPITALIZATION INSURANCE	73,956.76	5,199.16	79,155.92
7115	RETIREE HEALTH CARE	97,261.61	6,117.76	103,379.37
7120	RETIREMENT FUND CONTRIBUTION	27,575.73	2,520.42	30,096.15
7135	UNEMPLOYMENT COMPENSATION	499.49	-	499.49
7165	SHIFT DIFFERENTIAL	154.35	-	154.35
7195	INSURANCE OPT-OUT	553.84	-	553.84
	TOTAL PERSONAL SERVICES	<u>570,949.24</u>	<u>29,862.27</u>	<u>600,811.51</u>
7520	SUPPLIES	6,873.11	-	6,873.11
8510	POSTAGE	4,379.23	-	4,379.23
	TOTAL SUPPLIES	<u>11,252.34</u>	<u>-</u>	<u>11,252.34</u>
8010	CONTRACTUAL SERVICES	93,062.72	-	93,062.72
8500	TELEPHONE	(180.00)	-	(180.00)
9410	EQUIPMENT RENTALS OR LEASE	68.80	-	68.80
9100	PROFESSIONAL DEVELOPMENT	4,902.78	-	4,902.78
9110	OTHER TRAVEL & TRAINING	145.00	-	145.00
9130	LOCAL BUSINESS EXPENSE	65.99	-	65.99
8240	FEES	180.00	-	180.00
9440	FLEET MANAGEMENT EQUIPMENT	22,975.42	-	22,975.42
9450	311 CALL CENTER SERVICES	2,765.00	-	2,765.00
	TOTAL OTHER SERVICES & CHARGES	<u>123,985.71</u>	<u>-</u>	<u>123,985.71</u>
9800	FURNITURE	2,880.08	-	2,880.08
	TOTAL CAPITAL	<u>2,880.08</u>	<u>-</u>	<u>2,880.08</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 709,067.37</u>	<u>\$ 29,862.27</u>	<u>\$ 738,929.64</u>

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
ADJUSTED ACTUAL EXPENSE  
YEAR ENDED JUNE 30, 2017  
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: REPAIR & MAINTENANCE

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST FACTORS	CURRENT ANNUAL EXPENSES
7020	PERMANENT EMPLOYEES	\$ 1,276,211.36	\$ 55,132.33	\$ 1,331,343.69
7025	ACT.ASSIGNMENT	2,829.84	122.25	2,952.09
7040	TEMPORARY EMPLOYEES	912.62	39.43	952.05
7055	TIME & ONE-HALF	82,883.89	3,580.58	86,464.47
7105	EMPLOYERS SOCIAL SECURITY	99,933.94	4,317.15	104,251.09
7110	HOSPITALIZATION INSURANCE	287,267.00	20,194.87	307,461.87
7115	RETIREE HEALTH CARE	156,682.87	9,855.35	166,538.22
7120	RETIREMENT FUND CONTRIBUTION	304,211.55	27,804.94	332,016.49
7135	UNEMPLOYMENT COMPENSATION	1,841.42	-	1,841.42
7165	SHIFT DIFFERENTIAL	369.65	-	369.65
7195	INSURANCE OPT-OUT	2,632.81	-	2,632.81
	TOTAL PERSONAL SERVICES	<u>2,215,776.95</u>	<u>121,046.90</u>	<u>2,336,823.85</u>
7520	SUPPLIES	279,716.33	-	279,716.33
8510	POSTAGE	215.00	-	215.00
7670	CLOTHING/CLEANING ALLOWANCE	5,074.71	-	5,074.71
	TOTAL SUPPLIES	<u>285,006.04</u>	<u>-</u>	<u>285,006.04</u>
9480	COMPUTER SERVICES	97,045.00	2,346.00	99,391.00
8010	CONTRACTUAL SERVICES	699,118.66	-	699,118.66
8011	CONTRACT EMPLOYEES - TEMP SERVICES	31,482.72	-	31,482.72
8500	TELEPHONE	41,282.48	-	41,282.48
9000	PRINTING & PUBLISHING	22.65	-	22.65
9200	ELECTRICITY	6,331.57	-	6,331.57
9180	WATER	4,054.93	-	4,054.93
9210	NATURAL GAS	6,136.02	-	6,136.02
9340	MAINTENANCE SERVICE	15,201.68	-	15,201.68
8040	HOME REPAIRS	54,163.50	-	
8080	PAVEMENT REPAIR	23,251.90	-	23,251.90
9320	VEHICLE REPAIRS	882.02	-	882.02
9410	EQUIPMENT RENTALS OR LEASE	57,564.86	-	57,564.86
9400	LAND RENTAL OR LEASE	6,009.39	-	6,009.39
9470	VEHICLE USAGE/CAR MILAGE	700.00	-	700.00
9100	PROFESSIONAL DEVELOPMENT	4,688.45	-	4,688.45
9110	OTHER TRAVEL & TRAINING	118.00	-	118.00
9130	LOCAL BUSINESS EXPENSE	130.87	-	130.87
9150	MEMBERSHIPS	3,739.43	-	3,739.43
8240	FEES	30.00	-	30.00
9190	REFUSE COLLECTION CHARGES	158.74	-	158.74
9440	FLEET MANAGEMENT EQUIPMENT	1,043,749.20	-	1,043,749.20
9450	311 CALL CENTER SERVICES	8,731.00	-	8,731.00
	TOTAL OTHER SERVICES & CHARGES	<u>2,104,593.07</u>	<u>2,346.00</u>	<u>2,052,775.57</u>
9800	FURNITURE	61.48	-	61.48
9760	EQUIPMENT	18,047.58	-	18,047.58
9840	SOFTWARE	427.50	-	427.50
	TOTAL CAPITAL	<u>18,536.56</u>	<u>-</u>	<u>18,536.56</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 4,623,912.62</u>	<u>\$ 123,392.90</u>	<u>\$ 4,693,142.02</u>

**CITY OF GRAND RAPIDS, MICHIGAN**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**ADJUSTED ACTUAL EXPENSE**  
**YEAR ENDED JUNE 30, 2017**  
**RATE STUDY- TASKS NO. 4 & 5**

## ORGANIZATIONAL SUMMARY

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
NO.	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				CURRENT
7020	PERMANENT EMPLOYEES	\$ 5,175,320.08	\$ 698,573.83	\$ 5,873,893.91
7025	ACT.ASSIGNMENT	9,203.51	397.59	9,601.10
7040	TEMPORARY EMPLOYEES	912.62	39.43	952.05
7050	REGULAR HOURLY RATE	5,603.68	242.08	5,845.76
7055	TIME & ONE-HALF	185,026.02	7,993.12	193,019.14
7105	EMPLOYERS SOCIAL SECURITY	384,503.72	16,610.57	401,114.29
7110	HOSPITALIZATION INSURANCE	1,074,558.63	75,541.47	1,150,100.10
7115	RETIREE HEALTH CARE	615,472.60	38,713.23	654,185.83
7120	RETIREMENT FUND CONTRIBUTION	1,195,129.72	109,234.86	1,304,364.58
7135	UNEMPLOYMENT COMPENSATION	7,147.11	-	7,147.11
7165	SHIFT DIFFERENTIAL	12,276.16	-	12,276.16
7195	INSURANCE OPT-OUT	5,751.05	-	5,751.05
	TOTAL PERSONAL SERVICES	<u>8,670,904.90</u>	<u>947,346.18</u>	<u>9,618,251.08</u>
7520	SUPPLIES	1,399,619.13	-	1,399,619.13
8510	POSTAGE	4,652.52	-	4,652.52
7670	CLOTHING/CLEANING ALLOWANCE	9,834.80	-	9,834.80
7530	PROCESS CHEMICALS	413,830.95	-	413,830.95
	TOTAL SUPPLIES	<u>1,827,937.40</u>	<u>-</u>	<u>1,827,937.40</u>
9480	COMPUTER SERVICES	480,695.68	(123,694.68)	357,001.00
9460	ENGINEERING SERVICES	5,629.75	-	5,629.75
8010	CONTRACTUAL SERVICES	7,360,415.08	(630,630.96)	6,729,784.12
8011	CONTRACT EMPLOYEES - TEMP SERVICES	46,720.91	-	46,720.91
8450	GENERAL LIABILITY INSURANCE/CLAIMS	301,638.00	55,872.00	357,510.00
8400	INSURANCE PREMIUMS	179,536.00	-	179,536.00
8500	TELEPHONE	69,736.45	-	69,736.45
9010	ADVERTISING - ANY MEDIA	3,749.40	-	3,749.40
9000	PRINTING & PUBLISHING	6,172.19	-	6,172.19
9200	ELECTRICITY	2,205,688.81	(58,174.00)	2,147,514.81
9180	WATER	58,786.53	-	58,786.53
9210	NATURAL GAS	136,028.03	-	136,028.03
9340	MAINTENANCE SERVICE	20,552.18	-	20,552.18
8040	HOME REPAIRS	54,163.50	-	-
9310	EQUIPMENT REPAIRS	26,790.07	-	26,790.07
8080	PAVEMENT REPAIR	23,251.90	-	23,251.90
9320	VEHICLE REPAIRS	882.02	-	882.02
7175	FOOD/CLEAN/CAR ALLOW	6,602.72	-	6,602.72
9430	BUILDINGS RENTALS OR LEASE	25,042.00	-	25,042.00
9410	EQUIPMENT RENTALS OR LEASE	102,569.39	-	102,569.39
9400	LAND RENTAL OR LEASE	6,009.39	-	6,009.39
9470	VEHICLE USAGE/CAR MILEAGE	9,635.25	-	9,635.25
9100	PROFESSIONAL DEVELOPMENT	67,557.60	-	67,557.60
9110	OTHER TRAVEL & TRAINING	25,222.79	-	25,222.79
9130	LOCAL BUSINESS EXPENSE	5,088.32	-	5,088.32
9150	MEMBERSHIPS	61,257.46	-	61,257.46
7910	SUBSCRIPTIONS AND PUBLICATIONS	333.25	-	333.25
8240	FEES	20,701.17	-	20,701.17
8030	ADMINISTRATIVE SERVICES	127,279.08	(127,259.12)	19.96
9650	BAD DEBT WRITE-OFFS	892.35	-	892.35
9190	REFUSE COLLECTION CHARGES	317.46	-	317.46
9440	FLEET MANAGEMENT EQUIPMENT	1,251,059.74	-	1,251,059.74
9450	311 CALL CENTER SERVICES	13,095.00	-	13,095.00
9550	MISCELLANEOUS	939.69	-	939.69
	TOTAL OTHER SERVICES & CHARGES	<u>12,704,039.16</u>	<u>(883,886.76)</u>	<u>11,765,988.90</u>
9800	FURNITURE	19,063.16	-	19,063.16
9760	EQUIPMENT	109,413.74	-	109,413.74
9840	SOFTWARE	22,471.77	-	22,471.77
9880	CONSTRUCTION IN PROGRESS	4,419.84	-	4,419.84
	TOTAL CAPITAL	<u>155,368.51</u>	<u>-</u>	<u>155,368.51</u>
9952	OPERATING TRANSFERS-A87 COST	594,127.00	39,442.00	633,569.00
9955	OPERATING TRANS-MISC	69,030.00	-	69,030.00
9951	OPERATING TRANS OUT-SUBSIDIES	2,119,181.00	1,251,279.80	3,370,460.80
	TOTAL TRANSFERS/FEES	<u>2,782,338.00</u>	<u>1,290,721.80</u>	<u>4,073,059.80</u>
	GRAND TOTAL- EXPENDITURES	<u>\$ 26,140,587.97</u>	<u>\$ 1,354,181.22</u>	<u>\$ 27,440,605.69</u>

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 17, 2017

TO: Eric R. DeLong  
Deputy City Manager

FROM: Molly J. Eastman  
Fiscal Services Manager

**SUBJECT: 2017 SEWER RATE STUDY TASK #4  
FY17 OPERATING EXPENSES - SEWAGE PUMPING STATIONS**

The attached schedule allocates the direct cost for operating and maintaining system lifting and metering stations. The operating expense consists of direct labor, utilities, operating and maintenance supplies, repairs and maintenance, and equipment rental.

The overflow regulators are components of the integrated system and subsequently not included herein.

Attachment

MJE:mje

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE PUMPING STATIONS OPERATING COSTS  
FOR THE YEAR ENDED JUNE 30, 2017**

<u>Station</u>	<u>Physical Location</u>	<u>Type</u>	<u>FY2017 5900 Expenses</u>
Market Avenue Pump Station	Grand Rapids	Interceptor	\$242,990.76
Millbank Lift Station	Grand Rapids	Local	\$10,214.45
Eastlake Lift Station	Grand Rapids	Local	\$8,774.36
Eastern Lift Station	Grand Rapids	Trunk	\$4,240.57
Oak Hollow Lift Station	Grand Rapids Twmsp	Local	\$22,064.53
Kingsbury Lift Station	Walker	Trunk	\$13,779.84
Bona Vista Lift Station	Grand Rapids	Trunk	\$18,361.46
Aberdeen Lift Station	Grand Rapids	Local	\$18,125.72
O'Brien Lift Station	Walker	Trunk	\$33,110.22
Leonard Heights Lift Station	Walker	Trunk	\$10,189.64
Guild Lift Station	Grand Rapids	Local	\$7,386.21
Orchard Vista Lift Station	Cascade Twmsp	Local	\$13,681.75
Brookview Lift Station	Grand Rapids	Trunk	\$17,107.22
Remembrance Road Lift Station	Walker	Local	\$55,677.42
Kraft Avenue Lift Station	Cascade Twmsp	Local	\$6,983.36
Thornapple Lift Station	Cascade Twmsp	Trunk	\$22,990.55
Thornhills Lift Station	Cascade Twmsp	Local	\$9,621.16
Greenbrier Lift Station	Grand Rapids Twmsp	Local	\$21,430.38
Shore Haven Lift Station	Grand Rapids Twmsp	Local	\$11,545.68
Ada Lift Station	Ada	Local	\$9,305.51
Robinhood Lift Station	Grand Rapids Twmsp	Local	\$10,112.21
Lincoln School Lift Station	Grand Rapids Twmsp	Local	\$4,042.12
Reeds Lake Blvd. Lift Station	Grand Rapids Twmsp	Local	\$7,300.77
6000 28th Street Lift Station	Cascade Twmsp	Local	\$9,107.51
Ada Meter Station	Ada	Meter	\$426.20
East Grand Rapids Meter Station	East Grand Rapids	Meter	\$837.43
Rickman Avenue Lift Station	Grand Rapids	Local	\$7,392.77
Michigan Street Lift Station	Grand Rapids	Local	\$5,181.09
Eagle Crest Lift Station	Grand Rapids Twmsp	Local	\$7,597.14
East Paris Lift Station	Grand Rapids Twmsp	Local	\$14,469.55
Alpine Estates Lift Station	Walker	Local	\$14,437.07
Elmdale Lift Station	Grand Rapids	Local	\$5,218.71
Collindale Lift Station	Walker	Local	\$4,276.91
Bird Avenue Lift Station	Grand Rapids Twmsp	Local	\$22,395.99
Monroe & Howland Regulator Station	Grand Rapids	Local	\$53.66
Division & Weston Regulator Station	Grand Rapids	Trunk	\$0.00
Front & Wealthy Regulator Station	Grand Rapids	Interceptor	\$946.80
Butterworth Regulator Station	Grand Rapids	Trunk	\$1,238.93
Valentine Lift Station	Grand Rapids Twmsp	Local	\$3,634.05
Cascade Springs Lift Station	Cascade Twmsp	Local	\$10,108.21
Churchill Downs Lift Station	Grand Rapids	Local	\$8,254.62
Woodsboro Court Lift Station	Grand Rapids Twmsp	Local	\$2,576.75
Meadowood Trails Lift Station	Cascade Twmsp	Local	\$6,401.41
Gaines Township Meter Station	Gaines Township	Meter	\$291.08
Kentwood Meter Station	Kentwood	Meter	\$4,087.23
Stonebridge Lift Station	Grand Rapids Twmsp	Local	\$5,529.60
Burton/Cacade Lift Station	Cascade Twmsp	Local	\$24,070.78
Crahen Lift Station	Grand Rapids Twmsp	Local	\$23,498.74
Jonathan Woods Lift Station	Cascade Twmsp	Local	\$5,681.32
Watermark Lift Station	Cascade Twmsp	Local	\$6,996.19
Mountain Ash Lift Station	Tallmadge Twmsp	Local	\$8,326.16
Reeds Hollow Lift Station	Grand Rapids Twmsp	Local	\$7,878.23
Celebration Village Lift Station	Grand Rapids Twmsp	Trunk	\$8,325.09
Saddleback Lift Station	Grand Rapids Twmsp	Local	\$4,587.38
Arbor Hills Lift Station	Grand Rapids Twmsp	Local	\$15,675.67
16th Avenue Lift Station	Marne	Local	\$9,667.41
Hayes West Lift Station	Wright TWP	Local	\$10,351.37
Hayes East Lift Station	Wright TWP	Local	\$3,705.26
Cypress Trails Lift Station	Grand Rapids Twmsp	Local	\$5,675.45
8th & Leonard Lift Station	Tallmadge Twmsp	Local	\$5,937.52
Summit Ridge Lift Station	Grand Rapids	Local	\$5,325.99
Lake Michigan Estates	Tallmadge Twmsp	Local	\$5,767.96

\$864,969.12

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 10, 2017

TO: Molly Eastman  
 Discharge Management

FROM: Jeff Dood  
 Chief Financial Officer

**SUBJECT: 2017 SEWER RATE STUDY TASK #5  
 KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY17 operating costs are listed below.

Expense Object – 7060, 7020, 7040, 7055, 7025, 7045, 7050, 7030, 7035, 7190

GREIU wages were increased by 2.25% and 2.00% in FY2018 and FY2019, respectively. APA wages were increased by 2.25% and 2.00% in FY2018 and FY2019. After converting these increases from a 2017 fiscal year to a 2018 calendar year basis as well as factoring in the lump sum payments, the result is a 4.32% factor for GREIU employees and a 4.32% factor for APA employees. A blended rate was then computed by weighting the calendar year percentages according to the percentage of Sewer Fund employees in each union (80% GREIU and 20% APA). Executive and non-reps amounted to less than 2% of the population and were therefore excluded. **The wage increase factor to translate FY2017 actual costs to estimated calendar 2018 will be 4.32% [4.32 X 80% + 4.32 X 20%].**

Expense Object – 9480/8450/9952

Adjust FY2017 actual cost to reflect adjustments in charges for central services rendered by the Information Technology Fund (data charges), the Insurance Payment Fund (property and general liability) and the General Operating Fund (A-87 cost allocation). The “Exhibit” workbook (inclusive of cost center allocations) maintained by the Budget Office has been utilized to blend FY2018 and FY2019 budget amounts thus arriving at an estimated 2018 calendar year rate as follows:

<b>9480-Data Charges</b>			
Dept.-Unit-Fund	FY2018 Request	FY2019 Forecast	Calendar 2018 Estimate
527-1000-5900	\$14,369	\$14,879	<b>\$14,624</b>
527-3000-5900	\$238,747	\$247,224	<b>\$242,986</b>
527-4010-5900	\$49,530	\$51,288	<b>\$50,409</b>
527-4290-5900	\$48,128	\$49,837	<b>\$48,982</b>
Total	\$350,774	\$363,228	\$357,001

<b>8450-General Liability Insurance</b>			
Cost Center	FY2018 Request	FY2019 Forecast	Calendar 2018 Estimate
527-1000-5900	\$340,485	\$374,534	<b>\$357,510</b>

<b>9952-Contributions to Other Funds (A-87 Allocation)</b>			
Cost Center	FY2018 Request	FY2019 Forecast	Calendar 2018 Estimate
527-1000-5900	\$627,720	\$639,419	<b>\$633,569</b>

Expense Object - 7105

Increase FY2017 actual FICA expense by 4.32% consistent with the known wage impacts detailed above.

Expense Object - 7110

The FY2018 Trend Report is not completed at this time. However, unfavorable health insurance cost trends were anticipated in the FY2017 Trend Report. In addition, dollars from the Early Retiree Reinsurance Program (ERRP) ended after FY2014 increasing upward pressure on rates. Finally, the three-year smoothing is less favorable for calendar 2018 rates than it was for calendar 2017 rates but has nonetheless helped to limit the projected increase in health insurance to 7.03%. **Increase FY2017 health insurance actual by 7.03% to reflect these anticipated rate changes.**

The projected FY18 (\$12,334) and FY19 (\$13,982) health insurance rates were blended into a 2018 calendar year rate and divided by the FY2017 base amount (\$12,293) to arrive at the decrease factor [(((((\$12,334 + \$13,982) / 2)) / \$12,293) - 1) \* 100].

Expense Object - 7115

Retiree health care (“RHC”) rates are projected to trend up in FY2018 (to 12.59%) and FY2019 (to 12.46%) from a base year rate of 12.17% in FY2017. This increase is enhanced by the projected wage adjustments discussed above. Additionally, the Sewer Fund had only a negligible negative OPEB adjustment in the amount of \$76 for FY2017.

The RHC factor after consideration of the above rate and wage adjustments is 106.28% (or an increase of 6.28%) for both GREIU and APA members. These factors are then applied to the FY2017 RHC balance before the OPEB adjustment (\$615,473). This result is compared to the FY2017 RHC balance after the OPEB adjustment and the revised factor is weighted in accordance with union membership within the Sewer Fund.

GREIU: Step 1>> [(\$615,549 \* 106.28%) = \$654,205]  
Step 2>> [(((\$654,205 – (\$615,549 - \$76)) / (\$615,549 - \$76)) \* 100)]  
Step 3>> [6.29% \* 80%]

APA: Step 1>> [(\$615,549 \* 106.28%) = \$654,205]  
Step 2>> [(((\$654,205 – (\$615,549 - \$76)) / (\$615,549 - \$76)) \* 100)]  
Step 3>> [6.29% \* 20%]

Step 4>> [5.03% + 1.26%]

The factor to establish calendar year 2018's retiree health care cost is 6.29%. **Increase the total of fiscal year 2017's retiree health care by this percent to establish the cost for calendar year 2018.**

Expense Object - 7120

The pension expense factor to translate FY2017 actual costs to estimated calendar 2018 will be 9.14%. **Increase the total of fiscal year 2017's pension expense by this percent to establish the cost for calendar year 2018.** This reflects the effect of a General Pension rate change increase from FY17 of 23.03% to a calendar 2018 rate of 24.34% and an estimated wage increase of 4.32%. The calendar 2018 rate is a blend of the FY2018 rate (23.89%) and the FY2019 rate (24.78%).

The pension factor after consideration of the above rate and wage adjustments is 109.14% (or an increase of 9.14%) for GREIU and APA members. These factors are then weighted in accordance with union membership within the Sewer Fund [(9.14 \* 80%) + (9.14 \* 20%)].

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 25, 2017

TO: Molly J. Eastman  
Fiscal Services Manager

FROM: Michael J. Lunn  
Environmental Services Manager

**SUBJECT: 2017 SEWER RATE STUDY TASK #5  
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY17 operating costs are listed below:

<u>ACCOUNT/User Code</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
527-3XXX-5900-8010	GVRBA Contractual Services	(\$630,630.96)
5900-527-3XXX-7XXX	Personnel Services – Vacancies	\$475,000.00
5900-527-1000-8030	Individual Circuit Breaker Payments	(\$127,259.12)
527-3XXX-5900-9200	Consumers Energy Green Generation Participation	(\$58,174.00)

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 17, 2017

TO: Molly J. Eastman  
Fiscal Services Manager

FROM: Jenessa B. Carter  
Financial Analyst

**SUBJECT: 2017 SEWER RATE STUDY TASK #6**

The Sewage Disposal System Fund's revenues and volumes by governmental unit for the year ended June 30, 2017, are disclosed on the attached page. In addition, actual volume comparisons for the past five (5) years by governmental unit are included herein.

Attachments

JBC:jbc

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
TASK NO. 6**

DETERMINE SEWAGE VOLUME AND REVENUE BY GOVERNMENTAL ENTITY FOR THE YEAR ENDED JUNE 30, 2017:

RETAIL:	<u>SALES REVENUE</u>	<u>3 YR AVE BILLED VOL (GALLONS)</u>
CITY OF GRAND RAPIDS (1)	\$ 34,769,933.99	4,886,186,580
CITY OF WALKER	4,713,550.75	627,640,816
CITY OF KENTWOOD	3,941,549.69	1,021,842,052
CASCADE TOWNSHIP	2,421,253.65	342,131,460
GRAND RAPIDS TOWNSHIP	2,347,171.71	288,569,424
TALLMADGE TOWNSHIP	424,520.28	18,400,800
WRIGHT TOWNSHIP (2)	252,121.02	17,823,570
SUB-TOTAL RETAIL (3)	<u>\$ 48,870,101.09</u>	<u>7,202,594,702</u>
 WHOLESALE:		
CITY OF E. GRAND RAPIDS	\$ 715,441.72	356,300,667
CALEDONIA TOWNSHIP (4)	127,987.13	27,675,667
ADA TOWNSHIP	1,164,166.55	316,751,667
GAINES TOWNSHIP (5)	209,089.38	133,866,000
SUB-TOTAL WHOLESALE	<u>\$ 2,216,684.78</u>	<u>834,594,001</u>
TOTAL	<u>\$ 51,086,785.87</u>	<u>8,037,188,703</u>
 REVENUE CLASSIFICATION:		
527-1000-5900-6281 RETAIL SEWAGE SERVICE CHARGE		\$ 48,794,007.89
527-1000-5900-6284 WYOMING SEWAGE SERVICE CHARGE		76,093.20
527-1000-5900-6282 WHOLESALE SEWAGE SERVICE CHARGE		2,216,684.78
		<u>\$ 51,086,785.87</u>

- (1) THE VOLUME & REVENUE AMOUNT FOR THE CITY OF WYOMING ARE INCLUDED IN THE GRAND RAPIDS TOTALS.
- (2) CHARGES TO USERS IN WRIGHT TOWNSHIP ARE BASED ON A REU (RESIDENTIAL EQUIVALENT UNIT) CHARGE, IN LIEU OF COMMODITY & MONTHLY SERVICE CHARGES, AND AS SUCH DOES NOT RECORD ANY BILLED VOLUME IN RETAIL SERVICE CHARGES TO WRIGHT TOWNSHIP. THE AMOUNT INCLUDED ABOVE REFLECTS THE ESTIMATED BILLED VOLUME BASED ON THE WRRF'S LIFT STATION PUMPING REPORT FOR FY 2017.
- (3) A NET REVENUE ACCRUAL OF \$487,389.37 HAS BEEN PRORATED TO ALL RETAIL CUSTOMER COMMUNITIES TO ACCRUE BILLINGS FROM THE LAST READING DATE THROUGH JUNE 30, 2017, AND ADJUST FOR PREVIOUS FISCAL YEAR ACCRUAL.
- (4) CALEDONIA TOWNSHIP WAS ADDED TO THE SANITARY SEWER SYSTEM IN SEPTEMBER 2015. NO REVENUE WAS COLLECTED PRIOR TO JUNE 30, 2015. THREE YEAR AVERAGE BILLED VOLUME IS BASED ON ONE YEAR OF PROVIDED DATA FROM THE TOWNSHIP FOR FY 2015 AND BILLED VOLUME FOR FY 2016 and FY 2017.
- (5) GAINES TWP RATES ARE CALCULATED BASED ON MOST RECENT FISCAL YEAR BILLED VOLUME PER CONTRACT.

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
2017 RATE STUDY TASK NO. 6**

VOLUME COMPARISONS FOR FIVE (5) YEARS BY GOVERNMENTAL UNIT  
VOLUME = 1,000 GALLONS

MUNICIPALITY	FY13		FY14		FY15		FY16		FY17		FY13-FY17 % CHANGE
	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	
GRAND RAPIDS	4,947,696	-1.94%	4,851,466	-0.73%	4,815,852	-0.73%	4,899,755	1.74%	4,942,953	0.88%	-0.10%
WALKER	603,938	4.42%	630,628	4.42%	609,313	-3.38%	622,635	2.19%	650,975	4.55%	7.79%
KENTWOOD	1,056,913	-1.02%	1,046,081	-1.02%	998,322	-4.57%	1,034,652	3.64%	1,032,553	-0.20%	-2.30%
CASCADE	300,624	1.48%	305,066	1.48%	324,180	6.27%	343,441	5.94%	358,774	4.46%	19.34%
GRAND RAPIDS TWP	301,274	-5.24%	285,476	-5.24%	286,787	0.46%	289,396	0.91%	289,525	0.04%	-3.90%
TALLMADGE	12,904	9.97%	14,191	9.97%	15,860	11.76%	17,888	12.79%	21,454	19.94%	66.26%
WRIGHT TWP	15,564	-6.60%	14,537	-6.60%	15,661	7.73%	18,345	17.14%	19,465	6.11%	25.06%
EAST GRAND RAPIDS	396,034	-22.99%	304,975	-22.99%	322,576	5.77%	352,815	9.37%	393,511	11.53%	-0.64%
ADA TWP	309,437	22.06%	377,714	22.06%	314,628	-16.70%	320,210	1.77%	315,417	-1.50%	1.93%
CALEDONIA TWP	N/A	N/A	N/A	N/A	26,242	N/A	25,154	-4.15%	31,631	25.75%	N/A
GAINES TWP	96,398	-21.75%	75,428	-21.75%	111,500	47.82%	118,674	6.43%	133,866	12.80%	38.87%
<b>TOTAL</b>	<b>8,040,782</b>	<b>-1.68%</b>	<b>7,905,562</b>	<b>-0.82%</b>	<b>7,840,921</b>	<b>-0.82%</b>	<b>8,042,965</b>	<b>2.58%</b>	<b>8,190,124</b>	<b>1.83%</b>	<b>1.86%</b>

GRAND RAPIDS VOLUME COMPARED TO  
CUSTOMER COMMUNITIES

VOLUME = 1,000 GALLONS	FY13		FY14		FY15		FY16		FY17	
	% OF TOTAL	% OF TOTAL	VOL BILLED	% OF TOTAL						
GRAND RAPIDS	61.53%	61.37%	4,851,466	61.42%	4,815,852	60.92%	4,899,755	60.35%	4,942,953	39.65%
CUSTOMER COMMUNITIES	38.47%	38.63%	3,054,096	38.58%	3,025,069	39.08%	3,143,210	39.65%	3,247,171	100.00%
<b>TOTAL</b>	<b>100.00%</b>	<b>100.00%</b>	<b>7,905,562</b>	<b>100.00%</b>	<b>7,840,921</b>	<b>100.00%</b>	<b>8,042,965</b>	<b>100.00%</b>	<b>8,190,124</b>	<b>100.00%</b>

\* Volumes were restated from previous Rate Studies to reflect actual billings without adjustment for accrued revenues.

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
TASK NO. 7**

OPERATING REVENUES OTHER THAN WASTEWATER RECEIPTS:

527-1000-5900

6260	MISCELLANEOUS SERVICE FEES	\$ 4,913.40
6140	INSPECTION FEES - UTILITIES	26,135.00
6723	INTEREST/PENALTIES ON SPEC ASSM	1,366.92

527-(3000/3070)-5900

4912	INDUSTRIAL PRETREATMENT PERMITS	\$ 50,749.68
6285	INDUSTRIAL DISCHARGE AUTHORIZATION	800.00
6421	SALES - OTHER	133.42
6423	SALES OF SCRAP MATERIAL	520.08
6461	INVENTORY WITHDRAWALS (SALES)	42,818.97
		<u>\$ 127,437.47</u>

CREDIT: UNDERUTILIZATION OF PENALTY CREDIT FROM PREVIOUS YEAR \$ -

INTEGRATED SYSTEM CREDITS

527-1000/3000-5900

6152	INTEGRATED SEWER CONNECTION*	\$ 705,909.30
6283	SEWAGE SURCHARGE	1,831,469.38
		<u>\$ 2,537,378.68</u>

\* Reflects adjustment for anticipated revenue loss from new integrated connection fee methodology.

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: August 22, 2017

TO: Molly Eastman  
Fiscal Services Manager

FROM: Mike Lunn   
Environmental Services Manager

**SUBJECT: 2017 SEWER RATE STUDY- TASK #8**

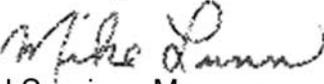
No significant changes in operating levels are anticipated to take effect by January 1, 2018, which would require adjustments to operating costs for the test period. The concentrated waste system will be online approximately January 1, 2018 and will allow the Water Resource Recovery Facility to begin leveling out the loadings. The operating expense reduction is estimated \$240,000 during this rate period.

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 17, 2017

TO: Molly Eastman  
Fiscal Services Manager

FROM: Mike Lunn   
Environmental Services Manager

**SUBJECT: 2017 SEWER RATE STUDY- TASK #9**

No significant changes in sewer revenues are anticipated to take effect by January 1, 2018, which would require an adjustment to operating revenue estimates as a whole.

Commencing April 1, 2018, a new methodology for connection to the water and sewer systems will be implemented. The new calculation is based on a full cost recovery method for the City of Grand Rapids' involvement in connections. This will include a plan review and connection component ("PRC"), which recovers costs associated with account set-up and plan review, and a meter capacity component ("MCC") that will be based on meter acquisition cost. The projected impact of this methodology change from April 1, 2018 to June 30, 2018 is a reduction in sewer operating revenues of approximately \$130,062. See Task 15B for further explanation.

ML

# MEMORANDUM

CITY OF GRAND RAPIDS

**DATE:** October 18, 2017

**TO:** Molly J. Eastman  
Fiscal Services Manager

**FROM:** Charles R. Schroeder, PE  
Assistant ESD Manager

**SUBJECT: 2017 SEWER RATE STUDY- TASK #10**

The following are sewage system projects that should be considered operative as of January 1, 2018.

<u>Description</u>	<u>Location</u>	<u>Proj. Code</u>	<u>Cost</u>
Leonard St, Ashland Ave to Ball	Grand Rapids	590615184	\$2,200,000
Market Ave – WRRF to Bartlett	Grand Rapids	590217048	4,000,000
Hastings, Prospect, Trowbridge	Grand Rapids	Contribution	170,377
Brix at Midtown, Benson and Grand	Grand Rapids	Contribution	13,545
Brix at Midtown, Benson and Grand	Grand Rapids	590117141	19,000
Belknap Bluffs Condo	Grand Rapids	Contribution	3,600
Beckwith Place	Grand Rapids	Contribution	94,000
Knapp's Corner Flats	Grand Rapids	Contribution	102,480
Burton Ridge Apartments	Grand Rapids	Contribution	54,930
Bayberry Pointe Apartments	Grand Rapids	Contribution	115,000
Northridge Drive	Walker	Contribution	306,780
Meadow Springs	Walker	Contribution	120,350
Wildflower Creek	Kentwood	Contribution	117,539
Round hill Court Pvt	Cascade	Contribution	60,000
Grooters Development	Cascade	Contribution	144,654
Balsam Waters	GR Township	Contribution	157,850
Michigan St to Saddleback Dr	GR Township	Contribution	242,399
Springs at Knapp's Corner	GR Township	Contribution	326,691
			<u>\$8,249,195</u>

**CITY OF GRAND RAPIDS, MICHIGAN**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**TASK NO. 11**

COMPUTE ACCUMULATED COST, DEPRECIATION AND DEPRECIATION EXPENSE AS OF JUNE 30, 2017

**INTEGRATED SYSTEM**

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 1,633,122	\$ -	\$ -
LAND IMPROVEMENTS	16,315,449	13,820,306	279,543
BUILDINGS & STRUCTURES	51,713,059	32,172,808	1,087,408
PROCESS EQUIPMENT	69,915,185	37,562,592	1,812,413
AUXILIARY EQUIPMENT	28,673,619	25,314,565	461,620
MACHINERY & EQUIPMENT	6,260,638	4,871,275	155,755
OFFICE EQUIPMENT & FURNITURE	494,401	486,314	234
	<u>\$ 175,005,473</u>	<u>\$ 114,227,860</u>	<u>\$ 3,796,973</u>

**NON-INTEGRATED SYSTEM**

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 3,440,462	\$ -	\$ -
LAND IMPROVEMENTS	3,486,637	1,694,615	174,137
BUILDINGS & STRUCTURES	10,948,179	3,595,369	258,625
PROCESS EQUIPMENT	16,842,826	7,643,118	523,665
AUXILIARY EQUIPMENT	3,898,571	3,173,257	182,619
MACHINERY & EQUIPMENT	1,645,774	1,613,544	64,618
OFFICE EQUIPMENT & FURNITURE	68,632	68,632	-
SERVICEMAINS - GRAND RAPIDS	378,097,010	116,589,648	7,227,750
SERVICEMAINS - WALKER	39,669,786	16,828,402	780,412
SERVICEMAINS - KENTWOOD	41,125,552	16,486,192	813,748
SERVICEMAINS - CASCADE TWP	21,622,150	8,864,151	430,122
SERVICEMAINS - GRAND RAPIDS TWP	18,346,545	7,669,074	361,805
SERVICEMAINS - TALLMADGE TWP	5,894,622	1,588,849	117,291
SERVICEMAINS - WRIGHT TWP	125,288	28,817	2,502
	<u>\$ 545,212,034</u>	<u>\$ 185,843,668</u>	<u>\$ 10,937,294</u>
TOTAL	<u><u>\$ 720,217,507</u></u>	<u><u>\$ 300,071,528</u></u>	<u><u>\$ 14,734,267</u></u>

SOURCE: GENERAL LEDGER, AS ADJUSTED, FOR JUNE 30, 2017.

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
TASK NO. 12**

TASK 12A DETERMINE WORKING CAPITAL NEEDS FOR MATERIALS AND SUPPLIES ON HAND.

MATERIALS AND SUPPLIES INVENTORY AS OF JUNE 30, 2017: \$ 974,108

TASK 12B DETERMINE WORKING CAPITAL NEEDS FOR PREPAYMENT OF OPERATING COSTS.

NO REQUIREMENT FOR PREPAYMENT OF OPERATING COSTS IS CALLED FOR IN THE ORDINARY CYCLE OF BUSINESS.

TASK 12C DETERMINE CASH WORKING CAPITAL NEEDS & DETERMINE TOTAL WORKING CAPITAL NEEDS.

MINIMUM CASH WORKING CAPITAL IS DEFINED AS THE SUM OF 90 DAYS ADJUSTED OPERATING EXPENSES.

ADJUSTED CURRENT ANNUAL EXPENSES = \$ 27,440,606 @ 90/365 = \$ 6,766,177

TOTAL WORKING CAPITAL NEEDS CONSIST OF THE FOLLOWING:

12A INVESTMENT IN INVENTORY	\$ 974,108
12B PREPAYMENT OF OPERATING EXPENSES	-
12C 90 DAY OPERATING EXPENSES	6,766,177
	\$ 7,740,285

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 17, 2017

TO: Eric R. DeLong  
Deputy City Manager

FROM: Molly J. Eastman  
Fiscal Services Manager

**SUBJECT: 2017 SEWER RATE STUDY TASK #13  
ZONEGATING & JOINT USE ALLOCATION METHODS**

Lengths and costs of all zoned gated interceptor and trunk sewer mains as well as jointly used lift stations are allocated to customer communities based on the 2016 Comprehensive Master Plan update performed by Black & Veatch, Ltd. and adjusted annually for the changes in billed flow for each customer community.

CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
METHODOLOGY FOR I/I & OTHER FLOW APPORTIONMENT - TASK NO. 13

	MILLION GALLONS
1.) ANNUAL WASTEWATER TREATMENT PLANT FLOW	15,367.59
LESS: WHOLESALE BILLED FLOW	(874.43)
LESS: RETAIL BILLED FLOW	(7,315.70)
TOTAL RETAIL I/I & OTHER FLOW	7,177.46
2.) RETAIL INFLOW FROM SEPARATED AREAS (A)	538.11
RETAIL INFLOW FROM COMBINED AREAS - AMOUNT ESTIMATED (A)	755.80
LESS: ANNUAL BYPASS FROM (3) PUMPING STATIONS	-
LESS: IN-SYSTEM BYPASS & RETENTION BASIN OVERFLOW	(38.67)
TOTAL RETAIL INFLOW	1,255.24
3.) RETAIL INFILTRATION:	
TOTAL RETAIL I/I & OTHER FLOW	7,177.46
LESS: TOTAL RETAIL INFLOW (#2)	(1,255.24)
LESS: MARKET AVE RETENTION BASIN (MARB) CAPTURE	5,922.22
TOTAL RETAIL INFILTRATION & OTHER FLOW	(103.27)
4.) ALLOCATION OF RETAIL INFILTRATION & OTHER FLOW - APPORTIONED ON THE BASIS OF B&V SUMMARY OF 2017 MONITORED FLOW DATA (B)	5,818.95
PRORATA SHARE OF RETAIL INFILTRATION & OTHER	MILLION GALLONS
100.00000%	5,818.95
100.00000%	5,818.95
TOTAL	5,818.95
GOVERNMENTAL UNIT(S)	
UTILITY PARTNERS	
TOTAL	

(A) BASED ON RECORDED RAINFALL @ WWTP & APPORTIONED PER BLACK & VEATCH'S SUMMARY OF 2017 MONITORED FLOW DATA.  
(B) BASED ON INFILTRATION & OTHER FLOW APPORTIONED IN PREVIOUS YEAR & ADJUSTED FOR SYSTEM ADDITIONS & IMPROVEMENTS IN EACH CUSTOMER COMMUNITY.

CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
METHODOLOGY FOR I/I & OTHER FLOW APPORTIONMENT - TASK NO. 13 (CONTINUED)

5.) SUMMARY: (IN MILLION GALLONS)	BILLED FLOW (TASK #6)	INFLOW (#2 ABOVE)	INFILTRATION & OTHER FLOW (#4 ABOVE)	MARB (A) (#3 ABOVE)	TOTAL PLANT FLOW	PERCENT OF TOTAL	TOTAL PLANT FLOW (MGD)
GOVERNMENTAL UNIT(S)	8,024.63	1,255.24	5,818.95	101.18	15,200.00	98.9095%	41.6438
UTILITY PARTNERS	133.87	-	-	1.69	135.56	0.8821%	0.3714
GAINES TWP	8,190.13	1,255.24	5,818.95	103.27	15,367.59	100.0000%	42.1030
TOTAL							

(A) BASED ON BILLED FLOW (TASK #6).





# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 18, 2017

TO: Molly J. Eastman  
Fiscal Services Manager

FROM: Charles R. Schroeder, PE  
Assistant ESD Mgr.

**SUBJECT: 2017 SEWER RATE STUDY – TASK #14**

Zonegating maps for the sewage system are included in the 2016 Comprehensive Master Plan update from Black & Veatch, Ltd. The report also contains comprehensive information with respect to the basis for zonegating service mains and other system components, such as lift stations, that service more than one community. All zonegating work papers are on file at the Wastewater Treatment Plant Administration Building located at 1300 Market Ave., SW, Grand Rapids, MI 49503. All zonegating maps are on file at the City Engineers Office located at 300 Monroe Ave, NW, Grand Rapids, MI 49503.

CRS\crs

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
TASK NO. 15**

COMPUTE CONSTRUCTION COST RATE BASE (NET BOOK VALUE OF ASSETS, PLUS WORKING CAPITAL, LESS CSO REVENUE REQUIREMENTS FOR CSO FIXED ASSETS INCLUDED IN TASK #11/21, LESS CONTRIBUTIONS BY OTHERS).

ORIGINAL CONSTRUCTION COST	- TASK #10	\$ 8,249,195	
	- TASK #11/21	719,412,507	
	- TASK #16/21	<u>(186,061,019)</u>	\$ 541,600,683
LESS: ACCUMULATED DEPRECIATION	- TASK #10	\$ -	
	TASK #11/21	299,980,925	
	TASK #16/21	<u>(62,184,918)</u>	<u>(237,796,007)</u>
			303,804,677
WORKING CAPITAL REQUIREMENT	- TASK #12	\$ 7,740,285	
		<u>7,740,285</u>	<u>7,740,285</u>
			311,544,962
CONTRIBUTIONS BY OTHERS	- TASK #21	\$ 191,877,392	
LESS: AMORTIZATION		(135,244,461)	
		<u>(56,632,931)</u>	<u>(56,632,931)</u>
CONSTRUCTION COST RATE BASE			<u><u>\$ 254,912,031</u></u>

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 11, 2017

TO: Molly J. Eastman  
Fiscal Services Manager

FROM: Jenessa B. Carter  
Financial Analyst

**SUBJECT: 2017 SEWER RATE STUDY TASK #15A  
INTEGRATED SEWER CONNECTION FEES**

Attached is the Integrated Water Connection Fee Schedule as currently provided for in Chapter 26 of the City Code, with the addition of rates to be effective on January 1, 2018. The City Commission on June 27, 2000 established fees through calendar year 2004. Beginning January 1, 2005, the integrated water connection fees are to be calculated on a yearly basis as part of the annual Water/Sewer Rate Study. The Consumer Price Index used to determine rates effective January 1, 2018 is as follows:

August, 2016 Index	240.853
August, 2017 Index	245.519
Increase (decrease)	4.670
Percentage increase (decrease)	1.94%

JBC\jbc

Attachment

Section 2.35 Integrated Sewer Connection Fee Schedule

When a property owner or user is requested or required to connect to the System and has not previously paid or been assessed a connection fee, the following connection fee schedule shall apply:

Integrated Connection Base Fee Schedule

Water Meter Size (inches)	<u>1/01/17</u>	<u>1/01/18</u>
3/4 or less	\$ 2,959	\$ 3,016
1	4,942	5,037
1 ½	9,853	10,043
2	15,771	16,075
3	34,532	35,197
4	62,139	63,336
6 and over	138,097	140,757

Except as otherwise provided in the immediately succeeding paragraph, the foregoing integrated sewer connection base fee schedule for single-family and multi-family residential dwelling units shall be adjusted upward and downward as follows: A single-family residential dwelling unit located on a parcel containing twenty thousand (20,000) square feet shall pay the applicable integrated connection fee in accordance with the foregoing schedule. When determining the square footage of a residential parcel for the purposes of determining the appropriate integrated connection fee, parcel size may be adjusted downward to take into consideration such things as wetlands, lakes, streams and other unusual characteristics of the parcel in accordance with policies approved from time to time by the Utility Advisory Board. To the extent the size of a parcel, as adjusted, is greater than or less than twenty thousand (20,000) square feet, one-half the applicable integrated connection fee will increase or decrease by the same percentage increase or decrease in the parcel above or below twenty thousand (20,000) square feet. In the case of multi-family residential dwellings, in order to determine the size of the parcel assigned to each dwelling unit for purposes of calculating the integrated connection fee to be paid by each multi-family residential dwelling unit, the total square footage of the parcel, as adjusted, on which the multi-family residential dwelling is located shall be divided by the total number of residential units. Notwithstanding any other provision in this subsection, the integrated connection fee for a single-family residential dwelling unit or multi-family residential dwelling unit shall not exceed four and one-half times the applicable base integrated connection fee set forth in foregoing schedule.

There shall be no upward adjustment in the integrated sewer service connection fee payable for a single-family residential dwelling unit connecting to the Sewer System if (a) each of the following conditions are met (1) a building permit shall have been obtained, (2) the dwelling unit shall have been constructed, and (3) a certificate of occupancy shall have been issued prior to January 1, 2000 or (b) local building permit fees have been paid to the local governmental unit prior to January 1, 2000 for a single-family residential dwelling unit to be

constructed on or after January 1, 2000. When connecting to the Sewer System, Users living in or owning such single-family residential dwelling units shall pay the applicable base integrated connection fee set forth in the Integrated Connection Base Fee Schedule adjusted downward, if applicable, in accordance with the immediate preceding paragraph.

Effective January 1, 2005 and January 1<sup>st</sup> of every year thereafter, the Integrated Sewer Connection Base Fees shall be adjusted by a percentage, which is determined by the annual change in the Consumer Price Index (the "index") calculated as follows:

- (1) The Consumer Price Index shall be that Index referred to as the Consumer Price Index, US City Average, All Urban Consumers, published by the U.S. Department of Labor-Bureau of Statistics ((1982-84)=100). In the event the method of determining the Index is substantially altered, the basis for determining the annual change thereafter shall be the Index which is most comparable to the Index described above.
- (2) For the purpose of computing the percentage change each calendar year, the Index for the month of August for the prior calendar year shall be subtracted from the Index for the immediately-preceding August. The result so obtained (if positive) shall be divided by the Index for the month of August for the prior calendar year to obtain the percentage increase which shall be applied to the then current Integrated Sewer Connection Base Fee Schedule to determine the new calendar year schedule.

The foregoing Integrated Connection fee is due and payable at the time a User receives a permit to connect to the Sewer System. A permit issued by the City to connect to the Sewer System shall expire one hundred eighty (180) days from the date the permit was issued.

The user receiving services who applies for a larger water meter than the one presently in service shall pay an Integrated Connection Fee which is the difference in cost between the meter size in service and the one applied for in accordance with the Integrated Connection Fee in effect at the time of application. No credit or rebate shall be made in the case of application for a smaller meter size.

# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: November 14, 2017

TO: Eric R. DeLong  
Deputy City Manager

FROM: Molly J. Eastman  
Fiscal Services Manager

**SUBJECT: Integrated Connection Fees Rate Methodology Change – Task #15B**

In July 2017, the Utility Advisory Board (“UAB”) voted to recommend adoption of a new methodology for connection to the water and sewer systems. This change was made after the UAB assigned the Rate Review Sub-Committee to analyze the cost of connection to the water and sewer system, which evaluated each cost involved, including front footage and integrated connection fees. The Sub-Committee determined that the cost of connection was a deterrent to establishing new water and sanitary sewer connections. They recommended an adjustment in integrated connection fees, as the most feasible method of reducing the cost of connection and encouraging system growth within the active utility service district of the partnership communities.

The Rate Review Subcommittee report recommends, integrated connection fees should be based on a full cost recovery method for the City of Grand Rapids’ involvement in water and sewer connections. The calculation includes a plan review and connection component (“PRC”), which will recover the costs associated with the account set-up and plan review. Also included is a meter capacity component (“MCC”) that will be based on the meter acquisition cost. The PRC fee is based on the actual cost per hour for plan review at the Development Center, as well as review time spent by the Hydraulic Engineer, Utility Engineering Staff and Water System Management based on the hours required for review by meter size. The MCC fee is based on the cost of meters (also noted in Task #30 of the Water and Sewer Rate Study). Calculation for the residential and commercial residents are detailed on the attached schedule.

Integrated connection fee revenue is used as a credit against the revenue requirement in the Water and Sewer annual rate study. Since the rate study is based on revenues and expenses of the previous fiscal year ending on June 30<sup>th</sup>, with the new connection fee rate anticipated to be effective on April 1, 2018, the impact on rate payers will take place over the course of three rate years. For rates effective January 1, 2018, per the rate methodology, an adjustment has been made in the 2017 rate study (Task 9) because this is an anticipated change in the coming calendar year. This caused approximately a 0.25% rate increase for each utility. The fiscal year 2018 will experience three months of this new connection fee and fiscal year 2019

will experience a full year of the new rates. Therefore by rate year 2020, the estimated full impact of this change will be 1.34% for water and 1.25% for sewer rate increases.

The only two partner communities not impacted by the connection fee change is Ottawa County and Gaines Township as they do not currently benefit from connection fee revenue as an offset to revenue requirement, per their customer service agreement.

Further information on the new integrated connection fee methodology can be found in the Rate Review Subcommittee Report located on the Water and Sewer Systems website at: <http://grcity.us/enterprise-services/Water-System> under the UAB documents or can be provided through the Utility Business Office.

## Calculation of Integrated Connection Fees

### Base Fee Calculation:

Meter Size	Plan Reviewer time (hrs)	Plan Reviewer Rates	Plan Reviewer Cost	Customer Service	Business Office	Total PRC Fee
3/4"	5.42	\$53.54	\$290.00	\$40.00	\$20.00	\$350.00

Residential customers are defined as domiciles that are three units or less. They will only be charged the base PRC fee.

For example, the total cost for a water and sewer customer would be calculated as: \$350 PRC water + \$350 PRC sewer + \$175 MCC = \$875. This amount is also the base fee for establishing the cost of connection for a commercial customer.

Commercial customers are classified as properties used to offer services and / or products, such as retail/wholesale stores, gas stations, restaurants, hotels, schools, churches, etc., and manufacturing or processing facilities (industrial). The Commercial PRC fee includes the Base Connection Fee for the account review, setup and/or modification. It also includes allowances for the additional requirements for review of commercial property including plan and site reviews, code reviews and documentation in the form of a Build Plan Review letter issued through the Development Center. The table below outlines the elements used to calculate the necessary total PRC fee for commercial customers.

### Plan Review and Connection Component (PRC)

Meter Size	Base Conn. Fee*	Plan reviewer time (hrs)	Plan Revwr. Rate	Plan Revwr. Cost	Hyd Eng. Time (hrs)	Hyd Eng. Rate	Hyd Eng. Cost	Utility Eng. Time (hrs)	Utility Eng. Rate	Utility Eng. Cost	Water Mgmt. Time (hrs)	Water Mgmt. Rate	Water Mgmt. Cost	Total	PRC FEE
3/4"	\$ 350.00	2	\$ 53.54	\$ 107.08	1	\$ 72.49	\$ 72.49	1	\$ 53.54	\$ 53.54	1	\$ 86.60	\$ 86.60	669.71	\$ 670.00
1"	\$ 350.00	3	\$ 53.54	\$ 160.62	2	\$ 72.49	\$ 144.98	2	\$ 53.54	\$ 107.08	1	\$ 86.60	\$ 86.60	849.28	\$ 850.00
1 1/2"	\$ 350.00	4	\$ 53.54	\$ 214.16	3	\$ 72.49	\$ 217.47	3	\$ 53.54	\$ 160.62	2	\$ 86.60	\$ 173.20	1,115.45	\$ 1,120.00
2"	\$ 350.00	6	\$ 53.54	\$ 321.24	5	\$ 72.49	\$ 362.45	5	\$ 53.54	\$ 267.70	3	\$ 86.60	\$ 259.80	1,561.19	\$ 1,570.00
3"	\$ 350.00	10	\$ 53.54	\$ 535.40	6	\$ 72.49	\$ 434.94	6	\$ 53.54	\$ 321.24	3	\$ 86.60	\$ 259.80	1,901.38	\$ 1,910.00
4"	\$ 350.00	16	\$ 53.54	\$ 856.64	8	\$ 72.49	\$ 579.92	8	\$ 53.54	\$ 428.32	5	\$ 86.60	\$ 433.00	2,647.88	\$ 2,650.00
6"+	\$ 350.00	24	\$ 53.54	\$ 1,284.96	12	\$ 72.49	\$ 869.88	12	\$ 53.54	\$ 642.48	8	\$ 86.60	\$ 692.80	3,840.12	\$ 3,850.00
FP**	\$ 350.00	2	\$ 53.54	\$ 107.08	1	\$ 72.49	\$ 72.49	2	\$ 53.54	\$ 107.08	0.5	\$ 86.60	\$ 43.30	679.95	\$ 680.00

\*See the base fee calculation above.

\*\*FP represents fire protection for all sizes.

Meter Capacity Component (MCC)	
Meter Size	2017 Cost
3/4" or smaller	\$ 175.00
1"	\$ 250.00
1 1/2"	\$ 800.00
2"	\$ 900.00
3"	\$1,100.00
4" or larger	At cost

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**CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
CSO REVENUE REQUIREMENTS - TASK 16  
PRINCIPAL & INTEREST ON REVENUE BONDS & SRF  
DEBT FOR CALENDAR YEAR 2017 - ACCRUAL BASIS**

DATE	SRF/REVENUE REFERENCE	5073-SERIES	REVENUE BONDS				TOTAL		TOTAL PRINCIPAL & INTEREST
			PRINCIPAL	INTEREST	EST. FEES	PRINCIPAL	INTEREST		
07/01/18	N/A	1998	(1)	\$ 260,578.19	\$ 375.00	\$ -	\$ 260,953.19	\$ 260,953.19	\$ 260,953.19
01/01/19	N/A	1998	(1)	\$ 2,199,961.50	375.00	2,199,961.50	260,953.19	260,953.19	2,460,914.69
07/01/18	N/A	2010A	(2)	317,757.05	800.00	0.00	318,557.05	318,557.05	318,557.05
01/01/19	N/A	2010A	(2)	317,757.05	800.00	0.00	318,557.05	318,557.05	318,557.05
07/01/18	N/A	2013	(3)	620,052.00	600.00	0.00	620,652.00	620,652.00	620,652.00
01/01/19	N/A	2013	(3)	620,052.00	600.00	372,475.00	620,652.00	620,652.00	993,127.00
07/01/18	N/A	2014	(4)	653,140.00	625.00	0.00	653,765.00	653,765.00	653,765.00
01/01/19	N/A	2014	(4)	653,140.00	625.00	445,400.00	653,765.00	653,765.00	1,099,165.00
07/01/18	N/A	2016	(5)	396,948.75	625.00	0.00	397,573.75	397,573.75	397,573.75
01/01/19	N/A	2016	(5)	396,948.75	625.00	486,750.00	397,573.75	397,573.75	884,323.75
							<u>\$3,504,586.50</u>	<u>\$4,503,001.98</u>	<u>\$8,007,588.48</u>

- (1) PRORATED AMOUNT OF 1998 ISSUE RELATED TO CSO DEBT.
- (2) DS ON ES CSO PORTION OF 2010A&B ISSUE. (\$14.05M)
- (3) PRORATED AMOUNT OF 2013 ISSUE RELATED TO CSO DEBT.
- (4) PRORATED AMOUNT OF 2014 ISSUE RELATED TO CSO DEBT.
- (5) DS ON ES CSO PORTION OF REFUNDED 2008 ISSUE.

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
TASK NO. 16A**

INCLUDE MAJOR PROJECT COST FOR UPCOMING SYSTEM IMPROVEMENTS (NON-INTEGRATED)  
THE ESTIMATED TOTAL PROJECT COST FOR RECOMMENDED SEWAGE SYSTEM IMPROVEMENTS  
ARE SUMMARIZED IN THE FOLLOWING TABLE.

ITEM NO.	DESCRIPTION	ESTIMATED COST	BUDGET YEAR
1	WORDEN ST - MADISON AVE TO EASTERN AVE	\$540,000	2019
2	KINGSBURY LIFT STATION REPLACEMENT	\$750,000	2019
3	ESCSO #28A & B	\$3,363,000	2019
4	GODFREY AVE - OXFORD ST TO MARKET AVE	\$2,000,000	2019
5	GODFREY AVE - OXFORD ST TO MARKET AVE	\$5,200,000	2020
6	GODFREY AVE - LIBERTY ST TO OXFORD ST	\$2,340,000	2020
7	BRANDYWINE SANITARY TRUNK SEWER	\$2,500,000	2020
8	LONGTERM WET WEATHER FLOW CONTROL PROGRAM	\$3,500,000	2021
9	WHISKEY CREEK SANITARY TRUNK SEWER	\$3,700,000	2021
10	OTTAWA AVE - FAIRBANKS ST TO MONROE	\$1,100,000	2022
11	PRINCE ST - MADISON AVE TO EASTERN AVE	\$513,000	2022
12	SSO CONTROL PROJECT	\$8,000,000	2022
		<u>\$ 33,506,000</u>	

NOTE: NONE OF THE PROJECTS ABOVE ARE INCLUDED IN RECOMMENDED REVENUE REQUIREMENTS FOR CALENDAR YEAR 2018. COSTS SHOWN ARE IN 2017 DOLLARS.

SOURCE: CHUCK SCHROEDER, ASSISTANT ENVIRONMENTAL SERVICES MANAGER, NOVEMBER 2017

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
TASK NO. 17**

**BONDS - PRINCIPAL & INTEREST PAYMENTS (SENIOR)**

FISCAL YEAR ENDING JUNE 30,	PRINCIPAL	INTEREST	PRIN & INT
2018	\$ 7,405,000	\$ 11,480,470	\$ 18,885,470
2019	7,575,000	11,119,495	18,694,495
2020	7,925,000	10,756,070	18,681,070
2021	8,285,000	10,348,420	18,633,420
2022	10,115,000	9,932,570	20,047,570
2023	10,620,000	9,409,270	20,029,270
2024	11,155,000	8,881,420	20,036,420
2025	11,710,000	8,326,920	20,036,920
2026	12,300,000	7,744,820	20,044,820
2027	12,925,000	7,132,336	20,057,336
2028	13,510,000	6,540,005	20,050,005
2029	9,425,000	5,920,130	15,345,130
2030	9,875,000	5,478,709	15,353,709
2031	10,340,000	5,015,992	15,355,992
2032	10,835,000	4,531,330	15,366,330
2033	11,385,000	3,992,508	15,377,508
2034	13,575,000	3,426,290	17,001,290
2035	11,990,000	2,750,711	14,740,711
2036	7,375,000	2,154,522	9,529,522
2037	7,730,000	1,797,337	9,527,337
2038	8,110,000	1,422,908	9,532,908
2039	6,220,000	1,047,798	7,267,798
2040	6,495,000	778,696	7,273,696
2041	6,775,000	497,636	7,272,636
2042	2,850,000	204,450	3,054,450
2043	805,000	82,750	887,750
2044	850,000	42,500	892,500
	<u>\$ 238,160,000</u>	<u>\$ 140,816,065</u>	<u>\$ 378,976,065</u>

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
TASK NO. 18**

DETERMINE SEWER SYSTEM EQUITY IN THE CONSTRUCTION COST RATE BASE BY  
SUBTRACTING DEBT OUTSTANDING FROM THE TOTAL RATE BASE.

CONSTRUCTION COST RATE BASE - TASK NO. 15	\$ 254,912,031
LESS: BONDED INDEBTEDNESS IN CCRB (CASH BASIS) - TASK NO. 20	(130,508,955)
NET SEWER SYSTEM EQUITY	<u><u>\$ 124,403,077</u></u>

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
RATE OF RETURN ON EQUITY - TASK NO. 19**

AT THE APRIL 5, 1977, COMMITTEE OF THE WHOLE MEETING, THE CITY COMMISSION DECIDED THE LEVEL OF RETURN ON SEWER SYSTEM EQUITY. THE LEVEL DECIDED UPON WAS ONE PERCENT MORE THAN THE AVERAGE BOND BUYER'S INDEX OF MUNICIPAL BONDS FOR THE PREVIOUS TWELVE MONTH PERIOD.

BOND BUYER'S INDEX OF 20 MUNICIPAL BONDS AVERAGE FOR FY17 WAS 3.512%.

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
TASK NO. 20**

DETERMINE COMPOSITE RATE OF RETURN ON CONSTRUCTION COST RATE BASE

	RATE BASE	@	RATE OF RETURN	=	RETURN ON INVESTMENT
SEWER SYSTEM EQUITY IN THE CONSTRUCTION COST RATE BASE (CCRB)	\$ 124,403,077		4.512%		\$ 5,613,067
SEWER SYSTEM INDEBTEDNESS IN THE CCRB					
1998 BONDS (refunded 1990 Bonds)	7,171,717		5.06%		362,889
2008 KCDC CONTRACT	186,000		4.90%		9,114
2008 BONDS (partially refunded by 2016 Bonds)	1,005,000		4.92%		49,446
2010 BONDS	29,625,000		5.00%		1,481,250
2010A&B BONDS	9,475,000		4.37%		414,058
2011 SRF BONDS	4,979,675		2.50%		124,492
2012 BONDS	26,485,000		4.48%		1,186,528
2013 BONDS (refunded 2004 Bonds)	7,477,263		4.43%		331,243
2013 SRF BONDS	1,110,000		2.00%		22,200
2014 BONDS (refunded 2005 Bonds)	12,496,000		4.99%		623,550
2016 BONDS (partially refunded 2008 Bonds)	30,498,300		5.00%		1,524,915
LESS INTEREST ON BOND RESERVE ACCOUNTS					(69,263)
	\$ 254,912,031				\$ 11,673,489
COMPOSITE RATE OF RETURN ON INVESTMENT			\$ 11,673,489	=	4.579%
			\$254,912,031		

**Noted Disclosure:**

TOTAL BONDED INDEBTEDNESS IN CCRB (from above) \$ 130,508,955      TASK NO. 18

CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
CONSTRUCTION COST RATE BASE & RETURN ON SYSTEM INVESTMENT - TASK NO. 21- PART I  
FISCAL YEAR ENDED JUNE 30, 2017

PHYSICAL LOCATION

DESCRIPTION	RETAIL										WHOLESALE					TOTAL
	INTEGRATED SYSTEM	CITY OF GR	CITY OF WALKER	CITY OF KENWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP				
COST	\$ 1,79,005,473	\$ 215,109,363	\$ 39,954,461	\$ 29,736,973	\$ 20,677,879	\$ 21,701,992	\$ 5,169,505	\$ 118,230	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 511,473,876	
LESS: ACCUMULATED DEPRECIATION	114,227,860	64,557,225	17,224,930	13,873,778	8,739,267	8,150,871	1,520,387	64,184	-	-	-	-	-	-	228,358,502	
NET BOOK VALUE	\$ 64,777,613	\$ 150,552,138	\$ 22,729,531	\$ 15,863,195	\$ 11,938,612	\$ 13,551,121	\$ 3,649,118	\$ 54,046	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 283,115,375	
WORKING CAPITAL REQUIREMENT	4,991,092	1,729,102	327,027	234,376	159,682	226,558	29,026	25,001	2,941	851	11,378	3,251	-	-	7,740,285	
	\$ 69,768,705	\$ 152,281,240	\$ 23,056,558	\$ 16,097,571	\$ 12,098,294	\$ 13,777,679	\$ 3,678,144	\$ 79,047	\$ 2,941	\$ 851	\$ 11,378	\$ 3,251	\$ -	\$ -	\$ 290,855,660	
CONTRIBUTIONS	50,100,052	56,380,269	23,823,958	23,788,160	18,080,429	14,910,848	4,793,676	-	-	-	-	-	-	-	191,877,392	
LESS AMORTIZATION	(45,399,164)	(47,330,268)	(11,747,686)	(12,677,330)	(8,317,539)	(6,743,942)	(1,350,639)	-	-	-	-	-	-	-	(133,566,568)	
	\$ (4,700,888)	\$ (9,050,001)	\$ (12,076,272)	\$ (11,110,830)	\$ (9,762,890)	\$ (8,166,906)	\$ (3,443,037)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (68,310,824)	
CONSTRUCTION COST RATE BASE	\$ 65,067,817	\$ 143,231,239	\$ 10,980,286	\$ 4,986,741	\$ 2,335,404	\$ 5,610,773	\$ 235,107	\$ 79,047	\$ 2,941	\$ 851	\$ 11,378	\$ 3,251	\$ -	\$ -	\$ 232,544,836	
RETURN ON INVESTMENT- TASK 20	\$ 2,979,455	\$ 6,558,558	\$ 502,787	\$ 228,343	\$ 106,938	\$ 256,917	\$ 10,766	\$ 3,620	\$ 135	\$ 39	\$ 521	\$ 149	\$ -	\$ -	\$ 10,648,228	
	4.579%															
ZONEGATED																
COST	\$ -	\$ 93,434	\$ 6,198,658	\$ 2,435,510	\$ 4,306,526	\$ 5,517,233	\$ 1,850,372	\$ 1,726,922	\$ 363,128	\$ 253,522	\$ 6,405,295	\$ 976,207	\$ -	\$ -	\$ 30,126,807	
LESS: ACCUMULATED DEPRECIATION	-	(456,555)	2,122,735	1,467,792	1,101,102	1,779,912	406,785	534,579	235,229	149,022	1,523,079	573,825	-	-	9,437,505	
NET BOOK VALUE	-	\$ 549,989	\$ 4,075,923	\$ 967,718	\$ 3,205,424	\$ 3,737,321	\$ 1,443,587	\$ 1,192,343	\$ 1,271,899	\$ 104,500	\$ 4,882,216	\$ 402,382	\$ -	\$ -	\$ 20,689,302	
WORKING CAPITAL REQUIREMENT	-	\$ 549,989	\$ 4,075,923	\$ 967,718	\$ 3,205,424	\$ 3,737,321	\$ 1,443,587	\$ 1,192,343	\$ 1,271,899	\$ 104,500	\$ 4,882,216	\$ 402,382	\$ -	\$ -	\$ 20,689,302	
CONTRIBUTIONS	-	13	6,603	1,050,662	295,863	1,38,544	225	208	1,504	210,756	242,778	811,469	-	-	2,758,625	
LESS AMORTIZATION	-	(7)	(6,603)	(672,424)	(189,353)	(89,107)	(225)	(208)	(962)	(116,205)	(155,378)	(447,421)	-	-	(1,677,893)	
	-	\$ (6)	\$ -	\$ (378,238)	\$ (106,510)	\$ (49,437)	\$ -	\$ -	\$ (542)	\$ (94,551)	\$ (87,400)	\$ (364,048)	\$ -	\$ -	\$ (1,080,732)	
CONSTRUCTION COST RATE BASE	\$ -	\$ 549,983	\$ 4,075,923	\$ 589,480	\$ 3,098,914	\$ 3,687,884	\$ 1,443,587	\$ 1,192,343	\$ 1,271,357	\$ 9,949	\$ 4,794,816	\$ 38,334	\$ -	\$ -	\$ 19,608,570	
RETURN ON INVESTMENT- TASK 19/21	\$ -	\$ 44,065	\$ 326,563	\$ 47,229	\$ 248,285	\$ 295,473	\$ 115,660	\$ 95,531	\$ 10,204	\$ 797	\$ 384,161	\$ 1,755	\$ -	\$ -	\$ 1,569,723	
	8.012%	8.012%	8.012%	8.012%	8.012%	8.012%	8.012%	8.012%	8.012%	8.012%	8.012%	4.579%	\$ -	\$ -	\$ -	
RETURN ON INVESTMENT- TASK 19/21	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
TOTAL RETURN ON INVESTMENT	\$ 2,979,455	\$ 6,602,623	\$ 829,350	\$ 275,572	\$ 355,223	\$ 552,390	\$ 126,426	\$ 99,151	\$ 10,339	\$ 836	\$ 384,682	\$ 1,904	\$ -	\$ -	\$ 12,217,951	

CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
CONSTRUCTION COST & ACCUMULATED DEPRECIATION- TASK NO. 21- PART2  
FISCAL YEAR ENDED JUNE 30, 2017

CONSTRUCTION COST

COST CENTER	AMOUNT	RETAIL										WHOLESALE					TOTAL
		INTEGRATED SYSTEM	CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CITY OF CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	EAST GR	CITY OF CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAMES TOWNSHIP				
BY PHYSICAL LOCATION-TASK 11		\$ 175,005,473	\$ 411,155,788	\$ 43,058,882	\$ 41,125,552	\$ 22,320,807	\$ 21,103,091	\$ 6,251,568	\$ 196,346								\$ 720,217,507
ADD: IN SERVICE- TASK 10		4,000,000	2,772,932	427,130	117,539	204,654	726,940	(515,311)	(78,116)								8,249,195
MARINE CONNECTOR AGREEMENT			(211,573)														(805,000)
SADDLEBACK SEWER			(1,187,160)														-
TASK 11/16/21- CSO FA AMT			(186,061,019)														(186,061,019)
LIFT STATIONS / CHAMBERS:																	
FULLER-BROOKVIEW	\$ 1,252,893		(719,774)				719,774										
FULTON- MIDDLEBORROW	37,983		(37,983)				37,983										
WEALTHY ST EXT. CHAMBER	458,953		(135,813)	120,351				15,462									
WEALTHY	20,444		(6,701)	6,396				46	259								
MARKET	12,965,095		(1,512,508)	1,209,903			223,259	41,229	38,117								
VANPORTLIET / LEONARD HTS	1,239,326		387,203	(387,203)													
REMEMBRANCE /3 MILE	1,213,244		(225,760)					33,801	191,959								
16th AVENUE	71,058								141,105								
HAYES- WEST	141,105																
HAYES- EAST	215,841																
O'BRIEN	546,532		(102,442)					60,829									
SERVICEMAINS			(9,282,208)	2,045,862	(10,186,315)	2,387,491	4,408,178	1,273,358	1,355,482	363,128	253,522	6,405,295	976,207				
ADJUSTED BY ZONE GATING		\$ 179,005,473	\$ 215,202,797	\$ 46,153,119	\$ 32,172,483	\$ 24,984,405	\$ 27,219,225	\$ 7,019,877	\$ 1,845,152	\$ 363,128	\$ 253,522	\$ 6,405,295	\$ 976,207				\$ 541,600,683
ZONE GATING ADJUSTMENT			\$ 93,434	\$ 6,198,658	\$ 2,435,510	\$ 4,306,526	\$ 5,571,233	\$ 1,850,372	\$ 1,726,922	\$ 363,128	\$ 253,522	\$ 6,405,295	\$ 976,207				\$ 30,126,807
PHYSICAL LOCATION		\$ 179,005,473	\$ 215,109,363	\$ 39,954,461	\$ 29,736,973	\$ 20,677,879	\$ 21,701,992	\$ 5,169,505	\$ 118,230	\$ -	\$ -	\$ -	\$ -				\$ 511,473,876

ACCUMULATED DEPRECIATION

BY PHYSICAL LOCATION-TASK 11		\$ 114,227,860	\$ 132,035,920	\$ 18,105,878	\$ 16,486,192	\$ 9,086,377	\$ 8,268,668	\$ 1,779,889	\$ 80,744								\$ 300,071,528
ADD: IN SERVICE- TASK 10			(149,663)					(100,811)	(16,560)								(267,034)
MARINE CONNECTOR AGREEMENT																	176,431
SADDLEBACK SEWER			(62,184,918)														(62,184,918)
TASK 11/16/21- CSO ACC DEP																	
LIFT STATIONS / CHAMBERS:																	
FULLER-BROOKVIEW	\$ 752,383		(432,237)				432,237										
FULTON- MIDDLEBORROW	37,983		(37,983)				37,983										
WEALTHY ST EXT. CHAMBER	169,812		(50,251)	44,530				5,721									
WEALTHY	20,444		(6,701)	6,396				46	259								
MARKET	6,618,964		(772,169)	617,682			113,979	21,048	19,460								
VANPORTLIET / LEONARD HTS	271,154		84,717	(84,717)													
REMEMBRANCE /3 MILE	626,416			(116,564)				17,452	99,112								
16th AVENUE	51,927								83,276								
HAYES- WEST	83,276																
HAYES- EAST	107,764																
O'BRIEN	283,103		21,555	(53,064)				31,509									
SERVICEMAINS			(4,407,600)	827,524	(1,311,050)	743,989	1,077,916	285,594	332,472	235,229	149,022	1,523,079	573,825				
ADJUSTED BY ZONE GATING		\$ 114,227,860	\$ 64,100,670	\$ 19,347,665	\$ 15,341,570	\$ 9,840,369	\$ 9,930,783	\$ 1,927,172	\$ 598,763	\$ 235,229	\$ 149,022	\$ 1,523,079	\$ 573,825				\$ 237,796,007
ZONE GATING ADJUSTMENT			\$ (456,555)	\$ 2,122,735	\$ 1,467,792	\$ 1,101,102	\$ 1,779,912	\$ 406,785	\$ 534,579	\$ 235,229	\$ 149,022	\$ 1,523,079	\$ 573,825				\$ - 9,437,505
PHYSICAL LOCATION		\$ 114,227,860	\$ 64,557,225	\$ 17,224,930	\$ 13,873,778	\$ 8,739,267	\$ 8,150,871	\$ 1,520,387	\$ 64,184	\$ -	\$ -	\$ -	\$ -				\$ 228,358,502



CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
RECONCILIATION OF CONSTRUCTION COST & ACCUMULATED DEPRECIATION- PHYSICAL LOCATION & ZONEGATING  
FISCAL YEAR ENDED JUNE 30, 2017

COST CENTER	AMOUNT	RETAIL										WHOLESALE				
		INTEGRATED SYSTEM	CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP	TOTAL		
<b>CONSTRUCTION COST- BY PHYSICAL LOCATION:</b>																
BY PHYSICAL LOCATION- TASK 11		\$ 175,005,473	\$ 418,428,091	\$ 39,669,786	\$ 41,125,552	\$ 21,622,150	\$ 18,346,545	\$ 5,894,622	\$ 125,288	\$ -	\$ -	\$ -	\$ -	\$ 720,217,507		
IN SERVICE- TASK 10		4,000,000	2,772,932	427,130	117,539	204,654	726,940	-	-	-	-	-	-	8,249,195		
MARINE CONNECTOR AGREEMENT		-	(211,573)	-	-	-	-	(515,311)	(78,116)	-	-	-	-	(805,000)		
SADDLEBACK SEWER		-	(1,187,160)	-	1,115,707	71,453	-	-	-	-	-	-	-	-		
TASK 11/16/21- CSO COST		-	(186,061,019)	-	-	-	-	-	-	-	-	-	-	(186,061,019)		
O'BRIEN		-	(546,532)	-	-	-	-	-	71,058	-	-	-	-	-		
VANPORTFLEET / LEONARD HTS		-	(1,239,326)	546,532	-	-	-	-	-	-	-	-	-	-		
REMEMBRANCE / 3 MILE		-	(1,213,244)	1,239,326	-	-	-	-	-	-	-	-	-	-		
16th AVENUE		-	(71,058)	1,213,244	-	-	-	-	-	-	-	-	-	-		
HAYES- WEST		-	(141,105)	-	-	-	-	141,105	-	-	-	-	-	-		
HAYES- EAST		-	(215,841)	-	-	-	-	215,841	-	-	-	-	-	-		
KINGSBURY	\$	323,154	(323,154)	323,154	-	-	-	-	-	-	-	-	-	-		
MEADOWOOD TRAILS		66,840	(66,840)	66,840	-	-	66,840	-	-	-	-	-	-	-		
OAK HOLLOW		66,840	(66,840)	66,840	-	-	-	-	-	-	-	-	-	-		
COLLINDALE		66,840	(66,840)	66,840	-	-	-	-	-	-	-	-	-	-		
THORNAPPLE		224,216	(224,216)	224,216	-	-	-	-	-	-	-	-	-	-		
6000 28TH ST		111,401	(111,401)	111,401	-	-	-	-	-	-	-	-	-	-		
THORNHILLS		118,407	(118,407)	118,407	-	-	-	-	-	-	-	-	-	-		
ROBINHOOD		178,399	(178,399)	178,399	-	-	178,399	-	-	-	-	-	-	-		
CASCADE SPRINGS		65,478	(65,478)	65,478	-	-	-	-	-	-	-	-	-	-		
SHOREHAVEN		72,602	(72,602)	72,602	-	-	-	-	-	-	-	-	-	-		
EAGLECREST		152,332	(152,332)	152,332	-	-	-	-	-	-	-	-	-	-		
GREENRIER		48,486	(48,486)	48,486	-	-	-	-	-	-	-	-	-	-		
LINGCOLN SCHOOL		153,651	(153,651)	153,651	-	-	-	-	-	-	-	-	-	-		
REEDS LAKE		962,898	(962,898)	962,898	-	-	-	-	-	-	-	-	-	-		
KRAFT		72,602	(72,602)	72,602	-	-	-	-	-	-	-	-	-	-		
ORCHARD VISTA		39,712	(39,712)	39,712	-	-	-	-	-	-	-	-	-	-		
BIRD AVE-ALPINE ESTATES		797,860	(797,860)	797,860	-	-	-	-	-	-	-	-	-	-		
EAST PARIS		323,478	(323,478)	323,478	-	-	-	-	-	-	-	-	-	-		
SERVICE MAINS		-	-	-	-	-	-	-	-	-	-	-	-	-		
LESS- SERVICE MAINS- TOTAL SUBS- PHY. LOC.		-	(23,602,073)	(13,840,328)	(19,707,869)	(2,312,401)	(140,457)	(590,665)	-	-	-	-	(60,193,793)			
ADD- SERVICE MAINS- TOTAL ADDS- PHY. LOC.		-	12,242,482	10,308,777	7,086,044	393,366	12,418	23,913	-	-	-	-	30,067,000			
TOTAL- PHYSICAL LOCATION COST		\$ 179,005,473	\$ 215,109,377	\$ 39,954,461	\$ 29,736,973	\$ 20,677,879	\$ 21,701,992	\$ 5,169,505	\$ 118,230	\$ -	\$ -	\$ -	\$ 511,473,890			
<b>CONSTRUCTION COST- ZONEGATING:</b>																
LIFT STATIONS / CHAMBERS:																
FULLER-BROOKVIEW	\$	1,252,893	(719,774)	-	-	-	719,774	-	-	-	-	-	-	-		
FULTON- MIDDLEBORROW		37,983	(37,983)	-	-	-	37,983	-	-	-	-	-	-	-		
WEALTHY ST EXT- CHAMBER		468,953	(135,813)	120,351	-	-	-	15,462	-	-	-	-	-	-		
WEALTHY		20,444	(6,701)	6,396	-	-	-	46	259	-	-	-	-	-		
MARKET		12,965,095	(1,512,508)	1,209,903	-	-	223,259	41,229	38,117	-	-	-	-	-		
VANPORTFLEET / LEONARD HTS		1,239,326	387,203	(387,203)	-	-	-	-	-	-	-	-	-	-		
REMEMBRANCE / 3 MILE		1,213,244	-	(225,760)	-	-	-	33,801	191,959	-	-	-	-	-		
16th AVENUE		71,058	-	-	-	-	-	-	-	-	-	-	-	-		
HAYES- WEST		141,105	-	-	-	-	-	(141,105)	141,105	-	-	-	-	-		
HAYES- EAST		215,841	-	-	-	-	-	-	-	-	-	-	-	-		
O'BRIEN		546,532	41,613	(102,442)	-	-	-	60,829	-	-	-	-	-	-		
SERVICEMAINS- ZONEGATED COST		-	2,077,397	5,577,413	2,435,510	4,306,526	4,536,217	1,840,110	1,355,482	363,128	253,522	6,405,295	976,207	30,126,807		
TOTAL- ZONEGATED COST		\$ -	\$ 93,434	\$ 6,198,658	\$ 2,435,510	\$ 4,306,526	\$ 5,517,233	\$ 1,850,372	\$ 1,726,922	\$ 363,128	\$ 253,522	\$ 6,405,295	\$ 976,207	\$ 30,126,807		
GRAND TOTAL- COST		\$ 179,005,473	\$ 215,202,811	\$ 46,153,119	\$ 32,172,483	\$ 24,984,405	\$ 27,219,225	\$ 7,019,877	\$ 1,845,152	\$ 363,128	\$ 253,522	\$ 6,405,295	\$ 976,207	\$ 541,600,697		

CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
RECONCILIATION OF CONSTRUCTION COST & ACCUMULATED DEPRECIATION- PHYSICAL LOCATION & ZONEGATING  
FISCAL YEAR ENDED JUNE 30, 2017

COST CENTER	AMOUNT	RETAIL										WHOLESALE		
		INTEGRATED SYSTEM	CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP	TOTAL
<b>ACCUMULATED DEPRECIATION BY PHYSICAL LOCATION:</b>														
BY PHYSICAL LOCATION- TASK 11	\$ 114,227,860	\$ 133,484,328	\$ 16,989,522	\$ 16,486,192	\$ 9,240,757	\$ 7,893,882	\$ 1,654,757	\$ 94,230	\$ -	\$ -	\$ -	\$ -	\$ 300,071,528	
IN SERVICE- TASK 10	-	-	-	-	-	-	(100,811)	(16,560)	-	-	-	-	(267,034)	
MARINE CONNECTOR AGREEMENT	-	(149,663)	-	-	-	-	-	-	-	-	-	-	176,431	
SADDLEBACK SEWER	-	-	-	166,428	10,003	-	-	-	-	-	-	-	(62,184,918)	
TASK 11/16/21- CSO ACC. DEPRECIATION	-	(62,184,918)	-	-	-	-	-	-	-	-	-	-	-	
O'BRIEN	-	(283,103)	283,103	-	-	-	-	-	-	-	-	-	-	
VANPORTFLIET	-	(271,154)	271,154	-	-	-	-	-	-	-	-	-	-	
REMEMBRANCE / 3 MILE	-	(626,416)	626,416	-	-	-	-	-	-	-	-	-	-	
16th AVENUE	-	(51,927)	-	-	-	-	-	-	-	-	-	-	-	
HAYES- WEST	-	(83,276)	-	-	-	-	83,276	-	-	-	-	-	-	
HAYES- EAST	-	(107,764)	-	-	-	-	107,764	-	-	-	-	-	-	
KINGSBURY	\$ 107,207	(107,207)	107,207	-	-	-	-	-	-	-	-	-	-	
MEADOWOOD TRAILS	-	(15,596)	-	-	-	15,596	-	-	-	-	-	-	-	
OAK HOLLOW	-	(15,596)	-	-	-	15,596	-	-	-	-	-	-	-	
COLLINDALE	-	(15,596)	-	-	-	15,596	-	-	-	-	-	-	-	
THORNAPPLE	-	(106,210)	106,210	-	-	-	-	-	-	-	-	-	-	
6000 28TH ST	-	(29,707)	29,707	-	-	-	-	-	-	-	-	-	-	
THORNHILLS	-	(39,469)	39,469	-	-	-	-	-	-	-	-	-	-	
ROBINHOOD	-	(65,413)	65,413	-	-	-	65,413	-	-	-	-	-	-	
CASCADE SPRINGS	-	(39,287)	39,287	-	-	-	-	-	-	-	-	-	-	
SHOREHAVEN	-	(26,621)	26,621	-	-	-	-	-	-	-	-	-	-	
EAGLECREST	-	(50,777)	50,777	-	-	-	26,621	-	-	-	-	-	-	
GREENBRIER	-	(14,546)	14,546	-	-	-	50,777	-	-	-	-	-	-	
LINGCOLN SCHOOL	-	(42,382)	42,382	-	-	-	14,546	-	-	-	-	-	-	
REEDS LAKE	-	(224,808)	224,808	-	-	-	42,382	-	-	-	-	-	-	
KRAFT	-	(26,621)	26,621	-	-	-	224,808	-	-	-	-	-	-	
ORCHARD VISTA	-	(11,914)	11,914	-	-	-	-	-	-	-	-	-	-	
BIRD AVE-ALPINE ESTATES	-	(182,136)	182,136	-	-	-	26,621	-	-	-	-	-	-	
EAST PARIS	-	(140,174)	140,174	-	-	-	11,914	-	-	-	-	-	-	
SERVICE MAINS	-	(11,045,290)	(3,551,819)	(4,754,573)	(419,268)	(129,220)	(165,386)	-	-	-	-	-	(20,065,556)	
LESS- SERVICE MAINS- TOTAL SUBS- PHY. LOC.	-	5,901,184	2,670,871	1,975,731	62,154	11,424	6,696	-	-	-	-	-	10,628,060	
ADD- SERVICE MAINS- TOTAL ADDS- PHY. LOC.	\$ 114,227,860	\$ 63,427,941	\$ 17,412,050	\$ 13,873,778	\$ 9,162,450	\$ 8,538,539	\$ 1,586,296	\$ 129,597	\$ -	\$ -	\$ -	\$ -	\$ 228,358,511	
<b>ACCUMULATED DEPRECIATION- ZONEGATED</b>														
LIFT STATIONS / CHAMBERS:														
FULLER-BROOKVIEW	\$ 752,383	(432,237)	-	-	-	432,237	-	-	-	-	-	-	-	
FULTON-MIDDLEBORROW	37,983	(37,983)	-	-	-	37,983	-	-	-	-	-	-	-	
WEALTHY ST EXT- CHAMBER	169,812	(50,251)	44,530	-	-	-	5,721	-	-	-	-	-	-	
WEALTHY	20,444	(6,701)	6,396	-	-	-	46	259	-	-	-	-	-	
MARKET	6,618,964	(772,169)	617,682	-	-	113,979	21,048	19,460	-	-	-	-	-	
VANPORTFLIET	271,154	84,717	(84,717)	-	-	-	-	-	-	-	-	-	-	
REMEMBRANCE / 3 MILE	626,416	(116,564)	(116,564)	-	-	-	17,452	99,112	-	-	-	-	-	
16th AVENUE	51,927	-	-	-	-	-	-	-	-	-	-	-	-	
HAYES- WEST	83,276	-	-	-	-	-	(83,276)	83,276	-	-	-	-	-	
HAYES- EAST	107,764	-	-	-	-	-	-	-	-	-	-	-	-	
O'BRIEN	283,103	21,555	(53,064)	-	-	-	31,509	-	-	-	-	-	-	
SERVICE MAINS-ZONEGATED ACC. DEPRECIATION	-	736,514	1,708,472	1,467,792	1,101,102	1,195,713	414,285	332,472	235,229	149,022	1,523,079	573,825	9,437,505	
TOTAL- ZONEGATED ACC. DEPRECIATION	-	(456,555)	2,122,735	1,467,792	1,101,102	1,179,912	406,785	534,579	235,229	149,022	1,523,079	573,825	9,437,505	
GRAND TOTAL- ACC. DEPRECIATION	\$ 114,227,860	\$ 62,971,386	\$ 19,534,785	\$ 15,341,570	\$ 10,263,552	\$ 10,318,451	\$ 1,993,081	\$ 664,176	\$ 235,229	\$ 149,022	\$ 1,523,079	\$ 573,825	\$ 237,796,016	

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
ADJUSTED OPERATING EXPENSE ZONEGATING ALLOCATION BY GOVERNMENTAL UNIT - TASK #22  
FISCAL YEAR ENDED JUNE 30, 2017**

COST CENTER	ADJUSTED EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL					WHOLESALE									
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP				
<b>WASTEWATER TREATMENT</b>		\$ 15,540,301															
<b>LIFT STATIONS:</b>																	
A. INTERCEPTOR	256,913		226,942	23,975	-	-	-	4,424	-	817	755	-	-	-	-	-	-
B. TRUNK	126,642		37,625	50,422	127,038	-	24,308	10,391	-	3,896	-	-	-	-	-	-	-
C. LOCAL COLLECTOR	513,836		80,221	67,700	2,436,080	-	97,959	200,901	-	26,737	30,479	-	-	9,839	-	-	-
<b>SEWER LINES:</b>																	
A. INTERCEPTOR	247,892		142,947	35,444	62,627	-	6,874	-	-	-	-	-	-	-	-	-	-
B. TRUNK	541,025		184,781	136,885	380,350	-	48,773	28,415	-	14,516	617	-	-	-	-	-	-
C. LOCAL COLLECTOR	3,904,225		2,436,080	486,115	(21,233)	-	236,401	297,736	-	44,469	23,074	-	-	-	-	-	-
D. ZONEGATING			(95,036)	10,155	18,874	-	18,874	28,054	-	(5,488)	16,258	-	-	2,667	26,875	10,258	-
BULK METERING STATIONS	5,965		-	-	4,321	-	-	-	-	-	-	-	-	-	451	308	-
CUSTOMER ACCOUNTING *	3,370,461		2,626,094	255,919	211,463	-	87,632	169,130	-	9,842	10,381	-	-	-	-	-	-
<b>INDUSTRIAL PRETREATMENT</b>		738,930															
SUBTOTAL OPERATING EXPENSE	25,246,190		5,639,654	1,066,615	764,566		520,821	739,051		94,789	81,564		2,667	37,165		10,566	
ADMINISTRATIVE EXPENSE	2,194,416		535,381	90,253	64,695		44,070	62,536		8,021	6,902		226	3,145		894	
<b>TOTAL</b>	<b>\$ 27,440,606</b>		<b>\$ 6,175,035</b>	<b>\$ 1,156,868</b>	<b>\$ 829,261</b>		<b>\$ 564,891</b>	<b>\$ 801,587</b>		<b>\$ 102,810</b>	<b>\$ 88,466</b>		<b>\$ 2,893</b>	<b>\$ 40,310</b>		<b>\$ 11,460</b>	

\* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

**METHOD OF DISTRIBUTION**

<b>WASTEWATER TREATMENT</b>		100.000%															
<b>LIFT STATIONS:</b>																	
A. INTERCEPTORS	(53)	100.000%	(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B. TRUNK	(7)	100.000%	(3)	(3)	-	-	(1)	-	-	-	-	-	-	-	-	-	-
C. LOCAL	(45)	100.000%	(9)	(3)	-	-	(9)	(17)	-	(5)	(1)	-	-	(1)	-	-	-
<b>SEWER LINES:</b>																	
TOTAL MILES:	915.06																
A. INTERCEPTOR	48.33	100.000%	57,665%	14,298%	25,264%		2,773%	0.000%		0.000%	0.000%		0.000%	0.000%	0.000%	0.000%	
MILES			27,87	6,91	12,21		1,34	-		-	-		-	-	-	-	
B. TRUNK LINES	105.49	100.000%	34,154%	25,301%	23,481%		9,015%	5,252%		2,683%	0.114%		0.000%	0.000%	0.000%	0.000%	
MILES			36,03	26,69	24,77		9,51	5,54		2,83	0.12		-	-	-	-	
C. LOCAL COLLECTOR	761.24	100.000%	62,396%	12,451%	9,742%		6,055%	7,626%		1,139%	0.591%		0.000%	0.000%	0.000%	0.000%	
MILES			474,99	94,78	74,16		46,09	58,05		8,67	4,50		-	-	-	-	
D. ZONEGATING			(18.53)	1.98	(4.14)		3.68	5.47		(1.07)	3.17		1.68	0.52	5.24	2.00	
BULK METERING STATIONS	(4)		-	-	(1)		-	-		-	-		(1)	-	(1)	(1)	
CUSTOMER ACCTS (1)	74,914.00	100.000%	77,915%	7,593%	6,274%		2,600%	5,018%		0.292%	0.308%		-	-	-	-	
NO. OF METERS			58,369.00	5,688.00	4,700.00		1,948.00	3,759.00		219.00	231.00		-	-	-	-	
<b>INDUSTRIAL PRETREATMENT</b>		100.000%															
ADMINISTRATIVE EXPENSE (2)		100.000%	24,397%	4,113%	2,948%		2,008%	2,850%		0.366%	0.315%		0.037%	0.010%	0.143%	0.041%	

**NOTES:**

- (1) MAINTENANCE & COLLECTION COSTS ARE ALLOCATED ON THE NUMBER OF METERS, INCLUSIVE OF USERS FOR WRIGHT TWP.
- (2) ALLOCATED ON DIRECT OPERATING EXPENSE, ADJUSTED FOR ANY COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
TASK NO. 23**

ASSIGN OTHER OPERATING REVENUES TO EACH GOVERNMENTAL ENTITY.

BASIS OF ALLOCATION: RETAIL BILLINGS BY GOVERNMENTAL ENTITY - TASK NO. 6 & 7

	<u>RETAIL BILLINGS</u>	<u>PERCENTAGE OF TOTAL</u>	<u>ALLOCATION</u>
CITY OF GRAND RAPIDS	\$ 34,769,934	71.1475%	\$ 90,669
CITY OF WALKER	4,713,551	9.6451%	12,291
CITY OF KENTWOOD	3,941,550	8.0654%	10,278
CASCADE TOWNSHIP	2,421,254	4.9545%	6,314
GRAND RAPIDS TOWNSHIP	2,347,172	4.8029%	6,121
TALLMADGE TOWNSHIP	424,520	0.8687%	1,107
WRIGHT TOWNSHIP	252,121	0.5159%	657
	<u>\$ 48,870,102</u>	<u>100.0000%</u>	<u>\$ 127,437</u>

CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
ASSIGN DEPRECIATION EXPENSE TO CUSTOMER COMMUNITIES - TASK NO. 24  
FISCAL YEAR ENDED JUNE 30, 2017

COST CENTER BY PHYSICAL LOCATION- TASK 11	DEPRECIATION EXPENSE	INTEGRATED SYSTEM	CITY OF GRAND RAPIDS					WHOLESALE					TOTAL	
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP		GAINES TOWNSHIP
ADD-IN SERVICE- TASK 10		80,000	\$ 8,238,080	\$ 903,068	\$ 813,748	\$ 453,411	\$ 409,194	\$ 117,291	\$ 2,502	\$ -	\$ -	\$ -	\$ -	\$ 14,734,267
MARINE CONNECTOR AGREEMENT			55,460	8,543	2,351	4,093	14,539							164,986
SADDLEBACK SEWER			(4,785)					(10,307)	(1,563)					(16,655)
LESS: TASK 11/16/21-CSO DEP. EXP.			(3,774,613)		22,313	1,429								23,742
LIFT STATIONS / CHAMBERS:														(3,774,613)
FULLER-BROOKVIEW (GR)	\$ 26,326		(15,124)	-	-	-	15,124	-	-	-	-	-	-	-
FULTON- MIDDLEBORO (GR)	183		(183)	-	-	-	183	-	-	-	-	-	-	-
WEALTHY ST EXT. CHAMBER	11,321		(3,350)	2,969	-	-	381	-	-	-	-	-	-	-
MARKET	393,343		(45,887)	36,707	-	-	6,773	1,251	1,156	-	-	-	-	-
VANPORTFLIET	34,991		10,932	-	-	-	-	1,745	9,911	-	-	-	-	-
REMEMBRANCE / 3 MILE	62,642		-	(11,656)	-	-	-	1,338	-	-	-	-	-	-
O'BRIEN	12,023		915	(2,253)	-	-	-	-	-	-	-	-	-	-
KINGSBURY	10,772													
MEADOWOOD TRAILS	2,228													
OAK HOLLOW	2,228													
COLLINDALE	2,228													
THORNAPPLE	7,474													
6000 28TH ST	3,713													
THORNHILLS	3,947													
ROBINHOOD	5,947													
CASCADE SPRINGS	2,183													
SHOREHAVEN	2,420													
EAGLECREST	5,078													
GREENBRIER	1,616													
LINCOLN SCHOOL	5,121													
REEDS LAKE	24,979													
KRAFT	2,420													
ORCHARD VISTA	1,324													
16TH AVE	1,570		(1,570)	-	-	-	-	-	1,570	-	-	-	-	-
HAYES- WEST	3,190		(3,190)	-	-	-	-	-	3,190	-	-	-	-	-
HAYES- EAST	4,421		(4,421)	-	-	-	-	4,421	-	-	-	-	-	-
BIRD AVE-ALPINE ESTATES	23,258		(23,258)	-	-	-	23,258	-	-	-	-	-	-	-
EAST PARIS	10,783		(10,783)	-	-	-	10,783	-	-	-	-	-	-	-
SERVICEMANS			(158,610)	33,127	(211,596)	45,556	83,491	25,408	26,914	4,893	126,305	18,840		
ADJUSTED BY ZONEGATING			4,259,613	959,573	626,816	504,489	563,345	141,528	43,680	4,893	126,305	18,840		
LESS CONTRIBUTIONS AMORTIZED			(1,111,535)	(443,447)	(459,283)	(361,609)	(294,752)	(95,919)	-	-	-	(14,384)		
TASK NO. 21			\$ 3,148,078	\$ 516,126	\$ 167,533	\$ 142,880	\$ 268,593	\$ 45,609	\$ 43,680	\$ 4,893	\$ 126,305	\$ 4,456		
TOTAL			\$ 2,874,972	\$ 3,148,078	\$ 167,533	\$ 142,880	\$ 268,593	\$ 45,609	\$ 43,680	\$ 4,893	\$ 126,305	\$ 4,456		\$ 7,348,797

CITY OF GRAND RAPIDS, MICHIGAN  
SEWAGE DISPOSAL SYSTEM FUND  
ACCUMULATE REVENUE REQUIREMENTS BY CUSTOMER COMMUNITIES - TASK NO. 25  
FISCAL YEAR ENDED JUNE 30, 2017

	RETAIL										WHOLESALE					TOTAL
	CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP		
<b>COST CENTER</b>																
<b>INTEGRATED SYSTEM</b>																
OPERATION & MAINTENANCE EXPENSE- TASK NO. 22	\$ 17,656,720	\$ 1,156,868	\$ 829,261	\$ 564,891	\$ 801,587	\$ 102,810	\$ 88,466	\$ 10,305	\$ 2,893	\$ 40,310	\$ 11,460	\$ 2,893	\$ 40,310	\$ 11,460	\$ 27,440,606	
DEPRECIATION EXPENSE TASK NO. 24	2,874,972	516,126	167,533	142,880	268,593	45,609	43,680	5,672	4,893	126,305	4,456	4,893	126,305	4,456	7,348,797	
RETURN ON SYSTEM INVESTMENT TASK NO. 21	2,979,455	829,350	275,572	355,223	552,390	126,426	99,151	10,339	836	384,682	1,904	836	384,682	1,904	12,217,951	
REVENUE CREDITS- TASK NO. 23	(90,669)	(12,291)	(10,278)	(6,314)	(6,121)	(1,107)	(657)								(127,437)	
CSO DEBT SERVICE REQUIREMENTS	8,007,588														8,007,588	
ALLOCATE:																
INTEGRATED SYSTEM CREDITS	(1,477,867)	(252,689)	(329,376)	(160,177)	(109,907)	(15,046)	(8,403)	(79,850)	(15,511)	(88,553)	-	(15,511)	(88,553)	-	(2,537,379)	
INTEGRATED SYSTEM (A)	13,573,002	2,320,737	3,025,051	1,471,091	1,009,406	138,182	77,173	733,360	142,461	813,292	207,392	142,461	813,292	207,392	-	
LESS: CIRCUIT BREAKER (B)	-	-	(4,937)	-	(106,042)	-	(27,021)	-	-	-	-	-	-	-	(138,000)	
CAPITAL INVESTMENT REIMBURSEMENT (C)	-	-	107,854	-	-	-	-	-	-	-	-	-	-	-	107,854	
	\$ -	\$ 4,558,101	\$ 4,060,680	\$ 2,367,594	\$ 2,409,906	\$ 396,874	\$ 272,389	\$ 679,826	\$ 135,572	\$ 1,276,036	\$ 225,212	\$ 135,572	\$ 1,276,036	\$ 225,212	\$ 52,319,981	

(A) ALLOCATED TO CUSTOMER COMMUNITIES UNDER OLD CONTRACT BASIS OF PLANT FLOW. REMAINING ALLOCATION TO UAB PARTNERS UNDER UNIFORM SERVICE AGREEMENTS BASED ON PLANT FLOW & LAND, AS NOTED BELOW

	RETAIL										WHOLESALE					TOTAL
	CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP		
<b>OLD METHOD- PLANT FLOW</b>	\$ 13,573,002	2,320,737	3,025,051	1,471,091	1,009,406	138,182	77,173	733,360	142,461	813,292	207,392	142,461	813,292	207,392	23,303,755	
<b>NEW METHOD- PLANT FLOW / LAND</b>	\$ 13,573,002	\$ 2,320,737	\$ 3,025,051	\$ 1,471,091	\$ 1,009,406	\$ 138,182	\$ 77,173	\$ 733,360	\$ 142,461	\$ 813,292	\$ 207,392	\$ 142,461	\$ 813,292	\$ 207,392	\$ 23,511,147	

(B) PURSUANT TO CITY AND CUSTOMER COMMUNITY CIRCUIT BREAKER, AS PROVIDED FOR BY THE THIRD AMENDMENT TO THE UNIFORM SERVICE AGREEMENTS  
(C) PER COMMISSION APPROVED PAYBACK AGREEMENT, THE CITY OF KENTWOOD IS FINANCING THE PAYBACK OF A LOAN THROUGH THE SEWER SYSTEM ENTERPRISE FUND OVER FOUR YEARS BEGINNING WITH THE 2015 RATE STUDY

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
TASK NO. 25a**

REVIEW THE REVENUE REQUIREMENTS TO ASSURE COMPLIANCE WITH THE APPLICABLE BOND ORDINANCE PROVISIONS.

	<u>YEAR ENDED</u> <u>6/30/17</u>	<u>PRO FORMA *</u> <u>6/30/18</u>
<b>REVENUES:</b>		
RETAIL/WHOLESALE SEWAGE SERVICE	\$ 51,086,786	\$ 50,622,507
CONNECTION FEES/FRONT FOOT FEES	936,812	990,240
SEWAGE SURCHARGES	1,831,469	2,406,464
OTHER OPERATING REVENUES	788,686	634,838
INTEREST ON INVESTMENTS	245,759	474,460
MISCELLANEOUS	1,177	20,000
TOTAL REVENUES	<u>\$ 54,890,689</u>	<u>\$ 55,148,509</u>
<b>OPERATING EXPENSES:</b>		
OPERATIONS & MAINTENANCE	\$ 26,140,588	\$ 26,627,378
DEPRECIATION	<u>14,734,268</u>	<u>14,734,268</u>
TOTAL EXPENSES	<u>\$ 40,874,856</u>	<u>\$ 41,361,646</u>
<b>ADDITIONS: DEPRECIATION</b>	<u>14,734,268</u>	<u>14,734,268</u>
<b>NET EARNINGS OF THE SYSTEM</b>	<u><u>\$ 28,750,101</u></u>	<u><u>\$ 28,521,131</u></u>
<b>DEBT SERVICE</b>		
SERIES 2016 BONDS	\$ 1,991,426	\$ 2,405,750
SERIES 2014 BONDS	3,465,100	3,464,900
SERIES 2013 BONDS	2,036,200	2,038,000
SERIES 2012 BONDS	2,163,600	2,161,800
SERIES 2010A&B BONDS (after BAB subsidy)	1,255,920	1,253,870
SERIES 2010 BONDS	1,481,250	1,481,250
SERIES 2008 BONDS	1,676,150	1,674,750
SERIES 1998 BONDS	<u>4,400,875</u>	<u>4,405,150</u>
SENIOR LIEN	18,470,521	18,885,470
JUNIOR LIEN **	784,744	739,781
TOTAL	<u><u>\$ 19,255,265</u></u>	<u><u>\$ 19,625,251</u></u>
<b>COVERAGE RATIO - SENIOR DEBT</b>	<u>1.56</u>	<u>1.51</u>
<b>COVERAGE RATIO - ALL DEBT</b>	<u><u>1.49</u></u>	<u><u>1.45</u></u>

\* SEWAGE SERVICE ADJUSTED FOR RATE REVISIONS OF 0.36% AND 3.08% EFFECTIVE 1/1/17 AND 1/1/18, RESPECTIVELY; OTHER REVENUES AND OPERATIONS & MAINTENANCE EXPENSE PER 2017 FISCAL PLAN, ADJUSTED FOR CARRYFORWARDS.

\*\* AMOUNTS IN PRO FORMA ARE BASED ON MAXIMUM PRINCIPAL AND DO NOT INCLUDE PRINCIPAL FORGIVENESS IF NOT YET FINALIZED.

**SUMMARY**

**SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
RATE ANALYSIS - TASK NO. 26**

INITIAL SYSTEM REVENUE REQUIREMENTS		\$ 52,350,127
REVENUES FROM CURRENT RATES		
REU CHARGE	\$ 264,096	
MONTHLY METER CHARGE	16,167,190	
MONTHLY BILLING CHARGE	3,245,363	
COMMODITY CHARGE	<u>31,080,644</u>	<u>(50,757,293)</u>
INITIAL REQUIRED REVENUE INCREASE (DECREASE)		<u>\$ 1,592,834</u>
INITIAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>3.14%</u>
INITIAL SYSTEM REVENUE REQUIREMENTS FROM ABOVE		\$ 52,350,127
LESS: AMOUNT OF CIRCUIT BREAKER RELIEF TO REDUCE RR's TO RETAIL		(138,000)
PLUS: CAPITAL INVESTMENT REIMBURSEMENT (KENTWOOD)		107,854
SYSTEM REVENUE REQUIREMENTS		<u>\$ 52,319,981</u>
ACTUAL REQUIRED AMOUNT OF REVENUE INCREASE (DECREASE)		<u>\$ 1,562,688</u>
ACTUAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>3.08%</u>

SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
TASK NO. 26

METER SIZE	EQUIV. FACTOR	CITY OF GR		CITY OF WALKER		CITY OF KENTWOOD		CASCADE TWP		GR TWP		TALLMADGE TWP		WRIGHT TWP	
		METERS*	EQUIV.	METERS*	EQUIV.	METERS*	EQUIV.	METERS*	EQUIV.	METERS*	EQUIV.	METERS*	EQUIV.	USERS*	REU
A 3/4" or less	1.0000	54,342	54,342	5,093	5,093	3,663	3,663	1,472	1,472	3,399	3,399	191	191	-	-
B 1"	1.7778	2,241	3,984	350	622	488	868	248	441	241	428	14	25	-	-
C 1 1/4"	2.7778	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D 1 1/2"	4.0000	917	3,668	147	588	319	1,276	155	620	77	308	7	28	-	-
E 2"	7.1111	673	4,786	79	562	190	1,351	61	434	28	199	3	21	-	-
F 3"	16.0000	93	1,488	6	96	19	304	8	128	6	96	2	32	-	-
G 4"	28.4444	77	2,190	7	199	16	455	3	85	3	85	-	-	-	-
H 6" and over	64.0000	26	1,664	6	384	5	320	1	64	5	320	2	128	-	-
Other- Wright Twp		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	231	422.500
<b>TOTAL</b>		58,369	72,122	5,688	7,544	4,700	8,237	1,948	3,244	3,759	4,835	219	425	231	422.500
															74,914

Source: City of Grand Rapids, Michigan, Water/Sewer Customer Accounts/Meters Report, dated November 1, 2017.

**CITY OF GRAND RAPIDS, MICHIGAN**

**SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS					\$	35,937,791
REVENUES FROM CURRENT RATES						
MONTHLY METER CHARGE						
	72,122	meter equivalents	x	\$ 12.67	x	12 = \$ 10,965,429
MONTHLY BILLING CHARGE						
	58,369	meters	x	\$ 2.95	x	12 = 2,066,263
COMMODITY CHARGE						
	6,532,335	units (100 CF)	x	\$ 3.35	=	<u>21,883,322</u>
						<u>(34,915,014)</u>
REQUIRED REVENUE INCREASE (DECREASE)					\$	<u>1,022,777</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES						<u>2.93%</u>

**CITY OF GRAND RAPIDS, MICHIGAN**

**SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

$$\frac{\text{INTEGRATED SYSTEM COST}}{\text{BILLED UNITS}} = \frac{\$21,580,590}{6,532,335} = \underline{\underline{\$ 3.30 /100 CF *}}$$

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS \$ 35,937,791

NEW COMMODITY CHARGE  
6,532,335 x \$ 3.30 \$ 21,556,706

NEW MONTHLY BILLING CHARGE  
58,369 x \$ 3.75 x 12 2,626,605 (24,183,311)

\$ 11,754,480

$$\text{MONTHLY METER CHARGE} = \frac{\$11,754,480}{72,122 \times 12} = \underline{\underline{\$ 13.58 \text{ MONTHLY}}}$$

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 13.58	\$ 3.75	\$ 17.33	\$ 15.62
1"	1.7778	24.14	3.75	27.89	25.47
1 1/4"	2.7778	37.72	3.75	41.47	38.14
1 1/2"	4.0000	54.32	3.75	58.07	53.63
2"	7.1111	96.57	3.75	100.32	93.05
3"	16.0000	217.28	3.75	221.03	205.67
4"	28.4444	386.27	3.75	390.02	363.34
6" and over	64.0000	869.12	3.75	872.87	813.83

\* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2018

**CITY OF WALKER, MICHIGAN**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS		\$ 4,558,101
REVENUES FROM CURRENT RATES		
MONTHLY METER CHARGE		
7,544 meter equivalents	x \$ 24.17	x 12 = \$ 2,188,062
MONTHLY BILLING CHARGE		
5,688 meters	x \$ 2.95	x 12 = 201,355
COMMODITY CHARGE		
839,092 units (100 CF)	x \$ 2.43	= <u>2,038,994</u>
		<u>(4,428,411)</u>
REQUIRED REVENUE INCREASE (DECREASE)		<u>\$ 129,690</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>2.93%</u>

**CITY OF WALKER, MICHIGAN**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 2.50 /100 CF \*  
 \$ 2.43 x 102.93%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS		\$ 4,558,101
NEW COMMODITY CHARGE		
839,092 x \$ 2.50		\$ 2,097,730
NEW MONTHLY BILLING CHARGE		
5,688 x \$ 3.75 x 12	255,960	(2,353,690)
		\$ 2,204,411

MONTHLY METER CHARGE =  $\frac{\$2,204,411}{7,544 \times 12}$  = \$ 24.35 MONTHLY

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 24.35	\$ 3.75	\$ 28.10	\$ 27.12
1"	1.7778	43.29	3.75	47.04	45.92
1 1/4"	2.7778	67.64	3.75	71.39	70.09
1 1/2"	4.0000	97.40	3.75	101.15	99.63
2"	7.1111	173.16	3.75	176.91	174.83
3"	16.0000	389.60	3.75	393.35	389.67
4"	28.4444	692.62	3.75	696.37	690.45
6" and over	64.0000	1,558.40	3.75	1,562.15	1,549.83

\* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2018

**CITY OF KENTWOOD, MICHIGAN**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS \* \$ 4,060,680

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

8,237 meter equivalents x \$ 3.92 x 12 = \$ 387,468

MONTHLY BILLING CHARGE

4,700 meters x \$ 2.95 x 12 = 166,380

COMMODITY CHARGE

1,366,099 units (100 CF) x \$ 2.40 = 3,278,638 (3,832,486)

REQUIRED REVENUE INCREASE (DECREASE) \$ 228,194

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 5.95%

\* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 4,937  
 REFLECTS CAPITAL INVESTMENT REIMBURSEMENT, IN THE AMOUNT OF \$ 107,854

**CITY OF KENTWOOD, MICHIGAN**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 2.54 /100 CF \*  
 \$ 2.40 x 105.95%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **	\$ 4,060,680
NEW COMMODITY CHARGE 1,366,099 x \$ 2.54	\$ 3,469,891
NEW MONTHLY BILLING CHARGE 4,700 x \$ 3.75 x 12	<u>211,500</u> (3,681,391)
	<u>\$ 379,289</u>

MONTHLY METER CHARGE =  $\frac{\$379,289}{8,237 \times 12}$  = \$ 3.84 MONTHLY

<u>METER SIZE</u>	<u>EQUIVALENT</u>	<u>MONTHLY SERVICE CHARGE</u>			<u>PRESENT</u>
		<u>METER</u>	<u>BILLING</u>	<u>TOTAL</u>	
3/4" or less	1.0000	\$ 3.84	\$ 3.75	\$ 7.59	\$ 6.87
1"	1.7778	6.83	3.75	10.58	9.92
1 1/4"	2.7778	10.67	3.75	14.42	13.84
1 1/2"	4.0000	15.36	3.75	19.11	18.63
2"	7.1111	27.31	3.75	31.06	30.83
3"	16.0000	61.44	3.75	65.19	65.67
4"	28.4444	109.23	3.75	112.98	114.45
6" and over	64.0000	245.76	3.75	249.51	253.83

\*NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2018

\*\* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 4,937  
 AND REFLECTS CAPITAL INVESTMENT REIMBURSEMENT, IN THE AMOUNT OF \$ 107,854

**CASCADE TOWNSHIP**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS \$ 2,367,594

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

3,244 meter equivalents x \$ 28.90 x 12 = \$ 1,125,019

MONTHLY BILLING CHARGE

1,948 meters x \$ 2.95 x 12 = 68,959

COMMODITY CHARGE

457,395 units (100 CF) x \$ 2.63 = 1,202,949 (2,396,927)

REQUIRED REVENUE INCREASE (DECREASE) \$ (29,333)

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES -1.22%

**CASCADE TOWNSHIP**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 2.60 /100 CF \*  
 \$ 2.63 x 98.78%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS		\$ 2,367,594
NEW COMMODITY CHARGE		
457,395 x \$ 2.60		\$ 1,189,227
NEW MONTHLY BILLING CHARGE		
1,948 x \$ 3.75 x 12	87,660	(1,276,887)
		<u>\$ 1,090,707</u>

MONTHLY METER CHARGE =  $\frac{\$1,090,707}{3,244 \times 12}$  = \$ 28.02 MONTHLY

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 28.02	\$ 3.75	\$ 31.77	\$ 31.85
1"	1.7778	49.81	3.75	53.56	54.33
1 1/4"	2.7778	77.83	3.75	81.58	83.23
1 1/2"	4.0000	112.08	3.75	115.83	118.55
2"	7.1111	199.25	3.75	203.00	208.46
3"	16.0000	448.32	3.75	452.07	465.35
4"	28.4444	797.01	3.75	800.76	824.99
6" and over	64.0000	1,793.28	3.75	1,797.03	1,852.55

\* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2018

**GRAND RAPIDS TOWNSHIP**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS \* \$ 2,409,906

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

4,835 meter equivalents x \$ 23.15 x 12 = \$ 1,343,163

MONTHLY BILLING CHARGE

3,759 meters x \$ 2.95 x 12 = 133,069

COMMODITY CHARGE

385,788 units (100 CF) x \$ 2.23 = 860,307 (2,336,539)

REQUIRED REVENUE INCREASE (DECREASE) \$ 73,367

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 3.14%

\* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 106,042



**TALLMADGE TOWNSHIP**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS		\$	396,874
REVENUES FROM CURRENT RATES			
MONTHLY METER CHARGE			
425 meter equivalents	x	\$ 30.99	x 12 =
			\$ 158,049
MONTHLY BILLING CHARGE			
219 meters	x	\$ 2.95	x 12 =
			7,753
COMMODITY CHARGE			
24,600 units (100 CF)	x	\$ 10.79	=
			<u>265,434</u>
			<u>(431,236)</u>
REQUIRED REVENUE INCREASE (DECREASE)		\$	<u><u>(34,362)</u></u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u><u>-7.97%</u></u>



**WRIGHT TOWNSHIP**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS \$ 272,389

REVENUES FROM CURRENT RATES

REU CHARGE

422.500 meter equivalents x \$ 52.09 x 12 = \$ 264,096

MONTHLY METER CHARGE

422.500 meter equivalents x \$ - x 12 = -

MONTHLY BILLING CHARGE

231 meters x \$ - x 12 = -

COMMODITY CHARGE

23,828 units (100 CF) x \$ - = - (264,096)

REQUIRED REVENUE INCREASE (DECREASE) \$ 8,293

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 3.14%

\* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 27,021

**WRIGHT TOWNSHIP**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 27**

**MONTHLY REU CHARGE:**

$$\frac{\text{SYSTEM REVENUE REQUIREMENTS **}}{\text{TOTAL REU'S * 12 MONTHS}} = \frac{\$272,389}{422.500 \times 12} = \$ \underline{\underline{53.73}} \quad \text{MONTHLY REU CHARGE *}$$

**EXAMPLES OF APPROXIMATE MONTHLY CHARGE BY NUMBER OF REU:**

<u>NUMBER OF REU</u>	<u>AMOUNT</u>	<u>NUMBER OF REU</u>	<u>AMOUNT</u>	<u>NUMBER OF REU</u>	<u>AMOUNT</u>
1.0000	\$ 53.73	7.5000	\$ 402.98	19.0000	\$ 1,020.87
1.5000	80.60	8.0000	429.84	20.0000	1,074.60
2.0000	107.46	8.5000	456.71	25.0000	1,343.25
2.5000	134.33	9.0000	483.57	30.0000	1,611.90
3.0000	161.19	9.5000	510.44	35.0000	1,880.55
3.5000	188.06	10.0000	537.30	40.0000	2,149.20
4.0000	214.92	11.0000	591.03	50.0000	2,686.50
4.4000	236.41	12.0000	644.76	60.0000	3,223.80
4.5000	241.79	13.0000	698.49	70.0000	3,761.10
5.0000	268.65	14.0000	752.22	80.0000	4,298.40
5.5000	295.52	15.0000	805.95	90.0000	4,835.70
6.0000	322.38	16.0000	859.68	100.0000	5,373.00
6.5000	349.25	17.0000	913.41	150.0000	8,059.50
7.0000	376.11	18.0000	967.14	200.0000	10,746.00

\*NEW RATES EFFECTIVE ON JANUARY 1, 2018

\*\*REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 27,021

**CITY OF EAST GRAND RAPIDS, MICHIGAN**

**SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
RATE ANALYSIS - TASK NO. 26**

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$	653,510
COMMODITY CHARGE			
356.301 units	x	\$	1,684.00
			600,011
			<hr/>
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$	<u>53,499</u>
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$	26,316
MONTHLY SERVICE CHARGE			
\$1,818	x		12 MONTHS
			21,816
			<hr/>
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$	<u>4,500</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>9.33%</u>

**CITY OF EAST GRAND RAPIDS, MICHIGAN**

**SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
RATE ANALYSIS - TASK NO. 27**

SYSTEM REVENUE REQUIREMENTS	\$ 679,826
NEW COMMODITY CHARGE *	
356.301 x \$ 1,834.00 =	(653,456)
	<hr/>
	<u>\$ 26,370</u>

MONTHLY SERVICE CHARGE \* = \$ 26,370 / 12 = \$2,198

\* NEW RATES EFFECTIVE ON JANUARY 1, 2018

**CALEDONIA TOWNSHIP**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 26**

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 126,950
COMMODITY CHARGE		
27.676 units    x    \$ 4,040.00		111,811
		111,811
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 15,139
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 8,622
MONTHLY SERVICE CHARGE		
\$755            x        12 MONTHS		9,060
		9,060
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ (438)
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		12.16%

**CALEDONIA TOWNSHIP**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 27**

SYSTEM REVENUE REQUIREMENTS	\$ 135,572
NEW COMMODITY CHARGE * 27.676 x \$ 4,587.00 =	(126,950)
	<hr/>
	<u>\$ 8,622</u>

MONTHLY SERVICE CHARGE \* = \$ 8,622 / 12 = \$719

\* NEW RATES EFFECTIVE ON JANUARY 1, 2018

**ADA TOWNSHIP**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 26**

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 724,739
COMMODITY CHARGE		
316.752 units    x    \$ 2,023.00		640,789
		640,789
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 83,950
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 551,297
MONTHLY SERVICE CHARGE		
\$45,939            x    12 MONTHS		551,268
		551,268
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ 29
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		7.04%

**ADA TOWNSHIP**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 27**

SYSTEM REVENUE REQUIREMENTS	\$ 1,276,036
NEW COMMODITY CHARGE *	
316.752 x \$ 2,288.00 =	(724,729)
	<hr/>
	<u>\$ 551,307</u>

MONTHLY SERVICE CHARGE \* = \$551,307 / 12 = \$45,942

\* NEW RATES EFFECTIVE ON JANUARY 1, 2018

**GAINES TOWNSHIP**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 26**

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 207,392
COMMODITY CHARGE		
133.866 units    x    \$ 1,482.00		198,389
		198,389
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 9,003
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 17,820
MONTHLY SERVICE CHARGE		
\$1,620            x    12 MONTHS		19,440
		19,440
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ (1,620)
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		3.39%

**GAINES TOWNSHIP**  
**SEWER RATE STUDY**  
**SEWAGE DISPOSAL SYSTEM FUND**  
**RATE ANALYSIS - TASK NO. 27**

SYSTEM REVENUE REQUIREMENTS	\$ 225,212
NEW COMMODITY CHARGE *	
133.866 x \$ 1,549.00 =	(207,358)
	<hr/>
	<u>\$ 17,854</u>

MONTHLY SERVICE CHARGE \* = \$ 17,854 / 12 = \$1,488

\* NEW RATES EFFECTIVE ON JANUARY 1, 2018

SEWER RATE STUDY  
 SEWAGE DISPOSAL SYSTEM FUND  
 RE-EVALUATE FRONT FOOT CHARGES  
 TASK NO. 28

The City Engineer's Office has reviewed recent construction costs for sanitary sewer facilities and recommends the following front foot assessment rates:

Sewer User Type	Definition	2017 Rate	2018 Rate	% Change
Domestic	Property is domicile for single or multiple family use, such as homes, apartments, duplexes, condominium, etc.	\$ 90.00	\$ 102.00	13.33%
Commercial - Industrial	Property used to offer services and / or products, such as retail/wholesale stores, gas stations, restaurants, hotels, schools, churches, etc., and manufacturing or processing facilities (industrial).	\$ 145.00	\$ 107.00	-26.21%

The above rates are based on an average of prices quoted in bid proposals which have been received by the City Engineer's Office during the period July 1, 2016 through June 30, 2017. Calculations of the rates are on file in the City Engineer's Office.

SEWER RATE STUDY  
 SEWAGE DISPOSAL SYSTEM FUND  
 EVALUATE SEWER LATERAL CHARGES  
 TASK NO. 29

The City Engineer's Office has evaluated the recent costs for a six inch (6") sanitary sewer lateral and recommends the following sanitary sewer lateral charges:

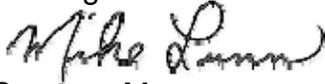
R.O.W. Width	Year	Lateral Charge	% Change
50 feet	2017	\$2,300	17.39%
	2018	\$2,700	
60 feet	2017	\$2,700	18.52%
	2018	\$3,200	
66 feet	2017	\$2,900	20.69%
	2018	\$3,500	
80 feet	2017	\$3,500	20.00%
	2018	\$4,200	
100 feet	2017	\$4,300	18.60%
	2018	\$5,100	

# MEMORANDUM

CITY OF GRAND RAPIDS

**Date:** September 11, 2017

**To:** Molly Eastman  
Fiscal Services Manager

**From:** Michael Lunn   
Environmental Services Manager

**Subject:** Sewer Rate Study – Task #30 - Surcharges

The Water Resource Recovery Facility (WRRF) has a limited amount of capacity which is typically allocated to industries having discharges exceeding ordinance limits. These industries are charged for utilizing this remaining plant capacity in four categories of conventional pollutants. These pollutants are: 1) Biochemical Oxygen Demand (BOD); 2) Total Suspended Solids (TSS); 3) Total Phosphorus (Phos); 4) and Ammonia Nitrogen (NH<sub>3</sub>). This benefits the industries in that it reduces their pretreatment requirements and benefits the system by utilizing available system capacity.

As shown on the attached sheets, the surcharge methodology includes evaluating various cost centers at the Water Resource Recovery Facility and allocating costs based on unit process operating cost. Cumulative costs can then be allocated to the four conventional pollutant categories identified above to determine appropriate surcharge rates.

The WRRF also accepts domestic septage portable toilet waste and concentrated waste on site. The following fees covers costs associated with permit administration, receiving facility operation and maintenance, analytical testing, treatment and disposal of the waste.

#### Septage Portable Toilet Waste

- \$500 annual discharge authorization permit fee.
- \$100 per 1,000 gallons discharged.

#### Concentrated Waste

- \$1,000 annual discharge authorization permit fee for Permitted Significant Industrial Users within the service area.
- \$2,000 annual discharge authorization permit fee for customers outside the service area.
- \$1,000 each for waste stream characterization and compatibility evaluation.
- \$45 per 1,000 gallons discharged for customers within the service area.
- \$60 per 1,000 gallons discharged for customers outside the service area.

**City of Grand Rapids Michigan**  
**Sewage Disposal System Fund**  
**Evaluation of Wastewater Surcharges for Industrial Customers- BOD, TSS, Phos & NH3**  
**TASK NO. 30- Part 1**

Description	Rate Study Year		Wastewater Surcharges						
	2017	2018	Volume	BOD	TSS	Phos	NH3	Industrial	Other
Operation & Maintenance (See Part 2)	\$ 27,254,144	\$ 27,254,144	\$ 4,226,460	\$ 4,333,409	\$ 5,352,310	\$ 1,003,232	\$ 438,428	\$ 738,930	\$ 11,161,375
Depreciation (See Part 3)	7,348,797	7,348,797	791,394	811,432	1,002,215	187,851	82,080	-	4,473,825
Return on System Investment (See Part 3)	12,217,951	12,217,951	820,155	840,921	1,038,638	194,678	85,063	-	9,238,496
<b>Total</b>	<b>46,820,892</b>	<b>46,820,892</b>	<b>5,838,009</b>	<b>5,985,762</b>	<b>7,393,163</b>	<b>1,385,761</b>	<b>605,571</b>	<b>738,930</b>	<b>24,873,696</b>

**Recommended Surcharge Rate - 2018**

**\$ 0.261      \$ 0.445      \$ 2.674      \$ 0.248**

**Actual Surcharge Rate - 2017**

**\$ 0.240      \$ 0.408      \$ 2.216      \$ 0.228**

**Change in Surcharge Rate - Amount- 2017 to 2018**

**\$ 0.021      \$ 0.037      \$ 0.458      \$ 0.020**

**Change in Surcharge Rate - Percent- 2017 to 2018**

**8.75%      9.07%      20.67%      8.77%**

Loadings - lb/day (Per Lunn) \*

**62,795      45,480      1,420      6,699**

Loadings - lb/year

22,920,297      16,600,322      518,178      2,445,135

\* Loadings are the average of the last three years.

Task No. 30 - Part 2

City of Grand Rapids Michigan  
Sewage Disposal System Fund  
Evaluation of High Strength Surcharges- BOD, TSS, Phos & NH3  
Allocation of Operation & Maintenance Expense & Determination of WWTP Allocation Factors

	Primary Allocation		Allocation Basis	Line No. Ref.	Component Allocation (3)								
	Base Year- 2017 Allocation (1)	Calendar Year- 2018 Allocation (2)			Volume	BOD	TSS	Phos	NH3	Industrial	Other		
Wastewater Treatment Plant													
Pre-Treatment	\$ 771,006	\$ 915,680	WWTP	(1)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Primary Treatment	1,180,422	1,401,920	WWTP	(2)	420,576	841,152	-	140,192	-	-	-	-	-
Secondary Treatment	2,315,593	2,750,098	WWTP	(3)	1,100,039	412,515	412,515	137,505	-	-	-	-	-
Disinfection/Dechlorination	1,170,062	1,389,616	WWTP	(4)	-	-	-	-	-	-	-	-	-
Phosphorus Removal	724,099	859,971	WWTP	(5)	-	-	429,986	-	-	-	-	-	-
Residue Handling/Disposal	6,766,811	8,036,554	WWTP	(6)	2,812,794	4,098,643	160,731	160,731	-	-	-	-	-
	<u>\$ 12,927,993</u>	<u>\$ 15,353,839</u>			<u>\$ 4,333,409</u>	<u>\$ 5,352,310</u>	<u>\$ 1,003,232</u>	<u>\$ 438,428</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Lift Stations													
Interceptor		256,913	Collection	(11)	-	-	-	-	-	-	-	-	256,913
Trunk		126,642	Collection	(11)	-	-	-	-	-	-	-	-	126,642
Local Collector		513,836	Collection	(11)	-	-	-	-	-	-	-	-	513,836
Sewer Lines													
Interceptor		247,892	Collection	(11)	-	-	-	-	-	-	-	-	247,892
Trunk		541,025	Collection	(11)	-	-	-	-	-	-	-	-	541,025
Local Collector		3,904,225	Collection	(11)	-	-	-	-	-	-	-	-	3,904,225
Bulk Meter Stations		5,965	Collection	(7)	-	-	-	-	-	-	-	-	5,965
Customer Accounting		3,370,461	Admin	(8)	-	-	-	-	-	-	-	-	3,370,461
Industrial Pretreatment		738,930	Industry	(9)	-	-	-	-	-	-	-	-	738,930
Subtotal		\$ 25,059,728			\$ 4,333,409	\$ 5,352,310	\$ 1,003,232	\$ 438,428	\$ 738,930	\$ -	\$ -	\$ -	\$ 8,966,959
Admin		2,194,416	Admin	(10)	-	-	-	-	-	-	-	-	2,194,416
Total		<u>\$ 27,254,144</u>			<u>\$ 4,333,409</u>	<u>\$ 5,352,310</u>	<u>\$ 1,003,232</u>	<u>\$ 438,428</u>	<u>\$ 738,930</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 11,161,375</u>
<b>WWTP Allocation Factors</b>		<b>100.000%</b>			<b>28.224%</b>	<b>34.860%</b>	<b>6.534%</b>	<b>2.855%</b>	<b>0.000%</b>	<b>0.000%</b>	<b>0.000%</b>	<b>0.000%</b>	<b>0.000%</b>
					<b>27.527%</b>								

(1) Per Lunn 082217.

(2) Primary Allocation of Current Year for Calendar 2018, based on 2017 Base Year.

(3) - (11) Refer to Task 30- Part 4 as noted.

**Task No. 30 - Part 3**

**City of Grand Rapids Michigan  
Sewage Disposal System Fund  
Evaluation of High Strength Surcharges- BOD, TSS, Phos & NH3  
Allocation of Depreciation Expense & Return on System Investment**

**Depreciation Expense- Task 24**

Description	Amount	Volume	Wastewater Surcharges					Industrial	Other
			BOD	TSS	Phos	NH3			
Integrated System (1)	\$ 2,874,972	\$ 791,394	\$ 811,432	\$ 1,002,215	\$ 187,851	\$ 82,080	\$ -	\$ -	
Other	4,473,825	-	-	-	-	-	-	4,473,825	
<b>Total</b>	<b>\$ 7,348,797</b>	<b>\$ 791,394</b>	<b>\$ 811,432</b>	<b>\$ 1,002,215</b>	<b>\$ 187,851</b>	<b>\$ 82,080</b>	<b>\$ -</b>	<b>\$ 4,473,825</b>	

**Return on System Investment- Task 21**

Description	Amount	Volume	Wastewater Surcharges					Industrial	Other
			BOD	TSS	Phos	NH3			
Integrated System (1)	\$ 2,979,455	\$ 820,155	\$ 840,921	\$ 1,038,638	\$ 194,678	\$ 85,063	\$ -	\$ -	
Other	9,238,496	-	-	-	-	-	-	9,238,496	
<b>Total</b>	<b>\$ 12,217,951</b>	<b>\$ 820,155</b>	<b>\$ 840,921</b>	<b>\$ 1,038,638</b>	<b>\$ 194,678</b>	<b>\$ 85,063</b>	<b>\$ -</b>	<b>\$ 9,238,496</b>	

(1) Allocated on WWTP Allocation Factors \* **27.5270%** **28.2240%** **34.8600%** **6.5340%** **2.8550%**

\* Refer to Task No. 30 - Part 2

Task No. 30 - Part 4

City of Grand Rapids Michigan  
 Sewage Disposal System Fund  
 Evaluation of High Strength Surcharges- BOD, TSS, Phos & NH3  
 Functional Cost Allocation Factors

Line No. Ref.	Cost Function	Total %	Allocation Basis	Volume %	Wastewater Surcharges					Other %
					BOD %	TSS %	Phos %	NH3 %	Industrial %	
(1)	Pre-Treatment	100.000%	WWTP	100.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
(2)	Primary Treatment	100.000%	WWTP	0.000%	30.000%	60.000%	0.000%	10.000%	0.000%	0.000%
(3)	Secondary Treatment	100.000%	WWTP	25.000%	40.000%	15.000%	15.000%	5.000%	0.000%	0.000%
(4)	Disinfection/Dechlorination	100.000%	WWTP	100.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
(5)	Phosphorus Removal	100.000%	WWTP	50.000%	0.000%	0.000%	50.000%	0.000%	0.000%	0.000%
(6)	Residue Handling/Disposal	100.000%	WWTP	10.000%	35.000%	51.000%	2.000%	2.000%	0.000%	0.000%
(7)	Bulk Metering Stations	100.000%	Collection	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	100.000%
(8)	Customer Accounting	100.000%	Admin	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	100.000%
(9)	Industrial Pretreatment	100.000%	Industry	0.000%	0.000%	0.000%	0.000%	100.000%	0.000%	0.000%
(10)	Admin	100.000%	Admin	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	100.000%
(11)	Collection System	100.000%	Collection	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	100.000%

(a) With the exception of phosphorus removal, foregoing based on "Final Allocation Table" in August 1, 2003 memo from Randall Fisher & Mike Lunn to Eric DeLong regarding 2001 Surcharge Rate Evaluation. Evaluation by WWTP staff for 2013 RS Review concluded percentages for phosphorus removal shall remain allocated 50/50 to the categories above, as initially recommended in the 2006 RS Review, to recommend 2017 rate adjustments.

**City of Grand Rapids Michigan  
Sewage Disposal System Fund  
Concentrated Waste Surcharge Adjustment  
TASK NO. 30A**

Description	Operational Costs			Surcharge Adjustment		
	BOD	Phos	NH3	BOD	Phos	NH3
Operation & Maintenance (1)(2)	\$ 4,333,409	\$ 1,003,232	\$ 438,428	\$ 17,334	\$ 4,013	\$ 1,754
Disinfection/Dechlorination (1)(3)	\$ 1,389,616	\$ 3,531	\$ 432,600	\$ 3,814	\$ 14	\$ 1,730
<b>Total</b>	<b>\$ 5,286,894</b>	<b>\$ 1,006,763</b>	<b>\$ 871,028</b>	<b>\$ 21,148</b>	<b>\$ 4,027</b>	<b>\$ 3,484</b>
<b>Proposed Concentrated Waste Adjustment</b>				<b>\$ 0.021</b>	<b>\$ 1.103</b>	<b>\$ 0.008</b>
<b>Recommended Surcharge Rate - 2018</b>				<b>\$ 0.261</b>	<b>\$ 2.674</b>	<b>\$ 0.248</b>

**Surcharge with Adjustment**

Concentrated Waste Loadings - lb/day	<b>2,700</b>	<b>10</b>	<b>1,225</b>
Concentrated Waste Loadings - lb/year	985,500	3,650	447,125

(1) Surcharge Adjustment:  
 Surcharge Adjustment = (Base Year Peaking Factor - Current Year Peaking Factor)\*(1 - Fixed Costs)  
 Base Year Peaking Factor 1.33  
 Current Year Peaking Factor Adjustment 1.32  
 Fixed Cost 60%  
 Concentrated Waste Adjustment Factor 0.4%

(2) Operations & Maintenance cost is from Task 30 - Part 2, Total amount of BOD, Phos, & NH3. This is allocated based on the Surcharge Adjustment Factor - see footnote 1.

(3) Disinfection cost is from Task 30 - Part 2, 2016 allocation for WWTP. This is allocated based on the Surcharge Adjustment Factor - see footnote 1.

**CITY OF GRAND RAPIDS, MICHIGAN**  
**SEWER RATE STUDY**  
**IPP PERMIT FEE STRUCTURE – TASK NO. 31**

The City of Grand Rapids Industrial Pretreatment Program (IPP) Permit fee structure is based on the actual cost of administration and implementation. Administration includes all the costs associated with document generation and handling as well as one annual site visit. The implementation costs include all sampling and associated laboratory analyses required by the permit. These two fees are identified on permit documents as a Permit Fee and an Analytical Fee.

**Permit Fee:** This fee is based on the actual costs associated with administering the permit program, including time spent on permit required inspections, clerical requirements, data handling requirements and all trunkline monitoring. This fee will be specific to the costs associated with the permit category.

**Analytical Fee:** This fee is based on actual costs associated with each permit. The costs, and an explanation of how they are determined, are outlined in an accompanying attachment. Labor time, including sampling and sample delivery to our laboratory, was derived from experience:

Composite samples:	1.5 hours each
Grab samples:	1.0 hours each

Four examples of analytical fees are attached herewith.

**City of Grand Rapids**  
**Cost of Services Provided by IPP**

**Last Update: 8/30/2017**

**Permit Fee: \$ 400.00**

**IPP Costs:**

**Labor: \$ 63.08 per hour**  
**Vehicle: \$ 4.19 per hour**  
**Sampler: \$ 35.00 per day**

**IPP Accounting:**

**Composite Labor: 1.5 hours per sample**  
**Grab Sample Labor: 1.0 hours per sample**

**Laboratory Costs:**

metals	\$	7.00	ea.
TSS	\$	7.00	ea.
BOD	\$	14.00	ea.
total phosphorus	\$	13.50	ea.
pH	\$	8.00	ea.
EPA 624	\$	60.00	ea.
EPA 625	\$	115.00	ea.
BTEX/MTBE	\$	35.00	ea.
sulfide	\$	12.00	ea.
oil & grease	\$	25.00	ea.
total cyanide	\$	15.00	ea.
hex chrome	\$	10.00	ea.
fecal coliform	\$	30.00	ea.
Ammonia (NH3-N)	\$	9.00	ea.
Mercury (EPA 245.1 or 245.2)	\$	15.00	ea.

**Explanation of Costs:**

**Labor:** Labor is the hourly pay rate of a Water Pollution Control Inspector (classification 21A @ "F" step = to \$31.5401 x 2) per the latest agreement between the City of Grand Rapids and the Grand Rapids Employees Independent Union plus 100% as specified in section 2.81(1) of the City of Grand Rapids Sewage Disposal System Ordinance. If personnel in a different classification are required, time will be billed based on that classification's pay scale plus 100%.

**Vehicle:** Hourly rate is the actual cost charged to City departments for vehicle use plus 25% for overhead.

**Sampler:** Sampler costs are based on the most recently approved competitive bid obtained for contract work provided to the Grand Rapids Wastewater Treatment Plant's Laboratory.

**Analysis:** Laboratory costs are based on the most recently approved competitive bid obtained for contract work provided to the Grand Rapids Wastewater Treatment Plant's Laboratory.

Permit No: Example 1

Company: Typical Metal Finisher 4 day sampling  
Facility Address:  
City, State, Zip

Permit Fee: \$ 400.00  
Analytical Fee: \$ 831.62  
Amount Due: \$ 1,231.62

Composite Samples: 4

**IPP Requirements:** man hours = 6.0 x \$ 63.08 = \$ 378.48  
sampler days = 4.0 x \$ 35.00 = \$ 140.00  
vehicle hours = 6.0 x \$ 4.19 = \$ 25.14

**Total IPP Composite Costs: \$ 543.62**

**Laboratory Analysis:** (each composite)  
metals 7 x \$ 7.00 = \$ 49.00  
TSS x \$ 7.00 = \$ -  
BOD x \$ 14.00 = \$ -  
total phosphate x \$ 13.50 = \$ -  
pH x \$ 8.00 = \$ -  
EPA 625 x \$ 115.00 = \$ -  
sulfide x \$ 12.00 = \$ -  
oil & grease x \$ 25.00 = \$ -  
hex chrome x \$ 10.00 = \$ -  
fecal coliform x \$ 30.00 = \$ -  
other x = \$ -

**total per composite: \$ 49.00**

**Total Laboratory Composite Costs: \$ 196.00**

**Total Composite Sample Costs: \$ 739.62**

Grab Samples: 4

**IPP Requirements:** man hours = 0.0 x \$ 63.08 = \$ -  
vehicle hours = 0.0 x \$ 4.19 = \$ -

**Total IPP Grab Costs: \$ -**

**Laboratory Analysis:** (each grab)  
metals x \$ 7.00 = \$ -  
TSS x \$ 7.00 = \$ -  
BOD x \$ 14.00 = \$ -  
total phosphate x \$ 13.50 = \$ -  
pH 1 x \$ 8.00 = \$ 8.00  
EPA 624 x \$ 60.00 = \$ -  
EPA 625 x \$ 115.00 = \$ -  
BTEX/MTBE x \$ 35.00 = \$ -  
sulfide x \$ 12.00 = \$ -  
oil & grease x \$ 25.00 = \$ -  
total cyanide 1 x \$ 15.00 = \$ 15.00  
hex chrome x \$ 10.00 = \$ -  
fecal coliform x \$ 30.00 = \$ -  
other x = \$ -

**total per grab: \$ 23.00**

**Total Laboratory Grab Costs: \$ 92.00**

**Total Grab Sample Costs: \$ 92.00**

**Total Analytical Permit Costs: \$ 831.62**

Permit No: Example 2

Company: Litho Process  
Facility Address:  
City, State, Zip

Permit Fee: \$ 400.00  
Analytical Fee: \$ 75.27  
Amount Due: \$ 475.27

Composite Samples:

*IPP Requirements:* man hours = 0.0 x \$ 63.08 = \$ -  
sampler days = 0.0 x \$ 35.00 = \$ -  
vehicle hours = 0.0 x \$ 4.19 = \$ -

Total IPP Composite Costs: \$ -

*Laboratory Analysis:*  
(each composite)  
metals x \$ 7.00 = \$ -  
TSS x \$ 7.00 = \$ -  
BOD x \$ 14.00 = \$ -  
total phosphate x \$ 13.50 = \$ -  
pH x \$ 8.00 = \$ -  
EPA 625 x \$ 115.00 = \$ -  
sulfide x \$ 12.00 = \$ -  
oil & grease x \$ 25.00 = \$ -  
hex chrome x \$ 10.00 = \$ -  
fecal coliform x \$ 30.00 = \$ -  
other x = \$ -

total per composite: \$ -

Total Laboratory Composite Costs: \$ -

Total Composite Sample Costs: \$ -

Grab Samples: 1

*IPP Requirements:* man hours = 1.0 x \$ 63.08 = \$ 63.08  
vehicle hours = 1.0 x \$ 4.19 = \$ 4.19

Total IPP Grab Costs: \$ 67.27

*Laboratory Analysis:*  
(each grab)  
metals x \$ 7.00 = \$ -  
TSS x \$ 7.00 = \$ -  
BOD x \$ 14.00 = \$ -  
total phosphate x \$ 13.50 = \$ -  
pH 1 x \$ 8.00 = \$ 8.00  
EPA 624 x \$ 60.00 = \$ -  
EPA 625 x \$ 115.00 = \$ -  
BTEX/MTBE x \$ 35.00 = \$ -  
sulfide x \$ 12.00 = \$ -  
oil & grease x \$ 25.00 = \$ -  
total cyanide x \$ 15.00 = \$ -  
hex chrome x \$ 10.00 = \$ -  
fecal coliform x \$ 30.00 = \$ -  
other x = \$ -

total per grab: \$ 8.00

Total Laboratory Grab Costs: \$ 8.00

Total Grab Sample Costs: \$ 75.27

Total Analytical Permit Costs: \$ 75.27

Permit No: Example 3

Company: Stripping Process

Facility Address:  
City, State, Zip

Permit Fee: \$ 400.00  
Analytical Fee: \$ 110.27  
Amount Due: \$ 510.27

Composite Samples:

*IPP Requirements:* man hours = 0.0 x \$ 63.08 = \$ -  
sampler days = 0.0 x \$ 35.00 = \$ -  
vehicle hours = 0.0 x \$ 4.19 = \$ -

Total IPP Composite Costs: \$ -

*Laboratory Analysis:*  
*(each composite)*

metals		x	\$ 7.00	=	\$ -
TSS		x	\$ 7.00	=	\$ -
BOD		x	\$ 14.00	=	\$ -
total phosphate		x	\$ 13.50	=	\$ -
pH		x	\$ 8.00	=	\$ -
EPA 625		x	\$ 115.00	=	\$ -
sulfide		x	\$ 12.00	=	\$ -
oil & grease		x	\$ 25.00	=	\$ -
hex chrome		x	\$ 10.00	=	\$ -
fecal coliform		x	\$ 30.00	=	\$ -
other		x		=	\$ -

total per composite: \$ -

Total Laboratory Composite Costs: \$ -

Total Composite Sample Costs: \$ -

Grab Samples: 1

*IPP Requirements:* man hours = 1.0 x \$ 63.08 = \$ 63.08  
vehicle hours = 1.0 x \$ 4.19 = \$ 4.19

Total IPP Grab Costs: \$ 67.27

*Laboratory Analysis:*  
*(each grab)*

metals	5	x	\$ 7.00	=	\$ 35.00
TSS		x	\$ 7.00	=	\$ -
BOD		x	\$ 14.00	=	\$ -
total phosphate		x	\$ 13.50	=	\$ -
pH	1	x	\$ 8.00	=	\$ 8.00
EPA 624		x	\$ 60.00	=	\$ -
EPA 625		x	\$ 115.00	=	\$ -
BTEX/MTBE		x	\$ 35.00	=	\$ -
sulfide		x	\$ 12.00	=	\$ -
oil & grease		x	\$ 25.00	=	\$ -
total cyanide		x	\$ 15.00	=	\$ -
hex chrome		x	\$ 10.00	=	\$ -
fecal coliform		x	\$ 30.00	=	\$ -
other		x		=	\$ -

total per grab: \$ 43.00

Total Laboratory Grab Costs: \$ 43.00

Total Grab Sample Costs: \$ 110.27

Total Analytical Permit Costs: \$ 110.27

Permit No: Example 4

Company: Silver User - photoprocessor  
Facility Address:  
City, State, Zip

Permit Fee: \$ 400.00  
Analytical Fee: \$ 222.81  
Amount Due: \$ 622.81

**Composite Samples:**

**IPP Requirements:** man hours = 0.0 x \$ 63.08 = \$ -  
sampler days = 0.0 x \$ 35.00 = \$ -  
vehicle hours = 0.0 x \$ 4.19 = \$ -

**Total IPP Composite Costs:** \$ -

**Laboratory Analysis:** (each composite)  
metals x \$ 7.00 = \$ -  
TSS x \$ 7.00 = \$ -  
BOD x \$ 14.00 = \$ -  
total phosphate x \$ 13.50 = \$ -  
pH x \$ 8.00 = \$ -  
EPA 625 x \$ 115.00 = \$ -  
sulfide x \$ 12.00 = \$ -  
oil & grease x \$ 25.00 = \$ -  
hex chrome x \$ 10.00 = \$ -  
fecal coliform x \$ 30.00 = \$ -  
other x = \$ -

**total per composite:** \$ -

**Total Laboratory Composite Costs:** \$ -

**Total Composite Sample Costs:** \$ -

**Grab Samples:** 3

**IPP Requirements:** man hours = 3.0 x \$ 63.08 = \$ 189.24  
vehicle hours = 3.0 x \$ 4.19 = \$ 12.57

**Total IPP Grab Costs:** \$ 201.81

**Laboratory Analysis:** (each grab)  
metals 1 x \$ 7.00 = \$ 7.00  
TSS x \$ 7.00 = \$ -  
BOD x \$ 14.00 = \$ -  
total phosphate x \$ 13.50 = \$ -  
pH x \$ 8.00 = \$ -  
EPA 624 x \$ 60.00 = \$ -  
EPA 625 x \$ 115.00 = \$ -  
BTEX/MTBE x \$ 35.00 = \$ -  
sulfide x \$ 12.00 = \$ -  
oil & grease x \$ 25.00 = \$ -  
total cyanide x \$ 15.00 = \$ -  
hex chrome x \$ 10.00 = \$ -  
fecal coliform x \$ 30.00 = \$ -  
other x = \$ -

**total per grab:** \$ 7.00

**Total Laboratory Grab Costs:** \$ 21.00

**Total Grab Sample Costs:** \$ 222.81

**Total Analytical Permit Costs:** \$ 222.81

# MEMORANDUM

CITY OF GRAND RAPIDS

**DATE:** September 25, 2017

**TO:** Molly Eastman  
isca e ices anage

**FROM:** Arden Postma, P.E.  
Hydraulic Engineer

**SUBJECT:** **2017 SEWER RATE STUDY- TASK #32 - SANITARY SEWER  
OVERSIZING RATES**

Sanitary Sewer oversizing rates are established for this year as noted below:

<u>Pipe Size</u>	<u>2016 Rate</u>	<u>2017 Rate</u>	<u>% Change</u>
8"-10"	\$4.60/ft	\$4.60/ft	0%
8"-12"	\$9.00/ft	\$9.00/ft	0%
8"-15"	\$16.79/ft	\$16.75/ft	-0.24%
10"-12"	\$4.40/ft	\$4.40/ft	0%
10"-15"	\$12.19/ft	\$12.15/ft	-0.33%
12"-15"	\$7.79/ft	\$7.75/ft	-0.51%

These rates have been determined in accordance with the Sewer Disposal System Rules and Regulations, and are approved for use from January 1, 2018 through December 31, 2018. Background information and calculations to establish these rates are on file in the Utility Engineering, Distribution and Collection Office located at 1900 Oak Industrial Drive NE. If you have any questions regarding this matter, please call me at 456-4201.

AP  
Cc: Charles Schroeder

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
TASK NO. 33**

SERVICE AREA MAPS AND SERVICE AREA LAND MASS SUMMARIES

The following summarizes Utility Service Districts (USD) land mass square miles for UAB partner communities, per information on file as of October 31, 2017:

<u>UAB Partners</u>	<u>Sq. Miles of USD by CC</u>	<u>Percent</u>
Grand Rapids	45.36	37.170%
Walker	20.94	17.160%
Kentwood	14.37	11.776%
Cascade	16.81	13.775%
Grand Rapids Township	8.12	6.654%
Tallmadge Township	2.45	2.008%
Wright Township	0.89	0.729%
East Grand Rapids	3.37	2.762%
Ada	7.22	5.917%
Caledonia Township	2.50	2.049%
Total	<u>122.03</u>	<u>100.000%</u>

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWAGE DISPOSAL SYSTEM FUND  
TASK NO. 34**

INDIVIDUAL CIRCUIT BREAKER AND CITY & CUSTOMER COMMUNITY CIRCUIT BREAKER

The Third Amendment to the Water and Sanitary Sewer Agreements stipulates penalty fees shall be used to fund the circuit breaker provisions noted above. The following summarizes those values:

<u>Description</u>	<u>AMOUNT</u>	<u>PERCENT</u>
Individual Circuit Breaker (ICB)	\$ 86,280	12.50%
City & Customer Community Circuit Breaker (CCCCB)	603,959	87.50%
Total	<u>\$ 690,239</u>	<u>100.00%</u>

The following tables summarize the amount, if any, of the Circuit Breaker to be applied as a revenue credit in next year's Rate Study:

<u>Description</u>	<u>AMOUNT</u>	<u>PERCENT</u>
City & Customer Community Circuit Breaker Amount- Above	\$ 603,959	100.00%
Less: Amount Applied in Current Rate Study	(138,000)	-22.85%
Total CCCCCB Revenue Credit- Next Year's Rate Study	<u>\$ 465,959</u>	<u>77.15%</u>

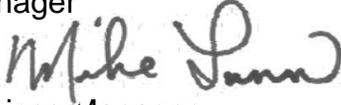
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# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: November 6, 2017

TO: Molly J. Eastman  
Fiscal Services Manager

FROM: Mike Lunn   
Environmental Services Manager

**SUBJECT: 2017 SEWER RATE STUDY - TASK #35- FDD Opt Out Charge**

The Footing Drain Disconnection Ordinance (FDD) Authorizes the City Manager or his designee to identify FDD Project Areas within the City of Grand Rapids based on the severity of System groundwater and stormwater inflow surcharge problems. Once designated, the ordinance requires homeowners within the FDD Project Areas to disconnect their footing drains from the City's sanitary sewer system at City expense.

The additional charge for non-compliance with the footing drain disconnection ordinance has been calculated based on current information and recommended to be \$72.55 which is the actual cost to the system for the additional flow.

ML

**CITY OF GRAND RAPIDS, MICHIGAN  
SEWER RATE STUDY  
SEWER SUPPLY SYSTEM FUND  
TASK NO. 35**

DETERMINE FOOTING DRAIN OPT OUT SEWER RATE.

**1. Avoided Claims for Sewage Backups**

Annual claim costs

Annual Backup Claims	\$150,000 /year <sup>1</sup>	Estimated annual claims cost
System Retail Customers	74,914	Total retail customers <sup>2</sup>
Grand Rapids Retail Customers	<u>58,369</u>	Total retail customers in Grand Rapids <sup>2</sup>
Annual Cost	<b>\$2.00 /yr/cust.</b>	Annual cost for claims in Grand Rapids

**2. Avoided Costs to treat the additional flow generated by footing drains**

Flow Estimate

DWF	43,800 gal/year	Average generation rate
WWF	<u>21,796</u> gal/year	Average generation rate
Total	65,596 gal/year	Average per house

Unit Conveyance & Treatment Costs

Annual average FD flows	0.065596 MG/yr	Average per house
Conveyance	\$364 /MG	Unit conveyance cost <sup>3</sup>
Treatment	<u>\$819</u> /MG	Unit treatment cost <sup>3</sup>
Conveyance & Treatment	\$1,183 /MG	
Annual Cost	<b>\$77.60 /yr/cust.</b>	Annual cost for a connected FD

**3. Actual MDNRE penalties for SSO's**

Penalties for SSO

Grand Rapids Customers	58,369	
Penalties	\$25,000	Per occurrence
Potential SSOs	0 /year	Occurrences
Annual cost	<u>0</u> \$/year	
	<b>\$0.00 /yr/cust.</b>	Annual cost for penalties

**4. Avoided Transport & Future Projects**

Cost Per FDD

Pilot Project Costs	1,788 \$/yr/FDD cust.	Annual cost of FDD work <sup>5</sup>
FDD Equivalents	<u>25,598</u> FDD	FDDs needed to correct backup problems
Total Cost	\$45,769,224	Annualized Conveyance and Storage Costs
Grand Rapids Customers	<u>58,369</u>	Customers in Grand Rapids
Cost Per single Family Home	<b>\$784.14</b> \$/home/not removed	Annualized cost for Grand Rapids Customers

**5. Avoided Administrative (Engineering & Legal) Costs**

Associated with Administration of claims, construction

Legal	0.5	Citywide claims administration
Engineering	<u>1.5</u>	Citywide engineering investigation
Staffing	2.0	Total staffing
Rate	\$200,000 /year	Average loaded staffing rate <sup>4</sup>
Total	\$400,000 /year	
Customers	<u>58,369</u>	In Grand Rapids
	<b>\$6.85 \$/yr/cust.</b>	

**Annual Cost Summary**

1. Avoided Claims	\$2.00	
2. Avoided Treatment	\$77.60	
3. Actual MDNRE Penalties for SSOs	\$0.00	
4. Avoided Future Projects	\$784.14	
5. Administration	<u>\$6.85</u>	
<b>TOTAL</b>	<b>\$870.59 \$/yr/cust.</b>	
	<b>\$72.55 /month/cust.</b>	Monthly fee for not disconnecting

**Notes:**

- <sup>1</sup> Sinking fund annual budget
- <sup>2</sup> Customer numbers per 2017 Rate Study
- <sup>3</sup> Value for sewer maintenance and WWTP costs from 2017 rate study.
- <sup>4</sup> Estimated staff rate with benefits
- <sup>5</sup> Total cost per FDD amortized over 20 years with 2.5% interest rate

**CITY OF GRAND RAPIDS, MICHIGAN  
APPENDIXES  
ANNUAL WATER/SEWER RATE REVIEW**

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Resolution Approving Proposed Grand Rapids Water/Sewer Rates	B
Resolution Approving Proposed Partner Community Water/Sewer Rates	C
Notice of Public Comment Period	D
Community Contributions	E
Customer Community Rate Notification Letter (11)	F

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# CITY OF GRAND RAPIDS AGENDA ACTION REQUEST

**DATE:** November 14, 2017

**TO:** Gregory A. Sundstrom, City Manager

**COMMITTEE:** Committee of the Whole  
**LIAISON:** Gregory A. Sundstrom, City Manager

**FROM:** Molly Eastman, Utility Financial Officer  
Water System

**SUBJECT: 2017 Water/Sewer Rate Study - Introduction and Initiation of the  
20 Day Comment Period**

A comprehensive review of operating and capital costs by community, in conjunction with customer base variation and usage, is performed annually for the purpose of recommending water and sewer rate adjustments for Grand Rapids and its partner communities. The City of Grand Rapids continues to adhere to its water and sewer rate-setting methodology first established in 1976-77. The methodology yields consistent performance in providing for the long-term financing needs of the Water Supply and Sewage Disposal Systems and assuring adequate debt service coverage pursuant to the Systems' master bond ordinance covenants. This year's review marks the 41<sup>st</sup> annual water/sewer rate study report.

The City's review of the Water Supply and Sewage Disposal Systems' performance has identified the revenue requirements for water and sewer for calendar year 2018 with rate increases of 2.49% and 3.08% respectively. The rate study methodology continues to use the three year average of billed volume to calculate new rates in an effort to level year-over-year usage variability and achieve reasonably stable rate changes. Unlike the previous two rate studies, both Systems experienced a positive increase in this three year average of billed volume, which is reflective of System growth particularly in our partner communities in recent years.

Rate increases in the 2017 Rate Study are driven by additional investment in infrastructure improvements. Both utility systems are also adopting programs that will generate future efficiencies, these programs include advanced meter reading and engaging phase two of the competitive assessment. Specifically for the Water System, the investment in the lead service replacement program (City of Grand Rapids impact only), improvements at the Lake Michigan Filtration Plant, and anticipating a reduced vacancy rate in the next year have contributed to the rate increase. For the Sewer System, besides anticipating filling current position vacancies, the Sewer System's rate increase is also being driven by a reduction in credits against the revenue requirement.

These credits include reduced revenue received in fiscal year 2017 from integrated connection fees, surcharge rates, and other non-operating revenues, which are all lower than last year. In spite of these challenges, the Sewer System was able to maintain stable operation and maintenance expenses, which tempered the rate increase for the System.

A summary of the proposed revisions to set the 2018 rates for the systems are as follows:

1. Water Supply System revenue requirements increased by \$1,042,133 or 2.49% more than revenues generated by existing rates and charges.
2. Sewage Disposal System revenue requirements increased by \$1,562,688 or 3.08% more than revenues generated by existing rates and charges.
3. Water and sewer integrated connection fees were adjusted upward by a CPI increase factor of 1.94%. The Utility Advisory Board (UAB) is currently evaluating the methodology for integrated connection fees for both Systems. The new calculation will be based on a full cost recovery method which would include a plan review component and a meter capacity component. This methodology was developed by the UAB Rate Review Sub-Committee and was approved for recommendation by the UAB. It is scheduled to be brought forth to City Commission for approval by resolution in March 2018 with the anticipation of becoming effective April 1, 2018. Because this is an expected change in the coming year, in accordance with the City's rate methodology, an adjustment has been made in Task 9 and results in an approximate 0.25% increase for each System for rates effective January 1, 2018.
4. Water and sewer front foot rates and charges for water service lines and sewer laterals are being adjusted based on the average bid prices quoted in bid proposals received by the City Engineer's Office during the period from July, 2016, through June, 2017.
5. The cost of services provided by the Sewer Industrial Pretreatment Program cost for labor will increase by \$2.06 per hour and the hourly vehicle rate will increase \$0.77 per hour.
6. Sewer oversizing rates will decrease due to the cost of materials. Water oversizing rates will increase due to the recent Grand Rapids requirement that all new installations require zinc coating on water mains.
7. The charge for non-compliance with the footing drain disconnection ordinance (FDD Opt Out Charge) will decrease to \$72.55 from \$73.45 based on current information related to the actual cost to the Sewer System for the additional flow.
8. The UAB will receive a presentation on November 16, 2017 of fee and charge recommendation in accordance with the Water System Rules and Regulations.

Recommended rate adjustments incorporate provisions of the third amendment to the uniform service agreements with customer communities, which eliminates penalty fee credits from retail revenue requirements to fund the Individual Circuit Breaker (ICB) and the City and Customer Community Circuit Breaker (CCCCB). This amendment generated \$151,183 to support the ICB, the program aimed to assist retail customers

requiring assistance in payment of their water/sewer bills. This amount will be supplemented with an additional appropriation of non-operating revenue. The third amendment also provides for a City and Customer Community Circuit Breaker, if sufficient funding is available, to limit each retail service area revenue requirement change to a level in line with the overall systems' initial average change. Adequate funds were available in both utility systems to apply the CCCC and limit the revenue requirement changes. Total City and Customer Community Circuit Breaker funds used in the 2017 rate study was \$494,701 in relief.

Attached are detailed schedules by customer community of revenue requirement changes and rate adjustment impacts to a typical domestic and commercial customer with the system average quarterly consumption.

The preliminary 2017 water and sewer rates have been made available to the Utility Advisory Board partners and other customer communities on November 14, 2017. All partner and customer communities have a thirty-day comment period following notification of the rates as provided in the water/sewer service agreements. Approval of the rates by the City Commission is scheduled for Tuesday, December 12, 2017.

The annual rate study along with explanatory materials will be filed with the City Clerk's Office no later than close of business on November 14, 2017 and are available for public review and comment. This is at least twenty (20) days prior to the City Commission's consideration of an approval resolution. Public notice will also be published in the newspaper, and the rate study and supplemental materials have been posted on the City's website at [www.grcity.us/watersewerratestudy](http://www.grcity.us/watersewerratestudy) under the "Water Sewer Rate Study" directory. Comments will be reported and considered as part of the FY2019 budget planning process.

Prepared by Molly Eastman

  
**CORRECT IN FORM**  
\_\_\_\_\_  
**DEPARTMENT OF LAW**

**CITY OF GRAND RAPIDS, MICHIGAN**  
**2017 PRELIMINARY WATER/SEWER RATE STUDY**  
**SUMMARY OF REVENUE REQUIREMENT CHANGES**  
**FOR RATES EFFECTIVE JANUARY 1, 2018**  
**November 7, 2017**

	WATER (1)		SEWER (1)	
	AMOUNT	PERCENT	AMOUNT	PERCENT
GRAND RAPIDS	\$ 769,907	3.12%	\$ 1,022,777	2.93%
WALKER	(125,807)	-3.89%	129,690	2.93%
NET OF CONTRIBUTION OF:	234,186			
KENTWOOD	(105,302)	-2.40%	228,194	5.95%
CASCADE TWP	113,507	3.35%	(29,333)	-1.22%
GRAND RAPIDS TWP	72,456	3.35%	73,367	3.14%
TALLMADGE TWP	(11,849)	-6.22%	(34,362)	-7.97%
WRIGHT TWP	N/A	N/A	8,293	3.14%
EAST GRAND RAPIDS	39,220	5.20%	57,999	9.33%
ADA TWP	(27,159)	-2.21%	83,979	7.04%
OTTAWA COUNTY	82,974	4.75%	NA	NA
GAINES TWP	N/A	N/A	7,383	3.39%
CALEDONIA TWP	N/A	N/A	14,701	12.16%
<b>SYSTEM</b>	<b>\$ 1,042,133</b>	<b>2.49%</b>	<b>\$ 1,562,688</b>	<b>3.08%</b>

(1) Change in revenue requirements based on revenues currently generated from rates, customer base and volumes reported in the preliminary rate study (Includes consideration for relief from CCCCB).

**DISCLOSE RELIEF PROVIDED BY CITY & CUSTOMER COMMUNITY CIRCUIT BREAKER (CCCB)**

	WATER		SEWER	
	AMOUNT	PERCENT	AMOUNT	PERCENT
SYSTEM REVENUE REQUIREMENT	\$ 42,846,615	2.49%	\$ 52,319,981	3.08%
ADD: CCCCB RELIEF	356,701	0.85%	138,000	0.27%
LESS: CAPITAL INVESTMENT REIMBURSEMENT			(107,854)	-0.21%
<b>SYSTEM CHANGE- WITHOUT RELIEF</b>	<b>\$ 43,203,316</b>	<b>3.35%</b>	<b>\$ 52,350,127</b>	<b>3.14%</b>

**CITY OF GRAND RAPIDS, MICHIGAN**  
**2017 PRELIMINARY WATER/SEWER RATE STUDY**  
**IMPACT OF RATE ADJUSTMENTS ON DOMESTIC USERS**  
**BY CUSTOMER COMMUNITY \***  
**November 7, 2017**

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2017</u>	<u>2018</u>	<u>DOLLARS</u>	<u>PERCENT</u>
<b>GRAND RAPIDS</b>				
WATER	\$ 79.23	\$ 82.28	\$ 3.05	3.85%
SEWER	107.16	111.39	4.23	3.95%
	<u>\$ 186.39</u>	<u>\$ 193.67</u>	<u>\$ 7.28</u>	3.91%
BASE RATIO	1.00	1.00		
<b>WALKER</b>				
WATER	\$ 80.08	\$ 77.68	\$ (2.40)	-3.00%
SEWER	125.10	129.30	4.20	3.36%
	<u>\$ 205.18</u>	<u>\$ 206.98</u>	<u>\$ 1.80</u>	0.88%
RATIO TO GR	1.10	1.07		
<b>KENTWOOD</b>				
WATER	\$ 86.65	\$ 85.88	\$ (0.77)	-0.89%
SEWER	63.81	68.49	4.68	7.33%
	<u>\$ 150.46</u>	<u>\$ 154.37</u>	<u>\$ 3.91</u>	2.60%
RATIO TO GR	0.81	0.80		
<b>CASCADE TWP</b>				
WATER	\$ 122.28	\$ 127.42	\$ 5.14	4.20%
SEWER	142.89	142.11	(0.78)	-0.55%
	<u>\$ 265.17</u>	<u>\$ 269.53</u>	<u>\$ 4.36</u>	1.64%
RATIO TO GR	1.42	1.39		
<b>GRAND RAPIDS TWP</b>				
WATER	\$ 92.44	\$ 96.13	\$ 3.69	3.99%
SEWER	118.44	122.64	4.20	3.55%
	<u>\$ 210.88</u>	<u>\$ 218.77</u>	<u>\$ 7.89</u>	3.74%
RATIO TO GR	1.13	1.13		
<b>TALLMADGE TWP</b>				
WATER	\$ 114.17	\$ 106.38	\$ (7.79)	-6.82%
SEWER	296.04	273.96	(22.08)	-7.46%
	<u>\$ 410.21</u>	<u>\$ 380.34</u>	<u>\$ (29.87)</u>	-7.28%
RATIO TO GR	2.20	1.96		

\* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE DOMESTIC CUSTOMER  
QUARTERLY CONSUMPTION OF: WATER- 26.00 UNITS OR 19,448 GALLONS  
SEWER - 18.00 UNITS OR 13,464 GALLONS  
NO. OF MONTHS: 3

**REU (RESIDENTIAL EQUIVALENT UNIT) CUSTOMER COMMUNITY- APPROXIMATE QUARTERLY BILL**

<b>WRIGHT TWP-</b>				
SEWER (No. of REU 1.00)	<u>\$ 146.10</u>	<u>\$ 156.27</u>	<u>\$ 10.17</u>	6.96%

**CITY OF GRAND RAPIDS, MICHIGAN**  
**2017 PRELIMINARY WATER/SEWER RATE STUDY**  
**IMPACT OF RATE ADJUSTMENTS ON COMMERCIAL USERS**  
**BY CUSTOMER COMMUNITY**  
**November 7, 2017**

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2017</u>	<u>2018</u>	<u>DOLLARS</u>	<u>PERCENT</u>
<b>GRAND RAPIDS</b>				
WATER	\$ 460.20	\$ 475.14	\$ 14.94	3.25%
SEWER	779.91	776.67	(3.24)	-0.42%
	<u>\$ 1,240.11</u>	<u>\$ 1,251.81</u>	<u>\$ 11.70</u>	0.94%
BASE RATIO	1.00	1.00		
<b>WALKER</b>				
WATER	\$ 414.18	\$ 397.35	\$ (16.83)	-4.06%
SEWER	648.06	666.12	18.06	2.79%
	<u>\$ 1,062.24</u>	<u>\$ 1,063.47</u>	<u>\$ 1.23</u>	0.12%
RATIO TO GR	0.86	0.85		
<b>KENTWOOD</b>				
WATER	\$ 420.75	\$ 410.22	\$ (10.53)	-2.50%
SEWER	533.76	565.14	31.38	5.88%
	<u>\$ 954.51</u>	<u>\$ 975.36</u>	<u>\$ 20.85</u>	2.18%
RATIO TO GR	0.77	0.78		
<b>CASCADE TWP</b>				
WATER	\$ 592.77	\$ 613.11	\$ 20.34	3.43%
SEWER	715.29	706.68	(8.61)	-1.20%
	<u>\$ 1,308.06</u>	<u>\$ 1,319.79</u>	<u>\$ 11.73</u>	0.90%
RATIO TO GR	1.05	1.05		
<b>GRAND RAPIDS TWP</b>				
WATER	\$ 461.61	\$ 475.98	\$ 14.37	3.11%
SEWER	600.63	618.69	18.06	3.01%
	<u>\$ 1,062.24</u>	<u>\$ 1,094.67</u>	<u>\$ 32.43</u>	3.05%
RATIO TO GR	0.86	0.87		
<b>TALLMADGE TWP</b>				
WATER	\$ 804.15	\$ 750.57	\$ (53.58)	-6.66%
SEWER	2,440.02	2,245.83	(194.19)	-7.96%
	<u>\$ 3,244.17</u>	<u>\$ 2,996.40</u>	<u>\$ (247.77)</u>	-7.64%
RATIO TO GR	2.62	2.39		

\* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE COMMERCIAL CUSTOMER  
QUARTERLY CONSUMPTION OF : WATER- 216.00 UNITS OR 161,568 GALLONS  
SEWER - 210.00 UNITS OR 157,080 GALLONS  
NO. OF MONTHS: 3

**REU (RESIDENTIAL EQUIVALENT UNIT) CUSTOMER COMMUNITY- APPROXIMATE QUARTERLY BILL**

<b>WRIGHT TWP</b>				
SEWER (No. of REU 1.00)	<u>\$ 156.27</u>	<u>\$ 161.19</u>	<u>\$ 4.92</u>	3.15%

**CITY OF GRAND RAPIDS, MICHIGAN  
2017 PRELIMINARY WATER/SEWER RATE STUDY  
WATER & SEWER RATES FOR GRAND RAPIDS & RETAIL CUSTOMER COMMUNITIES  
EFFECTIVE JANUARY 1, 2018  
November 7, 2017**

**WATER RATES**

COMMODITY	METER CODE	GRAND RAPIDS	WALKER	KENTWOOD	CASCADE	GR. RAPIDS TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP
CHARGE (HCF)		\$ 1.99	\$ 1.58	\$ 1.57	\$ 2.33	\$ 1.85	\$ 3.36	NA
<b>MONTHLY SERVICE CHARGE BY METER SIZE</b>								
3/4" & Less	A	\$ 10.18	\$ 12.20	\$ 15.02	\$ 22.28	\$ 16.01	\$ 6.34	NA
1"	B	\$ 15.10	\$ 18.69	\$ 23.70	\$ 36.61	\$ 25.46	\$ 8.27	NA
1-1/4"	C	\$ 21.42	\$ 27.03	\$ 34.86	\$ 55.03	\$ 37.61	\$ 10.75	NA
1-1/2"	D	\$ 29.14	\$ 37.22	\$ 48.50	\$ 77.54	\$ 52.46	\$ 13.78	NA
2"	E	\$ 48.80	\$ 63.17	\$ 83.22	\$ 134.85	\$ 90.26	\$ 21.50	NA
3"	F	\$ 104.98	\$ 137.30	\$ 182.42	\$ 298.58	\$ 198.26	\$ 43.54	NA
4"	G	\$ 183.63	\$ 241.09	\$ 321.30	\$ 527.81	\$ 349.46	\$ 74.40	NA
6" & Over	H	\$ 408.34	\$ 537.62	\$ 718.10	\$ 1,182.74	\$ 781.46	\$ 162.58	NA

**SEWER RATES**

COMMODITY	METER CODE	GRAND RAPIDS	WALKER	KENTWOOD	CASCADE	GR. RAPIDS TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP
CHARGE (HCF)		\$ 3.30	\$ 2.50	\$ 2.54	\$ 2.60	\$ 2.30	\$ 9.93	NA
REU Charge (Monthly) *		NA	NA	NA	NA	NA	NA	\$ 53.73
<b>MONTHLY SERVICE CHARGE BY METER SIZE</b>								
3/4" & Less	A	\$ 17.33	\$ 28.10	\$ 7.59	\$ 31.77	\$ 27.08	\$ 31.74	NA
1"	B	\$ 27.89	\$ 47.04	\$ 10.58	\$ 53.56	\$ 45.23	\$ 53.51	NA
1-1/4"	C	\$ 41.47	\$ 71.39	\$ 14.42	\$ 81.58	\$ 68.56	\$ 81.50	NA
1-1/2"	D	\$ 58.07	\$ 101.15	\$ 19.11	\$ 115.83	\$ 97.07	\$ 115.71	NA
2"	E	\$ 100.32	\$ 176.91	\$ 31.06	\$ 203.00	\$ 169.65	\$ 202.79	NA
3"	F	\$ 221.03	\$ 393.35	\$ 65.19	\$ 452.07	\$ 377.03	\$ 451.59	NA
4"	G	\$ 390.02	\$ 696.37	\$ 112.98	\$ 800.76	\$ 667.36	\$ 799.91	NA
6" & Over	H	\$ 872.87	\$ 1,562.15	\$ 249.51	\$ 1,797.03	\$ 1,496.87	\$ 1,795.11	NA

\* REU - Residential Equivalent Unit (Wright Township Only)

**FIRE PROTECTION RATES- ALL GOVERNMENTAL UNITS**

6"	H	\$ 18.04	10"	J	\$ 50.15
8"	I	\$ 32.02	12"	K	\$ 72.16

**NOTE:** Monthly defined as 1/12th of 365 days.

**CITY OF GRAND RAPIDS, MICHIGAN**  
**2017 PRELIMINARY WATER/SEWER RATE STUDY**  
**IMPACT OF RATE ADJUSTMENTS ON WHOLESALE CUSTOMER COMMUNITIES**  
**EFFECTIVE JANUARY 1, 2018**  
**November 7, 2017**

	<u>2017</u>	<u>2018</u>	<u>PERCENTAGE CHANGE</u>
<b>EAST GRAND RAPIDS</b>			
WATER - SERVICE (MONTHLY)	\$ 15,291.00	\$14,719.00	-3.74%
- COMMODITY (100 CF)	0.99	\$1.07	8.08%
SEWER - SERVICE (MONTHLY)	1,818.00	\$2,198.00	20.90%
- COMMODITY (MG)	1,684.00	1,834.00	8.91%
<b>ADA TWP</b>			
WATER - SERVICE	\$ 44,400.00	\$36,941.00	-16.80%
- COMMODITY	1.12	\$1.22	8.93%
SEWER - SERVICE	45,939.00	\$45,942.00	0.01%
- COMMODITY	2,023.00	2,288.00	13.10%
<b>OTTAWA COUNTY</b>			
WATER - SERVICE	\$ -	\$413	N/A
- COMMODITY	1.12	\$1.17	4.46%
<b>GAINES TWP</b>			
SEWER - SERVICE	\$ 1,620.00	\$ 1,488.00	-8.15%
- COMMODITY	1,482.00	1,549.00	4.52%
<b>CALEDONIA TWP</b>			
SEWER - SERVICE	\$ 755.00	\$719	-4.77%
- COMMODITY	4,040.00	4,587.00	13.54%

**NOTE: Monthly defined as 1/12th of 365 days.**

**87264 Result: Adopted.  
Mover: Shaffer. Supporter: Allen.**

WHEREAS:

1. The Water/Sewer rate studies have been undertaken and completed for the years 1976 through 2016; and
2. The 2017 Water/Sewer rate review has been completed using the same general methodology as the 1976 through 2016 Water/Sewer rate studies, as adjusted where appropriate for the uniform water and sanitary sewer service agreements; therefore

RESOLVED:

1. That pursuant to Section 2.33 of Chapter 26 of the City Code, the following City water rates, charges and fees will be as follows:
  - a. Front foot rate

Domestic	\$89
Commercial	\$147

- b. Integrated water connection fees

Size of Water Meter	Base Fee
¾ inch or less	\$3,016
1 inch	\$5,037
1½ inch	\$10,043
2 inches	\$16,075
3 inches	\$35,197
4 inches	\$63,336
6 inches or larger	\$140,757

- c. Commodity rates within the City of Grand Rapids

Domestic	\$2.00 per 100 cubic feet
Commercial	\$2.00 per 100 cubic feet
Industrial	\$2.00 per 100 cubic feet

d. Monthly service charge within the City of Grand Rapids

Size of Meter	Charge
¾ inch or less	\$10.16
1 inch	\$15.06
1¼ inch	\$21.36
1½ inch	\$29.06
2 inches	\$48.66
3 inches	\$104.66
4 inches	\$183.06
6 inches or larger	\$407.06

e. Fire protection charge

Size of Pipe	Monthly	Quarterly
6 inches	\$18.04	\$54.12
8 inches	\$32.02	\$96.06
10 inches	\$50.15	\$150.45
12 inches	\$72.16	\$216.48

f. Water service pipe costs

	50 ft.	60 ft.	66 ft.	80 ft.	100 ft.
	R.O.W.	R.O.W.	R.O.W.	R.O.W.	R.O.W.
Cost for 1 inch Water Service	\$2,650	\$3,050	\$3,300	\$3,800	\$4,600
Cost for 1½ inch Water Service	\$3,700	\$4,100	\$4,400	\$5,000	\$5,900
Cost for 2 inches Water Service	\$3,800	\$4,300	\$4,500	\$5,200	\$6,000

g. Hydrant use permit (pool filling per connection) - \$100 refundable deposit + \$75/week

h. Hydrant use permit (non-metered connection – residential customers) - \$50

- i. Hydrant use permit (metered connection) - \$300
- j. Metered hydrant connection use fee (per rental up to one season) - City of Grand Rapids account holder - \$500 refundable deposit + \$25/week + metered volume (commodity charges at City of Grand Rapids rate)
- k. Metered hydrant connection use fee (per rental up to one season) - Non-account holder - \$500 refundable deposit + \$25/week + metered volume (commodity charges at City of Grand Rapids rate)
- l. Hydrant flow test - \$200
- m. Tapping permits (all sizes) - \$375
- n. Meter installation and seasonal turn off/on

Meter Size	Fee
¾ inch or less	\$50
1 inch	\$50
1½ inch	\$75
2 inches	\$75
3 inches	\$110
4 inches or larger	\$220
Seasonal off request scheduled meter pull	\$50
On/Off request after service hours	\$75

- o. Meter Replacement (Non-System Planned/Scheduled Replacement)

Meter Size	Fee
¾ inch or less	\$175
1 inch	\$250
1½ inch	\$800
2 inches	\$900
3 inches	\$1,100
4 inches or larger	Cost

- p. Final or actual meter reading - \$45

- q. Meter testing fee – paid by customer if meter is accurate, no charge if meter is faulty

Meter Size	Fee
$\frac{3}{4}$ inch or less	\$100
1 inch	\$100
1½ inch	\$200
2 inches	\$300
3 inches	\$400
4 inches or larger	Cost

- r. Meter interface unit replacement - \$150
- s. Security deposit - \$500
- t. Street opening permit - \$50
- u. Water inspection permit (within City) - \$65
- v. Water inspection permit (outside City) - \$80
- w. Sanitary Service line inspection permit (within City) - \$65
- x. Sanitary Service line inspection permit (outside City) - \$80
- y. Storm Service line inspection permit (within City) - \$65
- z. Storm Service line inspection permit (outside City) - \$80
- aa. Footing drain lateral inspection permit (within City) - \$65
- bb. Footing drain lateral inspection permit (outside City) - \$80
- cc. Sewer lateral service demolition/cap off inspection fee (within City) - \$65
- dd. Sewer lateral service demolition/cap off inspection fee (outside City) - \$80
- ee. Plumbing service re-inspection fee - \$65
- ff. Cross connection re-inspection fee - \$75
- gg. Irrigation Service Cut/Cap Administration fee - \$65
- hh. Delinquent Commercial Backflow Test fee (per device) - \$25

- ii. Customer requested onsite service (nonscheduled) - \$100
- jj. Turn-on/turn-off request for inspections/repair scheduled - \$110
- kk. Statement research fee – document creation for detailed history of usage, bills and/or payments made beyond 13 months from date of request - \$55
- ll. Late payment penalty – 10% of net
- mm. Processing/review for shut-off, nonpayment, returned payment and/or cross connection noncompliance (administration and/or past fee) - \$55
- nn. Penalty for failure to keep appointment - \$45
- oo. Penalty for each missed appointment thereafter (related to same service) - \$60
- pp. Unauthorized use, operation, tampering, or removal of any Water or Sanitary Sewer System owned or maintained valve, asset, infrastructure, or equipment (for example, but not limited to, bypass valves, meters, meter reading equipment, hydrants, and curb stops - \$500 plus double commodity rate for estimated volume and doubling of penalties for each subsequent infraction
- qq. Unauthorized use or illegal connection to any Water or Sanitary Sewer System owned pipe, property and/or private plumbing system served by the Water and/or Sanitary Sewer System - \$500 plus double commodity rate for estimated volume and doubling of penalties for each subsequent infraction
- rr. Failure to return or return of damaged beyond repair / repairable hydrant connection equipment – Cost + 10%
- ss. Repair/replace damage to fire hydrant – Cost + 10%
- tt. Permit infractions/violations – \$100 plus double the commodity rate for estimated volume and doubling of penalties for each subsequent violation
- uu. Returned check charge - \$30
- vv. Unauthorized service tap of watermain - \$500
- ww. Watermain oversizing rates

8 – 12 inches	\$24.51 per lineal foot
12 – 16 inches	\$26.79 per lineal foot
8 – 16 inches	\$51.30 per lineal foot

xx. Circuit breaker allocation

Individual Circuit Breaker (ICB)	\$231,183
City and Customer Community Circuit Breaker (CCCCB)	\$528,549

2. That Pursuant to Section 2.94 of Chapter 27 of the City Code, the following City sewer rates, charges and fees will be as follows:

a. Front foot rate

Domestic	\$102
Commercial	\$107

b. Integrated sewer connection fees (based on water meter size)

Size of Water Meter	Base Fee
¾ inch or less	\$3,016
1 inch	\$5,037
1½ inch	\$10,043
2 inches	\$16,075
3 inches	\$35,197
4 inches	\$63,336
6 inches or larger	\$140,757

c. Commodity rates within the City of Grand Rapids

Domestic	\$3.30 per 100 cubic feet
Commercial	\$3.30 per 100 cubic feet
Industrial	\$3.30 per 100 cubic feet

d. Monthly service charge within the City of Grand Rapids

Size of Meter	Charge
¾ inch or less	\$17.33
1 inch	\$27.89
1¼ inch	\$41.47
1½ inch	\$58.07
2 inches	\$100.32
3 inches	\$221.03
4 inches	\$390.02
6 inches or larger	\$872.87

e. Wastewater surcharges for industrial customers

BOD	\$0.261
TSS	\$0.445
Phos	\$2.674
NH3	\$0.248

f. Concentrated waste credit

BOD	\$0.021
Phos	\$1.103
NH3	\$0.008

g. Septage portable toilet waste

- i. Annual discharge authorization permit fee - \$100
- ii. \$100 per 1,000 gallons discharged

## h. Hauled Concentrated Waste

- i. Annual discharge authorization permit fee for permitted significant industrial within the service area - \$1,000
- ii. Annual discharge authorization permit fee for customers outside the service areas - \$2,000
- iii. Waste stream characterization and compatibility evaluation -\$1,000 each
- iv. \$45 per 1,000 gallons discharged for customers within the service area
  - v. \$60 per 1,000 gallons discharged for customers outside the service area
- i. Significant industrial user discharge permit fee - \$400 plus the surcharge analytical fees
- j. Surcharge analytical fees

Metals	\$7/each
TSS	\$7/each
BOD	\$14/each
Total Phosphate	\$13.50/each
pH	\$8/each
EPA 624	\$60/each
EPA 625	\$115/each
BTEX/MTBE	\$35/each
Sulfide	\$12/each
Oil and Grease	\$25/each
Total Cyanide	\$15/each
Hexavalent Chromium	\$10/each
Fecal Coliform	\$30/each
Mercury	\$15/each
Ammonia	\$9/each
Labor	\$63.08/hour
Sampler	\$35/day
Vehicle	\$4.19/hour

## k. Sewer lateral charges

	50 ft.	60 ft.	66 ft.	80 ft.	100 ft.
	R.O.W.	R.O.W.	R.O.W.	R.O.W.	R.O.W.
Cost for 6 inch lateral	\$2,700	\$3,200	\$3,500	\$4,200	\$5,100

## l. Sewer oversizing rates

Description	Amount (per lineal foot)
8 – 10 inches	\$4.60
8 – 12 inches	\$9.00
8 – 15 inches	\$16.75
10 – 12 inches	\$4.40
10 – 15 inches	\$12.15
12 – 15 inches	\$7.75

m. Footing drain disconnect opt out charge - \$72.55 per customer per month

3. That the above Water and Sewer rates, charges and fees are approved and shall be effective January 1, 2018.

I hereby certify that the foregoing is a true transcript of the action of the City Commission of the City of Grand Rapids, Michigan, in public session held December 12, 2017.



Darlene O'Neal, City Clerk

**87265 Result: Adopted.**  
**Mover: Shaffer. Supporter: Allen.**

WHEREAS:

1. The Water/Sewer rate studies have been undertaken and completed for the years 1976 through 2016; and
2. The 2017 Water/Sewer Rate Review has been completed using the same general methodology as the 1976 through 2016 Water/Sewer Rate Studies, as adjusted where appropriate for the uniform water and sanitary sewer service agreements; therefore

RESOLVED:

1. That the attached water and sewer rates are approved for retail and wholesale partner communities of the City's Water Supply System and Sanitary Sewer System and shall be effective January 1, 2018; and
2. That the City Clerk is directed to notify the contractual water and sewer service customers in writing of the water and sewer rates, and the Mayor and City Clerk are authorized to take any action as may be required to evidence the new water and sewer rates.

I hereby certify that the foregoing is a true transcript of the action of the City Commission of the City of Grand Rapids, Michigan, in public session held December 12, 2017.



\_\_\_\_\_  
Darlene O'Neal, City Clerk

# MEMORANDUM

CITY OF GRAND RAPIDS

**DATE:** December 6, 2017

**TO:** City of Grand Rapids Mayor and City Commissioners

**FROM:** Molly Eastman, Fiscal Services Manager

**SUBJECT:** **2017 Rate Study – City of Grand Rapids 20 Day Public Comment Period Comments and Answers**

During the 2017 Water and Sewer Rate Study comment period, the City of Grand Rapids 311 service received the following comments:

Friday, November 16, 2017:

**Customer Comment:**

I had a caller provide feedback yesterday 11/16/17. Below is what she indicated.

**Calling to submit feedback on water/ sewer 2018 preliminary rates. Caller did not want to provide name or contact info. She just wanted to have outlined that prices should not increase for Grand Rapidians. Increases should only apply to other cities that use our services such as Walker, Kentwood, other townships etc.**

*Response:*

*Had this caller left their contact information I would have explained that the Water and Sewer Utility Rates are calculated annually and are based on a thorough methodology that analyzes operation and maintenance expenses, the carrying costs associated with the System's assets as well as usage and revenues received at current operating levels. This methodology has been in place since 1976 and has been built to ensure customer equity. The City of Grand Rapids provides water and sewer service to surrounding communities under an agreement pursuant to the Urban Cooperation Act. This arrangement is overseen by the Utility Advisory Board which is comprised of representatives of all the partner communities that receive water or sewer service. The annual Water and Sewer Rate Study is also presented to the Grand Rapids City Commission for review in November of every year and is approved by resolution at the first Commission meeting in December.*

Monday, December 4, 2017:

**Customer Comment, in email from Ruth Cook:**

**Is the City trying to hide this information?**

**I read the newspaper, watch local news shows, and I just discovered this information almost by mistake. Trying to keep another proposed increase for tax payers under the radar?**

**I don't know how you come up with these figures, some getting a large decrease and others getting the increases, it hardly seems fair.**

**For what it is worth, I oppose this increase. I'm tired of all our taxes being used for stupid useless things like bike lanes that no one uses. What a huge waste of money! We have pot holes big enough to fall in, but plenty of bike lanes that go unused. If you listened to the majority of residents, I think they would agree that too much money has been spent on bike lanes.**

**I'm also against it because I feel City administration is trying to hide this proposed increase from people until it's a done deal. We need more transparency.**

*Response:*

*Ms. Cook,*

*Thank you for your email in regards to the City of Grand Rapids Water and Sewer Rate Study. Per your suggestions about the transparency of the proposed rates for 2018, we do try to convey the rate information to the public in many different ways. If you are finding it difficult to receive this information, it is good to know so we can investigate more adequate forms of information delivery. Just so you are aware, the Water and Sewer Rate Study and the Citizen's Guide to Water and Sewer Rates can be found online at [www.grcity.us/watersewerratestudy](http://www.grcity.us/watersewerratestudy). Copies of the rate study as well as the Citizen's Guide are also available in the Clerk's Office. Notice of the new water and sewer rates was published in the Grand Rapids Press on November 14, 2017. Furthermore, the Preliminary Rate Study and packet of supporting documentation was provided on the City Commission agenda and presented at the Committee of the Whole on November 14, 2017. The published agenda can be found through the City's website at [www.grcity.us](http://www.grcity.us).*

*Because our rate study is fairly elaborate I will work with staff to further develop the Citizen's Guide into a more understandable format for rate payers. It is not the intention of the City to hide anything "under the radar". I will send you the presentation materials used when explaining the rates as well as copies of the current Citizen's Guide. I hope these will help answer some of your questions. If you would like further explanation please contact me at 616-456-3269 or [meastman@grand-rapids.mi.us](mailto:meastman@grand-rapids.mi.us).*

*Per your reference to bike lanes, the bike lane program is not directly related to the Water and Sewer Utilities with the exception of their involvement with the Vital Streets Program. To put simply, the Vital Streets program is a concerted effort to achieve cost savings by combining projects across multiple departments. So for example, if a road needs to be resurfaced and underneath that road we know that a new water main or sewer main needs to be replaced, those departments will partner with each other to share the costs. The bike lane program is also part of this effort.*

*Thank you for your input. The City is very invested in being transparent with all services provided to the community. Please let me know if I can provide any further information.*

*Thank you.*

As indicated at the Committee of the Whole Rate Study Presentation on November 14, 2017, all public comments received will be reviewed by staff and considered as part of the FY2019 budget planning process.

Thank you.

STATE OF MICHIGAN )  
County of Kent  
and County of Ottawa

D-3

ss.  Dawn Sattory

Being duly sworn deposes and say he/she is Principal Clerk of



**THE GRAND RAPIDS PRESS**  
**DAILY EDITION**

a newspaper published and circulated in the County of Kent and the County of Ottawa and otherwise qualified according to Supreme Court Rule; and that the annexed notice, taken from said paper, has been duly published in said paper on the following day(days)

November 14  A.D. 20  17

Sworn to and subscribed before me this  14<sup>th</sup>  day of  November  20  17

*Janice M. DeGraaf*  
JANICE M. DEGRAAF  
NOTARY PUBLIC, STATE OF MI  
COUNTY OF KENT  
MY COMMISSION EXPIRES Oct 3, 2020  
ACTING IN COUNTY OF  Kent



**CITY OF  
GRAND RAPIDS**

**WATER/SEWER RATES AND CHARGES FOR 2017 NOW  
AVAILABLE FOR PUBLIC COMMENT**

The City of Grand Rapids has completed the "Preliminary Water/Sewer 2017 Rate Study" report, which is the basis for recommending water and Sewer rates to become effective January 1, 2018, for all residential, commercial, and Industrial users. That report, which also includes information on the Individual Circuit Breaker Program, the program aimed to help retail users requiring assistance in payment of their water/sewer bills, is available for public inspection in the City Clerk's Office, 2nd floor of City Hall, 300 Monroe NW, Grand Rapids, MI 49503 between 8:00 a.m. and 5:00 p.m. weekdays and can also be reviewed at [www.grcity.us/waterseweratestudy](http://www.grcity.us/waterseweratestudy). Opportunity for public commentary runs through December 4th. You may submit comments to the City Clerk's Office or by sending an email to [info@grcity.us](mailto:info@grcity.us).

The Grand Rapids City Commission is scheduled to consider approval on the rates on Tuesday, December 12, 2017.

81661401

# MEMORANDUM

CITY OF GRAND RAPIDS

**DATE:** December 19, 2017

**TO:** Eric R. DeLong  
Deputy City Manager

**FROM:** Molly J. Eastman  
Fiscal Services Manager

**SUBJECT:** **2017 WATER/SEWER RATES STUDY PARTNER COMMUNITY CONTRIBUTIONS**

The following community has elected to make a contribution to reduce their water or sewer 2017 revenue requirement. The below amounts are applied in Task 27.

<u>Community</u>	<u>Utility</u>	<u>Check Number</u>	<u>Amount</u>
City of Walker	Water	154927	\$109,500

MJE:mje

CITY CLERK



# CITY OF GRAND RAPIDS

December 18, 2017

Ms. Jacqueline Smith, Clerk  
Ada Township  
7330 Thornapple River Drive  
P.O. Box 370  
Ada, MI 49301

Dear Jacqueline:

The "2016 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 14<sup>th</sup>, 2016, followed by a thirty-day comment period.

On December 13, 2016, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2017. A certified copy of the resolution and the approved rate schedules for Ada Township are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink that reads "D. O'Neal".

Darlene O'Neal  
City Clerk

DO/ec

Enclosures

cc: Tom Almonte, Assistant to the City Manager  
Molly Eastman, Utility Financial Officer

CITY CLERK



# CITY OF GRAND RAPIDS

December 18, 2017

Mr. Richard Robertson, Treasurer  
Caledonia Township  
8196 Broadmoore Ave  
Caledonia, MI 49316

Dear Mr. Robertson:

The "2017 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 10th, 2017, followed by a thirty-day comment period.

On December 12, 2017, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2018. A certified copy of the resolution and the approved rate schedules for Wright Township are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink that reads "D. O'Neal". The signature is written in a cursive, flowing style.

Darlene O'Neal  
City Clerk

DO/ec

Enclosures

cc: Tom Almonte, Managing Director of Public Services  
Molly Eastman, Fiscal Services Manager

CITY CLERK



# CITY OF GRAND RAPIDS

December 18, 2017

Mr. Clem Bell, Clerk  
Cascade Charter Township  
2865 Thornhills SE  
Grand Rapids, MI 49546-7192

Dear Mr. Bell:

The "2017 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 10th, 2017, followed by a thirty-day comment period.

On December 12, 2017, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2018. A certified copy of the resolution and the approved rate schedules for Cascade Charter Township are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

  
Darlene O'Neal  
City Clerk

DO/ec

Enclosures

cc: Tom Almonte, Managing Director of Public Services  
Molly Eastman, Fiscal Services Manager

CITY CLERK



# CITY OF GRAND RAPIDS

December 18, 2017

Ms. Karen Brower, Clerk  
City of East Grand Rapids  
750 Lakeside Drive SE  
East Grand Rapids, MI 49506

Dear Mr. Brower:

The "2017 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 10th, 2017, followed by a thirty-day comment period.

On December 12, 2017, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2018. A certified copy of the resolution and the approved rate schedules for East Grand Rapids are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

  
Darlene O'Neal  
City Clerk

DO/eac

Enclosures

cc: Tom Almonte, Managing Director of Public Services  
Molly Eastman, Fiscal Services Manager

CITY CLERK



# CITY OF GRAND RAPIDS

December 18, 2017

Ms. Crystal Osterink, Clerk  
Gaines Charter Township  
8555 Kalamazoo Ave., S.E.  
Caledonia, MI 49316-8270

Dear Ms. Osterink:

The "2017 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 10th, 2017, followed by a thirty-day comment period.

On December 12, 2017, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2018. A certified copy of the resolution and the approved rate schedules for Gaines charter Township are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink that reads "D. O'Neal".

Darlene O'Neal  
City Clerk

DO/eac

Enclosures

cc: Tom Almonte, Managing Director of Public Services  
Molly Eastman, Fiscal Services Manager

CITY CLERK



CITY OF GRAND RAPIDS

December 18, 2017

Mr. Edward J. Robinette, Clerk  
Grand Rapids Charter Township  
1836 East Beltline NE  
Grand Rapids, MI 49525

Dear Mr. Robinette:

The "2017 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 10th, 2017, followed by a thirty-day comment period.

On December 12, 2017, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2018. A certified copy of the resolution and the approved rate schedules for Grand Rapids Township are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

Darlene O'Neal  
City Clerk

DO/ec

Enclosures

cc: Tom Almonte, Managing Director of Public Services  
Molly Eastman, Fiscal Services Manager

CITY CLERK



# CITY OF GRAND RAPIDS

December 18, 2017

Mr. Dan Kasunic, Clerk  
City of Kentwood  
4900 Breton Avenue SE  
Kentwood, MI 49518-8848

Dear Mr. Kasunic:

The "2017 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 10th, 2017, followed by a thirty-day comment period.

On December 12, 2017, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2018. A certified copy of the resolution and the approved rate schedules for the City of Kentwood are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. O'Neal".

Darlene O'Neal  
City Clerk

DO/ec

Enclosures

cc: Tom Almonte, Managing Director of Public Services  
Molly Eastman, Fiscal Services Manager

CITY CLERK



# CITY OF GRAND RAPIDS

December 18, 2017

Mr. Patrick J. Staskiewicz, P.E.  
Director of Public Utilities  
County of Ottawa  
Board of County Road Commissioners  
U.S. 31 at Rosy Mound Drive, P.O. Box 739  
Grand Haven, MI 49417

Dear Mr. Staskiewicz:

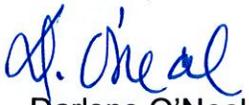
The "2017 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 10th, 2017, followed by a thirty-day comment period.

On December 12, 2017, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2018. A certified copy of the resolution and the approved rate schedules for Ottawa County are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

  
Darlene O'Neal  
City Clerk

DO/ec

Enclosures

cc: Tom Almonte, Managing Director of Public Services  
Molly Eastman, Fiscal Services Manager

CITY CLERK



# CITY OF GRAND RAPIDS

December 18, 2017

Ms. Lenore Cook, Clerk  
Tallmadge Township Offices  
0-1451 Leonard Street NW  
Grand Rapids, MI 49504

Dear Ms. Cook:

The "2017 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 10th, 2017, followed by a thirty-day comment period.

On December 12, 2017, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2018. A certified copy of the resolution and the approved rate schedules for Tallmadge Township are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink that reads "Darlene O'Neal".

Darlene O'Neal  
City Clerk

DO/eac

Enclosures

cc: Tom Almonte, Managing Director of Public Services  
Molly Eastman, Fiscal Services Manager

CITY CLERK



# CITY OF GRAND RAPIDS

December 18, 2017

Ms. Sarah Bydalek, City Clerk  
City of Walker  
4243 Remembrance Road NW  
Grand Rapids, MI 49504

Dear Ms. Bydalek:

The "2017 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 10th, 2017, followed by a thirty-day comment period.

On December 12, 2017, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2018. A certified copy of the resolution and the approved rate schedules for the City of Walker are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink that reads "D. O'Neal".

Darlene O'Neal  
City Clerk

DO/eac

Enclosures

cc: Tom Almonte, Managing Director of Public Services  
Molly Eastman, Fiscal Services Manager

CITY CLERK



# CITY OF GRAND RAPIDS

December 18, 2017

Ms. Maureen Carmody, Township Clerk  
Wright Township  
1565 Jackson  
P.O. Box 255  
Marne, MI 49435

Dear Ms. Carmody:

The "2017 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 10th, 2017, followed by a thirty-day comment period.

On December 12, 2017, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2018. A certified copy of the resolution and the approved rate schedules for Wright Township are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

  
Darlene O'Neal  
City Clerk

DO/ec

Enclosures

cc: Tom Almonte, Managing Director of Public Services  
Molly Eastman, Fiscal Services Manager