

**City of Grand Rapids
Water & Sewer System**

**Rate Study
2022**

Final

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: January 1, 2023

TO: Mark Washington, City Manager
Members of the Utility Advisory Board

FROM: Jenessa B. Carter
Utility Financial Officer

SUBJECT: 2022 WATER/SEWER RATE STUDY – FINAL REPORT

The final study, setting water and sewer rates effective January 1, 2023, 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 the 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 to 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 2022 review marked the 46th annual water/sewer rate study report and resulted in utility rate increases as follows:

1. Water Supply System revenue requirements increased \$2,694,987 or 5.68% more than revenue generated by existing rates and charges.
2. Sewage Disposal System revenue requirements increased \$671,929 or 1.07% more than revenue generated by existing rates and charges.

The final rate study continues to provide funding from the penalty fees and non-operating income to support both of the City's circuit breaker programs. A contribution of \$210,446 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 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 with 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 2023 water and sewer rates to the UAB partners and other customer communities was made November 10, 2022. 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 15, 2022, the preliminary rate study with explanatory materials were filed with the City Clerk, made available online at <https://www.grandrapidsmi.gov/Government/Departments/Water-System/Water-and-Sewer-Rate-Study>, 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 13, 2022.

Attachments as named

JBC:jbc

**CITY OF GRAND RAPIDS, MICHIGAN
2022 FINAL WATER/SEWER RATE STUDY
SUMMARY OF REVENUE REQUIREMENT CHANGES
FOR RATES EFFECTIVE JANUARY 1, 2023**

	<u>WATER (1)</u>		<u>SEWER (1)</u>		
	<u>AMOUNT</u>	<u>PERCENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>	
RETAIL COMMUNITIES	GRAND RAPIDS	\$ 1,740,355	6.27%	\$ 528,951	1.27%
	WALKER	57,121	1.50%	14,984	0.27%
	NET OF CONTRIBUTION OF:	(181,741)			
	KENTWOOD	200,019	4.25%	88,770	1.71%
	CASCADE TWP	137,344	3.76%	52,124	1.71%
	GRAND RAPIDS TWP	160,044	6.27%	50,307	1.71%
	TALLMADGE TWP	7,941	3.31%	8,231	1.71%
WRIGHT TWP	N/A	N/A	(45,285)	-13.59%	
WHOLESALE COMMUNITIES	EAST GRAND RAPIDS	3,577	0.41%	12,761	0.99%
	ADA TWP	123,810	8.85%	6,865	0.44%
	OTTAWA COUNTY	83,034	3.40%	NA	NA
	GAINES TWP	N/A	N/A	(42,901)	-12.05%
	CALEDONIA TWP	N/A	N/A	(2,878)	-1.34%
<hr/>					
SYSTEM	\$ 2,694,987	5.68%	\$ 671,929	1.07%	
<hr/>					

(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 (CCCCB)

	<u>WATER</u>		<u>SEWER</u>	
	<u>AMOUNT</u>	<u>PERCENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>
SYSTEM REVENUE REQUIREMENT	\$ 50,122,073	5.68%	\$ 63,232,742	1.07%
ADD: CCCCB RELIEF	280,729	0.59%	400,151	0.64%
SYSTEM CHANGE- WITHOUT RELIEF	<u>\$ 50,402,802</u>	<u>6.27%</u>	<u>\$ 63,632,893</u>	<u>1.71%</u>

**CITY OF GRAND RAPIDS, MICHIGAN
2022 FINAL WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON DOMESTIC USERS
BY CUSTOMER COMMUNITY *
FOR RATES EFFECTIVE JANUARY 1, 2023**

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2022</u>	<u>2023</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 99.90	\$ 106.14	\$ 6.24	6.25%
SEWER	140.64	142.38	1.74	1.24%
	<u>\$ 240.54</u>	<u>\$ 248.52</u>	<u>\$ 7.98</u>	3.32%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 99.36	\$ 100.83	\$ 1.47	1.48%
SEWER	163.26	163.65	0.39	0.24%
	<u>\$ 262.62</u>	<u>\$ 264.48</u>	<u>\$ 1.86</u>	0.71%
RATIO TO GR	1.09	1.06		
KENTWOOD				
WATER	\$ 101.37	\$ 105.75	\$ 4.38	4.32%
SEWER	97.98	99.45	1.47	1.50%
	<u>\$ 199.35</u>	<u>\$ 205.20</u>	<u>\$ 5.85</u>	2.93%
RATIO TO GR	0.83	0.83		
CASCADE TWP				
WATER	\$ 139.89	\$ 145.20	\$ 5.31	3.80%
SEWER	188.19	191.22	3.03	1.61%
	<u>\$ 328.08</u>	<u>\$ 336.42</u>	<u>\$ 8.34</u>	2.54%
RATIO TO GR	1.36	1.35		
GRAND RAPIDS TWP				
WATER	\$ 111.81	\$ 118.77	\$ 6.96	6.22%
SEWER	152.04	154.56	2.52	1.66%
	<u>\$ 263.85</u>	<u>\$ 273.33</u>	<u>\$ 9.48</u>	3.59%
RATIO TO GR	1.10	1.10		
TALLMADGE TWP				
WATER	\$ 90.96	\$ 94.86	\$ 3.90	4.29%
SEWER	269.91	274.41	4.50	1.67%
	<u>\$ 360.87</u>	<u>\$ 369.27</u>	<u>\$ 8.40</u>	2.33%
RATIO TO GR	1.50	1.49		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE DOMESTIC CUSTOMER
QUARTERLY CONSUMPTION OF: WATER- 30.00 UNITS OR 22,440 GALLONS
SEWER - 21.00 UNITS OR 15,708 GALLONS
NO. OF MONTHS: 3

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

WRIGHT TWP-				
SEWER (No. of REU 1.00)	<u>\$ 197.16</u>	<u>\$ 170.37</u>	<u>\$ (26.79)</u>	-13.59%

**CITY OF GRAND RAPIDS, MICHIGAN
2022 FINAL WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON COMMERCIAL USERS
BY CUSTOMER COMMUNITY
FOR RATES EFFECTIVE JANUARY 1, 2023**

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2022</u>	<u>2023</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 502.95	\$ 537.27	\$ 34.32	6.82%
SEWER	946.92	959.79	12.87	1.36%
	<u>\$ 1,449.87</u>	<u>\$ 1,497.06</u>	<u>\$ 47.19</u>	3.25%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 457.15	\$ 464.41	\$ 7.26	1.59%
SEWER	763.83	766.23	2.40	0.31%
	<u>\$ 1,220.98</u>	<u>\$ 1,230.64</u>	<u>\$ 9.66</u>	0.79%
RATIO TO GR	0.84	0.82		
KENTWOOD				
WATER	\$ 439.07	\$ 457.71	\$ 18.64	4.25%
SEWER	697.56	709.95	12.39	1.78%
	<u>\$ 1,136.63</u>	<u>\$ 1,167.66</u>	<u>\$ 31.03</u>	2.73%
RATIO TO GR	0.78	0.78		
CASCADE TWP				
WATER	\$ 608.08	\$ 631.45	\$ 23.37	3.84%
SEWER	853.14	868.26	15.12	1.77%
	<u>\$ 1,461.22</u>	<u>\$ 1,499.71</u>	<u>\$ 38.49</u>	2.63%
RATIO TO GR	1.01	1.00		
GRAND RAPIDS TWP				
WATER	\$ 499.37	\$ 531.87	\$ 32.50	6.51%
SEWER	695.67	708.30	12.63	1.82%
	<u>\$ 1,195.04</u>	<u>\$ 1,240.17</u>	<u>\$ 45.13</u>	3.78%
RATIO TO GR	0.82	0.83		
TALLMADGE TWP				
WATER	\$ 559.76	\$ 580.64	\$ 20.88	3.73%
SEWER	1,886.88	1,919.10	32.22	1.71%
	<u>\$ 2,446.64</u>	<u>\$ 2,499.74</u>	<u>\$ 53.10</u>	2.17%
RATIO TO GR	1.69	1.67		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE COMMERCIAL CUSTOMER
 QUARTERLY CONSUMPTION OF : WATER- 208.00 UNITS OR 155,584 GALLONS
 SEWER - 198.00 UNITS OR 148,104 GALLONS
 NO. OF MONTHS: 3

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

WRIGHT TWP				
SEWER (No. of REU 1.00)	<u>\$ 197.16</u>	<u>\$ 170.37</u>	<u>\$ (26.79)</u>	-13.59%

**CITY OF GRAND RAPIDS, MICHIGAN
2022 FINAL WATER/SEWER RATE STUDY
WATER & SEWER RATES FOR GRAND RAPIDS & RETAIL CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2023**

WATER RATES

	<u>METER CODE</u>	<u>GRAND RAPIDS</u>	<u>WALKER</u>	<u>KENTWOOD</u>	<u>CASCADE</u>	<u>GR. RAPIDS TOWNSHIP</u>	<u>TALLMADGE TOWNSHIP</u>	<u>WRIGHT TOWNSHIP</u>
COMMODITY CHARGE (HCF)		\$ 2.31	\$ 1.90	\$ 1.80	\$ 2.47	\$ 2.13	\$ 2.72	NA
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 12.28	\$ 14.61	\$ 17.25	\$ 23.70	\$ 18.29	\$ 4.42	NA
1"	B	\$ 18.93	\$ 23.07	\$ 27.77	\$ 39.23	\$ 29.61	\$ 4.96	NA
1-1/4"	C	\$ 27.48	\$ 33.95	\$ 41.29	\$ 59.20	\$ 44.17	\$ 5.65	NA
1-1/2"	D	\$ 37.93	\$ 47.25	\$ 57.81	\$ 83.61	\$ 61.97	\$ 6.49	NA
2"	E	\$ 64.53	\$ 81.10	\$ 99.87	\$ 145.74	\$ 107.27	\$ 8.64	NA
3"	F	\$ 140.53	\$ 177.81	\$ 220.05	\$ 323.25	\$ 236.69	\$ 14.77	NA
4"	G	\$ 246.93	\$ 313.21	\$ 388.30	\$ 571.76	\$ 417.88	\$ 23.36	NA
6" & Over	H	\$ 550.93	\$ 700.05	\$ 869.01	\$ 1,281.81	\$ 935.57	\$ 47.89	NA

SEWER RATES

	<u>METER CODE</u>	<u>GRAND RAPIDS</u>	<u>WALKER</u>	<u>KENTWOOD</u>	<u>CASCADE</u>	<u>GR. RAPIDS TOWNSHIP</u>	<u>TALLMADGE TOWNSHIP</u>	<u>WRIGHT TOWNSHIP</u>
COMMODITY CHARGE (HCF)		\$ 4.45	\$ 3.01	\$ 3.37	\$ 3.34	\$ 2.75	\$ 8.96	NA
REU Charge (Monthly) *		NA	NA	NA	NA	NA	NA	\$ 56.79
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 16.31	\$ 33.48	\$ 9.56	\$ 40.36	\$ 32.27	\$ 28.75	NA
1"	B	\$ 26.23	\$ 56.75	\$ 14.23	\$ 68.98	\$ 54.60	\$ 48.34	NA
1-1/4"	C	\$ 38.98	\$ 86.67	\$ 20.23	\$ 105.78	\$ 83.31	\$ 73.53	NA
1-1/2"	D	\$ 54.56	\$ 123.24	\$ 27.56	\$ 150.76	\$ 118.40	\$ 104.32	NA
2"	E	\$ 94.23	\$ 216.32	\$ 46.23	\$ 265.25	\$ 207.72	\$ 182.69	NA
3"	F	\$ 207.56	\$ 482.28	\$ 99.56	\$ 592.36	\$ 462.92	\$ 406.60	NA
4"	G	\$ 366.23	\$ 854.62	\$ 174.23	\$ 1,050.31	\$ 820.20	\$ 720.07	NA
6" & Over	H	\$ 819.56	\$ 1,918.44	\$ 387.56	\$ 2,358.76	\$ 1,841.00	\$ 1,615.72	NA

* REU - Residential Equivalent Unit (Wright Township Only)

FIRE PROTECTION RATES- ALL GOVERNMENTAL UNITS

6"	H	\$ 21.35		10"	J	\$ 59.35
8"	I	\$ 37.88		12"	K	\$ 85.41

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

**CITY OF GRAND RAPIDS, MICHIGAN
2022 FINAL WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON WHOLESALE CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2023**

	<u>2022</u>	<u>2023</u>	<u>PERCENTAGE CHANGE</u>
EAST GRAND RAPIDS			
WATER - SERVICE (MONTHLY)	\$15,106.00	\$14,452.00	-4.33%
- COMMODITY (100 CF)	\$1.20	\$1.22	1.67%
SEWER - SERVICE (MONTHLY)	\$1,851.00	\$1,853.00	0.11%
- COMMODITY (MG)	\$2,891.00	\$2,920.00	1.00%
ADA TWP			
WATER - SERVICE	\$47,613.00	\$56,931.00	19.57%
- COMMODITY	\$1.38	\$1.40	1.45%
SEWER - SERVICE	\$39,377.00	\$38,466.00	-2.31%
- COMMODITY	\$3,883.00	\$3,947.00	1.65%
OTTAWA COUNTY			
WATER - SERVICE	\$172.00	\$736.00	327.91%
- COMMODITY	\$1.28	\$1.32	3.13%
GAINES TWP			
SEWER - SERVICE	\$1,590.00	\$1,488.00	-6.42%
- COMMODITY	\$2,885.00	\$2,528.00	-12.37%
CALEDONIA TWP			
SEWER - SERVICE	\$786.00	\$704.00	-10.43%
- COMMODITY	\$7,941.00	\$7,868.00	-0.92%

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, 2022
TASKS NO. 1, 2, & 3**

COMMUNITY	LOCAL		INTERMEDIATE		PRIMARY		TOTALS	
	FEET	MILES	FEET	MILES	FEET	MILES	FEET	MILES
Grand Rapids								
Construction	12,837	2.43	15,229	2.88	9,039	1.71	37,105	7.02
Abandonment	(15,203)	(2.88)	(14,572)	(2.76)	(2,703)	(0.51)	(32,478)	(6.15)
CSO Construction	0	0.00	0	0.00	0	0.00	0	0.00
CSO Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>(2,366)</u>	<u>(0.45)</u>	<u>657</u>	<u>0.12</u>	<u>6,336</u>	<u>1.20</u>	<u>4,627</u>	<u>0.87</u>
Kentwood								
Construction	3,130	0.59	259	0.05	0	0.00	3,389	0.64
Abandonment	0	0.00	(273)	(0.05)	0	0.00	(273)	(0.05)
	<u>3,130</u>	<u>0.59</u>	<u>(14)</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>3,116</u>	<u>0.59</u>
Cascade 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>
G.R. Twp.								
Construction	1,810	0.34	0	0.00	0	0.00	1,810	0.34
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>1,810</u>	<u>0.34</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>1,810</u>	<u>0.34</u>
Tallmadge 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>
Walker								
Construction	1,347	0.26	3,460	0.66	64	0.01	4,871	0.93
Abandonment	0	0.00	(79)	(0.01)	(20)	0.00	(99)	(0.01)
	<u>1,347</u>	<u>0.26</u>	<u>3,381</u>	<u>0.65</u>	<u>44</u>	<u>0.01</u>	<u>4,772</u>	<u>0.92</u>
TOTAL	<u><u>3,921</u></u>	<u><u>0.74</u></u>	<u><u>4,024</u></u>	<u><u>0.77</u></u>	<u><u>6,380</u></u>	<u><u>1.21</u></u>	<u><u>14,325</u></u>	<u><u>2.72</u></u>

	CONTRIBUTIONS		
	COMM	OTHER	TOTAL
Integrated	\$ -	\$ -	\$ -
Grand Rapids	285,635	-	285,635
Walker	681,089	-	681,089
Kentwood	381,438	-	381,438
Cascade Twp.	-	-	-
Grand Rapids Twp.	171,592	-	171,592
Tallmadge Twp.	-	-	-
TOTAL	<u><u>\$ 1,519,754</u></u>	<u><u>\$ -</u></u>	<u><u>\$ 1,519,754</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, 2022**

	ACTIVITY	EXPENSE BY ACTIVITY	FILTRATION PLANT	PUMPING STATIONS		WATERMAINS			RETAIL CUSTOMER METERING	ENGIN. SERVICES	ADMIN. EXPENSE
				PRIMARY	INTERM.	PRIMARY TRANSPORT	INTERMED. TRANSPORT	LOCAL DISTRIBUTION			
253 (4010) 5910	TREASURER-CUSTOMER SERVICE	\$ 984,587							\$ 984,587		
536 (2110 / 2700) 5910	WATER-CUSTOMER SERVICE *	3,015,149							3,015,149		
536 (3010:70) 5910	ENGINEERING	1,339,696								1,339,696	
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	2,626,306		432,494	2,193,812						
536 (6010 / 6370) 5910	FIELD OPERATIONS	7,591,060				395,874	2,017,476	5,177,710			
536 (6500:90) 5910	FILTRATION	8,055,061	8,055,061								
	SUBTOTAL OPERATING EXPENSE	23,611,858	8,055,061	432,494	2,193,812	395,874	2,017,476	5,177,710	3,999,736	1,339,696	-
536 (1000:10 / 8000) 5910	ADMINISTRATION	3,006,603									3,006,603
	TOTAL	\$ 26,618,461	\$ 8,055,061	\$ 432,494	\$ 2,193,812	\$ 395,874	\$ 2,017,476	\$ 5,177,710	\$ 3,999,736	\$ 1,339,696	\$ 3,006,603

* 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%		16.470%	83.530%						
536 (6010 / 6370) 5910	FIELD OPERATIONS	100.000%				5.215%	26.577%	68.208%			
	TOTAL MILES OF MAIN 1,194.47					62.29	317.45	814.73			
536 (6500:90) 5910	FILTRATION	100.000%	100.000%								
536 (1000:10 / 8000) 5910	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, 2022**

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	\$ 8,055,061	\$ 8,055,061										
PUMPING STATIONS:												
A. PRIMARY TRANSPORT	432,494	432,494										
B. INTERMEDIATE TRANSPORT	2,193,812		1,841,045	20,503	332,264	-	-	-				
WATERMAINS:												
A. PRIMARY TRANSPORT	395,874		329,652	20,526	29,109	10,677	5,910	-	-	-	-	-
B. INTERMEDIATE TRANSPORT	2,017,476		753,547	441,565	357,477	268,062	168,540	28,285	-	-	-	-
C. LOCAL DISTRIBUTION	5,177,710		3,770,771	410,851	359,488	286,742	330,545	19,313	-	-	-	-
RETAIL CUSTOMER METERING	3,999,736		2,950,885	333,218	278,462	195,587	223,985	17,599				
SUBTOTAL OPERATING EXPENSE	22,272,162	8,487,555	9,645,900	1,226,663	1,356,800	761,068	728,980	65,197	-	-	-	-
ENGINEERING SERVICES	1,339,696	510,533	580,209	73,790	81,614	45,777	43,848	3,925	-	-	-	-
ADMINISTRATIVE EXPENSE	3,006,603	871,921	1,709,497	126,024	139,387	78,182	74,887	6,704	-	-	-	-
TOTAL	<u>\$ 26,618,461</u>	<u>\$ 9,870,009</u>	<u>\$ 11,935,606</u>	<u>\$ 1,426,477</u>	<u>\$ 1,577,801</u>	<u>\$ 885,027</u>	<u>\$ 847,715</u>	<u>\$ 75,826</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

METHOD OF DISTRIBUTION

FILTRATION PLANTS		100.00%	100.00%									
PUMPING STATIONS:												
A. PRIMARY TRANSPORT		100.00%	100.00%									
B. INTERMEDIATE TRANSPORT		100.00%		83.919%	0.935%	15.146%						
MEMO												
WATERMAINS												
TOTAL MILES:	1,194.47											
A. PRIMARY TRANSPORT		100.000%		83.272%	5.185%	7.353%	2.697%	1.493%				
MILES	62.29			51.87	3.23	4.58	1.68	0.93	-	-	-	-
B. INTERMEDIATE TRANSPORT		100.000%		37.351%	21.887%	17.719%	13.287%	8.354%	1.402%			
MILES	317.45			118.57	69.48	56.25	42.18	26.52	4.45	-	-	-
C. LOCAL DISTRIBUTION		100.000%		72.827%	7.935%	6.943%	5.538%	6.384%	0.373%			
MILES	814.73			593.34	64.65	56.57	45.12	52.01	3.04	-	-	-
RETAIL CUSTOMER METERING (1)		100.000%		73.777%	8.331%	6.962%	4.890%	5.600%	0.440%			
NUMBER OF METERS	80,928.00			59,707.00	6,742.00	5,634.00	3,957.00	4,532.00	356.00			
ENGINEERING SERVICES (2)		100.000%	38.108%	43.309%	5.508%	6.092%	3.417%	3.273%	0.293%			
ADMINISTRATIVE EXPENSE (3)		100.000%	29.000%	56.858%	4.192%	4.636%	2.600%	2.491%	0.223%			

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 OPERATING EXPENSE ALLOCATION BY COST CENTER - TASK #5, PART 1
 FISCAL YEAR ENDED JUNE 30, 2022**

	ACTIVITY	ADJUSTED EXPENSE BY ACTIVITY	FILTRATION PLANT	PUMPING STATIONS		WATERMAINS			RETAIL CUSTOMER METERING	ENGIN. SERVICES	ADMIN. EXPENSE
				PRIMARY	INTERM.	PRIMARY TRANSPORT	INTERMED. TRANSPORT	LOCAL DISTRIBUTION			
253 (4010) 5910	TREASURER-CUSTOMER SERVICE	\$ 989,783							\$ 989,783		
536 (2110 / 2700) 5910	WATER-CUSTOMER SERVICE *	2,462,314							2,462,314		
536 (3010:70) 5910	ENGINEERING	1,400,041								1,400,041	
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	2,665,519		438,952	2,226,567						
536 (6010 / 6370) 5910	FIELD OPERATIONS	7,122,172				371,421	1,892,860	4,857,891			
536 (6500:90) 5910	FILTRATION	8,490,091	8,490,091								
	SUBTOTAL OPERATING EXPENSE	23,129,920	8,490,091	438,952	2,226,567	371,421	1,892,860	4,857,891	3,452,097	1,400,041	-
536 (1000:10 / 8000) 5910	ADMINISTRATION	3,982,497									3,982,497
	TOTAL	<u>\$ 27,112,417</u>	<u>\$ 8,490,091</u>	<u>\$ 438,952</u>	<u>\$ 2,226,567</u>	<u>\$ 371,421</u>	<u>\$ 1,892,860</u>	<u>\$ 4,857,891</u>	<u>\$ 3,452,097</u>	<u>\$ 1,400,041</u>	<u>\$ 3,982,497</u>

* 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%		16.470%	83.530%						
536 (6010 / 6370) 5910	FIELD OPERATIONS	100.000%				5.215%	26.577%	68.208%			
	TOTAL MILES OF MAIN 1,194.47					62.29	317.45	814.73			
536 (6500:90) 5910	FILTRATION	100.000%	100.000%								
536 (1000:10 / 8000) 5910	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, 2022**

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	\$ 8,490,091	\$ 8,490,091										
PUMPING STATIONS:												
A. PRIMARY TRANSPORT	438,952	438,952										
B. INTERMEDIATE TRANSPORT	2,226,567		1,868,533	20,809	337,225	-	-	-				
WATERMAINS:												
A. PRIMARY TRANSPORT	371,421		309,290	19,258	27,311	10,017	5,545	-	-	-	-	-
B. INTERMEDIATE TRANSPORT	1,892,860		707,002	414,290	335,396	251,504	158,130	26,538	-	-	-	-
C. LOCAL DISTRIBUTION	4,857,891		3,537,856	385,474	337,283	269,030	310,128	18,120	-	-	-	-
RETAIL CUSTOMER METERING	3,452,097		2,546,854	287,594	240,335	168,808	193,317	15,189				
SUBTOTAL OPERATING EXPENSE	21,729,879	8,929,043	8,969,535	1,127,425	1,277,550	699,359	667,120	59,847	-	-	-	-
ENGINEERING SERVICES	1,400,041	575,320	577,895	72,634	82,308	45,053	42,981	3,850	-	-	-	-
ADMINISTRATIVE EXPENSE	3,982,497	1,341,243	2,065,825	169,332	191,886	105,033	100,202	8,976	-	-	-	-
TOTAL	<u>\$ 27,112,417</u>	<u>\$ 10,845,605</u>	<u>\$ 11,613,256</u>	<u>\$ 1,369,391</u>	<u>\$ 1,551,744</u>	<u>\$ 849,445</u>	<u>\$ 810,303</u>	<u>\$ 72,673</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

9-W

METHOD OF DISTRIBUTION

FILTRATION PLANTS		100.00%	100.00%									
PUMPING STATIONS:												
A. PRIMARY TRANSPORT		100.00%	100.00%									
B. INTERMEDIATE TRANSPORT		100.00%		83.919%	0.935%	15.146%						
MEMO												
WATERMAINS												
TOTAL MILES:	1,194.47											
A. PRIMARY TRANSPORT		100.000%		83.272%	5.185%	7.353%	2.697%	1.493%				
MILES	62.29			51.87	3.23	4.58	1.68	0.93	-	-	-	-
B. INTERMEDIATE TRANSPORT		100.000%		37.351%	21.887%	17.719%	13.287%	8.354%	1.402%			
MILES	317.45			118.57	69.48	56.25	42.18	26.52	4.45	-	-	-
C. LOCAL DISTRIBUTION		100.000%		72.827%	7.935%	6.943%	5.538%	6.384%	0.373%			
MILES	814.73			593.34	64.65	56.57	45.12	52.01	3.04	-	-	-
RETAIL CUSTOMER METERING (1)		100.000%		73.777%	8.331%	6.962%	4.890%	5.600%	0.440%			
NUMBER OF METERS	80,928.00			59,707.00	6,742.00	5,634.00	3,957.00	4,532.00	356.00			
ENGINEERING SERVICES (2)		100.000%	41.093%	41.277%	5.188%	5.879%	3.218%	3.070%	0.275%			
ADMINISTRATIVE EXPENSE (3)		100.000%	33.679%	51.873%	4.252%	4.818%	2.637%	2.516%	0.225%			

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, 2022
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	\$ 615,479.68	\$ 147,247.19	\$ 762,726.87
7040	TEMPORARY EMPLOYEES	6,877.09	452.17	7,329.26
7055	TIME & ONE-HALF	1,490.28	97.99	1,588.27
7105	EMPLOYERS SOCIAL SECURITY	44,687.29	16,411.24	61,098.53
7110	HOSPITALIZATION INSURANCE	94,404.83	19,060.34	113,465.17
7115	RETIREE HEALTH CARE	31,160.60	(1,187.54)	29,973.06
7120	RETIREMENT FUND CONTRIBUTION	148,763.14	8,902.78	157,665.92
7135	UNEMPLOYMENT COMPENSATION	1,117.49	-	1,117.49
7150	LONGEVITY PAY	-	69,338.87	69,338.87
7175	FOOD/CLEAN/CAR ALLOW	4,001.35	-	4,001.35
	TOTAL PERSONAL SERVICES	<u>947,981.75</u>	<u>260,323.04</u>	<u>1,208,304.79</u>
7520	SUPPLIES	3,712.10	-	3,712.10
7800	INVENTORY - COST OF GOODS SOLD	83,565.06	-	83,565.06
	TOTAL SUPPLIES	<u>87,277.16</u>	<u>-</u>	<u>87,277.16</u>
8010	CONTRACTUAL SERVICES	(113,802.10)	660,402.31	546,600.21
8011	CONTRACT EMPLOYEES - TEMP SERVICES	2,559.55	-	2,559.55
8015	CONTRACT SERVICES-TRAINING	4,500.00	-	4,500.00
8016	CONTRACTS- EXTERNAL LEGAL SERVICES	115.00	-	115.00
8030	ADMINISTRATIVE SERVICES (ICB)	16,706.80	(16,706.80)	-
8240	FEES	29,150.49	-	29,150.49
8400	INSURANCE PREMIUMS	336,901.00	-	336,901.00
8450	GENERAL LIABILITY INSURANCE/CLAIMS	225,646.00	1,507.00	227,153.00
8500	TELEPHONE	2,404.84	-	2,404.84
8510	POSTAGE	201.37	-	201.37
8800	COMMUNITY PROMOTION	2,054.47	-	2,054.47
9000	PRINTING & PUBLISHING	2,808.86	-	2,808.86
9100	PROFESSIONAL DEVELOPMENT	6,291.75	-	6,291.75
9110	OTHER TRAVEL & TRAINING	14,653.61	-	14,653.61
9130	LOCAL BUSINESS EXPENSE	121.00	-	121.00
9131	FOOD-BEVERAGE	747.55	-	747.55
9150	MEMBERSHIPS	55,367.50	-	55,367.50
9180	WATER	2,967.14	-	2,967.14
9190	REFUSE COLLECTION CHARGES	8,465.81	-	8,465.81
9200	ELECTRICITY	48,631.05	58,174.00	106,805.05
9210	NATURAL GAS	22,812.21	-	22,812.21
9340	MAINTENANCE SERVICE	69,984.62	-	69,984.62
9400	LAND RENTAL OR LEASE	3,962.02	-	3,962.02
9430	BUILDINGS RENTALS OR LEASE	6,269.28	-	6,269.28
9460	ENGINEERING SERVICES	3,836.00	-	3,836.00
9470	VEHICLE USAGE/CAR MILEAGE	4,676.32	-	4,676.32
9480	COMPUTER SERVICES	29,496.00	1,068.00	30,564.00
9650	BAD DEBT WRITE-OFFS	574.21	-	574.21
	TOTAL OTHER SERVICES & CHARGES	<u>788,102.35</u>	<u>704,444.51</u>	<u>1,492,546.86</u>
9760	EQUIPMENT	27,110.54	-	27,110.54
9800	FURNITURE	8,167.17	-	8,167.17
9880	CONSTRUCTION IN PROGRESS	130,305.82	-	130,305.82
	TOTAL CAPITAL	<u>165,583.53</u>	<u>-</u>	<u>165,583.53</u>
9510	A-87 COST ALLOCATION	1,017,658.00	11,127.00	1,028,785.00
	TOTAL TRANSFERS/FEES	<u>1,017,658.00</u>	<u>11,127.00</u>	<u>1,028,785.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 3,006,602.79</u>	<u>\$ 975,894.55</u>	<u>\$ 3,982,497.34</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2022
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	\$ 1,585,985.11	\$ 104,278.52	\$ 1,690,263.63
7025	ACT.ASSIGNMENT	3,724.01	244.85	3,968.86
7050	REGULAR HOURLY RATE	273.45	17.98	291.43
7055	TIME & ONE-HALF	101,110.05	6,647.99	107,758.04
7105	EMPLOYERS SOCIAL SECURITY	119,936.33	7,885.81	127,822.14
7110	HOSPITALIZATION INSURANCE	373,003.99	75,309.51	448,313.50
7115	RETIREE HEALTH CARE	82,641.95	(12,991.31)	69,650.64
7120	RETIREMENT FUND CONTRIBUTION	395,388.03	(30,049.49)	365,338.54
7135	UNEMPLOYMENT COMPENSATION	2,224.35	-	2,224.35
7165	SHIFT DIFFERENTIAL	1,789.77	-	1,789.77
7175	FOOD/CLEAN/CAR ALLOW	900.00	-	900.00
	TOTAL PERSONAL SERVICES	<u>2,666,977.04</u>	<u>151,343.86</u>	<u>2,818,320.90</u>
7520	SUPPLIES	980,478.36	-	980,478.36
7670	CLOTHING/CLEANING ALLOWANCE	7,034.80	-	7,034.80
	TOTAL SUPPLIES	<u>987,513.16</u>	<u>-</u>	<u>987,513.16</u>
8010	CONTRACTUAL SERVICES	551,279.34	-	551,279.34
8011	CONTRACT EMPLOYEES - TEMP SERVICES	3,548.50	-	3,548.50
8015	CONTRACT SERVICES-TRAINING	10,000.00	-	10,000.00
8240	FEES	30.00	-	30.00
8500	TELEPHONE	17,215.75	-	17,215.75
8510	POSTAGE	174,099.72	-	174,099.72
9100	PROFESSIONAL DEVELOPMENT	2,208.20	-	2,208.20
9340	MAINTENANCE SERVICE	2,246.64	-	2,246.64
9410	EQUIPMENT RENTALS OR LEASE	6,745.75	-	6,745.75
9440	FLEET MANAGEMENT EQUIPMENT	136,151.16	-	136,151.16
9450	311 CALL CENTER SERVICES	487,418.00	-	487,418.00
9470	VEHICLE RENTAL/CAR MILEAGE	11,146.39	-	11,146.39
9480	COMPUTER SERVICES	137,784.00	5,000.00	142,784.00
9480	COMPUTER SERVICES (CIS-DEPR & ROI)	-	27,277.77	27,277.77
9650	BAD DEBT WRITE-OFFS	(815.47)	-	(815.47)
	TOTAL OTHER SERVICES & CHARGES	<u>1,539,057.98</u>	<u>32,277.77</u>	<u>1,571,335.75</u>
9760	EQUIPMENT	1,534.45	-	1,534.45
9800	FURNITURE	1,586.07	-	1,586.07
9840	SOFTWARE/SOFTWARE MAINTENANCE	251,104.15	-	251,104.15
	TOTAL CAPITAL	<u>254,224.67</u>	<u>-</u>	<u>254,224.67</u>
9510	A-87 COST ALLOCATION	51,869.00	24,853.00	76,722.00
	TOTAL TRANSFERS/FEES	<u>51,869.00</u>	<u>24,853.00</u>	<u>76,722.00</u>
	ORGANIZATIONAL UNIT TOTAL (GROSS)	\$ 5,499,641.85	\$ 208,474.63	\$ 5,708,116.48
	LESS: SDSF CONTRIBUTION *	(2,484,493.00)	(761,309.07)	(3,245,802.07)
	ORGANIZATIONAL UNIT TOTAL (NET)	<u>\$ 3,015,148.85</u>	<u>\$ (552,834.44)</u>	<u>\$ 2,462,314.41</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, 2022
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	\$ 716,097.48	\$ 47,083.41	\$ 763,180.89
7025	ACT.ASSIGNMENT	27.36	1.80	29.16
7040	TEMPORARY EMPLOYEES	486.81	32.01	518.82
7055	TIME & ONE-HALF	1,242.30	81.68	1,323.98
7105	EMPLOYERS SOCIAL SECURITY	52,875.06	3,476.54	56,351.60
7110	HOSPITALIZATION INSURANCE	134,025.91	27,059.83	161,085.74
7115	RETIREE HEALTH CARE	37,155.74	(5,840.88)	31,314.86
7120	RETIREMENT FUND CONTRIBUTION	177,781.02	(13,511.36)	164,269.66
7135	UNEMPLOYMENT COMPENSATION	1,014.89	-	1,014.89
	TOTAL PERSONAL SERVICES	<u>1,120,706.57</u>	<u>58,383.03</u>	<u>1,179,089.60</u>
7520	SUPPLIES	302.51	-	302.51
7670	CLOTHING/CLEANING ALLOWANCE	178.54	-	178.54
7910	SUBSCRIPTIONS AND PUBLICATIONS	178.00	-	178.00
	TOTAL SUPPLIES	<u>659.05</u>	<u>-</u>	<u>659.05</u>
8010	CONTRACTUAL SERVICES	101,438.24	-	101,438.24
8500	TELEPHONE	4,510.08	-	4,510.08
9340	MAINTENANCE SERVICE	13,782.62	-	13,782.62
9410	EQUIPMENT RENTALS OR LEASE	49.50	-	49.50
9440	FLEET MANAGEMENT EQUIPMENT	20,320.44	-	20,320.44
9470	VEHICLE RENTAL/CAR MILEAGE	600.00	-	600.00
9480	COMPUTER SERVICES	54,072.00	1,962.00	56,034.00
	TOTAL OTHER SERVICES & CHARGES	<u>194,772.88</u>	<u>1,962.00</u>	<u>196,734.88</u>
9954	OPERATING TRANS-DEV CENTER	<u>23,557.00</u>	<u>-</u>	<u>23,557.00</u>
	TOTAL TRANSFERS/FEES	<u>23,557.00</u>	<u>-</u>	<u>23,557.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 1,339,695.50</u>	<u>\$ 60,345.03</u>	<u>\$ 1,400,040.53</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2022
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: DISTRIBUTION

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 423,150.31	\$ 27,822.13	\$ 450,972.44
7025	ACT.ASSIGNMENT	1,176.95	77.38	1,254.33
7055	TIME & ONE-HALF	31,267.10	2,055.81	33,322.91
7105	EMPLOYERS SOCIAL SECURITY	33,011.53	2,170.51	35,182.04
7110	HOSPITALIZATION INSURANCE	87,812.44	17,729.33	105,541.77
7115	RETIREE HEALTH CARE	21,466.26	(3,374.50)	18,091.76
7120	RETIREMENT FUND CONTRIBUTION	102,648.73	(7,801.30)	94,847.43
7135	UNEMPLOYMENT COMPENSATION	579.06	-	579.06
7165	SHIFT DIFFERENTIAL	11.38	-	11.38
	TOTAL PERSONAL SERVICES	<u>701,123.76</u>	<u>38,679.36</u>	<u>739,803.12</u>
7520	SUPPLIES	49,396.28	-	49,396.28
7670	CLOTHING/CLEANING ALLOWANCE	1,740.60	-	1,740.60
	TOTAL SUPPLIES	<u>51,136.88</u>	<u>-</u>	<u>51,136.88</u>
8010	CONTRACTUAL SERVICES	273,317.56	-	273,317.56
8240	FEES	10.00	-	10.00
8500	TELEPHONE	8,287.24	-	8,287.24
9180	WATER	13,458.87	-	13,458.87
9200	ELECTRICITY	1,298,499.94	-	1,298,499.94
9210	NATURAL GAS	102,831.07	-	102,831.07
9340	MAINTENANCE SERVICE	27,710.98	-	27,710.98
9410	EQUIPMENT RENTALS OR LEASE	3,978.16	-	3,978.16
9440	FLEET MANAGEMENT EQUIPMENT	87,172.92	-	87,172.92
9480	COMPUTER SERVICES	14,748.00	534.00	15,282.00
	TOTAL OTHER SERVICES & CHARGES	<u>1,830,014.74</u>	<u>534.00</u>	<u>1,830,548.74</u>
9760	EQUIPMENT	43,447.45	-	43,447.45
9840	SOFTWARE/SOFTWARE MAINTENANCE	583.10	-	583.10
	TOTAL CAPITAL	<u>44,030.55</u>	<u>-</u>	<u>44,030.55</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 2,626,305.93</u>	<u>\$ 39,213.36</u>	<u>\$ 2,665,519.29</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2022
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	\$ 1,890,694.12	\$ 124,313.14	\$ 2,015,007.26
7025	ACT.ASSIGNMENT	403.03	26.50	429.53
7040	TEMPORARY EMPLOYEES	4,501.65	295.98	4,797.63
7055	TIME & ONE-HALF	246,441.62	16,203.54	262,645.16
7105	EMPLOYERS SOCIAL SECURITY	152,200.00	10,007.15	162,207.15
7110	HOSPITALIZATION INSURANCE	424,484.15	85,703.35	510,187.50
7115	RETIREE HEALTH CARE	97,101.64	(15,264.38)	81,837.26
7120	RETIREMENT FUND CONTRIBUTION	464,479.68	(35,300.46)	429,179.22
7135	UNEMPLOYMENT COMPENSATION	2,754.12	-	2,754.12
7165	SHIFT DIFFERENTIAL	2,376.57	-	2,376.57
	TOTAL PERSONAL SERVICES	<u>3,285,436.58</u>	<u>185,984.82</u>	<u>3,471,421.40</u>
7520	SUPPLIES	681,431.98	-	681,431.98
7670	CLOTHING/CLEANING ALLOWANCE	10,720.97	-	10,720.97
	TOTAL SUPPLIES	<u>692,152.95</u>	<u>-</u>	<u>692,152.95</u>
8010	CONTRACTUAL SERVICES	2,359,413.94	(660,402.31)	1,699,011.63
8011	CONTRACT EMPLOYEES - TEMP SERVICES	66,792.26	-	66,792.26
8240	FEES	105.00	-	105.00
8500	TELEPHONE	27,817.09	-	27,817.09
9200	ELECTRICITY	1,570.94	-	1,570.94
9210	NATURAL GAS	462.81	-	462.81
9340	MAINTENANCE SERVICE	14,489.02	-	14,489.02
9410	EQUIPMENT RENTALS OR LEASE	68,608.52	-	68,608.52
9440	FLEET MANAGEMENT EQUIPMENT	862,903.08	-	862,903.08
9470	VEHICLE USAGE/CAR MILEAGE	600.00	-	600.00
9480	COMPUTER SERVICES	152,232.00	5,529.00	157,761.00
	TOTAL OTHER SERVICES & CHARGES	<u>3,554,994.66</u>	<u>(654,873.31)</u>	<u>2,900,121.35</u>
9760	EQUIPMENT	57,756.57	-	57,756.57
9800	FURNITURE	659.48	-	659.48
9840	SOFTWARE/SOFTWARE MAINTENANCE	60.00	-	60.00
	TOTAL CAPITAL	<u>58,476.05</u>	<u>-</u>	<u>58,476.05</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 7,591,060.24</u>	<u>\$ (468,888.49)</u>	<u>\$ 7,122,171.75</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2022
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	\$ 2,071,986.80	\$ 136,233.13	\$ 2,208,219.93
7025	ACT.ASSIGNMENT	5.28	0.35	5.63
7050	REGULAR HOURLY RATE	5,150.65	338.66	5,489.31
7055	TIME & ONE-HALF	135,455.35	8,906.19	144,361.54
7105	EMPLOYERS SOCIAL SECURITY	159,131.60	10,462.90	169,594.50
7110	HOSPITALIZATION INSURANCE	431,018.80	87,022.70	518,041.50
7115	RETIREE HEALTH CARE	106,529.55	(16,746.45)	89,783.10
7120	RETIREMENT FUND CONTRIBUTION	509,519.07	(38,723.45)	470,795.62
7135	UNEMPLOYMENT COMPENSATION	2,874.25	-	2,874.25
7165	SHIFT DIFFERENTIAL	11,456.30	-	11,456.30
	TOTAL PERSONAL SERVICES	<u>3,433,127.65</u>	<u>187,494.03</u>	<u>3,620,621.68</u>
7520	SUPPLIES	247,765.66	-	247,765.66
7530	PROCESS CHEMICALS	1,313,724.01	300,000.00	1,613,724.01
7670	CLOTHING/CLEANING ALLOWANCE	3,067.82	-	3,067.82
7800	INVENTORY - COST OF GOODS SOLD	(45,375.16)	-	(45,375.16)
	TOTAL SUPPLIES	<u>1,519,182.33</u>	<u>300,000.00</u>	<u>1,819,182.33</u>
8010	CONTRACTUAL SERVICES	339,328.93	-	339,328.93
8011	CONTRACT EMPLOYEES - TEMP SERVICES	70,287.48	-	70,287.48
8015	CONTRACT SERVICES-TRAINING	538.82	-	538.82
8240	FEES	3,020.41	-	3,020.41
8500	TELEPHONE	29,335.14	-	29,335.14
8510	POSTAGE	1,282.34	-	1,282.34
9100	PROFESSIONAL DEVELOPMENT	523.00	-	523.00
9131	FOOD-BEVERAGE	235.22	-	235.22
9190	REFUSE COLLECTION CHARGES	5,403.15	-	5,403.15
9200	ELECTRICITY	1,948,293.43	(58,174.00)	1,890,119.43
9210	NATURAL GAS	173,899.59	-	173,899.59
9340	MAINTENANCE SERVICE	236,443.76	-	236,443.76
9410	EQUIPMENT RENTALS OR LEASE	4,107.05	-	4,107.05
9440	FLEET MANAGEMENT EQUIPMENT	45,538.08	-	45,538.08
9460	ENGINEERING SERVICES	4,212.50	-	4,212.50
9470	VEHICLE USAGE/CAR MILEAGE	163.12	-	163.12
9480	COMPUTER SERVICES	157,296.00	5,710.00	163,006.00
	TOTAL OTHER SERVICES & CHARGES	<u>3,019,908.02</u>	<u>(52,464.00)</u>	<u>2,967,444.02</u>
9750	BUILDING	424.69	-	424.69
9760	EQUIPMENT	80,668.59	-	80,668.59
9840	SOFTWARE/SOFTWARE MAINTENANCE	1,749.30	-	1,749.30
	TOTAL CAPITAL	<u>82,842.58</u>	<u>-</u>	<u>82,842.58</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 8,055,060.58</u>	<u>\$ 435,030.03</u>	<u>\$ 8,490,090.61</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2022
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	\$ 52,488.13	\$ 3,451.09	\$ 55,939.22
7055	TIME & ONE-HALF	34.01	2.24	36.25
7105	EMPLOYERS SOCIAL SECURITY	3,602.24	236.85	3,839.09
7110	HOSPITALIZATION INSURANCE	9,329.46	1,883.62	11,213.08
7115	RETIREE HEALTH CARE	2,609.87	(410.27)	2,199.60
7120	RETIREMENT FUND CONTRIBUTION	12,476.91	(948.25)	11,528.66
7135	UNEMPLOYMENT COMPENSATION	69.71	-	69.71
	TOTAL PERSONAL SERVICES	<u>80,610.33</u>	<u>4,215.28</u>	<u>84,825.61</u>
7520	SUPPLIES	361.51	-	361.51
	TOTAL SUPPLIES	<u>361.51</u>	<u>-</u>	<u>361.51</u>
8010	CONTRACTUAL SERVICES	168.66	-	168.66
8011	CONTRACT EMPLOYEES - TEMP SERVICES	15,722.72	-	15,722.72
8240	FEES	844,098.40	-	844,098.40
8450	GENERAL LIABILITY INSURANCE/CLAIMS	2,153.00	(32.00)	2,121.00
8500	TELEPHONE	42.00	-	42.00
9430	BUILDINGS RENTALS OR LEASE	11,452.92	-	11,452.92
9470	VEHICLE USAGE/CAR MILEAGE	11,317.14	-	11,317.14
9480	COMPUTER SERVICES	18,660.00	1,013.00	19,673.00
	TOTAL OTHER SERVICES & CHARGES	<u>903,614.84</u>	<u>981.00</u>	<u>904,595.84</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 984,586.68</u>	<u>\$ 5,196.28</u>	<u>\$ 989,782.96</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2022
RATE STUDY- TASKS NO. 4 & 5**

ORGANIZATIONAL SUMMARY

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST FACTORS	CURRENT ANNUAL CURRENT
7020	PERMANENT EMPLOYEES	\$ 7,355,881.63	\$ 590,428.61	\$ 7,946,310.24
7025	ACT.ASSIGNMENT	5,336.63	350.88	5,687.51
7040	TEMPORARY EMPLOYEES	11,865.55	780.16	12,645.71
7050	REGULAR HOURLY RATE	5,424.10	356.64	5,780.74
7055	TIME & ONE-HALF	517,040.71	33,995.44	551,036.15
7105	EMPLOYERS SOCIAL SECURITY	565,444.05	50,651.00	616,095.05
7110	HOSPITALIZATION INSURANCE	1,554,079.58	313,768.68	1,867,848.26
7115	RETIREE HEALTH CARE	378,665.61	(55,815.33)	322,850.28
7120	RETIREMENT FUND CONTRIBUTION	1,811,056.58	(117,431.53)	1,693,625.05
7135	UNEMPLOYMENT COMPENSATION	10,633.87	-	10,633.87
7150	LONGEVITY PAY	-	69,338.87	69,338.87
7165	SHIFT DIFFERENTIAL	15,634.02	-	15,634.02
7175	FOOD/CLEAN/CAR ALLOW	4,901.35	-	4,901.35
	TOTAL PERSONAL SERVICES	<u>12,235,963.68</u>	<u>886,423.42</u>	<u>13,122,387.10</u>
7520	SUPPLIES	1,963,448.40	-	1,963,448.40
7530	PROCESS CHEMICALS	1,313,724.01	300,000.00	1,613,724.01
7670	CLOTHING/CLEANING ALLOWANCE	22,742.73	-	22,742.73
7800	INVENTORY - COST OF GOODS SOLD	38,189.90	-	38,189.90
7910	SUBSCRIPTIONS AND PUBLICATIONS	178.00	-	178.00
	TOTAL SUPPLIES	<u>3,338,283.04</u>	<u>300,000.00</u>	<u>3,638,283.04</u>
8010	CONTRACTUAL SERVICES	3,511,144.57	-	3,511,144.57
8011	CONTRACT EMPLOYEES - TEMP SERVICES	158,910.51	-	158,910.51
8015	CONTRACT SERVICES-TRAINING	15,038.82	-	15,038.82
8016	CONTRACTS- EXTERNAL LEGAL SERVICES	115.00	-	115.00
8030	ADMINISTRATIVE SERVICES	16,706.80	(16,706.80)	-
8240	FEES	876,414.30	-	876,414.30
8400	INSURANCE PREMIUMS	336,901.00	-	336,901.00
8450	GENERAL LIABILITY INSURANCE / CLAIMS	227,799.00	1,475.00	229,274.00
8500	TELEPHONE	89,612.14	-	89,612.14
8510	POSTAGE	175,583.43	-	175,583.43
8800	COMMUNITY PROMOTION	2,054.47	-	2,054.47
9000	PRINTING & PUBLISHING	2,808.86	-	2,808.86
9100	PROFESSIONAL DEVELOPMENT	9,022.95	-	9,022.95
9110	OTHER TRAVEL AND TRAINING	14,653.61	-	14,653.61
9130	LOCAL BUSINESS EXPENSE	121.00	-	121.00
9131	FOOD-BEVERAGE	982.77	-	982.77
9150	MEMBERSHIPS	55,367.50	-	55,367.50
9180	WATER	16,426.01	-	16,426.01
9190	REFUSE COLLECTION CHARGES	13,868.96	-	13,868.96
9200	ELECTRICITY	3,296,995.36	-	3,296,995.36
9210	NATURAL GAS	300,005.68	-	300,005.68
9340	MAINTENANCE SERVICE	364,657.64	-	364,657.64
9400	LAND RENTAL OR LEASE	3,962.02	-	3,962.02
9410	EQUIPMENT RENTALS OR LEASE	83,488.98	-	83,488.98
9430	BUILDINGS RENTALS OR LEASE	17,722.20	-	17,722.20
9440	FLEET MANAGEMENT EQUIPMENT	1,152,085.68	-	1,152,085.68
9450	311 CALL CENTER SERVICES	487,418.00	-	487,418.00
9460	ENGINEERING SERVICES	8,048.50	-	8,048.50
9470	VEHICLE RENTAL/CAR MILEAGE	28,502.97	-	28,502.97
9480	COMPUTER SERVICES	564,288.00	20,816.00	585,104.00
9480	COMPUTER SERVICES (CIS-DEPR & ROI)	-	27,277.77	27,277.77
9650	BAD DEBT WRITE-OFFS	(241.26)	-	(241.26)
	TOTAL OTHER SERVICES & CHARGES	<u>11,830,465.47</u>	<u>32,861.97</u>	<u>11,863,327.44</u>
9750	BUILDING	424.69	-	424.69
9760	EQUIPMENT	210,517.60	-	210,517.60
9800	FURNITURE	10,412.72	-	10,412.72
9840	SOFTWARE/SOFTWARE MAINTENANCE	253,496.55	-	253,496.55
9880	CONSTRUCTION IN PROGRESS	130,305.82	-	130,305.82
	TOTAL CAPITAL	<u>605,157.38</u>	<u>-</u>	<u>605,157.38</u>
9510	A-87 COST ALLOCATION	1,069,527.00	35,980.00	1,105,507.00
9954	OPERATING TRANS-DEV CENTER	23,557.00	-	23,557.00
	TOTAL TRANSFERS/FEES	<u>1,093,084.00</u>	<u>35,980.00</u>	<u>1,129,064.00</u>
	GRAND TOTAL- EXPENDITURES	\$ 29,102,953.57	\$ 1,255,265.39	\$ 30,358,218.96
	LESS: SDSF CONTRIBUTION	(2,484,493.00)	(761,309.07)	(3,245,802.07)
	NET TOTAL- EXPENDITURES	<u>\$ 26,618,460.57</u>	<u>\$ 493,956.32</u>	<u>\$ 27,112,416.89</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 28, 2022

TO: Molly J. Clarin
Chief Financial Officer

FROM: Jenessa B. Carter
Utility Financial Officer

**SUBJECT: 2022 WATER RATE STUDY TASK #4
FY22 OPERATING EXPENSES - WATER PUMPING FACILITIES**

This schedule allocates the integrated and non-integrated adjusted expenses for operating and maintaining the distribution system's 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

<i>STATION</i>	<i>ENERGY COST</i>	<i>PERCENT</i>	<i>EXPENDITURE ALLOCATION</i>	
			<i>ACTUAL</i>	<i>ADJUSTED</i>
<i>ALGER</i>	\$ 46,622	3.59%	\$ 94,296	\$ 95,704
<i>BOOSTER A</i>	8,862	0.68%	17,924	18,192
<i>BOOSTER D</i>	24,762	1.91%	50,083	50,831
<i>BRISTOL</i>	10,137	0.78%	20,503	20,809
<i>COLDBROOK</i>	94,815	7.30%	191,769	194,631
<i>COVELL</i>	82,650	6.37%	167,165	169,661
<i>EAST PARIS</i>	164,278	12.65%	332,264	337,225
<i>FRANKLIN</i>	317,104	24.42%	641,365	650,941
<i>LIVINGSTON</i>	310,812	23.94%	628,639	638,025
<i>WILSON</i>	90,559	6.97%	183,162	185,897
<i>BURTON</i>	28,460	2.19%	57,562	58,422
<i>DEAN LAKE</i>	119,439	9.20%	241,574	245,181
<i>TOTAL</i>	<u>\$ 1,298,500</u>	<u>100.00%</u>	<u>\$ 2,626,306</u>	<u>\$ 2,665,519</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 01, 2022

TO: Jenessa Carter
Utility Financial Officer

FROM: Molly Clarin
Chief Financial Officer

**SUBJECT: 2022 WATER RATE STUDY TASK #5
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY22 operating costs are listed below.

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

APA and GREIU labor negotiations were recently settled for the next contract which begins with FY2023. This resulted in wage increases of 5.00% for FY2023 and 3.00% for FY2024 for both unions. After converting these increases from a 2022 fiscal year to a 2023 calendar year basis, the result is a 6.575% factor for both GREIU and 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 only 1.5% of the population and were therefore excluded. **The wage increase factor to translate FY2022 actual costs to estimated calendar 2023 will be 6.575%** [6.575 X 83% + 6.575 X 17%].

A lump sum or signing bonus of \$1,000 is due to both APA and GREIU employees upon ratification of the new contracts. These signing bonuses were not factored into the wage increase factor noted above. Therefore, **\$106,779.40** (APA - \$17,360.00 and GREIU - \$89,419.40) of expense that will be paid in the fall of 2022 needs to be added to object code 7020 for purposes of the Water rate study.

Expense Object – 7150

Retention or longevity pay based on the length of continuous service is included in both the new APA and GREIU contracts. The FY2023 retention pay amounts were not included in the wage increase factor noted above. Therefore, **\$69,338.87** (APA - \$8,595.25 and GREIU - \$60,743.62) of expenses that will be paid during FY2023 needs to be added to object code 7150 for purposes of the Water rate study.

Expense Object – 9480/8450/9510

Adjust FY2022 actual cost to reflect adjustments in charges for central services rendered by the Information Technology Fund (data charges), the Insurance Payment Fund (workers compensation and general liability) and the General Operating Fund (cost allocation). The “Exhibit” workbook (inclusive of cost center allocations) maintained by the Budget Office has been utilized to blend FY2023 and FY2024 budget amounts thus arriving at an estimated 2023 calendar year rate as follows:

9480-Data Charges			
Cost Center	FY2023 Request	FY2024 Forecast	Calendar 2023 Estimate
253-4010-5910	\$19,251	\$20,094	\$19,673
536-1000-5910	\$29,908	\$31,219	\$30,564
536-2110-5910	\$139,723	\$145,845	\$142,784
536-3010-5910	\$54,832	\$57,235	\$56,034
536-4510-5910	\$14,954	\$15,609	\$15,282
536-6010-5910	\$154,379	\$161,142	\$157,761
536-6510-5910	\$159,512	\$166,500	\$163,006
Total	\$572,559	\$597,644	\$585,102

8450-General Liability Insurance			
Cost Center	FY2023 Request	FY2024 Forecast	Calendar 2023 Estimate
253-4010-5910	\$2,100	\$2,142	\$2,121
536-1000-5910	\$224,904	\$229,402	\$227,153
Total	\$227,004	\$231,544	\$229,274

9510-Contributions to Other Funds (Cost Allocation)			
Cost Center	FY2023 Request	FY2024 Forecast	Calendar 2023 Estimate
536-1000-5910	\$1,071,576	\$985,993	\$1,028,785
536-2110-5910	\$75,962	\$77,481	\$76,722
Total	\$1,147,538	\$1,063,474	\$1,105,506

Expense Object - 7105

Increase FY2022 actual FICA expense by 6.575% consistent with the known wage increase factor noted above. A FICA amount associated with the signing bonus and retention pay amounts outlined above also needs to be included. This is calculated by multiplying the projected total amount for these items by the FY2023 FICA rate of 7.65%, which equates to **\$13,473.05** of additional FICA expense for the Water Department.

Expense Object - 7110

The calendar 2023 Trend Report continues to show unfavorable health insurance cost trends. Although the overall trend is still unfavorable, the 2023 report is less unfavorable than the 2022 report. Per the 2023 report the medical trend increase assumption is 6.5% (down from 7.5% in 2022) and the prescription drug trend increase assumption is 7.5%

(down from 8.5% in 2022). Please note that the below adjustment was computed based upon the calendar 2022 Trend Report as new rates based upon the 2023 Trend Report are unavailable at this time. Additionally, three-year smoothing of plan gains or losses is less favorable for calendar 2023 rates than it was for calendar 2022 rates. Smoothing favorable trends has contributed to limiting projected annual increases in health insurance costs or has provided for further decreases when applicable. Finally, the health insurance fund surplus reduction implemented in the 2021 report is also less favorable for calendar 2023 rates than it was for calendar 2022 rates further contributing to projected health insurance cost increases. **Increase FY2022 health insurance actual by 20.19% to reflect these anticipated rate changes.**

The budgeted FY2023 (\$16,092.00) and FY2024 (\$18,714.00) health insurance rates were blended into a 2023 calendar year rate estimate and divided by the FY2022 base budget amount (\$14,480.00) to arrive at the increase factor [(((((\$16,092.00 + \$18,714.00) / 2)) / \$14,480.00) - 1) * 100].

Expense Object - 7115

Retiree health care ("RHC") rates are projected to trend down in FY2023 (to 4.15%) and FY2024 (to 4.20%) from a base year rate of 5.28% in FY2022. This decrease is slightly offset by the projected wage adjustments discussed above. The Water Fund did not have an OPEB adjustment in FY2022 due to changes resulting from the prior implementation of GASB Statement No. 75.

The RHC factor after consideration of the above rate and wage adjustments is 84.28% (or a decrease of 15.72%) for both GREIU and APA members. These factors are then weighted in accordance with union membership within the Water Fund [(-15.72 * 83%) + (-15.72 * 17%)].

The factor to establish calendar year 2023's retiree health care cost is -15.72%. **Decrease the total of fiscal year 2022's retiree health care by this percent to establish the cost for calendar year 2023.** Since the signing bonus is pensionable for GREIU, a retiree health care amount associated with it for GREIU members also needs to be included. This is calculated by multiplying the GREIU signing bonus total by the FY2023 retiree health general rate (4.15%), which equates to **\$3,710.91** of additional retiree health care expense for the Water Department.

Expense Object - 7120

The pension expense factor to translate FY2022 actual costs to estimated calendar 2023 will be -7.60%. **Decrease the total of fiscal year 2022's pension expense by this percent to establish the cost for calendar year 2023.** This reflects the effect of a General Pension rate change decrease from FY22 of 25.23% to a calendar 2023 rate of 21.77% for GREIU and 22.39% for APA along with the projected wage adjustments discussed above. The GREIU calendar 2023 rate is a blend of the FY2023 rate (22.60%) and the FY2024 rate (20.96%). The APA calendar 2023 rate is a blend of the FY2023 rate (23.20%) and the FY2024 rate (21.61%). There is a difference in rates between the

two unions due to the employer's contribution being increased from 6% to 7% in the new APA contract for the defined contribution plan.

The pension factor after consideration of the above rate and wage adjustments is 91.95% (or a decrease of 8.05%) for GREIU members. The pension factor after consideration of the above rate and wage adjustments is 94.59% (or a decrease of 5.41%) for APA members. These factors are then weighted in accordance with union membership within the Water Fund $[(-8.05 * 83\%) + (-5.41 * 17\%)]$. Since the signing bonus is pensionable for GREIU, a retirement fund contribution (pension) amount associated with it also needs to be included for GREIU employees. This is calculated by multiplying the projected GREIU signing bonus total by the FY2023 GREIU pension rate (22.60%), which equates to **\$20,208.78** of additional retirement fund contribution expense for the Water Fund.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 24, 2022

TO: Jenessa B. Carter
Utility Financial Officer

FROM: Wayne Jernberg
Water System Manager

**SUBJECT: 2022 WATER RATE STUDY TASK #5
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY22 operating costs are listed below:

<u>ACCOUNT</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
5910-536-6010-8010	Private Lead Service Line Replacement FY22 Expenses (adjust to admin unit 1000 to allocate GR only)	(\$660,402.31)
5910-536-1000-8030	Kent County Community Action Program (ICB)	(\$16,706.80)
5910-536-2110-9480*	Cayenta Customer Information System (ROI & Dep)	\$27,277.77
5910-536-6510-7530	Chemical Pricing Increases	\$300,000.00
5910-536-6510-9200	Consumers Energy Green Generation participation (adjust to admin unit 1000 to allocate GR only)	(\$58,174.00)

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

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MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 9, 2022

TO: Molly J. Clarin
Chief Financial Officer

FROM: Jenessa B. Carter
Utility Financial Officer

SUBJECT: 2022 WATER RATE STUDY TASK #6

The Water Supply System Fund's revenue by governmental unit for the year ending June 30, 2022, are disclosed on the attached page, along with the three-year average billed volume used to calculate expected revenue in the next calendar year (see Task 26 and 27). In addition, annual 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
2022 RATE STUDY TASK NO. 6**

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

MUNICIPALITY	FY18		FY19		FY20		FY21		FY22		FY18 - FY22 % CHANGE
	VOL BILLED	VOL BILLED	% CHANGE	VOL BILLED							
GRAND RAPIDS	6,346,480	6,417,706	1.12%	5,899,570	-8.07%	6,288,343	6.59%	6,151,371	-2.18%	-3.07%	
WALKER	939,897	929,719	-1.08%	835,703	-10.11%	952,327	13.96%	923,869	-2.99%	-1.71%	
KENTWOOD	1,377,822	1,342,574	-2.56%	1,190,449	-11.33%	1,305,704	9.68%	1,270,170	-2.72%	-7.81%	
CASCADE TWP	739,323	695,896	-5.87%	585,011	-15.93%	686,898	17.42%	697,931	1.61%	-5.60%	
GRAND RAPIDS TWP	541,008	545,871	0.90%	462,801	-15.22%	573,570	23.93%	528,741	-7.82%	-2.27%	
TALLMADGE TWP	37,179	41,592	11.87%	37,831	-9.04%	48,587	28.43%	52,057	7.14%	40.02%	
EAST GRAND RAPIDS**	419,637	413,246	-1.52%	422,907	2.34%	430,073	1.69%	429,664	-0.10%	2.39%	
OTTAWA COUNTY***	1,209,789	1,280,873	5.88%	1,299,136	1.43%	1,492,668	14.90%	1,426,225	-4.45%	17.89%	
ADA TWP	463,080	438,337	-5.34%	417,313	-4.80%	466,832	11.87%	461,794	-1.08%	-0.28%	
TOTAL	12,074,215	12,105,814	0.26%	11,150,721	-7.89%	12,245,001	9.81%	11,941,820	-2.48%	-1.10%	

VOLUME PUMPED	13,525,000	12,911,000	12,735,000	13,381,000	13,365,000
% BILLED TO PUMPED	89.3%	93.8%	87.6%	91.5%	89.4%

GRAND RAPIDS VOLUME COMPARED TO
CUSTOMER COMMUNITIES

VOLUME = 1,000 GALLONS	FY18		FY19		FY20		FY21		FY22	
	VOL BILLED	% OF TOTAL								
GRAND RAPIDS	6,346,480	53.01%	6,417,706	52.91%	5,899,570	51.35%	6,288,343	51.51%	6,151,371	51.51%
CUSTOMER COMMUNITIES	5,727,735	46.99%	5,688,108	47.09%	5,251,151	48.65%	5,956,658	48.49%	5,790,449	48.49%
TOTAL	12,074,215	100.00%	12,105,814	100.00%	11,150,721	100.00%	12,245,001	100.00%	11,941,820	100.00%

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

** Volume adjusted in FY22 for East Grand Rapids due to faulty meter calibration.

*** Volume adjusted in FY21 and FY22 for Ottawa County due to faulty meter conversion factor.

**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	\$ 5,100.00
	4916	TAPPING PERMITS	41,250.00
	6260	SERVICE FEES-GENERAL	245,275.00
	6265	SERVICES FOR CONTRACTORS	60,185.15
	6140	INSPECTION FEES - UTILITIES	89,315.00
	6151	METER SETTING FEES	23,030.00
	6423	SALE OF SCRAP MATERIAL	74,636.79
	6461	INVENTORY WITHDRAWALS	8,614.72
	6434	UNMETERED WATER	158,312.44
	6723	PENALTIES ON SPECIAL ASSESSMENTS	6,353.74
			<u>6,353.74</u>
			<u>\$ 712,072.84</u>

CREDIT: UNDERUTILIZATION OF PENALTY CREDIT FROM PREVIOUS YEAR	<u>\$ 2,789.00</u>
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INTEGRATED SYSTEM CREDITS

536-1000-5910			
	6152	INTEGRATED WATER CONNECTION	347,095.00
			<u>347,095.00</u>
			<u>\$ 347,095.00</u>

OFFSETTING CREDIT TO CUSTOMER ACCOUNTING ACTIVITY EXPENSES:

536-1000-5910			
	6342	BILLABLE EXPENSE - SEWAGE DISPOSAL SYSTEM*	\$ 2,489,515.97
			<u>2,489,515.97</u>

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

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 8, 2022

TO: Jenessa Carter
Utility Finance Officer

FROM: Wayne Jernberg, PE
Water System Manager

SUBJECT: 2022 WATER RATE STUDY – TASK #8

No significant changes in operating levels are anticipated to take effect by January 1, 2023, which would require adjustments to operating costs for the test period.

WJ

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 8, 2022

TO: Jenessa Carter
Utility Finance Officer

FROM: Wayne Jernberg, PE
Water System Manager

SUBJECT: 2022 WATER RATE STUDY – TASK #9

No significant changes in water revenues are anticipated to take effect by January 1, 2023, which would require an adjustment to operating revenue estimates as a whole.

WJ

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 18, 2022

TO: Jenessa Carter
Utility Financial Officer

FROM: Alex Fleet, P.E.
Assistant Water System Manager

SUBJECT: 2022 WATER RATE STUDY- TASK #10

The following are water system projects that should be considered operative as of January 1, 2023.

Description	Location	Proj. Code	Cost
Prospect Ave – Burton to Griggs, Garden to Highland	Grand Rapids	591222041(L)(M)	\$1,726,629
Straight Ave and Wealthy St	Grand Rapids	591122063(L)(M)	\$909,872
Richards Ave – Fulton to Sibley	Grand Rapids	591221067 (L)(M)	\$644,285
Valley Ave	Grand Rapids	591120050	\$500,000
Market Ave and Fulton St	Grand Rapids	591121049	\$328,557
Breton Hamlet	Grand Rapids	Contribution	\$188,015
Replacement of Water Distribution Gear Valves*	Kentwood	591118046	\$615,000
Cobblestone at the Ravines Ph 3	Kentwood	Contribution	\$557,000
Woodhaven Condominiums	Kentwood	Contribution	\$152,226
The Oaks Site Condominium	Kentwood	Contribution	\$74,750
Total:			\$5,696,334

*Zonegated asset

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

COMPUTE ACCUMULATED COST, DEPRECIATION AND DEPRECIATION EXPENSE AS OF JUNE 30, 2022

INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 2,635,911	\$ -	\$ -
LAND IMPROVEMENTS	5,144,086	2,125,585	216,086
BUILDINGS & STRUCTURES	54,579,053	30,126,469	1,275,115
STORAGE	9,841,325	7,354,132	265,707
PROCESS EQUIPMENT	75,659,126	48,950,192	2,302,437
AUXILIARY EQUIPMENT	25,474,681	17,365,868	811,884
MACHINERY & EQUIPMENT	6,672,772	3,873,882	340,635
OFFICE EQUIPMENT & FURNITURE	463,228	463,228	-
WATERMAINS	56,676,524	23,731,550	729,293
	<u>\$ 237,146,706</u>	<u>\$ 133,990,906</u>	<u>\$ 5,941,157</u>

NON-INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 3,214,352	\$ -	\$ -
LAND IMPROVEMENTS	1,427,824	1,170,984	41,046
BUILDINGS & STRUCTURES	17,119,333	5,892,506	402,520
STORAGE	15,469,065	7,669,236	372,575
PROCESS EQUIPMENT	11,594,220	4,536,869	387,996
AUXILIARY EQUIPMENT	10,752,965	5,677,542	435,054
MACHINERY & EQUIPMENT	2,291,842	2,026,835	54,918
OFFICE EQUIPMENT & FURNITURE	287,625	287,625	-
WATERMAINS - GRAND RAPIDS	208,750,322	47,733,081	2,656,520
WATERMAINS - WALKER	31,390,675	9,516,205	413,871
WATERMAINS - KENTWOOD	32,240,937	10,562,743	428,270
WATERMAINS - CASCADE TWP	24,142,185	7,879,113	324,017
WATERMAINS - GRAND RAPIDS TWP	21,632,518	6,096,317	286,210
WATERMAINS - TALLMADGE TWP	3,103,088	608,127	41,377
	<u>\$ 383,416,951</u>	<u>\$ 109,657,183</u>	<u>\$ 5,844,374</u>
TOTAL	<u>\$ 620,563,657</u>	<u>\$ 243,648,089</u>	<u>\$ 11,785,531</u>

SOURCE: GENERAL LEDGER, AS ADJUSTED, FOR JUNE 30, 2022.

**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, 2022: \$ 2,423,149

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 = \$ 27,112,417 @ 90/365 = \$ 6,685,253

TOTAL WORKING CAPITAL NEEDS CONSIST OF THE FOLLOWING:

12A INVESTMENT IN INVENTORY	\$ 2,423,149
12B PREPAYMENT OF OPERATING EXPENSES	-
12C 90 DAY OPERATING EXPENSES	<u>6,685,253</u>
	<u><u>\$ 9,108,402</u></u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: November 2, 2022

TO: Jenessa Carter
Utility Financial Officer

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

SUBJECT: 2022 WATER RATE STUDY- TASK #13

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 2020 Comprehensive Master Plan and the current hydraulic model for the Water System.

In 2022, there was one improvement project that involved modifications to existing zoned facilities, however, no zoned sections were added or deleted from the system this year. The existing zoned maps, the Zoned Cross Reference List and the Joint Use List were all reviewed.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: November 1, 2022

TO: Jenessa Carter
Utility Financial Officer

FROM: Alex Fleet, P.E.
Assistant Water System Manager

SUBJECT: 2022 WATER RATE STUDY- TASK #14

In this rate study task, there were a few zonegated sections added to the overall zonegating map. Some existing zonegating percentages changed slightly due to the recent improvements to the Livingston Pump Station and associated transmission mains. Below is a summary of the new zonegated percentages as associated with Livingston Reservoir, East High Pressure District (EHPD) and the East Intermediate Pressure District (EIPD) portions of the Pumping Station.

	Grand Rapids	Ada Township	Cascade Township	Grand Rapids Township	City of Kentwood
Livingston Reservoir & EHPD	69.266%	11.866%	1.907%	14.648%	2.313%
Livingston EHPD	51.312%	19.231%	2.911%	23.496%	3.050%
Livingston EIPD	99.575	0.000%	0.000%	0.425%	0.000%

W127-2020 was modified to better reflect the low-pressure transmission main in Monroe at Mason, in Mason from Bond to Livingston Reservoir, and in Ottawa from Mason to Walbridge vacated. The zonegated percentage split remains the same for the Livingston Reservoir in the table above.

W127A-2021 is the 30" Low-Pressure transmission main that was re-routed into the Livingston Pump Station and Reservoir site. The zonegating percentages are the same as W127-2020 and the Livingston Reservoir respectively. The annotation of 2021 reflects the year of installation.

Segment W130 is the 24" medium-pressure transmission main in Mason from Monroe to Livingston Pump Station addition. This segment was continued for the 24" medium pressure transmission main in Livingston from Livingston Pump Station to Newberry Street. The zonegating percentages reflect that of the Livingston Pump Station addition for the East Intermediate Pressure District as shown in the table above.

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

**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	\$ 5,696,334	
	- TASK #11	620,563,657	
		<hr/>	\$ 626,259,991
LESS: ACCUMULATED DEPRECIATION	- TASK #11	\$ 243,648,089	
		<hr/>	(243,648,089)
			<hr/>
			382,611,902
WORKING CAPITAL REQUIREMENT	- TASK #12	\$ 9,108,402	
		<hr/>	9,108,402
			<hr/>
			391,720,304
CONTRIBUTIONS BY OTHERS	- TASK #21	\$ 108,977,362	
LESS: AMORTIZATION		(41,057,382)	
		<hr/>	(67,919,980)
CONSTRUCTION COST RATE BASE			<hr/> <hr/>
			\$ 323,800,324

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MEMORANDUM

CITY OF GRAND RAPIDS

DATE: August 31, 2022

TO: Jenessa Carter
Utility Financial Officer

FROM: Arden Postma, P.E.
Hydraulic Engineer

SUBJECT: 2022 Water Rate Study Integrated Connection Fees Task #15A

Attached is the Integrated Water and Sewer Connection Fee Schedule of rates effective January 1, 2023. Per the Fifth Amendment to the Water & Sanitary Sewer Service Agreements, adopted by City Commission on March 27, 2018 (Res. 87571), the methodology for connection to the water and sewer systems is calculated based on the cost of connection to the System and is evaluated annually as part of the Rate Study and shall be administered the same across the retail system.

The integrated connection fees effective January 1, 2023, shall be as follows:

Residential Users (three residential units or less)

Plan Review and Connection Fee (PRC Fee)			
Meter Size	2022	2023	% Change
3/4 inch	\$370	\$380	2.70%
1 inch	\$380	\$390	2.63%
1-1/2 inch	\$380	\$390	2.63%

All other Users (including residential of more than 3 units, commercial, industrial, governmental and religious)

Plan Review and Connection Fee (PRC Fee)			
Meter Size	2022	2023	% Change
3/4 inch	\$715	\$725	1.40%
1 inch	\$945	\$960	1.59%
1-1/2 inch	\$1,260	\$1,270	0.79%
2 inch	\$1,740	\$1,750	0.57%
3 inch	\$2,160	\$2,180	0.93%
4 inch	\$3,110	\$3,130	0.64%
6 inch	\$4,390	\$4,400	0.23%

Plus a Meter Capacity Fee based on the meter size (when water and sanitary sewer connections are made at the same time only one Meter Capacity Fee shall be charged) as follows:

Meter Capacity Charge			
Meter Size	2022	2023	% Change
¾ inch	\$210	\$210	0%
1 inch	\$250	\$300	20%
1 ½ inch	\$750	\$750	0%
2 inch	\$880	\$880	0%
3 inch	\$1,100	\$1,650	50%
4 inch	\$2,135	At Cost	NA
6 inch	\$3,460	At Cost	NA
Ultrasonic Meters			
1-1/2" – 12"		At Cost	

Irrigation/Fire Protection Review Fee

Irrigation/Fire Service Review Fee			
	2022	2023	% Change
All Sizes	\$740	\$750	1.35%

Commercial Plan Assessment Fee – For instances where there is an established connection or property has been previously reviewed to allow for connection to the System which require less System resources to verify system connection requirements.

Commercial Plan Assessment Fee			
	2022	2023	% Change
All Sizes	\$125	\$125	0%

Further information on the new integrated connection fee methodology can be provided through the Utility Business Office.

AP/WJ

**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	COLDBROOK PUMP STATION WATERMAIN	2,740,000	2020
2	GARFIELD WM REPLACEMENTS	1,891,000	2022
3	COLLEGE WM REPLACEMENT	2,626,000	2022
4	FRANKLIN PS IMPROVEMENTS (PUMPS 1-4)	4,600,000	2022
5	FULLER WM REPLACEMENT	500,000	2023
6	EMERALD WM REPLACEMENTS	1,300,000	2023
7	GIDDINGS WM REPLACEMENT	1,800,000	2023
8	INTERMEDIATE PD TANK	5,750,000	2023
9	LEAD SERVICE LINE REPLACEMENTS (ROTOMILLS)	5,000,000	2023
10	PLAINFIELD WM REPLACEMENTS	3,071,000	2023
11	PAGE AND LISTER WM IMPROVEMENTS	1,128,000	2023
11	ELEANOR WM REPLACEMENTS	1,551,000	2024
12	CASCADE NORTH RIVER CROSSING	6,160,000	2024
13	ALGER TANK IMPROVEMENTS	500,000	2024
14	OMENA WM REPLACEMENT	700,000	2024
15	LEAD SERVICE LINE REPLACEMENTS (ROTOMILLS)	8,000,000	2024
16	GRANDVILLE WM REPLACEMENTS	650,000	2024
17	O'BRIEN WM EXTENSION	800,000	2024
18	HALL WM REPLACEMENT	800,000	2024
19	4 MILE RD WM LOOPING	1,000,000	2024
20	OKEMOS WM REPLACEMENT	875,000	2025
21	STEVENS WM REPLACEMENT	1,000,000	2025
22	ANN WM REPLACEMENTS	587,500	2025
23	FREEMAN WM REPLACEMENT	700,000	2025
24	FRUITWOOD WM REPLACEMENT	500,000	2025
25	KENDALL WM REPLACEMENT	800,000	2025
26	BURTON WM REPLACEMENT	3,665,000	2025
27	BURTON/I-96 WM CROSSING	1,500,000	2025
27	BOSTON WM REPLACEMENT	1,575,000	2025
28	GRANDVILLE WM REPLACEMENT	600,000	2025

29	LEAD SERVICE LINE REPLACEMENTS (ROTOMILLS)	8,000,000	2025
30	OAKWOOD AVE WM REPLACEMENT	1,585,000	2026
31	VALLEY, 3RD & 4TH WM REPLACEMENT	1,357,500	2026
32	BERKSHIRE, GIDDINGS, SHANGRI-LA WM REPLACEMENTS	1,500,000	2026
33	GRANDVILLE WM REPLACEMENT	750,000	2026
34	JEFFERSON WM REPLACEMENT	650,000	2026
35	GODFREY WM REPLACEMENT	3,000,000	2026
36	BUCHANAN WM REPLACEMENT	1,350,000	2026
37	MILLBANK & DERBYSHIRE WM REPLACEMENT	750,000	2026
38	PLYMOUTH WM REPLACEMENT	1,500,000	2026
39	LEAD SERVICE LINE REPLACEMENTS (ROTOMILLS)	8,000,000	2026
40	2ND ST WM REPLACEMENT	814,000	2027
41	BUTTERWORTH WM IMPROVEMENTS	650,000	2027
42	BUCHANAN WM REPLACEMENT	900,000	2027
43	LEONARD & CRAHAN WM	2,600,000	2027
44	ALGER WM REPLACEMENT	1,100,000	2027
45	LEAD SERVICE LINE REPLACEMENTS (ROTOMILLS)	8,000,000	2027
		<u>\$ 104,876,000</u>	

NOTE: NONE OF THE PROJECTS ABOVE ARE INCLUDED IN RECOMMENDED REVENUE REQUIREMENTS FOR CALENDAR YEAR 2022. COSTS SHOWN ARE IN 2022 DOLLARS AND ARE TAKEN FROM THE FISCAL YEARS 2023-2027 CAPITAL PROJECT PLAN.

SOURCE: ALEX FLEET, ASSISTANT WATER SYSTEM MANAGER, OCTOBER 2022

**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
2023	\$ 3,505,000	\$ 5,559,331	\$ 9,064,331
2024	3,695,000	5,388,831	9,083,831
2025	3,875,000	5,208,950	9,083,950
2026	4,080,000	5,020,150	9,100,150
2027	4,285,000	4,820,950	9,105,950
2028	4,515,000	4,611,800	9,126,800
2029	4,450,000	4,388,850	8,838,850
2030	4,665,000	4,166,350	8,831,350
2031	4,900,000	3,933,100	8,833,100
2032	5,140,000	3,697,050	8,837,050
2033	5,385,000	3,449,350	8,834,350
2034	5,640,000	3,189,750	8,829,750
2035	5,930,000	2,907,750	8,837,750
2036	3,970,000	2,611,250	6,581,250
2037	4,165,000	2,412,750	6,577,750
2038	4,380,000	2,204,500	6,584,500
2039	4,600,000	1,985,500	6,585,500
2040	3,070,000	1,755,500	4,825,500
2041	3,230,000	1,602,000	4,832,000
2042	3,390,000	1,440,500	4,830,500
2043	3,555,000	1,271,000	4,826,000
2044	3,735,000	1,093,250	4,828,250
2045	3,925,000	906,500	4,831,500
2046	4,125,000	710,250	4,835,250
2047	3,330,000	504,000	3,834,000
2048	3,500,000	337,500	3,837,500
2049	1,585,000	162,500	1,747,500
2050	1,665,000	83,250	1,748,250
	<u>\$ 112,290,000</u>	<u>\$ 75,422,463</u>	<u>\$ 187,712,463</u>

**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	\$ 323,800,324
LESS: BONDED INDEBTEDNESS in CCRB (CASH BASIS) - TASK NO. 20	(128,460,680)
NET WATER SYSTEM EQUITY	<u>\$ 195,339,644</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

<u>DATE</u>	<u>RATE</u>	<u>DATE</u>	<u>RATE</u>
23-Sep-21	2.150%	24-Mar-22	2.670%
30-Sep-21	2.260%	31-Mar-22	2.730%
07-Oct-21	2.270%	07-Apr-22	2.870%
14-Oct-21	2.280%	14-Apr-22	3.010%
21-Oct-21	2.280%	21-Apr-22	3.190%
28-Oct-21	2.250%	28-Apr-22	3.210%
04-Nov-21	2.230%	05-May-22	3.270%
11-Nov-21	2.100%	12-May-22	3.370%
18-Nov-21	2.130%	19-May-22	3.470%
25-Nov-21	2.110%	26-May-22	3.160%
02-Dec-21	2.050%	02-Jun-22	3.030%
09-Dec-21	2.050%	09-Jun-22	3.160%
16-Dec-21	2.050%	16-Jun-22	3.570%
23-Dec-21	2.050%	23-Jun-22	3.540%
30-Dec-21	2.060%	30-Jun-22	3.540%
06-Jan-22	2.120%	07-Jul-22	3.370%
13-Jan-22	2.190%	14-Jul-22	3.340%
20-Jan-22	2.250%	21-Jul-22	3.360%
27-Jan-22	2.250%	28-Jul-22	3.270%
03-Feb-22	2.320%	04-Aug-22	3.210%
10-Feb-22	2.410%	11-Aug-22	3.270%
17-Feb-22	2.540%	18-Aug-22	3.440%
24-Feb-22	2.510%	25-Aug-22	3.590%
03-Mar-22	2.530%	01-Sep-22	3.640%
10-Mar-22	2.330%	08-Sep-22	3.730%
17-Mar-22	2.530%	15-Sep-22	3.810%
		<u>52 WEEKS</u>	<u>2.772%</u>

**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)	\$ 195,339,644	@ 3.772%	= \$ 7,367,310
WATER SYSTEM INDEBTEDNESS IN THE CCRB			
2011 DWRF BONDS	926,301	@ 2.50%	= 23,158
2011 DWRF BONDS	1,681,024	@ 2.50%	= 42,026
2012 DWRF BONDS	2,145,930	@ 2.50%	= 53,648
2012 DWRF BONDS	413,514	@ 2.00%	= 8,270
2013 BONDS	1,390,000	@ 2.88%	= 39,963
2014 DWRF BONDS	2,017,840	@ 2.50%	= 50,446
2015 BONDS (refunded 2009 Bonds)	21,135,000	@ 5.00%	= 1,056,750
2015 DWRF BONDS	7,363,063	@ 2.50%	= 184,077
2016 DWRF BONDS	1,623,008	@ 2.50%	= 40,575
2016 BONDS (refunded 2009)	33,525,000	@ 5.00%	= 1,676,250
2018 BONDS (refunded 1993)	30,220,000	@ 4.89%	= 1,477,456
2020 BONDS	26,020,000	@ 5.00%	= 1,301,000
LESS INTEREST ON BOND RESERVE ACCOUNTS			2,065
	\$ 323,800,324		\$ 13,322,994
COMPOSITE RATE OF RETURN ON INVESTMENT		\$ 13,322,994	= 4.115%
		\$323,800,324	
<u>Noted Disclosure:</u>			
TOTAL BONDED INDEBTEDNESS IN CCRB (from above)	\$ 128,460,680	TASK NO. 18	

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, 2022

PHYSICAL LOCATION

DESCRIPTION	RETAIL							WHOLESALE			TOTAL	
	INTEGRATED SYSTEM	CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP		
COST	\$ 237,146,706	\$ 241,870,055	\$ 31,993,837	\$ 41,038,591	\$ 24,342,954	\$ 20,102,352	\$ 3,103,088	\$ -	\$ -	\$ -	\$ 599,597,583	
LESS: ACCUMULATED DEPRECIATION	133,990,906	65,356,095	9,858,446	13,030,742	7,878,848	5,533,753	608,127	-	-	-	236,256,917	
NET BOOK VALUE	\$ 103,155,800	\$ 176,513,960	\$ 22,135,391	\$ 28,007,849	\$ 16,464,106	\$ 14,568,599	\$ 2,494,961	\$ -	\$ -	\$ -	\$ 363,340,666	
WORKING CAPITAL REQUIREMENT	3,742,824	3,440,426	475,732	552,607	412,520	357,049	27,143	19,583	-	80,518	9,108,402	
	\$ 106,898,624	\$ 179,954,386	\$ 22,611,123	\$ 28,560,456	\$ 16,876,626	\$ 14,925,648	\$ 2,522,104	\$ 19,583	\$ -	\$ 80,518	\$ 372,449,068	
CONTRIBUTIONS	580,137	25,769,730	23,511,771	19,040,862	20,924,496	16,022,263	3,058,480	-	-	-	108,907,739	
LESS AMORTIZATION	(76,255)	(14,839,890)	(7,475,106)	(6,615,203)	(6,754,168)	(4,609,197)	(617,940)	-	-	-	(40,987,759)	
	\$ (503,882)	\$ (10,929,840)	\$ (16,036,665)	\$ (12,425,659)	\$ (14,170,328)	\$ (11,413,066)	\$ (2,440,540)	\$ -	\$ -	\$ -	\$ (67,919,980)	
CONSTRUCTION COST RATE BASE	\$ 106,394,742	\$ 169,024,546	\$ 6,574,458	\$ 16,134,797	\$ 2,706,298	\$ 3,512,582	\$ 81,564	\$ 19,583	\$ -	\$ 80,518	\$ 304,529,088	
RETURN ON INVESTMENT- TASK 4/5											\$ -	
RETURN ON INVESTMENT- TASK 20	4.115%	\$ 4,378,144	\$ 6,955,360	\$ 270,539	\$ 663,947	\$ 111,364	\$ 144,543	\$ 3,356	\$ 806	\$ -	\$ 3,313	\$ 12,531,372

ZONEGATED

COST	\$ -	\$ (12,401,626)	\$ 4,305,775	\$ 4,579,356	\$ 14,175,778	\$ 7,209,466	\$ 358,891	\$ 1,724,527	\$ -	\$ 6,710,241	\$ 26,662,408
LESS: ACCUMULATED DEPRECIATION	-	(6,160,210)	1,018,734	2,330,152	5,064,086	2,121,555	126,704	726,040	-	2,164,111	7,391,172
NET BOOK VALUE	\$ -	\$ (6,241,416)	\$ 3,287,041	\$ 2,249,204	\$ 9,111,692	\$ 5,087,911	\$ 232,187	\$ 998,487	\$ -	\$ 4,546,130	\$ 19,271,236
WORKING CAPITAL REQUIREMENT	-	-	-	-	-	-	-	-	-	-	-
	\$ -	\$ (6,241,416)	\$ 3,287,041	\$ 2,249,204	\$ 9,111,692	\$ 5,087,911	\$ 232,187	\$ 998,487	\$ -	\$ 4,546,130	\$ 19,271,236
CONTRIBUTIONS	-	-	-	8,958	6,095	24,965	-	-	-	29,605	69,623
LESS AMORTIZATION	-	-	-	(8,958)	(6,095)	(24,965)	-	-	-	(29,605)	(69,623)
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CONSTRUCTION COST RATE BASE	\$ -	\$ (6,241,416)	\$ 3,287,041	\$ 2,249,204	\$ 9,111,692	\$ 5,087,911	\$ 232,187	\$ 998,487	\$ -	\$ 4,546,130	\$ 19,271,236
RETURN ON INVESTMENT- TASK 19/20	\$ -	\$ (453,847)	\$ 239,018	\$ 163,552	\$ 662,560	\$ 369,969	\$ 16,884	\$ 72,605	\$ -	\$ 330,574	\$ 1,401,315
RETURN ON INVESTMENT- TASK 19/20	7.272%	7.272%	7.272%	7.272%	7.272%	7.272%	7.272%	7.272%		7.272%	
TOTAL RETURN ON INVESTMENT	\$ 4,378,144	\$ 6,501,513	\$ 509,557	\$ 827,499	\$ 773,924	\$ 514,512	\$ 20,240	\$ 73,411	\$ -	\$ 333,887	\$ 13,932,687

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
CONSTRUCTION COST & ACCUMULATED DEPRECIATION- TASK NO. 21- PART 1
FISCAL YEAR ENDED JUNE 30, 2022**

CONSTRUCTION COST

COST CENTER	AMOUNT	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		\$ 237,146,706	\$ 258,908,992	\$ 32,330,517	\$ 43,299,651	\$ 24,142,185	\$ 21,632,518	\$ 3,103,088	\$ -	\$ -	\$ -	\$ 620,563,657
IN SERVICE- TASK 10		-	4,333,872	-	1,161,005	201,456	-	-	-	-	-	5,696,334
PUMPING STATIONS:												
KNAPP SERVICE CENTER	\$ 3,967,519		(2,813,645)	-	184,379	186,608	1,363,804	-	-	-	1,078,854	-
LIVINGSTON	4,434,386		(1,362,849)	-	102,554	84,557	649,563	-	-	-	526,175	-
FRANKLIN	8,541,087		(5,834,411)	-	3,154,085	1,778,904	-	901,422	-	-	-	-
LEFFINGWELL	141,009		(85,145)	-	10,955	7,454	30,531	-	-	-	36,205	-
BRISTOL	719,950		-	-	-	-	-	-	-	-	-	-
EAST PARIS	7,119,724		422,718	-	(2,754,931)	2,332,213	-	-	-	-	-	-
BURTON	219,892		-	-	-	-	-	-	-	-	-	-
COLDBROOK PS PUMP 2	389,279		(5,465)	-	-	-	5,465	-	-	-	-	-
COVELL	1,563,604		(869,049)	869,049	-	-	-	-	-	-	-	-
WILSON	4,335,618		(3,093,856)	2,955,135	-	-	-	138,721	-	-	-	-
LIVINGSTON EIPD	5,708,345		(24,260)	-	-	-	24,260	-	-	-	-	-
STORAGE TANKS:												
ELKS	236,335		(84,730)	84,318	-	-	-	412	-	-	-	-
KNAPP	118,570		(82,784)	-	5,426	5,510	40,068	-	-	-	31,780	-
CAMBRIDGE	471,529		(65,626)	-	65,626	-	-	-	-	-	-	-
PATTERSON	3,938,991		270,557	-	(3,185,145)	2,914,588	-	-	-	-	-	-
WATERMAINS			(20,145,890)	60,593	3,574,341	6,865,257	3,565,609	219,758	823,105	-	5,037,227	-
ADJUSTED BY ZONEGATING		\$ 237,146,706	\$ 229,468,429	\$ 36,299,612	\$ 45,617,947	\$ 38,518,732	\$ 27,311,818	\$ 3,461,979	\$ 1,724,527	\$ -	\$ 6,710,241	\$ 626,259,991
LESS: ZONEGATING ADJUSTMENT		\$ -	\$ (12,401,626)	\$ 4,305,775	\$ 4,579,356	\$ 14,175,778	\$ 7,209,466	\$ 358,891	\$ 1,724,527	\$ -	\$ 6,710,241	\$ 26,662,408
PHYSICAL LOCATION		\$ 237,146,706	\$ 241,870,055	\$ 31,993,837	\$ 41,038,591	\$ 24,342,954	\$ 20,102,352	\$ 3,103,088	\$ -	\$ -	\$ -	\$ 599,597,583
ACCUMULATED DEPRECIATION												
BY PHYSICAL LOCATION- TASK 11		\$ 133,990,906	\$ 70,738,231	\$ 10,057,007	\$ 14,278,388	\$ 7,879,113	\$ 6,096,317	\$ 608,127	\$ -	\$ -	\$ -	\$ 243,648,089
IN SERVICE- TASK 10		-	-	-	-	-	-	-	-	-	-	-
PUMPING STATIONS:												
KNAPP SERVICE CENTER	\$ 2,772,500		(1,966,173)	-	128,844	130,401	953,026	-	-	-	753,902	-
LIVINGSTON	1,429,591		(439,365)	-	33,062	27,260	209,411	-	-	-	169,632	-
FRANKLIN	5,024,631		(3,432,322)	-	1,855,515	1,046,510	-	530,297	-	-	-	-
LEFFINGWELL	141,009		(85,145)	-	10,955	7,454	30,531	-	-	-	36,205	-
BRISTOL	403,887		-	-	-	-	-	-	-	-	-	-
EAST PARIS	2,800,136		166,252	-	(1,083,495)	917,243	-	-	-	-	-	-
BURTON	136,915		-	-	-	-	-	-	-	-	-	-
COLDBROOK PS PUMP 2	116,784		(1,640)	-	-	-	1,640	-	-	-	-	-
COVELL	754,060		(419,105)	419,105	-	-	-	-	-	-	-	-
WILSON	325,979		(232,616)	222,186	-	-	-	10,430	-	-	-	-
LIVINGSTON EIPD	241,989		(1,028)	-	-	-	1,028	-	-	-	-	-
STORAGE TANKS:												
ELKS	236,335		(84,730)	84,318	-	-	-	412	-	-	-	-
KNAPP	116,070		(81,038)	-	5,312	5,393	39,223	-	-	-	31,110	-
CAMBRIDGE	187,162		(26,049)	-	26,049	-	-	-	-	-	-	-
PATTERSON	915,509		62,883	-	(740,298)	677,415	-	-	-	-	-	-
WATERMAINS			(5,002,270)	94,564	846,562	2,252,145	324,132	115,862	195,743	-	1,173,262	-
ADJUSTED BY ZONEGATING		\$ 133,990,906	\$ 59,195,885	\$ 10,877,180	\$ 15,360,894	\$ 12,942,934	\$ 7,655,308	\$ 734,831	\$ 726,040	\$ -	\$ 2,164,111	\$ 243,648,089
LESS: ZONEGATING ADJUSTMENT		\$ -	\$ (6,160,210)	\$ 1,018,734	\$ 2,330,152	\$ 5,064,086	\$ 2,121,555	\$ 126,704	\$ 726,040	\$ -	\$ 2,164,111	\$ 7,391,172
PHYSICAL LOCATION		\$ 133,990,906	\$ 65,356,095	\$ 9,858,446	\$ 13,030,742	\$ 7,878,848	\$ 5,533,753	\$ 608,127	\$ -	\$ -	\$ -	\$ 236,256,917

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**CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 CONTRIBUTIONS & AMORTIZED CONTRIBUTIONS- TASK NO. 21- PART 3
 FISCAL YEAR ENDED JUNE 30, 2022**

CONTRIBUTIONS BY OTHERS

COST CENTER	AMOUNT	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	
2021 RATE STUDY- LOCATION		\$ 580,137	\$ 25,366,065	\$ 22,741,010	\$ 18,541,906	\$ 20,918,896	\$ 15,724,398	\$ 3,058,480	\$ -	\$ -	\$ -	\$106,930,892
ADDITIONS:												
FRONT FOOT FEES			118,030	89,672	117,518	5,600	126,273	-	-	-	-	457,093
FIXED ASSET CONTRIBUTIONS		-	285,635	681,089	381,438	-	171,592	-	-	-	-	1,519,754
OTHER CONTRIBUTIONS		-	-	-	-	-	-	-	-	-	-	-
		580,137	25,769,730	23,511,771	19,040,862	20,924,496	16,022,263	3,058,480	-	-	-	108,907,739
PUMPING STATIONS:												
LEFFINGWELL	\$ 115,303			-	8,958	6,095	24,965	-	-	-	29,605	69,623
ADJUSTED BY ZONEGATING		580,137	25,769,730	23,511,771	19,049,820	20,930,591	16,047,228	3,058,480	-	-	29,605	108,977,362
LESS: ZONEGATING ADJUSTMENT		-	-	-	8,958	6,095	24,965	-	-	-	29,605	69,623
PHYSICAL LOCATION		580,137	25,769,730	23,511,771	19,040,862	20,924,496	16,022,263	3,058,480	-	-	-	108,907,739
AMORTIZED CONTRIBUTIONS												
2021 RATE STUDY- LOCATION		\$ 68,520	\$ 14,240,139	\$ 7,157,749	\$ 6,358,843	\$ 6,473,891	\$ 4,393,549	\$ 577,160	\$ -	\$ -	\$ -	\$ 39,269,851
CURRENT YEAR ADJUSTMENTS		7,735	329,194	317,357	256,360	280,277	215,648	40,780				1,447,351
PRIOR PERIOD ADJUSTMENT			270,557									270,557
		76,255	14,839,890	7,475,106	6,615,203	6,754,168	4,609,197	617,940	-	-	-	40,987,759
PUMPING STATIONS:												
LEFFINGWELL	115,303			-	8,958	6,095	24,965	-	-	-	29,605	69,623
ADJUSTED BY ZONEGATING		76,255	14,839,890	7,475,106	6,624,161	6,760,263	4,634,162	617,940	-	-	29,605	41,057,382
LESS: ZONEGATING ADJUSTMENT		-	-	-	8,958	6,095	24,965	-	-	-	29,605	69,623
PHYSICAL LOCATION		76,255	14,839,890	7,475,106	6,615,203	6,754,168	4,609,197	617,940	-	-	-	40,987,759

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
RECONCILIATION OF CONSTRUCTION COST & ACCUMULATED DEPRECIATION- PHYSICAL LOCATION & ZONEGATING
FISCAL YEAR ENDED JUNE 30, 2022**

CONSTRUCTION COST- BY PHYSICAL LOCATION

COST CENTER	AMOUNT	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	
COST BY PHYSICAL LOCATION- TASK 11 IN SERVICE- TASK 10		\$ 237,146,706	\$ 270,907,548	\$ 31,390,675	\$ 32,240,937	\$ 24,142,185	\$ 21,632,518	\$ 3,103,088	\$ -	\$ -	\$ -	\$ 620,563,657
			4,333,872	-	1,161,005	201,456	-	-	-	-	-	5,696,334
BRISTOL			(719,950)	719,950	-	-	-	-	-	-	-	-
EAST PARIS			(7,119,724)	-	7,119,724	-	-	-	-	-	-	-
BURTON			(219,892)	219,892	-	-	-	-	-	-	-	-
PATTERSON TANK			(3,938,991)	-	3,938,991	-	-	-	-	-	-	-
WATERMAINS												
LESS: WATERMAINS-TOTAL SUBS-HOME COMM			(32,698,195)	(725,425)	(10,825,800)	(6,200)	(2,208,247)	-	-	-	-	(46,463,867)
ADD: WATERMAINS-TOTAL ADDS-HOME COMM			11,325,385	388,745	7,403,734	5,513	678,081	-	-	-	-	19,801,458
TOTAL-PHYSICAL LOCATION COST		\$ 237,146,706	\$ 241,870,054	\$ 31,993,837	\$ 41,038,591	\$ 24,342,954	\$ 20,102,352	\$ 3,103,088	\$ -	\$ -	\$ -	\$ 599,597,582

CONSTRUCTION COST- ZONEGATING

PUMPING STATIONS:												
KNAPP SERVICE CENTER	\$ 3,967,519		\$ (2,813,645)	\$ -	\$ 184,379	\$ 186,608	\$ 1,363,804	\$ -	\$ -	\$ -	\$ 1,078,854	\$ -
LIVINGSTON	4,434,386		(1,362,849)	-	102,554	84,557	649,563	-	-	-	526,175	-
FRANKLIN	8,541,087		(5,834,411)	-	3,154,085	1,778,904	-	-	901,422	-	-	-
LEFFINGWELL	141,009		(85,145)	-	10,955	7,454	30,531	-	-	-	36,205	-
BRISTOL	719,950		-	-	-	-	-	-	-	-	-	-
EAST PARIS	7,119,724		422,718	-	(2,754,931)	2,332,213	-	-	-	-	-	-
BURTON	219,892		-	-	-	-	-	-	-	-	-	-
COLDBROOK PS PUMP 2	389,279		(5,465)	-	-	-	5,465	-	-	-	-	-
COVELL	1,563,604		(869,049)	869,049	-	-	-	-	-	-	-	-
WILSON	4,335,618		(3,093,856)	2,955,135	-	-	-	138,721	-	-	-	-
LIVINGSTON EIPD	5,708,345		(24,260)	-	-	-	24,260	-	-	-	-	-
STORAGE TANKS:												
ELKS	236,335		(84,730)	84,318	-	-	-	412	-	-	-	-
KNAPP	118,570		(82,784)	-	5,426	5,510	40,068	-	-	-	31,780	-
CAMBRIDGE	471,529		(65,626)	-	65,626	-	-	-	-	-	-	-
PATTERSON	3,938,991		270,557	-	(3,185,145)	2,914,588	-	-	-	-	-	-
WATERMAINS- ZONEGATED COST			1,226,919	397,273	6,996,407	6,865,944	5,095,775	219,758	823,105	-	5,037,227	26,662,408
TOTAL- ZONEGATED COST	\$ -	\$ (12,401,626)	\$ 4,305,775	\$ 4,579,356	\$ 14,175,778	\$ 7,209,466	\$ 358,891	\$ 1,724,527	\$ -	\$ 6,710,241	\$ 26,662,408	
GRAND TOTAL- COST	\$ 237,146,706	\$ 229,468,428	\$ 36,299,612	\$ 45,617,947	\$ 38,518,732	\$ 27,311,818	\$ 3,461,979	\$ 1,724,527	\$ -	\$ 6,710,241	\$ 626,259,990	

ACCUMULATED DEPRECIATION-BY PHYSICAL LOCATION

ACC DEPREC BY PHYSICAL LOCATION- TASK 11	\$ 133,990,906	\$ 74,994,678	\$ 9,516,205	\$ 10,562,743	\$ 7,879,113	\$ 6,096,317	\$ 608,127	\$ -	\$ -	\$ -	\$ 243,648,089
BRISTOL		(403,887)	403,887	-	-	-	-	-	-	-	-
EAST PARIS		(2,800,136)	-	2,800,136	-	-	-	-	-	-	-
BURTON		(136,915)	136,915	-	-	-	-	-	-	-	-
PATTERSON		(915,509)	-	915,509	-	-	-	-	-	-	-
WATERMAINS											
LESS: WATERMAINS-TOTAL SUBS-HOME COMM		(8,073,702)	(463,854)	(3,207,843)	(2,397)	(781,255)	-	-	-	-	(12,529,051)
ADD: WATERMAINS-TOTAL ADDS-HOME COMM		2,691,565	265,293	1,960,197	2,132	218,691	-	-	-	-	5,137,878
TOTAL-PHYSICAL LOCATION ACC DEP	\$ 133,990,906	\$ 65,356,094	\$ 9,858,446	\$ 13,030,742	\$ 7,878,848	\$ 5,533,753	\$ 608,127	\$ -	\$ -	\$ -	\$ 236,256,916

ACCUMULATED DEPRECIATION-ZONEGATING

PUMPING STATIONS:												
KNAPP SERVICE CENTER	\$ 2,772,500		\$ (1,966,173)	\$ -	\$ 128,844	\$ 130,401	\$ 953,026	\$ -	\$ -	\$ -	\$ 753,902	\$ -
LIVINGSTON	1,429,591		(439,365)	-	33,062	27,260	209,411	-	-	-	169,632	-
FRANKLIN	5,024,631		(3,432,322)	-	1,855,515	1,046,510	-	-	530,297	-	-	-
LEFFINGWELL	141,009		(85,145)	-	10,955	7,454	30,531	-	-	-	36,205	-
BRISTOL	403,887		-	-	-	-	-	-	-	-	-	-
EAST PARIS	2,800,136		166,252	-	(1,083,495)	917,243	-	-	-	-	-	-
BURTON	136,915		-	-	-	-	-	-	-	-	-	-
COLDBROOK PS PUMP 2	116,784		(1,640)	-	-	-	1,640	-	-	-	-	-
COVELL	754,060		(419,105)	419,105	-	-	-	-	-	-	-	-
WILSON	325,979		(232,616)	222,186	-	-	-	10,430	-	-	-	-
LIVINGSTON EIPD	241,989		(1,028)	-	-	-	1,028	-	-	-	-	-
STORAGE TANKS:												
ELKS	236,335		(84,730)	84,318	-	-	-	412	-	-	-	-
KNAPP	116,070		(81,038)	-	5,312	5,393	39,223	-	-	-	31,110	-
CAMBRIDGE	187,162		(26,049)	-	26,049	-	-	-	-	-	-	-
PATTERSON	915,509		62,883	-	(740,298)	677,415	-	-	-	-	-	-
WATERMAINS- ZONEGATED ACC DEP			379,866	293,125	2,094,208	2,252,410	886,696	115,862	195,743	-	1,173,262	7,391,172
TOTAL- ZONEGATED ACC DEP	\$ -	\$ (6,160,210)	\$ 1,018,734	\$ 2,330,152	\$ 5,064,086	\$ 2,121,555	\$ 126,704	\$ 726,040	\$ -	\$ 2,164,111	\$ 7,391,172	
GRAND TOTAL- ACC DEP	\$ 133,990,906	\$ 59,195,884	\$ 10,877,180	\$ 15,360,894	\$ 12,942,934	\$ 7,655,308	\$ 734,831	\$ 726,040	\$ -	\$ 2,164,111	\$ 243,648,088	

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED OPERATING EXPENSE ZONEGATED BY GOVERNMENTAL UNIT - TASK #22
FISCAL YEAR ENDED JUNE 30, 2022**

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	\$ 8,490,091	\$ 8,490,091										
PUMPING STATIONS:												
A. PRIMARY TRANSPORT	438,952	438,952										
B. INTERMEDIATE TRANSPORT	2,226,567		1,212,538	20,809	386,814	221,622	189,619	-	43,467	-	151,698	
WATERMAINS:												
A. PRIMARY TRANSPORT	371,421		214,540	32,080	47,939	37,506	19,678	119	3,220	-	16,339	
B. INTERMEDIATE TRANSPORT	1,892,860		696,080	409,047	306,057	287,279	138,993	31,308	-	-	24,096	
C. LOCAL DISTRIBUTION	4,857,891		3,537,856	385,474	337,283	269,030	310,128	18,120	-	-	-	
RETAIL CUSTOMER METERING *	3,452,097		2,546,854	287,594	240,335	168,808	193,317	15,189				
SUBTOTAL OPERATING EXPENSE	21,729,879	8,929,043	8,207,868	1,135,004	1,318,428	984,245	851,735	64,736	46,687	-	192,133	
ENGINEERING SERVICES	1,400,041	575,306	528,823	73,124	84,940	63,408	54,882	4,172	3,010	-	12,376	
ADMINISTRATIVE EXPENSE	3,982,497	1,341,211	1,951,424	170,475	198,022	147,823	127,946	9,726	7,017	-	28,853	
TOTAL	\$ 27,112,417	\$ 10,845,559	\$ 10,688,115	\$ 1,378,603	\$ 1,601,390	\$ 1,195,476	\$ 1,034,563	\$ 78,634	\$ 56,714	\$ -	\$ 233,362	

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

METHOD OF DISTRIBUTION

FILTRATION PLANTS		100.00%	100.00%									
PUMPING STATIONS												
A. PRIMARY TRANSPORT		100.00%	100.00%									
B. INTERMEDIATE TRANSPORT		100.00%		54.457%	0.935%	17.373%	9.954%	8.516%		1.952%		6.813%
MEMO												
WATERMAINS												
TOTAL MILES:	1,194.47											
A. PRIMARY TRANSPORT		100.000%		57.762%	8.637%	12.907%	10.098%	5.298%	0.032%	0.867%		4.399%
MILES	62.29			35.98	5.38	8.04	6.29	3.30	0.02	0.54	-	2.74
B. INTERMEDIATE TRANSPORT		100.000%		36.774%	21.610%	16.169%	15.177%	7.343%	1.654%			1.273%
MILES	317.45			116.74	68.60	51.33	48.18	23.31	5.25	-	-	4.04
C. LOCAL DISTRIBUTION		100.000%		72.827%	7.935%	6.943%	5.538%	6.384%	0.373%			
MILES	814.73			593.34	64.65	56.57	45.12	52.01	3.04	-	-	-
RETAIL CUSTOMER METERING (1)		100.000%		73.777%	8.331%	6.962%	4.890%	5.600%	0.440%			
NUMBER OF METERS	80,928.00			59,707.00	6,742.00	5,634.00	3,957.00	4,532.00	356.00			
ENGINEERING SERVICES (2)		100.000%	41.092%	37.772%	5.223%	6.067%	4.529%	3.920%	0.298%	0.215%		0.884%
ADMINISTRATIVE EXPENSE (3)		100.000%	33.678%	49.000%	4.281%	4.972%	3.712%	3.213%	0.244%	0.176%		0.724%

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 AND UNDERUTILIZED PENALTY CREDIT FROM PREVIOUS YEAR TO EACH GOVERNMENTAL ENTITY - TASK NO. 7

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

	<u>RETAIL BILLINGS</u>	<u>PERCENTAGE OF TOTAL</u>	<u>ALLOCATION</u>
CITY OF GRAND RAPIDS	\$ 26,887,098	65.1381%	\$ 465,646
CITY OF WALKER	3,574,221	8.6591%	61,901
CITY OF KENTWOOD	4,486,771	10.8699%	77,705
CASCADE TOWNSHIP	3,598,418	8.7177%	62,320
GRAND RAPIDS TOWNSHIP	2,527,582	6.1234%	43,774
TALLMADGE TOWNSHIP	203,013	0.4918%	3,516
	<u>\$ 41,277,103</u>	<u>100.0000%</u>	<u>\$ 714,862</u>

CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ASSIGN DEPRECIATION EXPENSE TO CUSTOMER COMMUNITIES- TASK NO. 24
FISCAL YEAR ENDED JUNE 30, 2022

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		\$ 5,941,157	\$ 4,131,625	\$ 449,338	\$ 611,807	\$ 324,017	\$ 286,210	\$ 41,377	\$ -	\$ -	\$ -	\$ 11,785,531
IN SERVICE- TASK 10		-	59,733	-	35,589	13,430	-	-	-	-	-	108,752
PUMPING STATIONS:												
KNAPP SERVICE CENTER	\$ 132,118		(93,695)	-	6,140	6,214	45,415	-	-	-	35,926	-
LIVINGSTON	132,366		(40,680)	-	3,061	2,524	19,389	-	-	-	15,706	-
FRANKLIN	301,852		(206,195)	-	111,469	62,869	-	-	31,857	-	-	-
LEFFINGWELL	-		-	-	-	-	-	-	-	-	-	-
BRISTOL	23,020		-	-	-	-	-	-	-	-	-	-
EAST PARIS	202,907		12,047	-	(78,513)	66,466	-	-	-	-	-	-
BURTON	12,447		-	-	-	-	-	-	-	-	-	-
COLDBROOK PS PUMP 2	12,976		(182)	-	-	-	182	-	-	-	-	-
COVELL	57,743		(32,093)	32,093	-	-	-	-	-	-	-	-
WILSON	169,453		(120,920)	115,498	-	-	-	5,422	-	-	-	-
LIVINGSTON EIPD	241,989		(1,028)	-	-	-	1,028	-	-	-	-	-
STORAGE TANKS:												
ELKS	-		-	-	-	-	-	-	-	-	-	-
KNAPP	-		-	-	-	-	-	-	-	-	-	-
CAMBRIDGE	23,697		(3,298)	-	3,298	-	-	-	-	-	-	-
PATTERSON	101,837		6,995	-	(82,348)	75,353	-	-	-	-	-	-
WATERMAINS			(264,664)	808	45,557	90,430	47,428	2,930	10,421	-	67,090	-
ADJUSTED BY ZONEGATING		5,941,157	3,447,645	597,737	656,060	641,303	399,652	49,729	42,278	-	118,722	11,894,283
LESS DEPR ON CIS (TASK 4/5)			(27,277)									(27,277)
LESS CONTRIBUTIONS AMORTIZED												
TASK NO. 21		(7,735)	(329,194)	(317,357)	(256,360)	(280,277)	(215,648)	(40,780)	-	-	-	(1,447,351)
TOTAL		\$ 5,933,422	\$ 3,091,174	\$ 280,380	\$ 399,700	\$ 361,026	\$ 184,004	\$ 8,949	\$ 42,278	\$ -	\$ 118,722	\$ 10,419,655

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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, 2022**

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	\$ 10,845,559	\$ 10,688,115	\$ 1,378,603	\$ 1,601,390	\$ 1,195,476	\$ 1,034,563	\$ 78,634	\$ 56,714	\$ -	\$ 233,362	\$ 27,112,417
DEPRECIATION EXPENSE TASK NO. 24	5,933,422	3,091,174	280,380	399,700	361,026	184,004	8,949	42,278	-	118,722	10,419,655
RETURN ON SYSTEM INVESTMENT TASK NO. 21	4,378,144	6,501,513	509,557	827,499	773,924	514,512	20,240	73,411	-	333,887	13,932,687
REVENUE CREDITS- TASK NO. 23	-	(465,646)	(61,901)	(77,705)	(62,320)	(43,774)	(3,516)	-	-	-	(714,862)
ALLOCATE:											
INTEG CONN. FEE CREDIT (A)	-	(188,011)	(37,548)	(40,874)	(28,934)	(19,854)	(2,730)	(13,257)	-	(15,887)	(347,095)
INTEGRATED SYSTEM (A)	(21,157,125)	10,092,047	2,015,511	2,194,075	1,553,115	1,065,755	146,519	711,609	2,525,696	852,798	-
LESS: CIRCUIT BREAKER (B)		(221,963)	(36,140)	-	-	(22,626)	-				(280,729)
	<u>\$ -</u>	<u>\$ 29,497,230</u>	<u>\$ 4,048,462</u>	<u>\$ 4,904,085</u>	<u>\$ 3,792,287</u>	<u>\$ 2,712,580</u>	<u>\$ 248,096</u>	<u>\$ 870,755</u>	<u>\$ 2,525,696</u>	<u>\$ 1,522,882</u>	<u>\$ 50,122,073</u>

(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>6/30/22</u>	<u>PRO FORMA *</u> <u>6/30/23</u>
REVENUES:		
RETAIL/WHOLESALE WATER SALES	\$ 45,928,987	\$ 48,470,832
CONNECTION FEES/FRONT FOOT FEES	793,788	575,000
BILLABLE TO SDS FUND	2,489,516	3,243,621
OTHER OPERATING REVENUES	1,830,755	1,650,000
INTEREST ON INVESTMENTS	824,521	497,958
MISCELLANEOUS	554,199	523,593
TOTAL REVENUES	<u>\$ 52,421,766</u>	<u>\$ 54,961,004</u>
OPERATING EXPENSES:		
OPERATIONS & MAINTENANCE	\$ 29,102,954	\$ 33,876,539
DEPRECIATION	<u>11,785,530</u>	<u>11,785,530</u>
TOTAL EXPENSES	<u>\$ 40,888,484</u>	<u>\$ 45,662,069</u>
ADDITIONS: DEPRECIATION	<u>11,785,530</u>	<u>11,785,530</u>
NET EARNINGS OF THE SYSTEM	<u>\$ 23,318,812</u>	<u>\$ 21,084,465</u>
DEBT SERVICE		
SERIES 2020 BONDS	\$ 1,747,250	\$ 1,746,000
SERIES 2018 BONDS	2,086,850	2,088,100
SERIES 2016 BONDS	2,752,500	2,751,250
SERIES 2015 BONDS	2,248,500	2,246,750
SERIES 2013 BONDS	<u>221,169</u>	<u>232,231</u>
SENIOR LIEN	9,056,269	9,064,331
JUNIOR LIEN **	<u>1,438,487</u>	<u>1,612,870</u>
TOTAL	<u>10,494,756</u>	<u>10,677,201</u>
COVERAGE RATIO - SENIOR DEBT	<u>2.57</u>	<u>2.33</u>
COVERAGE RATIO - ALL DEBT	<u>2.22</u>	<u>1.97</u>

* WATER SALES ADJUSTED FOR RATE REVISIONS OF 4.08% AND 5.68% EFFECTIVE 1/1/22 AND 1/1/23, RESPECTIVELY; OTHER REVENUES AND OPERATIONS & MAINTENANCE EXPENSE PER 2022 FISCAL PLAN, ADJUSTED FOR CARRYFORWARDS AND KNOWN ADJUSTMENTS.

** 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		\$ 50,402,802
REVENUES FROM CURRENT RATES		
MONTHLY METER CHARGE	\$ 12,511,755	
MONTHLY BILLING CHARGE	3,504,141	
COMMODITY CHARGE	30,416,998	
MONTHLY FIRE PROTECTION	941,555	
ANNUAL HYDRANT CHARGE	<u>52,636</u>	<u>(47,427,085)</u>
INITIAL REQUIRED REVENUE INCREASE (DECREASE)		<u>\$ 2,975,716.00</u>
INITIAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>6.27%</u>
INITIAL SYSTEM REVENUE REQUIREMENTS FROM ABOVE		\$ 50,402,802
LESS: AMOUNT OF CIRCUIT BREAKER RELIEF TO REDUCE RR's TO RETAIL		(280,729)
SYSTEM REVENUE REQUIREMENTS		<u>\$ 50,122,073</u>
ACTUAL REQUIRED AMOUNT OF REVENUE INCREASE (DECREASE)		<u>\$ 2,694,987</u>
ACTUAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>5.68%</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	53,469	53,469	5,472	5,472	3,733	3,733	2,844	2,844	3,842	3,842	285	285
B 1"	1.7778	2,570	4,569	491	873	672	1,195	390	693	332	590	25	44
C 1 1/4"	2.7778	-	-	-	-	-	-	-	-	-	-	-	-
D 1 1/2"	4.0000	1,249	4,996	267	1,068	444	1,776	289	1,156	163	652	16	64
E 2"	7.1111	784	5,575	107	761	193	1,372	94	668	39	277	1	7
F 3"	16.0000	120	1,920	16	256	22	352	10	160	10	160	-	-
G 4"	28.4444	79	2,247	7	199	12	341	2	57	3	85	1	28
H 6" and over	64.0000	17	1,088	3	192	3	192	-	-	1	64	1	64
		<u>58,288</u>	<u>73,864</u>	<u>6,363</u>	<u>8,821</u>	<u>5,079</u>	<u>8,961</u>	<u>3,629</u>	<u>5,578</u>	<u>4,390</u>	<u>5,670</u>	<u>329</u>	<u>492</u>

FIRE PROTECTION SERVICE

H 6"	1,087	253	310	184	121	22
I 8"	297	96	211	115	20	3
J 10"	15	6	10	2	-	-
K 12"	20	24	24	27	1	2
	<u>1,419</u>	<u>379</u>	<u>555</u>	<u>328</u>	<u>142</u>	<u>27</u>
TOTAL	<u>59,707</u>	<u>6,742</u>	<u>5,634</u>	<u>3,957</u>	<u>4,532</u>	<u>356</u>
TOTAL						<u>80,928</u>

Source: City of Grand Rapids, Michigan, Water/Sewer Customer Accounts/Meters Report, dated November 1, 2022.

CITY OF GRAND RAPIDS, MICHIGAN

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

SYSTEM REVENUE REQUIREMENTS \$ 29,497,230

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

73,864 meter equivalents x \$ 7.96 x 12 = \$ 7,055,489

MONTHLY BILLING CHARGE

58,288 meters x \$ 3.74 x 12 = 2,615,965

COMMODITY CHARGE

8,172,586 units (100 CF) x \$ 2.16 = 17,652,786

MONTHLY FIRE PROTECTION

432,634

ANNUAL HYDRANT CHARGE

- (27,756,874)

REQUIRED REVENUE INCREASE (DECREASE)

\$ 1,740,355

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES

6.27%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 221,963

CITY OF GRAND RAPIDS, MICHIGAN

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

COMMODITY CHARGE:

$$\frac{\text{COMMODITY CHARGE @ 64\%}}{\text{BILLED UNITS}} = \frac{\$18,878,227}{8,172,586} = \underline{\underline{\$ 2.31 /100 \text{ CF}^*}}$$

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **		\$ 29,497,230
NEW COMMODITY CHARGE		
8,172,586 x \$ 2.31		\$ 18,878,674
NEW MONTHLY BILLING CHARGE		
58,288 x \$ 3.73 x 12		2,608,971
MONTHLY FIRE PROTECTION CHARGE		432,634
ANNUAL HYDRANT CHARGE		-
		<u>(21,920,279)</u>
		<u><u>\$ 7,576,950</u></u>

$$\text{MONTHLY METER CHARGE} = \frac{\$7,576,950}{73,864 \times 12} = \underline{\underline{\$ 8.55 \text{ MONTHLY}}}$$

<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	\$ 8.55	\$ 3.73	\$ 12.28	\$ 11.70
1"	1.7778	15.20	3.73	18.93	17.89
1 1/4"	2.7778	23.75	3.73	27.48	25.85
1 1/2"	4.0000	34.20	3.73	37.93	35.58
2"	7.1111	60.80	3.73	64.53	60.34
3"	16.0000	136.80	3.73	140.53	131.10
4"	28.4444	243.20	3.73	246.93	230.16
6" and over	64.0000	547.20	3.73	550.93	513.18

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2023

** REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 221,963

CITY OF WALKER, MICHIGAN

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

SYSTEM REVENUE REQUIREMENTS*	\$ 4,048,462
LESS: CASH CONTRIBUTION	(181,741)
SYSTEM REVENUE REQUIREMENTS	<u>\$ 3,866,721</u>

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE
8,821 meter equivalents x \$ 10.68 x 12 = \$ 1,130,499

MONTHLY BILLING CHARGE
6,363 meters x \$ 3.74 x 12 = 285,571

COMMODITY CHARGE
1,208,511 units (100 CF) x \$ 1.87 = 2,259,916

MONTHLY FIRE PROTECTION 133,614

ANNUAL HYDRANT CHARGE - (3,809,600)

REQUIRED REVENUE INCREASE (DECREASE) \$ 57,121

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 1.50%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 36,140

CITY OF WALKER, MICHIGAN

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

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 1.90 /100 CF *
 \$ 1.87 x 101.50%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **	\$ 3,866,721
NEW COMMODITY CHARGE 1,208,511 x \$ 1.90	\$ 2,296,171
NEW MONTHLY BILLING CHARGE 6,363 x \$ 3.73 x 12	284,808
MONTHLY FIRE PROTECTION CHARGE	133,614
ANNUAL HYDRANT CHARGE	<u>-</u> (2,714,593)
	<u><u>\$ 1,152,128</u></u>

MONTHLY METER CHARGE = $\frac{\$1,152,128}{8,821 \times 12}$ = \$ 10.88 MONTHLY

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 10.88	\$ 3.73	\$ 14.61	\$ 14.42
1"	1.7778	19.34	3.73	23.07	22.73
1 1/4"	2.7778	30.22	3.73	33.95	33.41
1 1/2"	4.0000	43.52	3.73	47.25	46.46
2"	7.1111	77.37	3.73	81.10	79.69
3"	16.0000	174.08	3.73	177.81	174.62
4"	28.4444	309.48	3.73	313.21	307.53
6" and over	64.0000	696.32	3.73	700.05	687.26

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2023

**REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 36,140

CITY OF KENTWOOD, MICHIGAN

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

SYSTEM REVENUE REQUIREMENTS \$ 4,904,085

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

8,961 meter equivalents x \$ 12.75 x 12 = \$ 1,371,033

MONTHLY BILLING CHARGE

5,079 meters x \$ 3.74 x 12 = 227,946

COMMODITY CHARGE

1,678,397 units (100 CF) x \$ 1.73 = 2,903,627

MONTHLY FIRE PROTECTION

201,460

ANNUAL HYDRANT CHARGE

- (4,704,066)

REQUIRED REVENUE INCREASE (DECREASE)

\$ 200,019

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES

4.25%

CITY OF KENTWOOD, MICHIGAN

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

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 1.80 /100 CF *
 \$ 1.73 x 104.25%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS	\$ 4,904,085
NEW COMMODITY CHARGE 1,678,397 x \$ 1.80	\$ 3,021,115
NEW MONTHLY BILLING CHARGE 5,079 x \$ 3.73 x 12	227,336
MONTHLY FIRE PROTECTION CHARGE	201,460
ANNUAL HYDRANT CHARGE	<u>-</u> (3,449,911)
	<u>\$ 1,454,174</u>

MONTHLY METER CHARGE = $\frac{\$1,454,174}{8,961 \times 12}$ = \$ 13.52 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	\$ 13.52	\$ 3.73	\$ 17.25	\$ 16.49
1"	1.7778	24.04	3.73	27.77	26.41
1 1/4"	2.7778	37.56	3.73	41.29	39.16
1 1/2"	4.0000	54.08	3.73	57.81	54.74
2"	7.1111	96.14	3.73	99.87	94.41
3"	16.0000	216.32	3.73	220.05	207.74
4"	28.4444	384.57	3.73	388.30	366.41
6" and over	64.0000	865.28	3.73	869.01	819.74

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2023

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

SYSTEM REVENUE REQUIREMENTS* \$ 3,792,287

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE			
	5,578 meter equivalents x \$ 19.09 x 12 = \$	1,277,808	
MONTHLY BILLING CHARGE			
	3,629 meters x \$ 3.74 x 12 =	162,870	
COMMODITY CHARGE			
	877,825 units (100 CF) x \$ 2.38 =	2,089,224	
MONTHLY FIRE PROTECTION		125,041	
ANNUAL HYDRANT CHARGE		-	<u>(3,654,943)</u>
REQUIRED REVENUE INCREASE (DECREASE)			<u>\$ 137,344</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>3.76%</u>

CASCADE TOWNSHIP

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

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 2.47 /100 CF *
 \$ 2.38 x 103.76%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS	\$ 3,792,287
NEW COMMODITY CHARGE 877,825 x \$ 2.47	\$ 2,168,228
NEW MONTHLY BILLING CHARGE 3,629 x \$ 3.73 x 12	162,434
MONTHLY FIRE PROTECTION CHARGE	125,041
ANNUAL HYDRANT CHARGE	<u>-</u> (2,455,703)
	<u><u>\$ 1,336,584</u></u>

MONTHLY METER CHARGE = $\frac{\$1,336,584}{5,578 \times 12} = \underline{\underline{\$ 19.97 \text{ MONTHLY}}}$

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 19.97	\$ 3.73	\$ 23.70	\$ 22.83
1"	1.7778	35.50	3.73	39.23	37.68
1 1/4"	2.7778	55.47	3.73	59.20	56.77
1 1/2"	4.0000	79.88	3.73	83.61	80.10
2"	7.1111	142.01	3.73	145.74	139.49
3"	16.0000	319.52	3.73	323.25	309.18
4"	28.4444	568.03	3.73	571.76	546.74
6" and over	64.0000	1,278.08	3.73	1,281.81	1,225.50

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2023

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

SYSTEM REVENUE REQUIREMENTS* \$ 2,712,580

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE			
5,670 meter equivalents	x	\$ 13.53	x 12 = \$ 920,581
MONTHLY BILLING CHARGE			
4,390 meters	x	\$ 3.74	x 12 = 197,023
COMMODITY CHARGE			
697,465 units (100 CF)	x	\$ 2.00	= 1,394,930
MONTHLY FIRE PROTECTION 40,002			
ANNUAL HYDRANT CHARGE -			
		-	<u>(2,552,536)</u>
REQUIRED REVENUE INCREASE (DECREASE)			<u>\$ 160,044</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>6.27%</u>

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 22,626

GRAND RAPIDS TOWNSHIP

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

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 2.13 /100 CF *
 \$ 2.00 x 106.27%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **	\$ 2,712,580
NEW COMMODITY CHARGE 697,465 x \$ 2.13	\$ 1,485,600
NEW MONTHLY BILLING CHARGE 4,390 x \$ 3.73 x 12	196,496
MONTHLY FIRE PROTECTION CHARGE	40,002
ANNUAL HYDRANT CHARGE	<u>-</u> <u>(1,722,098)</u>
	<u>\$ 990,482</u>

MONTHLY METER CHARGE = $\frac{\$990,482}{5,670 \times 12} = \underline{\underline{\$ 14.56 \text{ MONTHLY}}}$

<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	\$ 14.56	\$ 3.73	\$ 18.29	\$ 17.27
1"	1.7778	25.88	3.73	29.61	27.79
1 1/4"	2.7778	40.44	3.73	44.17	41.32
1 1/2"	4.0000	58.24	3.73	61.97	57.86
2"	7.1111	103.54	3.73	107.27	99.95
3"	16.0000	232.96	3.73	236.69	220.22
4"	28.4444	414.15	3.73	417.88	388.59
6" and over	64.0000	931.84	3.73	935.57	869.66

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2023
 ** REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 22,626

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

SYSTEM REVENUE REQUIREMENTS \$ 248,096

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE			
492 meter equivalents	x	\$ 0.28	x 12 = \$ 1,653
MONTHLY BILLING CHARGE			
329 meters	x	\$ 3.74	x 12 = 14,766
COMMODITY CHARGE			
61,709 units (100 CF)	x	\$ 2.63	= 162,295
MONTHLY FIRE PROTECTION 8,805			
ANNUAL HYDRANT CHARGE 52,636			
			<u>(240,155)</u>
REQUIRED REVENUE INCREASE (DECREASE)			<u>\$ 7,941</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>3.31%</u>

TALLMADGE TOWNSHIP

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

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 2.72 /100 CF *
 \$ 2.63 x 103.31%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS		\$ 248,096
NEW COMMODITY CHARGE		
61,709 x \$ 2.72	\$	167,848
NEW MONTHLY BILLING CHARGE		
329 x \$ 3.73 x 12		14,726
MONTHLY FIRE PROTECTION CHARGE		8,805
ANNUAL HYDRANT CHARGE	<u>52,636</u>	<u>(244,015)</u>
		<u>\$ 4,081</u>

MONTHLY METER CHARGE = $\frac{\$4,081}{492 \times 12} = \underline{\underline{\$ 0.69 \text{ MONTHLY}}}$

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 0.69	\$ 3.73	\$ 4.42	\$ 4.02
1"	1.7778	1.23	3.73	4.96	\$ 4.24
1 1/4"	2.7778	1.92	3.73	5.65	\$ 4.52
1 1/2"	4.0000	2.76	3.73	6.49	\$ 4.86
2"	7.1111	4.91	3.73	8.64	\$ 5.73
3"	16.0000	11.04	3.73	14.77	\$ 8.22
4"	28.4444	19.63	3.73	23.36	\$ 11.70
6" and over	64.0000	44.16	3.73	47.89	\$ 21.66

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2023

CITY OF EAST GRAND RAPIDS, MICHIGAN

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

INTEGRATED SYSTEM REVENUE REQUIREMENTS *		\$	698,352
COMMODITY CHARGE			
(100CF) 571,588 units	x	\$ 1.20	685,906
			<hr/>
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$	<u>12,446</u>
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$	172,403
MONTHLY SERVICE CHARGE			
\$15,106	x	12 MONTHS	181,272
			<hr/>
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$	<u>(8,869)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>0.41%</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	\$	870,755
NEW COMMODITY CHARGE *		
571,588 x \$1.22 =		(697,337)
		<hr/>
	\$	<u>173,418</u>

MONTHLY SERVICE CHARGE * = \$ 173,418 / 12 = \$14,452

* NEW RATES EFFECTIVE ON JANUARY 1, 2023

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

INTEGRATED SYSTEM REVENUE REQUIREMENTS *		\$ 836,911
COMMODITY CHARGE		
(100CF) 599,794 units x \$ 1.38		827,716
		827,716
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 9,195
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 685,971
MONTHLY SERVICE CHARGE		
\$47,613 x 12 MONTHS		571,356
		571,356
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ 114,615
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		8.85%

* NET OF INTEGRATED CONNECTION FEE CREDIT.

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

SYSTEM REVENUE REQUIREMENTS	\$ 1,522,882
NEW COMMODITY CHARGE *	
599,794 x \$1.40 =	(839,712)
	<hr/>
	<u>\$ 683,170</u>

MONTHLY SERVICE CHARGE * = \$ 683,170 / 12 = \$56,931

* NEW RATES EFFECTIVE ON JANUARY 1, 2023

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

INTEGRATED SYSTEM REVENUE REQUIREMENTS	\$ 2,525,696
COMMODITY CHARGE	
(100CF) 1,906,717 units x \$ 1.28	2,440,598
	<u>2,440,598</u>
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)	<u>\$ 85,098</u>
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS	\$ -
MONTHLY SERVICE CHARGE	
\$172 x 12 MONTHS	2,064
	<u>2,064</u>
REQUIRED SERVICE REVENUE INCREASE (DECREASE)	<u>\$ (2,064)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES	<u>3.40%</u>

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

SYSTEM REVENUE REQUIREMENTS	\$ 2,525,696
NEW COMMODITY CHARGE * 1,906,717 x \$1.32 =	(2,516,866)
	<hr/>
	<u>\$ 8,830</u>

MONTHLY SERVICE CHARGE * = \$ 8,830 / 12 = \$736

* NEW RATES EFFECTIVE ON JANUARY 1, 2023

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	2022 Rate	2023 Rate	% Change
Domestic	Property is domicile for single or multiple family use, such as homes, apartments, duplexes, condominium, etc.	\$ 118.00	\$ 118.00	0.00%
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).	\$ 165.00	\$ 180.00	9.09%

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, 2021 through June 30, 2022. Calculations of the rates are on file in the City Engineer's Office.

WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RE-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	2022	\$ 3,050	\$ 3,500	\$ 3,750	\$ 4,350	\$ 5,200
	2023	\$ 3,200	\$ 3,600	\$ 3,900	\$ 4,500	\$ 5,400
1-1/2" Water Service	2022	\$ 4,300	\$ 4,800	\$ 5,100	\$ 5,800	\$ 7,000
	2023	\$ 4,500	\$ 5,100	\$ 5,500	\$ 6,200	\$ 7,300
2" Water Service	2022	\$ 4,400	\$ 4,900	\$ 5,200	\$ 5,900	\$ 6,900
	2023	\$ 5,000	\$ 5,500	\$ 5,900	\$ 6,700	\$ 7,800

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	4.92%	2.86%	4.00%	3.45%	3.85%
1-1/2" Water Service	4.65%	6.25%	7.84%	6.90%	4.29%
2" Water Service	13.64%	12.24%	13.46%	13.56%	13.04%

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 23, 2022

TO: Jenessa Carter
Utility Financial Officer

FROM: Samarhia Giffel
Administrative Services Officer

SUBJECT: 2022 WATER RATE STUDY TASK #30
FEES, CHARGES, and PENALTIES

Fees, charges, and penalties have been reviewed and determined in accordance with the Water System Rules and Regulations and are approved for use beginning January 1, 2023.

The following are recommended changes in fee amounts, aligned to support resource requirements and cost recovery:

Fire Protection Monthly

- Fee increase of 2.77% for all sizes based on BBI including inflation, referenced from Task 19.

Meter Installation and Service On/Off Requests

- Meter installations for all sizes increased 16.67% from \$60 to \$70 to account for associated administrative cost for BOR tasks and field work performed by the service worker including the city vehicle, mileage and fuel.

Meter Testing

- Fee increase of 25% for 3" meters. All Ultrasonic meters tested at costs.

Meter Replacement

- Fee increase of 20% for 1" meters and 50% for 3" meters. All Ultrasonic meters charged at costs.

Penalties

- Administrative/Research Fee (Review or processing of account for non- payment, returned payment, shut-off, posting of property, and/or backflow non- compliance) increased 27.27% from \$55 to \$70 to account for associated administrative cost for BOR tasks and field work performed by the service worker including the city vehicle, mileage and fuel.

Miscellaneous

- Fees increased and aligned to support Engineering resources requirement and cost recovery.
- Language for Delinquent Commercial Backflow Test Fee updated
 - (Test fees will be applied, per device, upon the dues dates of the 1st notice and final notice)

Please see the attached fee, charges, and penalties schedule in entirety.

SG

Cc: Wayne Jernberg, Water System Manager
Mike Grenier, Environmental Services Manager
Arden Postma, Hydraulic Engineer
Chad Reul, Utility Field Operations Superintendent

Fees, Charges, and Penalties

2022 Fee (\$) **2023 Fee (\$)** **% Change**

Fire Protection Monthly (based on pipe size)			
6"	\$20.77	\$21.35	2.77%
8"	\$36.86	\$37.88	2.77%
10"	\$57.75	\$59.35	2.77%
12"	\$83.11	\$85.41	2.77%

**BBI referenced from Task 19*

Hydrant Use Per Season			
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)	\$100 (RD) + \$75/week	\$100 (RD) + \$75/week	0%
Metered Hydrant Connection Use Fee * (per connection)	\$500 (RD) + \$25/week	\$500 (RD) + \$25/week	0%

RD=Refundable Deposit

**Plus metered volume (Commodity Charges at City of Grand Rapids Rate)*

A \$100 Services fee applies for all hydrant connection assistance requests

Tapping Permits			
All sizes	\$375	\$375	0%

Meter Set/Installation and Service On/Off Requests			
<i>All non-emergency service requests must be scheduled (normal service Hours 8am - 7pm M-F)</i>			
All sizes	\$60	\$70	16.67%
Inspection/Repair Scheduled On & Off Request (may also need meter set/install)	\$70	\$70	0%

Meter Reading			
Final or Actual Reading	\$60	\$60	0%
Meter Interface Unit Replacement (includes Smart Endpoint Device)	\$170	\$170	0%

Meter Testing			
<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>			
<i>*In addition to the Meter Testing fee a Service On/Off Requests fee applies.</i>			
¾" and 1"	\$150	\$150	0%
1 ½"	\$200	\$200	0%
2"	\$350	\$350	0%
3"	\$400	\$500	25%
4" or larger	Cost	Cost	0%

**Ultrasonic Meters charged at costs*

Security Deposit			
Minimum Deposit Amount	\$500	\$500	0%

Fees, Charges, and Penalties

2022 Fee (\$) **2023 Fee (\$)** **% Change**

Meter Replacement (Non-System Planned/Scheduled Replacement)

*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. *In addition to the Meter Replacement fee a Meter Set/Installation fee applies.*

¾"	\$210	\$210	0%
1"	\$250	\$300	20%
1 ½"	\$750	\$750	0%
2"	\$880	\$880	0%
3"	\$1,100	\$1,650	50%
4" or larger	Cost	Cost	0%

***Ultrasonic Meters charged at costs**

Miscellaneous

Street Opening Permit (Water/ESD, City Engineering, Streets)	\$300	\$300	0%
Water Inspection Permit (Within City Limits)	\$80	\$85	6.25%
Water Inspection Permit (Outside City Limits)	\$95	\$100	5.26%
Sanitary Service Line Inspection Permit (Within City Limits)	\$80	\$85	6.25%
Sanitary Service Line Inspection Permit (Outside City Limits)	\$95	\$100	5.26%
Storm Service Line Inspection Permit (Within City Limits)	\$80	\$85	6.25%
Storm Service Line Inspection Permit (Outside City Limits)	\$95	\$100	5.26%
Footing Drain Lateral Inspection Permit (Within City Limits)	\$80	\$85	6.25%
Footing Drain Lateral Inspection Permit (Outside City Limits)	\$95	\$100	5.26%
Sewer Lateral Service Demolition/Cap off Inspection Fee (Within City Limits)	\$80	\$85	6.25%
Sewer Later Service Demolition/Cap off Inspection Fee (Outside City Limits)	\$95	\$100	5.26%
Plumbing Service Re-inspection Fee	\$80	\$85	6.25%
Cross Connection Re-inspection Fee	\$75	\$75	0%

Fees, Charges, and Penalties	2022 Fee (\$)	2023 Fee (\$)	% Change
Miscellaneous Cont...			
Irrigation Service Cut/Cap Administrative Fee	\$65	\$70	7.69%
Delinquent Commercial Backflow Test Fee (Test fees will be applied, per device, upon the dues dates of the 1 st notice and final notice)	\$25	\$25	0%
Hydrant Flow Test	\$200	\$200	0%

Services			
Customer requested on-site service visit (hydrant connection assistance requests, internal plumbing, customer issue)	\$100	\$100	0%

Penalties			
Late Payment Penalty	10% of Net	10% of Net	0%
Return check or payment charge (City Treasurer processing fee)	\$30	\$30	0%
Administrative/Research Fee (Review or processing of account for non-payment, returned payment, shut-off, posting of property, and/or backflow non-compliance) (Documentation creation for account of location information- FOIA request may still be required)	\$55	\$70	27.27%
Missed Appointment	\$50	\$50	0%
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, valves, meters, meter reading equipment, hydrants, and curb stops & box) ** & ***	\$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%
Permit infractions/violations ** & ***	\$100	\$100	0%
Unauthorized service tap of Water or Sewer main** & ***	\$500	\$500	0%

**** Plus double the commodity rate for estimated volume and any unbilled readiness to serve charges that may apply**

***** Penalties shall double with each subsequent infraction**

Miscellaneous Damage or Loss			
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: November 2, 2022

TO: Jenessa Carter
Utility Financial Officer

FROM: Arden Postma, P.E.
Hydraulic Engineer

SUBJECT: **2022 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>2021 Rate</u>	<u>2022 Rate</u>	<u>2023 Rate</u>	<u>2022 to 2023 % Change</u>
8"-12"	\$27.76/ft	\$32.94/ft	\$30.17/ft	-8.41%
12"-16"	\$28.00/ft	\$39.85/ft	\$57.40/ft	44.04%
8"-16"	\$55.76/ft	\$72.79/ft	\$87.57/ft	20.30%

These rates have been determined in accordance with the Water System Rules and Regulations, and are approved for use from January 1, 2023, through December 31, 2023. Background information and calculations to establish these rates are on file in the Utility Engineering, Distribution and Collection Office.

Due to the volatility in the economic marketplace and interruptions in the supply chain due to Covid-19, material prices have been impacted again this year. As a result of the price volatility we are seeing parallel changes in the Oversizing Rates.

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: Wayne Jernberg
Cindy Irving
Jeff McCaul

**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 June 30, 2022:

UAB Partners	Sq. Miles of USD by CC	Percent
Grand Rapids	45.344	35.106%
Walker	24.842	19.233%
Kentwood	13.523	10.469%
Cascade	21.132	16.360%
Grand Rapids Township	10.960	8.485%
Tallmadge Township	2.780	2.152%
East Grand Rapids	3.370	2.609%
Ada	7.215	5.586%
Total	129.166	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)*	\$ 133,835	26.21%
City & Customer Community Circuit Breaker (CCCCB)	376,844	73.79%
Total	<u>\$ 510,679</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	\$ 376,844	100.00%
Less: Amount Applied in Current Rate Study	(280,729)	-74.49%
Total CCCCCB Revenue Credit- Next Year's Rate Study	<u>\$ 96,115</u>	<u>25.51%</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. \$133,835 includes \$80,000 of facility rental revenue from fiscal year 2022 to supplement the 2023 ICB.

**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, 2022
TASKS NO. 1, 2, & 3**

COMMUNITY	LOCAL		TRUNK		INTERCEPTOR		TOTALS	
	FEET	MILES	FEET	MILES	FEET	MILES	FEET	MILES
Grand Rapids								
Construction	8,296	1.57	4,611	0.87	3,633	0.69	16,540	3.13
Abandonment	(951)	(0.18)	(2,854)	(0.54)	(3,825)	(0.72)	(7,630)	(1.44)
CSO Construction	0	0.00	0	0.00	0	0.00	0	0.00
CSO Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>7,345</u>	<u>1.39</u>	<u>1,757</u>	<u>0.33</u>	<u>(192)</u>	<u>(0.03)</u>	<u>8,910</u>	<u>1.69</u>
Kentwood								
Construction	2,773	0.53	0	0.00	0	0.00	2,773	0.53
Abandonment	(54)	(0.01)	0	0.00	0	0.00	(54)	(0.01)
	<u>2,719</u>	<u>0.52</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>2,719</u>	<u>0.52</u>
Cascade Twp.								
Construction	442	0.08	0	0.00	0	0.00	442	0.08
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>442</u>	<u>0.08</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>442</u>	<u>0.08</u>
G.R. Twp.								
Construction	1,922	0.36	0	0.00	0	0.00	1,922	0.36
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>1,922</u>	<u>0.36</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>1,922</u>	<u>0.36</u>
Tallmadge 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>
Walker								
Construction	1,833	0.35	1,751	0.33	0	0.00	3,584	0.68
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>1,833</u>	<u>0.35</u>	<u>1,751</u>	<u>0.33</u>	<u>0</u>	<u>0.00</u>	<u>3,584</u>	<u>0.68</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>
TOTAL	<u><u>14,261</u></u>	<u><u>2.70</u></u>	<u><u>3,508</u></u>	<u><u>0.66</u></u>	<u><u>(192)</u></u>	<u><u>(0.03)</u></u>	<u><u>17,577</u></u>	<u><u>3.33</u></u>

	CONTRIBUTIONS		
	COMM	OTHER	TOTAL
Integrated	\$ -	\$ -	\$ -
Grand Rapids	189,868	-	189,868
Kentwood	369,896	-	369,896
Cascade Twp.	-	-	-
Grand Rapids Twp.	173,850	-	173,850
Tallmadge Twp.	-	-	-
Walker	637,421	-	637,421
Wright Twp.	-	-	-
TOTAL	<u><u>\$ 1,371,035</u></u>	<u><u>\$ -</u></u>	<u><u>\$ 1,371,035</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, 2022**

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				
527 (3000:70) 5900	WASTEWATER TREATMENT (LESS 527 - 3040 - 5900)	\$ 22,285,371	\$ 21,463,420	\$ 243,529	\$ 159,298	\$ 414,842				\$ 4,281			
527 (4000 / 4290) 5900	SEWER MAINTENANCE	5,133,060					262,761	608,781	4,261,518				
527 (2000) 5900	CUSTOMER SERVICE*	2,484,493									2,484,493		
527 (3040) 5900	INDUSTRIAL PRETREATMENT	806,067									806,067		
	SUBTOTAL OPERATING EXPENSE	30,708,991	21,463,420	243,529	159,298	414,842	262,761	608,781	4,261,518	4,281	2,484,493	806,067	
527 (1000:10 / 8000) 5900	ADMINISTRATION	2,716,516										2,716,516	
	TOTAL	<u>\$ 33,425,507</u>	<u>\$ 21,463,420</u>	<u>\$ 243,529</u>	<u>\$ 159,298</u>	<u>\$ 414,842</u>	<u>\$ 262,761</u>	<u>\$ 608,781</u>	<u>\$ 4,261,518</u>	<u>\$ 4,281</u>	<u>\$ 2,484,493</u>	<u>\$ 806,067</u>	<u>\$ 2,716,516</u>

* 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			96.312%								
	B. LIFT & METER STATIONS			3.688%								
	NO. OF STATIONS	(60)			(1)	(8)	(45)			(6)		
527 (4000 / 4290) 5900	SEWER MAINTENANCE											
	TOTAL MILES	931.28	100.000%									
	A. INTERCEPTOR											
	MILES	47.67	5.119%				5.119%					
	B. TRUNK LINES											
	MILES	110.45	11.860%					11.860%				
	C. LOCAL COLLECTOR											
	MILES	773.16	83.021%						83.021%			
527 (2000) 5900	CUSTOMER SERVICE		100.000%								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
OPERATING EXPENSE ALLOCATION BY GOVERNMENTAL UNIT - TASK #4, PART 2
FISCAL YEAR ENDED JUNE 30, 2022**

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	\$ 21,463,420	\$ 21,463,420											
LIFT STATIONS:													
A. INTERCEPTOR	243,529		243,529	-	-	-	-	-	-	-	-	-	-
B. TRUNK	159,298		43,829	75,409	-	33,363	6,697	-	-	-	-	-	-
C. LOCAL COLLECTOR	414,842		70,362	59,423	-	85,778	150,505	32,243	7,476	-	-	9,055	-
SEWER LINES:													
A. INTERCEPTOR	262,761		149,984	38,087	67,304	7,386	-	-	-	-	-	-	-
B. TRUNK	608,781		217,280	152,786	138,510	53,408	30,536	15,597	664	-	-	-	-
C. LOCAL COLLECTOR	4,261,518		2,858,159	325,705	416,308	256,970	331,802	47,772	24,802	-	-	-	-
BULK METERING STATIONS	4,281		-	-	1,989	-	-	-	-	1,185	352	352	403
CUSTOMER ACCOUNTING	2,484,493		1,912,662	192,747	163,182	67,702	129,939	10,708	7,553				
INDUSTRIAL PRETREATMENT	806,067	806,067											
SUBTOTAL OPERATING EXPENSE	30,708,991	22,269,487	5,495,806	844,157	787,293	504,607	649,479	106,320	40,495	1,185	352	9,408	403
ADMINISTRATIVE EXPENSE	2,716,516	1,927,768	533,922	73,075	68,152	43,682	56,223	9,204	3,506	103	31	815	35
TOTAL	\$ 33,425,507	\$ 24,197,255	\$ 6,029,728	\$ 917,232	\$ 855,445	\$ 548,289	\$ 705,702	\$ 115,524	\$ 44,001	\$ 1,288	\$ 383	\$ 10,223	\$ 438

METHOD OF DISTRIBUTION

WASTEWATER TREATMENT													
A. TREATMENT PLANT	100.000%	100.00%											
B. LIFT & METER STATIONS (1)	100.000%												
NO. OF STATIONS	(60)		(13)	(6)	(2)	(10)	(18)	(5)	(1)	(1)	(1)	(2)	(1)
SEWER LINES:													
TOTAL MILES:	931.28												
A. INTERCEPTOR	100.000%		57.080%	14.495%	25.614%	2.811%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
MILES	47.67		27.21	6.91	12.21	1.34	-	-	-	-	-	-	-
B. TRUNK LINES	100.000%		35.691%	25.097%	22.752%	8.773%	5.016%	2.562%	0.109%	0.000%	0.000%	0.000%	0.000%
MILES	110.45		39.42	27.72	25.13	9.69	5.54	2.83	0.12	-	-	-	-
C. LOCAL COLLECTOR	100.000%		62.182%	12.530%	9.769%	6.030%	7.786%	1.121%	0.582%	0.000%	0.000%	0.000%	0.000%
MILES	773.16		480.76	96.88	75.53	46.62	60.20	8.67	4.50	-	-	-	-
CUSTOMER ACCTG (2)	100.000%		77.288%	7.758%	6.568%	2.725%	5.230%	0.431%	0.304%				
NO. OF METERS	76,035.00		58,534.00	5,899.00	4,994.00	2,072.00	3,977.00	328.00	231.00				
INDUSTRIAL PRETREATMENT	100.000%	100.00%											
ADMINISTRATIVE EXPENSE (3)	100.000%	70.964%	19.655%	2.690%	2.509%	1.608%	2.070%	0.339%	0.129%	0.004%	0.001%	0.030%	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, 2022**

Dept-Unit-Fund	ACTIVITY	ADJUSTED 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				
527 (3000:70) 5900	WASTEWATER TREATMENT (LESS 527 - 3040 - 5900)	\$ 24,379,119	\$ 23,442,365	\$ 277,543	\$ 181,548	\$ 472,783				\$ 4,880			
527 (4000 / 4290) 5900	SEWER MAINTENANCE	5,286,512					270,617	626,980	4,388,915				
527 (2000) 5900	CUSTOMER SERVICE *	3,245,802									3,245,802		
527 (3040) 5900	INDUSTRIAL PRETREATMENT	847,190										847,190	
	SUBTOTAL OPERATING EXPENSE	33,758,623	23,442,365	277,543	181,548	472,783	270,617	626,980	4,388,915	4,880	3,245,802	847,190	-
527 (1000:10 / 8000) 5900	ADMINISTRATION	2,779,342											2,779,342
	TOTAL	<u>\$ 36,537,965</u>	<u>\$ 23,442,365</u>	<u>\$ 277,543</u>	<u>\$ 181,548</u>	<u>\$ 472,783</u>	<u>\$ 270,617</u>	<u>\$ 626,980</u>	<u>\$ 4,388,915</u>	<u>\$ 4,880</u>	<u>\$ 3,245,802</u>	<u>\$ 847,190</u>	<u>\$ 2,779,342</u>

* 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			96.158%									
	B. LIFT & METER STATIONS			3.842%									
	NO. OF STATIONS	(60)			(1)	(8)	(45)			(6)			
527 (4000 / 4290) 5900	SEWER MAINTENANCE												
	TOTAL MILES	931.28	100.000%										
	A. INTERCEPTOR												
	MILES	47.67	5.119%					5.119%					
	B. TRUNK LINES												
	MILES	110.45	11.860%						11.860%				
	C. LOCAL COLLECTOR												
	MILES	773.16	83.021%							83.021%			
527 (2000) 5900	CUSTOMER SERVICE		100.000%								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, 2022**

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	\$ 23,442,365	\$ 23,442,365											
LIFT STATIONS:													
A. INTERCEPTOR	277,543		277,543	-	-	-	-	-	-	-	-	-	-
B. TRUNK	181,548		49,951	85,941	-	38,023	7,633	-	-	-	-	-	-
C. LOCAL COLLECTOR	472,783		80,190	67,722	-	97,760	171,525	36,746	8,520	-	-	10,320	-
SEWER LINES:													
A. INTERCEPTOR	270,617		154,468	39,226	69,316	7,607	-	-	-	-	-	-	-
B. TRUNK	626,980		223,777	157,353	142,650	55,005	31,449	16,063	683	-	-	-	-
C. LOCAL COLLECTOR	4,388,915		2,729,115	549,931	428,753	264,652	341,721	49,200	25,543	-	-	-	-
BULK METERING STATIONS	4,880		-	-	2,267	-	-	-	-	1,350	402	402	459
CUSTOMER ACCOUNTING	3,245,802		2,498,750	251,809	213,184	88,448	169,755	13,989	9,867				
INDUSTRIAL PRETREATMENT	847,190	847,190											
SUBTOTAL OPERATING EXPENSE	33,758,623	24,289,555	6,013,795	1,151,982	856,170	551,495	722,083	115,998	44,613	1,350	402	10,722	459
ADMINISTRATIVE EXPENSE	2,779,342	1,957,899	542,926	92,857	69,013	44,454	58,205	9,350	3,596	109	32	864	37
TOTAL	\$ 36,537,965	\$ 26,247,454	\$ 6,556,721	\$ 1,244,839	\$ 925,183	\$ 595,949	\$ 780,288	\$ 125,348	\$ 48,209	\$ 1,459	\$ 434	\$ 11,586	\$ 496

METHOD OF DISTRIBUTION

WASTEWATER TREATMENT													
A. TREATMENT PLANT	100.000%	100.00%											
B. LIFT & METER STATIONS (1) NO. OF STATIONS (60)	100.000%		(13)	(6)	(2)	(10)	(18)	(5)	(1)	(1)	(1)	(2)	(1)
SEWER LINES:													
TOTAL MILES: 931.28													
A. INTERCEPTOR MILES 47.67	100.000%		57.080%	14.495%	25.614%	2.811%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
B. TRUNK LINES MILES 110.45	100.000%		35.691%	25.097%	22.752%	8.773%	5.016%	2.562%	0.109%	0.000%	0.000%	0.000%	0.000%
C. LOCAL COLLECTOR MILES 773.16	100.000%		62.182%	12.530%	9.769%	6.030%	7.786%	1.121%	0.582%	0.000%	0.000%	0.000%	0.000%
CUSTOMER ACCTG (2) NO. OF METERS 76,035.00	100.000%		76.984%	7.758%	6.568%	2.725%	5.230%	0.431%	0.304%				
INDUSTRIAL PRETREATMENT	100.000%	100.00%											
ADMINISTRATIVE EXPENSE (3)	100.000%	70.447%	19.534%	3.341%	2.483%	1.599%	2.094%	0.336%	0.129%	0.004%	0.001%	0.031%	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, 2022
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	\$ 352,317.53	\$ 23,164.88	\$ 375,482.41
7040	TEMPORARY EMPLOYEES	2,082.81	136.94	2,219.75
7055	TIME & ONE-HALF	886.34	58.28	944.62
7105	EMPLOYERS SOCIAL SECURITY	25,325.38	1,665.14	26,990.52
7110	HOSPITALIZATION INSURANCE	49,260.17	9,945.63	59,205.80
7115	RETIREE HEALTH CARE	17,423.92	(2,739.04)	14,684.88
7120	RETIREMENT FUND CONTRIBUTION	83,103.60	(6,315.87)	76,787.73
7135	UNEMPLOYMENT COMPENSATION	576.38	-	576.38
7175	FOOD/CLEAN/CAR ALLOW	4,391.35	-	4,391.35
	TOTAL PERSONAL SERVICES	<u>535,367.48</u>	<u>25,915.96</u>	<u>561,283.44</u>
7520	SUPPLIES	3,647.52	-	3,647.52
7800	INVENTORY - COST OF GOODS SOLD	52,926.83	-	52,926.83
	TOTAL SUPPLIES	<u>56,574.35</u>	<u>-</u>	<u>56,574.35</u>
8010	CONTRACTUAL SERVICES	318,273.00	-	318,273.00
8011	CONTRACT EMPLOYEES - TEMP SERVICES	2,094.17	-	2,094.17
8016	CONTRACTS-EXTERNAL LEGAL SERVICES	146,655.75	-	146,655.75
8030	ADMINISTRATIVE SERVICES	21,263.19	(21,263.19)	-
8400	INSURANCE PREMIUMS	305,689.00	-	305,689.00
8450	GENERAL LIABILITY INSURANCE/CLAIMS	330,798.00	-	330,798.00
8500	TELEPHONE	1,047.23	-	1,047.23
8510	POSTAGE	201.38	-	201.38
9000	PRINTING & PUBLISHING	460.92	-	460.92
9100	PROFESSIONAL DEVELOPMENT	260.75	-	260.75
9110	OTHER TRAVEL & TRAINING	564.56	-	564.56
9130	LOCAL BUSINESS EXPENSE	244.33	-	244.33
9150	MEMBERSHIPS	24,791.92	-	24,791.92
9200	ELECTRICITY	-	58,174.00	58,174.00
9430	BUILDINGS RENTALS OR LEASE	30,504.00	-	30,504.00
9460	ENGINEERING SERVICES	11,196.25	-	11,196.25
9470	VEHICLE USAGE/CAR MILAGE	5,069.00	-	5,069.00
9480	COMPUTER SERVICES	14,712.00	-	14,712.00
9650	BAD DEBT WRITE-OFFS	574.90	-	574.90
	TOTAL OTHER SERVICES & CHARGES	<u>1,214,400.35</u>	<u>36,910.81</u>	<u>1,251,311.16</u>
9760	EQUIPMENT	1,024.50	-	1,024.50
9880	CONSTRUCTION IN PROGRESS	95,421.82	-	95,421.82
	TOTAL CAPITAL	<u>96,446.32</u>	<u>-</u>	<u>96,446.32</u>
9510	A-87 COST ALLOCATION	813,727.00	-	813,727.00
	TOTAL TRANSFERS/FEES	<u>813,727.00</u>	<u>-</u>	<u>813,727.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 2,716,515.50</u>	<u>\$ 62,826.77</u>	<u>\$ 2,779,342.27</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2022
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: SDSF - CUST.SERV'S

<u>EXPENDITURE SUB-OBJECT</u>		<u>OPERATING</u>	<u>ADJUSTED</u>	<u>ADJUSTED</u>
<u>OBJ</u>	<u>DESCRIPTION</u>	<u>EXPENSES</u>	<u>COST</u>	<u>CURRENT</u>
			<u>FACTORS</u>	<u>ANNUAL</u>
				<u>EXPENSES</u>
9512	UTILITY CUSTOMER SERVICE	2,484,493.00	\$ 761,309.07	\$ 3,245,802.07
	TOTAL OTHER SERVICES & CHARGES	<u>2,484,493.00</u>	<u>761,309.07</u>	<u>3,245,802.07</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 2,484,493.00</u>	<u>\$ 761,309.07</u>	<u>\$ 3,245,802.07</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, 2022
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: WASTEWATER

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 4,540,511.52	\$ 298,538.63	\$ 4,839,050.15
7025	ACT.ASSIGNMENT	25,987.31	1,708.67	27,695.98
7040	TEMPORARY EMPLOYEES	32,691.54	2,149.47	34,841.01
7050	REGULAR HOURLY RATE	6,928.86	455.57	7,384.43
7055	TIME & ONE-HALF	203,164.38	13,358.06	216,522.44
7105	EMPLOYERS SOCIAL SECURITY	347,823.45	22,869.39	370,692.84
7110	HOSPITALIZATION INSURANCE	948,388.76	191,479.69	1,139,868.45
7115	RETIREE HEALTH CARE	233,141.77	(36,649.89)	196,491.88
7120	RETIREMENT FUND CONTRIBUTION	1,114,525.18	(84,703.91)	1,029,821.27
7135	UNEMPLOYMENT COMPENSATION	7,537.31	-	7,537.31
7165	SHIFT DIFFERENTIAL	17,551.78	-	17,551.78
	TOTAL PERSONAL SERVICES	<u>7,478,251.86</u>	<u>409,205.68</u>	<u>7,887,457.54</u>
7520	SUPPLIES	1,410,982.78	-	1,410,982.78
7530	PROCESS CHEMICALS	871,118.84	900,000.00	1,771,118.84
7670	CLOTHING/CLEANING ALLOWANCE	3,390.63	-	3,390.63
7910	PUBLICATIONS AND SUBSCRIPTIONS	1,807.64	-	1,807.64
	TOTAL SUPPLIES	<u>2,287,299.89</u>	<u>900,000.00</u>	<u>3,187,299.89</u>
8010	CONTRACTUAL SERVICES	8,316,565.72	142,716.01	8,459,281.73
8011	CONTRACT EMPLOYEES - TEMP SERVICES	85,477.74	-	85,477.74
8015	CONTRACT SERV-TRAINING	5,627.64	-	5,627.64
8240	FEES	24,370.59	-	24,370.59
8500	TELEPHONE	47,653.65	-	47,653.65
9000	PRINTING & PUBLISHING	1,414.55	-	1,414.55
9010	ADVERTISING - ANY MEDIA	50.00	-	50.00
9100	PROFESSIONAL DEVELOPMENT	15,236.00	-	15,236.00
9110	OTHER TRAVEL & TRAINING	21,984.62	-	21,984.62
9131	FOOD-BEVERAGE	207.12	-	207.12
9150	MEMBERSHIPS	20,976.00	-	20,976.00
9180	WATER	93,963.96	-	93,963.96
9200	ELECTRICITY	2,197,580.87	641,826.00	2,839,406.87
9210	NATURAL GAS	870,151.89	-	870,151.89
9310	EQUIPMENT REPAIRS	4,836.66	-	4,836.66
9330	SOFTWARE MAINTENANCE AGREEMENTS	29,919.00	-	29,919.00
9410	EQUIPMENT RENTALS OR LEASE	65,502.92	-	65,502.92
9440	FLEET MANAGEMENT EQUIPMENT	224,342.52	-	224,342.52
9450	311 CALL CENTER SERVICES	1,396.00	-	1,396.00
9470	VEHICLE USAGE/CAR MILAGE	3,485.40	-	3,485.40
9480	COMPUTER SERVICES	244,633.00	-	244,633.00
	TOTAL OTHER SERVICES & CHARGES	<u>12,275,375.85</u>	<u>784,542.01</u>	<u>13,059,917.86</u>
9760	EQUIPMENT	142,935.39	-	142,935.39
9800	FURNITURE	19,804.09	-	19,804.09
9840	SOFTWARE	81,463.75	-	81,463.75
9880	CONSTRUCTION IN PROGRESS	240.00	-	240.00
	TOTAL CAPITAL	<u>244,443.23</u>	<u>-</u>	<u>244,443.23</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 22,285,370.83</u>	<u>\$ 2,093,747.69</u>	<u>\$ 24,379,118.52</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2022
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	\$ 496,841.98	\$ 32,667.36	\$ 529,509.34
7025	ACT.ASSIGNMENT	445.45	29.29	474.74
7055	TIME & ONE-HALF	2,049.32	134.74	2,184.06
7105	EMPLOYERS SOCIAL SECURITY	36,201.38	2,380.24	38,581.62
7110	HOSPITALIZATION INSURANCE	96,130.02	19,408.65	115,538.67
7115	RETIREE HEALTH CARE	25,916.64	(4,074.10)	21,842.54
7120	RETIREMENT FUND CONTRIBUTION	123,994.72	(9,423.60)	114,571.12
7135	UNEMPLOYMENT COMPENSATION	689.79	-	689.79
	TOTAL PERSONAL SERVICES	<u>782,269.30</u>	<u>41,122.58</u>	<u>823,391.88</u>
7520	SUPPLIES	4,710.37	-	4,710.37
	TOTAL SUPPLIES	<u>4,710.37</u>	<u>-</u>	<u>4,710.37</u>
8010	CONTRACTUAL SERVICES	7,202.24	-	7,202.24
8500	TELEPHONE	(78.86)	-	(78.86)
8510	POSTAGE	1,919.61	-	1,919.61
9000	PRINTING & PUBLISHING	659.15	-	659.15
9100	PROFESSIONAL DEVELOPMENT	396.90	-	396.90
9110	OTHER TRAVEL & TRAINING	5,033.82	-	5,033.82
9150	MEMBERSHIPS	1,695.00	-	1,695.00
9310	EQUIPMENT REPAIRS	1,395.96	-	1,395.96
9330	SOFTWARE MAINTENANCE AGREEMENTS	864.00	-	864.00
	TOTAL OTHER SERVICES & CHARGES	<u>19,087.82</u>	<u>-</u>	<u>19,087.82</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 806,067.49</u>	<u>\$ 41,122.58</u>	<u>\$ 847,190.07</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2022
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: REPAIR & MAINTENANCE

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 1,609,903.28	\$ 105,851.14	\$ 1,715,754.42
7025	ACT.ASSIGNMENT	7,053.18	463.75	7,516.93
7055	TIME & ONE-HALF	135,051.50	8,879.64	143,931.14
7105	EMPLOYERS SOCIAL SECURITY	126,676.16	8,328.96	135,005.12
7110	HOSPITALIZATION INSURANCE	365,990.76	73,893.53	439,884.29
7115	RETIREE HEALTH CARE	84,482.98	(13,280.72)	71,202.26
7120	RETIREMENT FUND CONTRIBUTION	403,736.02	(30,683.94)	373,052.08
7135	UNEMPLOYMENT COMPENSATION	2,257.50	-	2,257.50
7165	SHIFT DIFFERENTIAL	284.88	-	284.88
	TOTAL PERSONAL SERVICES	<u>2,735,436.26</u>	<u>153,452.36</u>	<u>2,888,888.62</u>
7520	SUPPLIES	320,143.63	-	320,143.63
7670	CLOTHING/CLEANING ALLOWANCE	13,228.24	-	13,228.24
	TOTAL SUPPLIES	<u>333,371.87</u>	<u>-</u>	<u>333,371.87</u>
8010	CONTRACTUAL SERVICES	844,974.66	-	844,974.66
8015	CONTRACT SERV-TRAINING	17,700.00	-	17,700.00
8040	HOME REPAIRS	10,553.75	-	10,553.75
8240	FEES	30.00	-	30.00
8500	TELEPHONE	34,671.15	-	34,671.15
9340	MAINTENANCE SERVICE	2,352.03	-	2,352.03
9400	LAND RENTAL OR LEASE	6,505.74	-	6,505.74
9410	EQUIPMENT RENTALS OR LEASE	78,222.37	-	78,222.37
9440	FLEET MANAGEMENT EQUIPMENT	926,779.30	-	926,779.30
9450	311 CALL CENTER SERVICES	17,090.00	-	17,090.00
9470	VEHICLE USAGE/CAR MILAGE	2,388.00	-	2,388.00
9480	COMPUTER SERVICES	100,008.00	-	100,008.00
	TOTAL OTHER SERVICES & CHARGES	<u>2,041,275.00</u>	<u>-</u>	<u>2,041,275.00</u>
9760	EQUIPMENT	22,976.98	-	22,976.98
	TOTAL CAPITAL	<u>22,976.98</u>	<u>-</u>	<u>22,976.98</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 5,133,060.11</u>	<u>\$ 153,452.36</u>	<u>\$ 5,286,512.47</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2022
RATE STUDY- TASKS NO. 4 & 5**

ORGANIZATIONAL SUMMARY

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
NO.	DESCRIPTION	EXPENSES	COST FACTORS	CURRENT ANNUAL CURRENT
7020	PERMANENT EMPLOYEES	\$ 6,999,574.31	\$ 460,222.01	\$ 7,459,796.32
7025	ACT.ASSIGNMENT	33,485.94	2,201.71	35,687.65
7040	TEMPORARY EMPLOYEES	34,774.35	2,286.41	37,060.76
7050	REGULAR HOURLY RATE	6,928.86	455.57	7,384.43
7055	TIME & ONE-HALF	341,151.54	22,430.72	363,582.26
7105	EMPLOYERS SOCIAL SECURITY	536,026.37	35,243.73	571,270.10
7110	HOSPITALIZATION INSURANCE	1,459,769.71	294,727.50	1,754,497.21
7115	RETIREE HEALTH CARE	360,965.31	(56,743.75)	304,221.56
7120	RETIREMENT FUND CONTRIBUTION	1,725,359.52	(131,127.32)	1,594,232.20
7135	UNEMPLOYMENT COMPENSATION	11,060.98	-	11,060.98
7165	SHIFT DIFFERENTIAL	17,836.66	-	17,836.66
7175	FOOD/CLEAN/CAR ALLOW	4,391.35	-	4,391.35
	TOTAL PERSONAL SERVICES	<u>11,531,324.90</u>	<u>629,696.58</u>	<u>12,161,021.48</u>
7520	SUPPLIES	1,739,484.30	-	1,739,484.30
7530	PROCESS CHEMICALS	871,118.84	900,000.00	1,771,118.84
7670	CLOTHING/CLEANING ALLOWANCE	16,618.87	-	16,618.87
7800	INVENTORY - COST OF GOODS SOLD	52,926.83	-	52,926.83
7910	SUBSCRIPTIONS AND PUBLICATIONS	1,807.64	-	1,807.64
	TOTAL SUPPLIES	<u>2,681,956.48</u>	<u>900,000.00</u>	<u>3,581,956.48</u>
6931	GAIN-LOSS ON SALE OF ASSETS-FA	-	-	-
8010	CONTRACTUAL SERVICES	9,487,015.62	142,716.01	9,629,731.63
8011	CONTRACT EMPLOYEES - TEMP SERVICES	87,571.91	-	87,571.91
8015	CONTRACT SERV-TRAINING	23,327.64	-	23,327.64
8016	CONTRACTS-EXTERNAL LEGAL SERVICES	146,655.75	-	146,655.75
8030	ADMINISTRATIVE SERVICES	21,263.19	(21,263.19)	-
8040	HOME REPAIRS	10,553.75	-	10,553.75
8240	FEES	24,400.59	-	24,400.59
8400	INSURANCE PREMIUMS	305,689.00	-	305,689.00
8450	GENERAL LIABILITY INSURANCE/CLAIMS	330,798.00	-	330,798.00
8500	TELEPHONE	83,293.17	-	83,293.17
8510	POSTAGE	2,120.99	-	2,120.99
9000	PRINTING & PUBLISHING	2,534.62	-	2,534.62
9010	ADVERTISING - ANY MEDIA	50.00	-	50.00
9100	PROFESSIONAL DEVELOPMENT	15,893.65	-	15,893.65
9110	OTHER TRAVEL & TRAINING	27,583.00	-	27,583.00
9130	LOCAL BUSINESS EXPENSE	244.33	-	244.33
9131	FOOD-BEVERAGE	207.12	-	207.12
9150	MEMBERSHIPS	47,462.92	-	47,462.92
9180	WATER	93,963.96	-	93,963.96
9200	ELECTRICITY	2,197,580.87	700,000.00	2,897,580.87
9210	NATURAL GAS	870,151.89	-	870,151.89
9310	EQUIPMENT REPAIRS	6,232.62	-	6,232.62
9330	SOFTWARE MAINTENANCE AGREEMENTS	30,783.00	-	30,783.00
9340	MAINTENANCE SERVICE	2,352.03	-	2,352.03
9400	LAND RENTAL OR LEASE	6,505.74	-	6,505.74
9410	EQUIPMENT RENTALS OR LEASE	143,725.29	-	143,725.29
9430	BUILDINGS RENTALS OR LEASE	30,504.00	-	30,504.00
9440	FLEET MANAGEMENT EQUIPMENT	1,151,121.82	-	1,151,121.82
9450	311 CALL CENTER SERVICES	18,486.00	-	18,486.00
9460	ENGINEERING SERVICES	11,196.25	-	11,196.25
9470	VEHICLE USAGE/CAR MILAGE	10,942.40	-	10,942.40
9480	COMPUTER SERVICES	359,353.00	-	359,353.00
9512	UTILITY CUSTOMER SERVICE	2,484,493.00	761,309.07	3,245,802.07
9650	BAD DEBT WRITE-OFFS	574.90	-	574.90
	TOTAL OTHER SERVICES & CHARGES	<u>18,034,632.02</u>	<u>1,582,761.89</u>	<u>19,617,393.91</u>
9760	EQUIPMENT	166,936.87	-	166,936.87
9800	FURNITURE	19,804.09	-	19,804.09
9840	SOFTWARE	81,463.75	-	81,463.75
9880	CONSTRUCTION IN PROGRESS	95,661.82	-	95,661.82
	TOTAL CAPITAL	<u>363,866.53</u>	<u>-</u>	<u>363,866.53</u>
9510	A-87 COST ALLOCATION	813,727.00	-	813,727.00
	TOTAL TRANSFERS/FEES	<u>813,727.00</u>	<u>-</u>	<u>813,727.00</u>
	GRAND TOTAL- EXPENDITURES	<u>\$ 33,425,506.93</u>	<u>\$ 3,112,458.47</u>	<u>\$ 36,537,965.40</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: November 1, 2022

TO: Molly J. Clarin
Chief Financial Officer

FROM: Jenessa B. Carter
Utility Financial Officer

**SUBJECT: 2022 SEWER RATE STUDY TASK #4
FY22 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

JBC:jbc

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE PUMPING STATIONS OPERATING COSTS
FOR THE YEAR ENDED JUNE 30, 2022**

<u>Station</u>	<u>Physical Location</u>	<u>Type</u>	FY2022
			5900 Expenses
Market Avenue Pump Station	Grand Rapids	Interceptor	\$243,528.84
Millbank Lift Station	Grand Rapids	Local	\$3,192.41
Eastlake Lift Station	Grand Rapids	Local	\$6,822.48
Eastern Lift Station	Grand Rapids	Trunk	\$10,026.26
Oak Hollow Lift Station	Grand Rapids Twmsp	Local	\$6,009.78
Kingsbury Lift Station	Walker	Trunk	\$13,320.52
Bona Vista Lift Station	Grand Rapids	Trunk	\$15,534.03
Aberdeen Lift Station	Grand Rapids	Local	\$20,228.63
O'Brien Lift Station	Walker	Trunk	\$49,925.01
Leonard Heights Lift Station	Walker	Trunk	\$12,163.17
Guild Lift Station	Grand Rapids	Local	\$8,988.18
Orchard Vista Lift Station	Cascade Twmsp	Local	\$5,128.39
Brookview Lift Station	Grand Rapids	Trunk	\$18,268.58
Remembrance Road Lift Station	Walker	Local	\$46,955.00
Kraft Avenue Lift Station	Cascade Twmsp	Local	\$16,043.01
Thornapple Lift Station	Cascade Twmsp	Trunk	\$33,363.47
Thornhills Lift Station	Cascade Twmsp	Local	\$9,709.44
Greenbrier Lift Station	Grand Rapids Twmsp	Local	\$5,618.51
Shore Haven Lift Station	Grand Rapids Twmsp	Local	\$10,018.93
Ada Lift Station	Ada	Local	\$9,055.49
Robinhood Lift Station	Grand Rapids Twmsp	Local	\$9,428.86
Lincoln School Lift Station	Grand Rapids Twmsp	Local	\$2,694.23
Reeds Lake Blvd. Lift Station	Grand Rapids Twmsp	Local	\$20,029.24
6000 28th Street Lift Station	Cascade Twmsp	Local	\$6,964.92
Ada Meter Station	Ada	Meter	\$352.34
East Grand Rapids Meter Station	East Grand Rapids	Meter	\$1,184.77
Rickman Avenue Lift Station	Grand Rapids	Local	\$5,995.03
Michigan Street Lift Station	Grand Rapids	Local	\$5,276.04
Eagle Crest Lift Station	Grand Rapids Twmsp	Local	\$10,561.23
East Paris Lift Station	Grand Rapids Twmsp	Local	\$10,776.59
Alpine Estates Lift Station	Walker	Local	\$6,644.45
Elmdale Lift Station	Grand Rapids	Local	\$5,277.52
Collindale Lift Station	Walker	Local	\$5,823.61
Bird Avenue Lift Station	Grand Rapids Twmsp	Local	\$24,554.31
Valentine Lift Station	Grand Rapids Twmsp	Local	\$2,098.10
Cascade Springs Lift Station	Cascade Twmsp	Local	\$6,776.41
Churchill Downs Lift Station	Grand Rapids	Local	\$5,178.94
Woodsboro Court Lift Station	Grand Rapids Twmsp	Local	\$2,649.41
Meadowood Trails Lift Station	Cascade Twmsp	Local	\$5,638.16
Gaines Township Meter Station	Gaines Township	Meter	\$403.01
Kentwood Meter Station	Kentwood	Meter	\$1,227.29
Stonebridge Lift Station	Grand Rapids Twmsp	Local	\$4,893.16
Burton/Cacade Lift Station	Cascade Twmsp	Local	\$17,868.35
Crahen Lift Station	Grand Rapids Twmsp	Local	\$7,911.06
Jonathan Woods Lift Station	Cascade Twmsp	Local	\$5,146.63
Watermark Lift Station	Cascade Twmsp	Local	\$12,502.34
Mountain Ash Lift Station	Tallmadge Twmsp	Local	\$6,026.69
Reeds Hollow Lift Station	Grand Rapids Twmsp	Local	\$12,074.97
Celebration Village Lift Station	Grand Rapids Twmsp	Trunk	\$6,697.45
Saddleback Lift Station	Grand Rapids Twmsp	Local	\$7,728.20
Arbor Hills Lift Station	Grand Rapids Twmsp	Local	\$7,413.96
16th Avenue Lift Station	Marne	Local	\$7,475.72
Hayes West Lift Station	Wright TWP	Local	\$10,030.92
Hayes East Lift Station	Wright TWP	Local	\$3,856.22
Cypress Trails Lift Station	Grand Rapids Twmsp	Local	\$6,044.19
8th & Leonard Lift Station	Tallmadge Twmsp	Local	\$6,640.82
Summit Ridge Lift Station	Grand Rapids	Local	\$9,403.22
Lake Michigan Estates	Tallmadge Twmsp	Local	\$5,688.13
Bretonfield Meter Station	Kentwood	Meter	\$761.51
Caledonia Meter Station	Caledonia	Meter	\$352.49

\$821,950.62

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 01, 2022

TO: Jenessa Carter
Utility Financial Officer

FROM: Molly Clarin
Chief Financial Officer

**SUBJECT: 2022 SEWER RATE STUDY TASK #5
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY22 operating costs are listed below.

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

APA and GREIU labor negotiations were recently settled for the next contract which begins with FY2023. This resulted in wage increases of 5.00% for FY2023 and 3.00% for FY2024 for both unions. After converting these increases from a 2022 fiscal year to a 2023 calendar year basis, the result is a 6.575% factor for both GREIU and 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 (79% GREIU and 21% APA). Executive and non-reps amounted to only 1.5% of the population and were therefore excluded. **The wage increase factor to translate FY2022 actual costs to estimated calendar 2023 will be 6.575%** [6.575 X 79% + 6.575 X 21%].

A lump sum or signing bonus of \$1,000 is due to both APA and GREIU employees upon ratification of the new contracts. These signing bonuses were not factored into the wage increase factor noted above. Therefore, **\$100,763.00** (APA - \$23,840.00 and GREIU - \$76,923.00) of expense that will be paid in the fall of 2022 needs to be added to object code 7020 for purposes of the Sewer rate study.

Expense Object – 7150

Retention or longevity pay based on the length of continuous service is included in both the new APA and GREIU contracts. The FY2023 retention pay amounts were not included in the wage increase factor noted above. Therefore, **\$48,921.35** (APA - \$17,132.25 and GREIU - \$31,789.10) of expenses that will be paid during FY2023 needs to be added to object code 7150 for purposes of the Sewer rate study.

Expense Object – 9480/8450/9510

Adjust FY2022 actual cost to reflect adjustments in charges for central services rendered by the Information Technology Fund (data charges), the Insurance Payment Fund (workers compensation and general liability) and the General Operating Fund (cost allocation). The “Exhibit” workbook (inclusive of cost center allocations) maintained by the Budget Office has been utilized to blend FY2023 and FY2024 budget amounts thus arriving at an estimated 2023 calendar year rate as follows:

9480-Data Charges			
Cost Center	FY2023 Request	FY2024 Forecast	Calendar 2023 Estimate
527-1000-5900	\$14,775	\$15,423	\$15,099
527-3000-5900	\$245,494	\$256,248	\$250,871
527-4010-5900	\$100,417	\$104,816	\$102,617
Total	\$360,686	\$376,487	\$368,587

8450-General Liability Insurance			
Cost Center	FY2023 Request	FY2024 Forecast	Calendar 2023 Estimate
527-1000-5900	\$287,386	\$293,134	\$290,260

9510-Contributions to Other Funds (Cost Allocation)			
Cost Center	FY2023 Request	FY2024 Forecast	Calendar 2023 Estimate
527-1000-5900	\$971,680	\$868,396	\$920,038

Expense Object - 7105

Increase FY2022 actual FICA expense by 6.575% consistent with the known wage increase factor noted above. A FICA amount associated with the signing bonus and retention pay amounts outlined above also needs to be included. This is calculated by multiplying the total amount for these items by the FY2023 FICA rate of 7.65%, which equates to **\$11,450.85** of additional FICA expense for the Sewer Department.

Expense Object - 7110

The calendar 2023 Trend Report continues to show unfavorable health insurance cost trends. Although the overall trend is still unfavorable, the 2023 report is less unfavorable than the 2022 report. Per the 2023 report the medical trend increase assumption is 6.5% (down from 7.5% in 2022) and the prescription drug trend increase assumption is 7.5% (down from 8.5% in 2022). Please note that the below adjustment was computed based upon the calendar 2022 Trend Report as new rates based upon the 2023 Trend Report are unavailable at this time. Additionally, three-year smoothing of plan gains or losses is less favorable for calendar 2023 rates than it was for calendar 2022 rates. Smoothing favorable trends has contributed to limiting projected annual increases in health insurance costs or has provided for further decreases when applicable. Finally, the health insurance fund surplus reduction implemented in the 2021 report is also less favorable for calendar 2023 rates than it was for calendar 2022 rates further contributing to projected

health insurance cost increases. **Increase FY2022 health insurance actual by 20.19% to reflect these anticipated rate changes.**

The budgeted FY2023 (\$16,092.00) and FY2024 (\$18,714.00) health insurance rates were blended into a 2023 calendar year rate estimate and divided by the FY2022 base budget amount (\$14,480.00) to arrive at the increase factor [(((((\$16,092.00 + \$18,714.00) / 2)) / \$14,480.00) - 1) * 100].

Expense Object - 7115

Retiree health care (“RHC”) rates are projected to trend down in FY2023 (to 4.15%) and FY2024 (to 4.20%) from a base year rate of 5.28% in FY2022. This decrease is slightly offset by the projected wage adjustments discussed above. The Sewer Fund did not have an OPEB adjustment in FY2022 due to changes resulting from the prior implementation of GASB Statement No. 75.

The RHC factor after consideration of the above rate and wage adjustments is 84.28% (or a decrease of 15.72%) for both GREIU and APA members. These factors are then weighted in accordance with union membership within the Sewer Fund [(-15.72 * 79%) + (-15.72 * 21%)].

The factor to establish calendar year 2023’s retiree health care cost is -15.72%.

Decrease the total of fiscal year 2022’s retiree health care by this percent to establish the cost for calendar year 2023. Since the signing bonus is pensionable for GREIU, a retiree health care amount associated with it for GREIU members also needs to be included. This is calculated by multiplying the GREIU signing bonus total by the FY2023 retiree health general rate (4.15%), which equates to **\$3,192.30** of additional retiree health care expense for the Sewer Department.

Expense Object - 7120

The pension expense factor to translate FY2022 actual costs to estimated calendar 2023 will be -7.50%. **Decrease the total of fiscal year 2022’s pension expense by this percent to establish the cost for calendar year 2023.** This reflects the effect of a General Pension rate change decrease from FY22 of 25.23% to a calendar 2023 rate of 21.77% for GREIU and 22.39% for APA along with the projected wage adjustments discussed above. The GREIU calendar 2023 rate is a blend of the FY2023 rate (22.60%) and the FY2024 rate (20.96%). The APA calendar 2023 rate is a blend of the FY2023 rate (23.20%) and the FY2024 rate (21.61%). There is a difference in rates between the two unions due to the employer’s contribution being increased from 6% to 7% in the new APA contract for the defined contribution plan.

The pension factor after consideration of the above rate and wage adjustments is 91.95% (or a decrease of 8.05%) for GREIU members. The pension factor after consideration of the above rate and wage adjustments is 94.59% (or a decrease of 5.41%) for APA members. These factors are then weighted in accordance with union membership within

the Sewer Fund $[(-8.05 * 79\%) + (-5.41 * 21\%)]$. Since the signing bonus is pensionable for GREIU, a retirement fund contribution (pension) amount associated with it also needs to be included for GREIU employees. This is calculated by multiplying the projected GREIU signing bonus total by the FY2023 GREIU pension rate (22.60%), which equates to **\$17,384.60** of additional retirement fund contribution expense for the Sewer Fund.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 27, 2022

TO: Jenessa B. Carter
Utility Financial Officer

FROM: Mike Grenier
ESD Manager

**SUBJECT: 2022 SEWER RATE STUDY TASK
#5 KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY22 operating costs are listed below:

<u>ACCOUNT/User Code</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
5900-527-1000-8030	Kent County Community Action Program (ICB)	(\$21,263.19)
5900-527-3000-7530	WRRF Process Chemical Price Increase	\$900,000.00
5900-527-3000-8010	GVRBA Contractual Services	(\$857,283.99)
5900-527-3000-8010	GVRBA (hauling/landfill and chemical increases)	\$1,000,000.00
5900-527-3000-9200	Consumers Energy Green Generation Participation (adjust to admin unit 1000 to allocate to GR Only)	(\$58,174.00)
5900-527-3000-9200	Consumers Energy	\$700,000.00

-Adjustments detailed in the Water Rate Study Task #5 related to Customer Service will be shared with the Sewage Disposal Fund.

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MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 9, 2022

TO: Molly J. Clarin
Chief Financial Officer

FROM: Jenessa B. Carter
Utility Financial Officer

SUBJECT: 2022 SEWER RATE STUDY TASK #6

The Sewage Disposal System Fund's revenues by governmental unit for the year ended June 30, 2022, are disclosed on the attached page, along with the three-year average billed volume used to calculate expected revenue in the next calendar year (see Task 26 and 27). In addition, annual 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, 2022:

RETAIL:	SALES REVENUE	<u>3 YR AVE BILLED VOL</u> (GALLONS)	<u>3 YR AVE BILLED VOL</u> (HCF)
CITY OF GRAND RAPIDS (1)	\$ 41,563,549.38	4,779,377,416	6,389,542
CITY OF WALKER	5,209,127.82	609,642,440	815,030
CITY OF KENTWOOD	4,982,032.87	989,853,084	1,323,333
CASCADE TOWNSHIP	3,300,728.01	338,918,052	453,099
GRAND RAPIDS TOWNSHIP	2,857,580.20	284,725,452	380,649
TALLMADGE TOWNSHIP	470,365.03	27,509,944	36,778
WRIGHT TOWNSHIP (2)	220,080.51	15,694,915	20,983
SUB-TOTAL RETAIL (3)	<u>\$ 58,603,463.82</u>	<u>7,045,721,303</u>	<u>9,419,414</u>
 WHOLESALE:			
CITY OF E. GRAND RAPIDS	\$ 1,273,994.98	439,106,000	587,040
CALEDONIA TOWNSHIP	232,003.72	25,899,667	34,625
ADA TOWNSHIP	1,495,110.98	278,043,333	371,716
GAINES TOWNSHIP (4)	300,356.59	116,742,000	156,072
SUB-TOTAL WHOLESALE	<u>\$ 3,301,466.27</u>	<u>859,791,000</u>	<u>1,149,453</u>
TOTAL	<u>\$ 61,904,930.09</u>	<u>7,905,512,303</u>	<u>10,568,867</u>

REVENUE CLASSIFICATION:

527-1000-5900-6281 RETAIL SEWAGE SERVICE CHARGE	\$ 58,509,724.01
527-1000-5900-6284 WYOMING SEWAGE SERVICE CHARGE	93,739.81
527-1000-5900-6282 WHOLESALE SEWAGE SERVICE CHARGE	<u>3,301,466.27</u>
TOTAL	<u>\$ 61,904,930.09</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 2022.
- (3) A NET REVENUE ACCRUAL OF \$781,525.6 HAS BEEN PRORATED TO ALL RETAIL CUSTOMER COMMUNITIES TO ACCRUE BILLINGS FROM THE LAST READING DATE THROUGH JUNE 30, 2022, AND ADJUST FOR PREVIOUS FISCAL YEAR ACCRUAL.
- (4) GAINES TWP RATES ARE CALCULATED BASED ON MOST RECENT FISCAL YEAR BILLED VOLUME PER CONTRACT.

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
2022 RATE STUDY TASK NO. 6**

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

<i>MUNICIPALITY</i>	<i>FY18</i>		<i>FY19</i>		<i>FY20</i>		<i>FY21</i>		<i>FY22</i>		<i>FY18 - FY22 % CHANGE</i>
	<i>VOL BILLED</i>	<i>VOL BILLED</i>	<i>% CHANGE</i>	<i>VOL BILLED</i>							
GRAND RAPIDS	4,931,223	4,998,134	1.36%	4,782,754	-4.31%	4,706,480	-1.59%	4,848,898	3.03%	-1.67%	
WALKER	646,233	637,561	-1.34%	596,412	-6.45%	604,510	1.36%	628,004	3.89%	-2.82%	
KENTWOOD	1,069,319	1,060,147	-0.86%	976,528	-7.89%	1,001,673	2.57%	991,359	-1.03%	-7.29%	
CASCADE	353,054	357,434	1.24%	330,505	-7.53%	335,188	1.42%	351,062	4.74%	-0.56%	
GRAND RAPIDS TWP	284,378	293,245	3.12%	278,126	-5.16%	284,929	2.45%	291,121	2.17%	2.37%	
TALLMADGE	24,350	27,276	12.02%	25,812	-5.37%	27,089	4.95%	29,628	9.37%	21.67%	
WRIGHT TWP	18,885	19,834	5.03%	20,025	0.96%	12,023	-39.96%	15,037	25.07%	-20.37%	
EAST GRAND RAPIDS	441,259	461,287	4.54%	498,507	8.07%	359,057	-27.97%	459,754	28.04%	4.19%	
ADA TWP	296,101	291,737	-1.47%	292,738	0.34%	264,616	-9.61%	276,776	4.60%	-6.53%	
CALEDONIA TWP	29,741	28,715	-3.45%	25,910	-9.77%	21,012	-18.90%	30,777	46.47%	3.48%	
GAINES TWP	113,527	115,345	1.60%	122,183	5.93%	103,780	-15.06%	116,742	12.49%	2.83%	
TOTAL	8,208,070	8,290,715	1.01%	7,949,500	-4.12%	7,720,357	-2.88%	8,039,158	4.13%	-2.06%	

GRAND RAPIDS VOLUME COMPARED TO
CUSTOMER COMMUNITIES

VOLUME = 1,000 GALLONS	<i>FY18</i>		<i>FY19</i>		<i>FY20</i>		<i>FY21</i>		<i>FY22</i>	
	<i>VOL BILLED</i>	<i>VOL BILLED</i>	<i>% OF TOTAL</i>	<i>VOL BILLED</i>						
GRAND RAPIDS	4,931,223	4,998,134	60.29%	4,782,754	60.16%	4,706,480	60.96%	4,848,898	60.32%	
CUSTOMER COMMUNITIES	3,276,847	3,292,581	39.71%	3,166,746	39.84%	3,013,877	39.04%	3,190,260	39.68%	
TOTAL	8,208,070	8,290,715	100.00%	7,949,500	100.00%	7,720,357	100.00%	8,039,158	100.00%	

* 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	\$ 1,919.18
6140	INSPECTION FEES - UTILITIES	21,485.00
6461	INVENTORY WITHDRAWALS (SALES)	7,221.88
6723	INTEREST/PENALTIES ON SPEC ASSM	3,000.40

527-(3000/3080)-5900

4912	INDUSTRIAL PRETREATMENT PERMITS	\$ 55,842.94
6421	SALES - OTHER	1,425.00
6423	SALES OF SCRAP MATERIAL	1,694.11
6461	INVENTORY WITHDRAWALS (SALES)	45,657.64

\$ 138,246.15

CREDIT: UNDERUTILIZATION OF PENALTY CREDIT FROM PREVIOUS YEAR

\$ -

INTEGRATED SYSTEM CREDITS

527-1000/3000-5900

6152	INTEGRATED SEWER CONNECTION	\$ 517,239.00
6283	SEWAGE SURCHARGE	3,718,914.13
6424	RENEWABLE NATURAL GAS SALES	52,072.38

\$ 4,288,225.51

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 13, 2022

TO: Jenessa B. Carter
Utility Financial Officer

FROM: Mike Grenier
Environmental Services Manager

SUBJECT: 2022 SEWER RATE STUDY – TASK #8

No significant changes in operating levels are anticipated to take effect by January 1, 2023, which would require adjustments to the operating costs.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 13, 2022

TO: Jenessa B. Carter
Utility Financial Officer

FROM: Mike Grenier
Environmental Services Manager

SUBJECT: 2022 SEWER RATE STUDY – TASK #9

No significant changes in sewer revenues are anticipated to take effect by January 1, 2023, which would require an adjustment to operating revenue estimates as a whole.

As gas production ramps up and the completion of the certification process of the renewable natural gas (D3) is completed, significant revenue is anticipated. However, due to the recent volatility in the natural gas market, forecasting this revenue will be challenging.

Revenue generated from the sale of renewable natural gas (“RNG”) will be accounted for as integrated system credits in Task 7 of the 2022 Rate Study.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 18, 2022

TO: Jenessa B. Carter
Utility Financial Officer

FROM: Charles R. Schroeder, PE
Assistant ESD Manager

SUBJECT: 2022 SEWER RATE STUDY- TASK #10

The following are sewage system projects that should be considered operative as of January 1, 2023.

<u>Description</u>	<u>Location</u>	<u>Proj. Code</u>	<u>Cost</u>
Market Ave and Fulton St*	Grand Rapids	590221049(G)(D)	\$7,792,136
Var Loc CIPP Rehab (Corby Inv 15)	Grand Rapids	590215225	\$180,341
Market Ave and Fulton St	Grand Rapids	590221049(G)(D)	\$154,250
Dean Lake Ave – D.A. Blodgett	Grand Rapids	Contribution	\$68,585
Cobblestone at the Ravines Ph 3	Kentwood	Contribution	\$335,000
Woodhaven Condominiums	Kentwood	Contribution	\$91,299
The Oaks Site Condominium	Kentwood	Contribution	\$55,400
			<u>\$8,677,011</u>

*Zoned asset

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

COMPUTE ACCUMULATED COST, DEPRECIATION AND DEPRECIATION EXPENSE AS OF JUNE 30, 2022

INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 1,483,424	\$ -	\$ -
LAND IMPROVEMENTS	19,559,132	15,361,762	391,446
BUILDINGS & STRUCTURES	67,000,229	38,231,508	1,354,461
PROCESS EQUIPMENT	119,780,265	50,185,788	3,557,826
AUXILIARY EQUIPMENT	53,713,406	31,217,923	2,172,442
MACHINERY & EQUIPMENT	6,210,384	5,546,121	256,664
OFFICE EQUIPMENT & FURNITURE	11,720	4,805	234
	<u>\$ 267,758,560</u>	<u>\$ 140,547,907</u>	<u>\$ 7,733,073</u>

NON-INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 4,194,536	\$ -	\$ -
LAND IMPROVEMENTS	3,486,637	2,557,815	165,692
BUILDINGS & STRUCTURES	10,653,671	4,818,309	253,817
PROCESS EQUIPMENT	16,842,826	10,265,052	524,387
AUXILIARY EQUIPMENT	4,896,611	4,098,783	192,335
MACHINERY & EQUIPMENT	1,694,680	1,694,680	1,730
SERVICEMAINS - GRAND RAPIDS	409,747,002	153,916,852	7,607,104
SERVICEMAINS - WALKER	42,647,395	20,749,615	782,479
SERVICEMAINS - KENTWOOD	43,500,685	20,544,454	800,892
SERVICEMAINS - CASCADE TWP	22,334,632	11,036,688	429,499
SERVICEMAINS - GRAND RAPIDS TWP	20,093,396	9,549,666	380,552
SERVICEMAINS - TALLMADGE TWP	6,408,677	2,207,904	128,154
SERVICEMAINS - WRIGHT TWP	125,288	41,343	2,505
	<u>\$ 586,626,036</u>	<u>\$ 241,481,161</u>	<u>\$ 11,269,146</u>
TOTAL	<u>\$ 854,384,596</u>	<u>\$ 382,029,068</u>	<u>\$ 19,002,219</u>

SOURCE: GENERAL LEDGER, AS ADJUSTED, FOR JUNE 30, 2022.

**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, 2022: \$ 1,193,995

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 = \$ 36,537,965 @ 90/365 = \$ 9,009,361

TOTAL WORKING CAPITAL NEEDS CONSIST OF THE FOLLOWING:

12A INVESTMENT IN INVENTORY	\$ 1,193,995
12B PREPAYMENT OF OPERATING EXPENSES	-
12C 90 DAY OPERATING EXPENSES	9,009,361
	\$ 10,203,356

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 29, 2022

TO: Jenessa B. Carter
Utility Financial Officer

FROM: Charles R. Schroeder, P.E.
Assistant Environmental Services Manager

**SUBJECT: 2022 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. A separate Zoned gating Study was also performed by Fishbeck in 2022. That study resulted in modifications to flow allocations throughout the collection system.

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	15,165.46
LESS: WHOLESALE BILLED FLOW	(884.05)
LESS: RETAIL BILLED FLOW	(7,155.11)
TOTAL RETAIL I/I & OTHER FLOW	7,126.30
2.) RETAIL INFLOW FROM SEPARATED AREAS (A)	581.00
RETAIL INFLOW FROM COMBINED AREAS - AMOUNT ESTIMATED (A)	774.28
LESS: ANNUAL BYPASS FROM (3) PUMPING STATIONS	-
LESS: IN-SYSTEM BYPASS & RETENTION BASIN OVERFLOW	-
TOTAL RETAIL INFLOW	1,355.28
3.) RETAIL INFILTRATION:	
TOTAL RETAIL I/I & OTHER FLOW	7,126.30
LESS: TOTAL RETAIL INFLOW (#2)	(1,355.28)
	5,771.02
LESS: MARKET AVE RETENTION BASIN (MARB) CAPTURE	(18.71)
TOTAL RETAIL INFILTRATION & OTHER FLOW	5,752.31
4.) ALLOCATION OF RETAIL INFILTRATION & OTHER FLOW - APPORTIONED ON THE BASIS OF B&V SUMMARY OF 2018 MONITORED FLOW DATA (B)	

	PRORATA SHARE OF RETAIL INFILTRA- TION & OTHER	MILLION GALLONS
GOVERNMENTAL UNIT(S)		
UTILITY PARTNERS	100.0000%	5,752.31
TOTAL	100.0000%	5,752.31

(A) BASED ON RECORDED RAINFALL @ WWTP & APPORTIONED PER BLACK & VEATCH'S SUMMARY OF 2018 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)

<u>GOVERNMENTAL UNIT(S)</u>	<u>BILLED FLOW (TASK #6)</u>	<u>INFLOW (#2 ABOVE)</u>	<u>INFILTRATION & OTHER FLOW (#4 ABOVE)</u>	<u>MARB (A) (#3 ABOVE)</u>	<u>TOTAL PLANT FLOW</u>	<u>PERCENT OF TOTAL</u>	<u>TOTAL PLANT FLOW (MGD)</u>
UTILITY PARTNERS	7,891.64	1,355.28	5,752.31	18.37	15,017.60	99.0250%	41.1441
GAINES TWP	116.74	-	-	0.27	117.01	0.7716%	0.3206
TOTAL	<u>8,039.16</u>	<u>1,355.28</u>	<u>5,752.31</u>	<u>18.71</u>	<u>15,165.46</u>	<u>100.0000%</u>	<u>41.5492</u>

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

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 12, 2022

TO: Jenessa B Carter,
Utility Financial Officer

FROM: Charles Schroeder, P.E.
Assistant ESD Manager

SUBJECT: 2022 SEWER RATE STUDY – WRRF FLOW DATA

Listed below is the Water Resource Recovery Facility (WRRF) flow data measured in million gallons (MG) for the last three completed fiscal years. Plant flow increased by 17.723% from 12,882.30 MG treated in FY2021 to 15,165.46 MG treated in FY2022. The final, in-system Combined Sewer Overflow point was eliminated July 13, 2015 and is no longer applicable to this report.

Month	FY 2020	FY 2021	FY 2022	% incr (decr)
July	1234.100	1202.700	1283.200	6.693%
August	1091.900	1106.000	1150.290	4.005%
September	1208.100	1026.000	1031.090	0.496%
October	1627.900	1042.100	1307.310	25.450%
November	1420.100	1009.000	1220.260	20.938%
December	1429.700	1082.700	1193.500	10.234%
January	1781.200	1057.200	1124.860	6.400%
February	1324.600	948.600	1208.970	27.448%
March	1398.000	1182.900	1382.610	16.883%
April	1346.500	1034.000	1610.230	55.728%
May	1799.400	993.000	1509.130	51.977%
June	1306.900	1198.100	1144.010	-4.515%
Total	16968.400	12882.300	15165.460	17.723%

Data Measured	FY 2020	FY 2021	FY 2022	% incr (decr)
Water Resource Recovery Facility (WRRF) avg daily flow (MG)	46.489	35.294	41.549	17.723%
Rainfall Recorded at WRRF (inches)	48.800	35.490	35.360	-0.366%
Market Ave Retention Basin (MARB) inflow (MG)	112.400	31.800	18.714	-41.151%
Market Ave Retention Basin (MARB) outflow (MG)	24.200	0.000	0.000	N/A

cc: Jeff McCaul, P.E. - Assistant City Engineer

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MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 31, 2022

TO: Jenessa B. Carter
Utility Financial Officer

FROM: Charles R. Schroeder, PE
Assistant ESD Manager

SUBJECT: 2022 SEWER RATE STUDY – TASK #14

Zonegating maps for the sewage system are included in the Comprehensive Master Plan Update 2020 from Fishbeck (finalized July, 2021). 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. A follow-up report was also prepared by Fishbeck in October, 2022 which specifically focused on Zonegating flow allocations. All zonegating work papers are on file at the Water Resource Recovery Administration Building located at 1300 Market Ave., SW, 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	\$ 8,677,011	
	- TASK #11/21	853,579,596	
	- TASK #16/21	<u>(187,300,597)</u>	\$ 674,956,010
LESS: ACCUMULATED DEPRECIATION	- TASK #10	\$ -	
	TASK #11/21	381,969,519	
	TASK #16/21	<u>(81,053,266)</u>	<u>(300,916,253)</u>
			374,039,756
WORKING CAPITAL REQUIREMENT	- TASK #12	\$ 10,203,356	
			<u>10,203,356</u>
			384,243,112
CONTRIBUTIONS BY OTHERS	- TASK #21	\$ 202,622,816	
LESS: AMORTIZATION		(155,128,949)	
			<u>(47,493,867)</u>
CONSTRUCTION COST RATE BASE			<u><u>\$ 336,749,245</u></u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: August 31, 2022

TO: Jenessa Carter
Utility Financial Officer

FROM: Arden Postma, P.E.
Hydraulic Engineer

SUBJECT: 2022 Sewer Rate Study Integrated Connection Fees Task #15A

Attached is the Integrated Water and Sewer Connection Fee Schedule of rates effective January 1, 2023. Per the Fifth Amendment to the Water & Sanitary Sewer Service Agreements, adopted by City Commission on March 27, 2018 (Res. 87571), the methodology for connection to the water and sewer systems is calculated based on the cost of connection to the System and is evaluated annually as part of the Rate Study and shall be administered the same across the retail system.

The integrated connection fees effective January 1, 2023, shall be as follows:

Residential Users (three residential units or less)

Plan Review and Connection Fee (PRC Fee)			
Meter Size	2022	2023	% Change
3/4 inch	\$370	\$380	2.70%
1 inch	\$380	\$390	2.63%
1-1/2 inch	\$380	\$390	2.63%

All other Users (including residential of more than 3 units, commercial, industrial, governmental and religious)

Plan Review and Connection Fee (PRC Fee)			
Meter Size	2022	2023	% Change
3/4 inch	\$715	\$725	1.40%
1 inch	\$945	\$960	1.59%
1-1/2 inch	\$1,260	\$1,270	0.79%
2 inch	\$1,740	\$1,750	0.57%
3 inch	\$2,160	\$2,180	0.93%
4 inch	\$3,110	\$3,130	0.64%
6 inch	\$4,390	\$4,400	0.23%

Plus a Meter Capacity Fee based on the meter size (when water and sanitary sewer connections are made at the same time only one Meter Capacity Fee shall be charged) as follows:

Meter Capacity Charge			
Meter Size	2022	2023	% Change
¾ inch	\$210	\$210	0%
1 inch	\$250	\$300	20%
1 ½ inch	\$750	\$750	0%
2 inch	\$880	\$880	0%
3 inch	\$1,100	\$1,650	50%
4 inch	\$2,135	At Cost	NA
6 inch	\$3,460	At Cost	NA
Ultrasonic Meters			
1-1/2" – 12"		At Cost	

Commercial Plan Assessment Fee – For instances where there is an established connection or property has been previously reviewed to allow for connection to the System which require less System resources to verify system connection requirements.

Commercial Plan Assessment Fee			
	2022	2023	% Change
All Sizes	\$125	\$125	0%

Further information on the new integrated connection fee methodology can be provided through the Utility Business Office.

AP/WJ

**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 2023 - ACCRUAL BASIS**

DATE	SRF/REVENUE REFERENCE		REVENUE BONDS			TOTAL		TOTAL PRINCIPAL & INTEREST
	5073-	SERIES	PRINCIPAL	INTEREST	EST. FEES	PRINCIPAL	INTEREST	
07/01/23	N/A	2010A	(1)	\$ 316,270.00	\$ 800.00	\$ -	\$ 317,070.00	\$ 317,070.00
01/01/24	N/A	2010A	(1)	316,270.00	800.00	0.00	317,070.00	317,070.00
07/01/23	N/A	2013	(2)		600.00	0.00	600.00	600.00
01/01/24	N/A	2013	(2)		600.00	0.00	600.00	600.00
07/01/23	N/A	2014	(3)		37,145.00	625.00	37,770.00	37,770.00
01/01/24	N/A	2014	(3)	1,485,800.00	37,145.00	625.00	1,485,800.00	1,523,570.00
07/01/23	N/A	2016	(4)		332,598.75	625.00	333,223.75	333,223.75
01/01/24	N/A	2016	(4)	615,450.00	332,598.75	625.00	615,450.00	948,673.75
07/01/23	N/A	2021	(5)		475,283.29	1,125.00	476,408.29	476,408.29
01/01/24	N/A	2021	(5)	2,003,184.67	475,283.29	1,125.00	2,003,184.67	2,479,592.96
						\$ 4,104,434.67	\$ 2,330,144.07	\$ 6,434,578.74

- (1) DS ON ES CSO PORTION OF 2010A ISSUE. (\$14.05M)
- (2) PRORATED AMOUNT OF 2013 ISSUE RELATED TO CSO DEBT. PARTIAL REFUND WITH 2021 ISSUE. FULLY PAID BY FY24.
- (3) PRORATED AMOUNT OF 2014 (2005 CSO) ISSUE RELATED TO CSO DEBT. PARTIAL REFUND WITH 2021 ISSUE
- (4) DS ON ES CSO PORTION OF REFUNDED 2008 ISSUE
- (5) PRORATED AMOUNT OF REFUNDED 2013 AND 2014 (2005 CSO REFUNDING) ISSUES RELATED TO CSO DEBT

**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	VAR LOC CIPP REHAB OF S/S	\$600,000	2024
2	FREMONT - THIRD TO FOURTH	\$150,000	2024
3	BURTON / BRETON SANITARY TRUNK SEWER	\$100,000	2024
4	BRISTOL BRIDGE SANITARY SEWER RELOCATION - WALKER	\$130,000	2024
5	EAGLECREST LIFT STATION - CONTROLS / ELEC IMPROVE	\$150,000	2024
6	ALPINE ESTATES LIFT STATION - CONTROLS / ELEC IMPROVE	\$100,000	2024
7	THORNAPPLE LIFT STATION CABINETS & GEN ENCLOSURE	\$200,000	2024
8	BRANDYWINE SANITARY TRUNK SEWER	\$2,500,000	2024
9	GRANDVILLE AVE - STOLPE TO HALL	\$500,000	2024
10	44TH ST / EASTERN AVE SE COLLECTION AREA	\$500,000	2024
11	BEACON ST AND B ST (DESIGN)	\$100,000	2024
12	VAR LOC CIPP REHAB OF S/S	\$600,000	2025
13	BURTON / BRETON SANITARY TRUNK SEWER	\$3,000,000	2025
14	GRANDVILLE AVE - HALL TO BEACON	\$750,000	2025
15	BEACON ST - GRANDVILLE TO CAUFIELD	\$500,000	2025
16	B ST - GRANDVILLE TO CAUFIELD ALLEY	\$305,000	2025
17	CASCADE / KENTWOOD SANITARY TRUNK SEWER	\$2,500,000	2025
18	COLLINDALE LIFT STATION IMPROVEMENTS	\$2,000,000	2025
19	NELAND - BATES TO SHERMAN	\$1,000,000	2025
20	WEALTHY ST - ETHEL TO EAST CITY LIMITS	\$100,000	2025
21	GRANDVILLE AVE - FRANKLIN ST TO BEACON ST	\$500,000	2025
22	EASTERN AVE LIFT STATION - CONTROLS / ELEC IMPROVE	\$150,000	2025
23	VALENTINE LIFT STATION - CONTROLS / ELEC IMPROVE	\$100,000	2025
24	WHISKEY CREEK SANITARY TRUNK SEWER (DESIGN)	\$200,000	2025
25	VAR LOC CIPP REHAB OF S/S	\$600,000	2026
26	GODFREY AVE - OXFORD ST TO MARKET AVE	\$2,000,000	2026
27	GODFREY AVE - LIBERTY ST TO OXFORD ST	\$2,341,000	2026
28	FENSKE AREA SANITARY PUMP STATION - WALKER	\$750,000	2026
29	KENT COUNTRY CLUB SANITARY TRUNK SEWER	\$1,600,000	2026
30	BEACON ST AND B ST	\$400,000	2026
31	LAFAYETTE AVE - FOUNTAIN ST TO MICHIGAN ST	\$270,000	2026
32	BERKSHIRE ST - GIDDINGS TO KALAMAZOO	\$225,000	2026
33	VAR LOC CIPP REHAB OF S/S	\$600,000	2027
34	BUCHANAN SW - CORINNE TO STEWART	\$250,000	2027
35	BUTTERWORTH - HOGADONE TO GOLD AVE	\$150,000	2027
36	WHISKEY CREEK SANITARY TRUNK SEWER	\$3,700,000	2027
		\$29,621,000	

NOTE: NONE OF THE PROJECTS ABOVE ARE INCLUDED IN RECOMMENDED REVENUE REQUIREMENTS FOR CALENDAR YEAR 2023. COSTS SHOWN ARE IN 2022 DOLLARS.

SOURCE: CHUCK SCHROEDER, ASSISTANT ENVIRONMENTAL SERVICES MANAGER, OCTOBER 2022

**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
2023	\$ 13,025,000	\$ 10,240,175	\$ 23,265,175
2024	13,560,000	9,665,519	23,225,519
2025	14,025,000	9,155,225	23,180,225
2026	14,540,000	8,702,589	23,242,589
2027	15,060,000	8,219,392	23,279,392
2028	15,570,000	7,700,535	23,270,535
2029	11,385,000	7,149,652	18,534,652
2030	12,650,000	6,835,012	19,485,012
2031	13,030,000	6,453,850	19,483,850
2032	13,425,000	6,050,316	19,475,316
2033	13,865,000	5,619,582	19,484,582
2034	15,925,000	5,159,803	21,084,803
2035	14,210,000	4,637,596	18,847,596
2036	9,585,000	4,138,313	13,723,313
2037	10,010,000	3,703,861	13,713,861
2038	10,460,000	3,263,135	13,723,135
2039	8,650,000	2,802,114	11,452,114
2040	9,010,000	2,441,647	11,451,647
2041	9,380,000	2,065,700	11,445,700
2042	5,560,000	1,657,797	7,217,797
2043	3,825,000	1,421,850	5,246,850
2044	4,020,000	1,230,600	5,250,600
2045	4,220,000	1,029,600	5,249,600
2046	4,430,000	818,600	5,248,600
2047	4,630,000	617,550	5,247,550
2048	4,840,000	407,300	5,247,300
2049	2,295,000	187,400	2,482,400
2050	2,390,000	95,600	2,485,600
	<u>\$ 273,575,000</u>	<u>\$ 121,470,311</u>	<u>\$ 395,045,311</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	\$ 336,749,245
LESS: BONDED INDEBTEDNESS IN CCRB (CASH BASIS) - TASK NO. 20	(196,250,721)
NET SEWER SYSTEM EQUITY	<u>\$ 140,498,524</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

<u>DATE</u>	<u>RATE</u>	<u>DATE</u>	<u>RATE</u>
23-Sep-21	2.150%	24-Mar-22	2.670%
30-Sep-21	2.260%	31-Mar-22	2.730%
07-Oct-21	2.270%	07-Apr-22	2.870%
14-Oct-21	2.280%	14-Apr-22	3.010%
21-Oct-21	2.280%	21-Apr-22	3.190%
28-Oct-21	2.250%	28-Apr-22	3.210%
04-Nov-21	2.230%	05-May-22	3.270%
11-Nov-21	2.100%	12-May-22	3.370%
18-Nov-21	2.130%	19-May-22	3.470%
25-Nov-21	2.110%	26-May-22	3.160%
02-Dec-21	2.050%	02-Jun-22	3.030%
09-Dec-21	2.050%	09-Jun-22	3.160%
16-Dec-21	2.050%	16-Jun-22	3.570%
23-Dec-21	2.050%	23-Jun-22	3.540%
30-Dec-21	2.060%	30-Jun-22	3.540%
06-Jan-22	2.120%	07-Jul-22	3.370%
13-Jan-22	2.190%	14-Jul-22	3.340%
20-Jan-22	2.250%	21-Jul-22	3.360%
27-Jan-22	2.250%	28-Jul-22	3.270%
03-Feb-22	2.320%	04-Aug-22	3.210%
10-Feb-22	2.410%	11-Aug-22	3.270%
17-Feb-22	2.540%	18-Aug-22	3.440%
24-Feb-22	2.510%	25-Aug-22	3.590%
03-Mar-22	2.530%	01-Sep-22	3.640%
10-Mar-22	2.330%	08-Sep-22	3.730%
17-Mar-22	2.530%	15-Sep-22	3.810%
		<u>52 WEEKS</u>	<u>2.772%</u>

**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)	\$ 140,498,524		3.772%		\$ 5,298,956
SEWER SYSTEM INDEBTEDNESS IN THE CCRB					
2010 BONDS	29,625,000		5.00%		1,481,250
2010A BONDS	7,280,000		4.37%		318,136
2011 SRF BONDS	3,599,675		2.50%		89,992
2012 BONDS	25,000		4.00%		1,000
2013 BONDS (refunded 2004 Bonds)	435,750		5.00%		21,788
2013 SRF BONDS	719,125		2.00%		14,383
2014 BONDS (refunded 2005 Bonds)	1,363,200		5.00%		68,160
2016 BONDS (partially refunded 2008 Bonds)	24,592,700		5.00%		1,229,635
2018 BONDS	39,715,000		5.00%		1,985,750
2020 BONDS	34,545,000		4.64%		1,602,888
2021 BONDS (refunded 2012, 2013, 2014 Bonds)	54,350,271		1.95%		1,058,743
LESS INTEREST ON BOND RESERVE ACCOUNTS					4,439
	\$ 336,749,245				\$ 13,175,120
COMPOSITE RATE OF RETURN ON INVESTMENT			\$ 13,175,120	=	3.912%
			\$336,749,245		

Noted Disclosure:

TOTAL BONDED INDEBTEDNESS IN CCRB (from above) \$ 196,250,721 TASK NO. 18

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
CONSTRUCTION COST RATE BASE & RETURN ON SYSTEM INVESTMENT- TASK NO. 21- PART1
FISCAL YEAR ENDED JUNE 30, 2022**

PHYSICAL LOCATION

DESCRIPTION	INTEGRATED SYSTEM	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	
COST	\$ 267,758,560	\$ 252,020,704	\$ 42,559,461	\$ 31,544,298	\$ 21,190,754	\$ 23,062,240	\$ 5,735,670	\$ 118,230	\$ -	\$ -	\$ -	\$ -	\$ 643,989,917
LESS: ACCUMULATED DEPRECIATION	140,547,907	87,104,660	21,374,541	16,553,669	10,728,240	10,031,212	2,070,719	72,824	-	-	-	-	288,483,772
NET BOOK VALUE	\$ 127,210,653	\$ 164,916,043	\$ 21,184,920	\$ 14,990,629	\$ 10,462,514	\$ 13,031,028	\$ 3,664,951	\$ 45,406	\$ -	\$ -	\$ -	\$ -	\$ 355,506,144
WORKING CAPITAL REQUIREMENT	7,341,315	1,769,568	354,567	249,676	172,845	240,289	32,447	24,080	3,367	1,020	10,509	3,673	10,203,356
	<u>\$ 134,551,968</u>	<u>\$ 166,685,611</u>	<u>\$ 21,539,487</u>	<u>\$ 15,240,305</u>	<u>\$ 10,635,359</u>	<u>\$ 13,271,317</u>	<u>\$ 3,697,398</u>	<u>\$ 69,486</u>	<u>\$ 3,367</u>	<u>\$ 1,020</u>	<u>\$ 10,509</u>	<u>\$ 3,673</u>	<u>\$ 365,709,500</u>
CONTRIBUTIONS	50,267,759	58,701,865	26,823,219	25,917,927	18,809,078	16,795,236	5,307,732	-	-	-	-	-	202,622,816
LESS AMORTIZATION	(50,425,939)	(53,002,009)	(14,154,486)	(15,166,039)	(10,188,969)	(8,341,075)	(1,868,543)	-	-	-	-	-	(153,147,060)
	<u>\$ 158,180</u>	<u>\$ (5,699,856)</u>	<u>\$ (12,668,733)</u>	<u>\$ (10,751,888)</u>	<u>\$ (8,620,109)</u>	<u>\$ (8,454,161)</u>	<u>\$ (3,439,189)</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (49,475,756)</u>
CONSTRUCTION COST RATE BASE	<u>\$ 134,710,148</u>	<u>\$ 160,985,755</u>	<u>\$ 8,870,754</u>	<u>\$ 4,488,417</u>	<u>\$ 2,015,250</u>	<u>\$ 4,817,156</u>	<u>\$ 258,209</u>	<u>\$ 69,486</u>	<u>\$ 3,367</u>	<u>\$ 1,020</u>	<u>\$ 10,509</u>	<u>\$ 3,673</u>	<u>\$ 316,233,744</u>
RETURN ON INVESTMENT- TASK 20	3.912% \$ 5,269,861	\$ 6,297,763	\$ 347,024	\$ 175,587	\$ 78,837	\$ 188,447	\$ 10,101	\$ 2,718	\$ 132	\$ 40	\$ 411	\$ 144	\$ 12,371,065
ZONEGATED													
COST	\$ -	\$ (361,130)	\$ 6,411,607	\$ 1,988,795	\$ 3,896,746	\$ 7,835,223	\$ 1,927,471	\$ 1,429,536	\$ 357,069	\$ 245,804	\$ 6,233,073	\$ 1,001,899	\$ 30,966,093
LESS: ACCUMULATED DEPRECIATION	-	(842,924)	2,838,679	1,430,812	1,409,380	3,286,240	616,737	617,889	253,772	169,288	1,962,596	690,012	12,432,481
NET BOOK VALUE	\$ -	\$ 481,794	\$ 3,572,928	\$ 557,983	\$ 2,487,366	\$ 4,548,983	\$ 1,310,734	\$ 811,647	\$ 103,297	\$ 76,516	\$ 4,270,477	\$ 311,887	\$ 18,533,612
WORKING CAPITAL REQUIREMENT	-	481,794	3,572,928	557,983	2,487,366	4,548,983	1,310,734	811,647	103,297	76,516	4,270,477	311,887	18,533,612
	<u>\$ -</u>	<u>\$ 481,794</u>	<u>\$ 3,572,928</u>	<u>\$ 557,983</u>	<u>\$ 2,487,366</u>	<u>\$ 4,548,983</u>	<u>\$ 1,310,734</u>	<u>\$ 811,647</u>	<u>\$ 103,297</u>	<u>\$ 76,516</u>	<u>\$ 4,270,477</u>	<u>\$ 311,887</u>	<u>\$ 18,533,612</u>
CONTRIBUTIONS	-	-	7,390	950,911	297,031	231,915	209	149	1,796	204,125	270,701	832,056	2,796,283
LESS AMORTIZATION	-	-	(7,390)	(703,675)	(219,803)	(172,084)	(209)	(149)	(1,329)	(133,354)	(200,319)	(543,577)	(1,981,889)
	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (247,236)</u>	<u>\$ (77,228)</u>	<u>\$ (59,831)</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (467)</u>	<u>\$ (70,771)</u>	<u>\$ (70,382)</u>	<u>\$ (288,479)</u>	<u>\$ (814,394)</u>
CONSTRUCTION COST RATE BASE	<u>\$ -</u>	<u>\$ 481,794</u>	<u>\$ 3,572,928</u>	<u>\$ 310,747</u>	<u>\$ 2,410,138</u>	<u>\$ 4,489,152</u>	<u>\$ 1,310,734</u>	<u>\$ 811,647</u>	<u>\$ 102,830</u>	<u>\$ 5,745</u>	<u>\$ 4,200,095</u>	<u>\$ 23,408</u>	<u>\$ 17,719,218</u>
RETURN ON INVESTMENT- TASK 19/21	\$ -	\$ 35,034	\$ 259,807	\$ 22,596	\$ 175,254	\$ 326,430	\$ 95,311	\$ 59,019	\$ 7,477	\$ 418	\$ 305,412	\$ 916	\$ 1,287,674
RETURN ON INVESTMENT- TASK 19/21	7.272%	7.272%	7.272%	7.272%	7.272%	7.272%	7.272%	7.272%	7.272%	7.272%	7.272%	3.912%	
TOTAL RETURN ON INVESTMENT	<u>\$ 5,269,861</u>	<u>\$ 6,332,797</u>	<u>\$ 606,831</u>	<u>\$ 198,183</u>	<u>\$ 254,091</u>	<u>\$ 514,877</u>	<u>\$ 105,412</u>	<u>\$ 61,737</u>	<u>\$ 7,609</u>	<u>\$ 458</u>	<u>\$ 305,823</u>	<u>\$ 1,060</u>	<u>\$ 13,658,739</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
CONSTRUCTION COST & ACCUMULATED DEPRECIATION- TASK NO. 21- PART2
FISCAL YEAR ENDED JUNE 30, 2022**

CONSTRUCTION COST

COST CENTER	AMOUNT	INTEGRATED SYSTEM	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	
BY PHYSICAL LOCATION- TASK 11		\$ 267,758,560	\$ 444,243,660	\$ 46,036,491	\$ 43,500,685	\$ 23,033,289	\$ 22,849,942	\$ 6,765,623	\$ 196,346	\$ -	\$ -	\$ -	\$ -	\$ 854,384,596
ADD: IN SERVICE- TASK 10/8		-	7,864,966	-	481,699	-	330,346	-	-	-	-	-	-	8,677,011
MARNE CONNECTOR AGREEMENT		-	(211,573)	-	-	-	-	-	-	-	-	-	-	(805,000)
SADDLEBACK SEWER		-	(1,187,160)	-	1,115,707	71,453	-	-	(515,311)	(78,116)	-	-	-	-
TASK 11/16/21- CSO FA AMT		-	(187,300,597)	-	-	-	-	-	-	-	-	-	-	(187,300,597)
LIFT STATIONS / CHAMBERS:														
FULLER-BROOKVIEW	\$ 1,252,893		(966,294)	-	-	-	966,294	-	-	-	-	-	-	-
FULTON- MIDDLEBORROW	37,983		(37,983)	-	-	-	37,983	-	-	-	-	-	-	-
WEALTHY ST EXT. CHAMBER	458,953		(136,879)	128,209	-	-	-	8,670	-	-	-	-	-	-
WEALTHY	20,444		(6,889)	6,630	-	-	-	60	199	-	-	-	-	-
MARKET	12,965,095		(1,748,862)	1,354,204	-	-	329,054	38,377	27,227	-	-	-	-	-
VANPORTFLIET / LEONARD HTS	1,239,326		409,523	(409,523)	-	-	-	-	-	-	-	-	-	-
REMEMBRANCE / 3 MILE	1,213,244		-	(201,180)	-	-	-	46,552	154,628	-	-	-	-	-
16th AVENUE	71,058		-	-	-	-	-	-	-	-	-	-	-	-
HAYES- WEST	141,105		-	-	-	-	-	(141,105)	141,105	-	-	-	-	-
HAYES- EAST	215,841		-	-	-	-	-	-	-	-	-	-	-	-
O'BRIEN	546,532		19,664	(70,114)	-	-	-	50,450	-	-	-	-	-	-
SERVICEMAINS			(9,282,002)	2,126,351	(11,564,998)	1,982,758	6,383,844	1,409,825	1,106,377	357,069	245,804	6,233,073	1,001,899	-
ADJUSTED BY ZONEGATING		\$ 267,758,560	\$ 251,659,574	\$ 48,971,068	\$ 33,533,093	\$ 25,087,500	\$ 30,897,463	\$ 7,663,141	\$ 1,547,766	\$ 357,069	\$ 245,804	\$ 6,233,073	\$ 1,001,899	\$ 674,956,010
ZONEGATING ADJUSTMENT		\$ -	\$ (361,130)	\$ 6,411,607	\$ 1,988,795	\$ 3,896,746	\$ 7,835,223	\$ 1,927,471	\$ 1,429,536	\$ 357,069	\$ 245,804	\$ 6,233,073	\$ 1,001,899	\$ 30,966,093
PHYSICAL LOCATION		\$ 267,758,560	\$ 252,020,704	\$ 42,559,461	\$ 31,544,298	\$ 21,190,754	\$ 23,062,240	\$ 5,735,670	\$ 118,230	\$ -	\$ -	\$ -	\$ -	\$ 643,989,917

ACCUMULATED DEPRECIATION

BY PHYSICAL LOCATION- TASK 11	\$ 140,547,907	\$ 174,425,278	\$ 22,574,671	\$ 20,544,454	\$ 11,258,914	\$ 10,149,260	\$ 2,430,442	\$ 98,142	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 382,029,068
ADD: IN SERVICE- TASK 10		-	-	-	-	-	-	-	-	-	-	-	-	-
MARNE CONNECTOR AGREEMENT		-	(165,220)	-	-	-	-	-	-	-	-	-	-	(354,697)
SADDLEBACK SEWER		-	-	-	277,999	17,149	-	(164,159)	(25,318)	-	-	-	-	295,148
TASK 11/16/21- CSO ACC DEP		-	(81,053,266)	-	-	-	-	-	-	-	-	-	-	(81,053,266)
LIFT STATIONS / CHAMBERS:														
FULLER-BROOKVIEW	\$ 868,335		(669,703)	-	-	-	669,703	-	-	-	-	-	-	-
FULTON- MIDDLEBORROW	37,983		(37,983)	-	-	-	37,983	-	-	-	-	-	-	-
WEALTHY ST EXT. CHAMBER	211,118		(62,964)	58,976	-	-	-	3,988	-	-	-	-	-	-
WEALTHY	20,444		(6,889)	6,630	-	-	-	60	199	-	-	-	-	-
MARKET	8,560,214		(1,154,686)	894,114	-	-	217,258	25,338	17,976	-	-	-	-	-
VANPORTFLIET / LEONARD HTS	446,107		147,412	(147,412)	-	-	-	-	-	-	-	-	-	-
REMEMBRANCE / 3 MILE	938,924		-	(155,693)	-	-	-	36,027	119,666	-	-	-	-	-
16th AVENUE	56,799		-	-	-	-	-	-	-	-	-	-	-	-
HAYES- WEST	95,103		-	-	-	-	-	(95,103)	95,103	-	-	-	-	-
HAYES- EAST	127,435		-	-	-	-	-	-	-	-	-	-	-	-
O'BRIEN	343,222		12,349	(44,032)	-	-	-	31,683	-	-	-	-	-	-
SERVICEMAINS			(5,172,592)	1,025,966	(2,837,972)	861,557	2,243,248	419,180	384,945	253,772	169,288	1,962,596	690,012	-
ADJUSTED BY ZONEGATING	\$ 140,547,907	\$ 86,261,736	\$ 24,213,220	\$ 17,984,481	\$ 12,137,620	\$ 13,317,452	\$ 2,687,456	\$ 690,713	\$ 253,772	\$ 169,288	\$ 1,962,596	\$ 690,012	\$ 690,012	\$ 300,916,253
ZONEGATING ADJUSTMENT	\$ -	\$ (842,924)	\$ 2,838,679	\$ 1,430,812	\$ 1,409,380	\$ 3,286,240	\$ 616,737	\$ 617,889	\$ 253,772	\$ 169,288	\$ 1,962,596	\$ 690,012	\$ 690,012	\$ 12,432,481
PHYSICAL LOCATION	\$ 140,547,907	\$ 87,104,660	\$ 21,374,541	\$ 16,553,669	\$ 10,728,240	\$ 10,031,212	\$ 2,070,719	\$ 72,824	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 288,483,772

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
CONTRIBUTIONS & AMORTIZED CONTRIBUTIONS- TASK NO. 21- PART3
FISCAL YEAR ENDED JUNE 30, 2022**

CONTRIBUTIONS BY OTHERS

COST CENTER	AMOUNT	INTEGRATED SYSTEM	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	
2021 RATE STUDY (LOCATION)		\$ 50,267,759	\$ 58,457,893	\$ 26,100,611	\$ 25,429,763	\$ 18,809,078	\$ 16,579,116	\$ 5,307,732	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 200,951,952
ADDITIONS:														
CONNECTION & FRONT FOOT FEES			54,104	85,187	118,268	-	42,270	-	-	-	-	-	-	299,829
FIXED ASSET CONTRIBUTIONS		-	189,868	637,421	369,896	-	173,850	-	-	-	-	-	-	1,371,035
		\$ 50,267,759	\$ 58,701,865	\$ 26,823,219	\$ 25,917,927	\$ 18,809,078	\$ 16,795,236	\$ 5,307,732	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 202,622,816
PLASTER CREEK INTERCEPTOR GRANT	\$ 2,244,621	-	-	950,911	297,031	230,119	-	-	-	1,796	27,137	270,701	110,615	
INTERCEPTOR	1,314,819	-	-	-	-	-	-	-	-	-	176,988	-	721,441	
LIFT STATION	70,753	-	7,390	-	-	-	1,796	209	149	-	-	-	-	
ADJUSTED BY ZONEGATING		\$ 50,267,759	\$ 58,701,865	\$ 26,830,609	\$ 26,868,838	\$ 19,106,109	\$ 17,027,151	\$ 5,307,941	\$ 149	\$ 1,796	\$ 204,125	\$ 270,701	\$ 832,056	\$ 202,622,816
LESS: ZONEGATING ADJUSTMENT		\$ -	\$ -	\$ 7,390	\$ 950,911	\$ 297,031	\$ 231,915	\$ 209	\$ 149	\$ 1,796	\$ 204,125	\$ 270,701	\$ 832,056	\$ -
PHYSICAL LOCATION		\$ 50,267,759	\$ 58,701,865	\$ 26,823,219	\$ 25,917,927	\$ 18,809,078	\$ 16,795,236	\$ 5,307,732	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 202,622,816

AMORTIZED CONTRIBUTIONS

2021 RATE STUDY (LOCATION)		\$ 49,420,584	\$ 51,860,792	\$ 13,651,053	\$ 14,649,776	\$ 9,812,787	\$ 8,008,636	\$ 1,762,343	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 149,165,971
CURRENT YEAR ADJUSTMENT		1,005,355.18	1,141,217.00	503,433.00	516,263.00	376,182.00	332,439.00	106,200.00						3,981,089.18
		\$ 50,425,939	\$ 53,002,009	\$ 14,154,486	\$ 15,166,039	\$ 10,188,969	\$ 8,341,075	\$ 1,868,543	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 153,147,060
PLASTER CREEK INTERCEPTOR GRANT	\$ 1,661,020	-	-	703,675	219,803	170,288	-	-	-	1,329	20,082	200,319	81,855	
INTERCEPTOR	841,484	-	-	-	-	-	-	-	-	-	113,272	-	461,722	
LIFT STATION	70,753	-	7,390	-	-	-	1,796	209	149	-	-	-	-	
ADJUSTED BY ZONEGATING		\$ 50,425,939	\$ 53,002,009	\$ 14,161,876	\$ 15,869,714	\$ 10,408,772	\$ 8,513,159	\$ 1,868,752	\$ 149	\$ 1,329	\$ 133,354	\$ 200,319	\$ 543,577	\$ 153,147,060
LESS: ZONEGATING ADJUSTMENT		\$ -	\$ -	\$ 7,390	\$ 703,675	\$ 219,803	\$ 172,084	\$ 209	\$ 149	\$ 1,329	\$ 133,354	\$ 200,319	\$ 543,577	\$ -
PHYSICAL LOCATION		\$ 50,425,939	\$ 53,002,009	\$ 14,154,486	\$ 15,166,039	\$ 10,188,969	\$ 8,341,075	\$ 1,868,543	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 153,147,060

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
RECONCILIATION OF CONSTRUCTION COST & ACCUMULATED DEPRECIATION- PHYSICAL LOCATION & ZONEGATING
FISCAL YEAR ENDED JUNE 30, 2022**

COST CENTER	AMOUNT	INTEGRATED SYSTEM	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	
CONSTRUCTION COST- BY PHYSICAL LOCATION:														
BY PHYSICAL LOCATION- TASK 11		\$ 267,758,560	\$ 451,515,963	\$ 42,647,395	\$ 43,500,685	\$ 22,334,632	\$ 20,093,396	\$ 6,408,677	\$ 125,288	\$ -	\$ -	\$ -	\$ -	\$ 854,384,596
IN SERVICE- TASK 10/8		-	7,864,966	-	481,699	-	330,346	-	-	-	-	-	-	8,677,011
MARNE 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			(187,300,597)											(187,300,597)
O'BRIEN			(546,532)	546,532										-
VANPORTFLIET / LEONARD HTS			(1,239,326)	1,239,326										-
REMEMBRANCE / 3 MILE			(1,213,244)	1,213,244										-
16th AVENUE			(71,058)						71,058					-
HAYES- WEST			(141,105)					141,105						-
HAYES- EAST			(215,841)					215,841						-
KINGSBURY	\$ 323,154		(323,154)	323,154										-
MEADOWWOOD TRAILS	66,841		(66,841)			66,841								-
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							-
CASCADE SPRINGS	65,478		(65,478)			65,478								-
SHOREHAVEN	72,602		(72,602)				72,602							-
EAGLECREST	345,633		(345,633)				345,633							-
GREENBRIER	48,486		(48,486)				48,486							-
LINCOLN 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.			(29,403,261)	(13,840,328)	(19,707,869)	(2,312,401)	(140,457)	(590,665)	-	-	-	-	-	(65,994,981)
ADD: SERVICE MAINS- TOTAL ADDS- PHY. LOC.			12,213,480	10,363,298	6,154,076	398,413	22,409	76,023	-	-	-	-	-	29,227,699
TOTAL- PHYSICAL LOCATION COST		<u>\$ 267,758,560</u>	<u>\$ 246,026,214</u>	<u>\$ 42,559,461</u>	<u>\$ 31,544,298</u>	<u>\$ 21,190,754</u>	<u>\$ 23,255,541</u>	<u>\$ 5,735,670</u>	<u>\$ 118,230</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 638,188,728</u>
CONSTRUCTION COST- ZONEGATING:														
LIFT STATIONS / CHAMBERS:														
FULLER-BROOKVIEW	\$ 1,252,893		(966,294)	-	-	-	966,294	-	-	-	-	-	-	-
FULTON- MIDDLEBORROW	37,983		(37,983)	-	-	-	37,983	-	-	-	-	-	-	-
WEALTHY ST EXT. CHAMBER	458,953		(136,879)	128,209	-	-	-	8,670	-	-	-	-	-	-
WEALTHY	20,444		(6,889)	6,630	-	-	-	60	199	-	-	-	-	-
MARKET	12,965,095		(1,748,862)	1,354,204	-	-	329,054	38,377	27,227	-	-	-	-	-
VANPORTFLIET / LEONARD HTS	1,239,326		409,523	(409,523)	-	-	-	-	-	-	-	-	-	-
REMEMBRANCE / 3 MILE	1,213,244		-	(201,180)	-	-	-	46,552	154,628	-	-	-	-	-
16th AVENUE	71,058		-	-	-	-	-	-	-	-	-	-	-	-
HAYES- WEST	141,105		-	-	-	-	-	(141,105)	141,105	-	-	-	-	-
HAYES- EAST	215,841		-	-	-	-	-	-	-	-	-	-	-	-
O'BRIEN	546,532		19,664	(70,114)	-	-	-	50,450	-	-	-	-	-	-
SERVICEMAINS- ZONEGATED COST			2,106,590	5,603,381	1,988,795	3,896,746	6,501,892	1,924,467	1,106,377	357,069	245,804	6,233,073	1,001,899	30,966,093
TOTAL- ZONEGATED COST		<u>\$ -</u>	<u>\$ (361,130)</u>	<u>\$ 6,411,607</u>	<u>\$ 1,988,795</u>	<u>\$ 3,896,746</u>	<u>\$ 7,835,223</u>	<u>\$ 1,927,471</u>	<u>\$ 1,429,536</u>	<u>\$ 357,069</u>	<u>\$ 245,804</u>	<u>\$ 6,233,073</u>	<u>\$ 1,001,899</u>	<u>\$ 30,966,093</u>
GRAND TOTAL- COST		<u>\$ 267,758,560</u>	<u>\$ 245,665,084</u>	<u>\$ 48,971,068</u>	<u>\$ 33,533,093</u>	<u>\$ 25,087,500</u>	<u>\$ 31,090,764</u>	<u>\$ 7,663,141</u>	<u>\$ 1,547,766</u>	<u>\$ 357,069</u>	<u>\$ 245,804</u>	<u>\$ 6,233,073</u>	<u>\$ 1,001,899</u>	<u>\$ 669,154,821</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
RECONCILIATION OF CONSTRUCTION COST & ACCUMULATED DEPRECIATION- PHYSICAL LOCATION & ZONEGATING
FISCAL YEAR ENDED JUNE 30, 2022**

COST CENTER	AMOUNT	INTEGRATED SYSTEM	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	
ACCUMULATED DEPRECIATION- BY PHYSICAL LOCATION:														
BY PHYSICAL LOCATION- TASK 11		\$ 140,547,907	\$ 175,974,361	\$ 21,013,937	\$ 20,544,454	\$ 11,615,727	\$ 9,899,368	\$ 2,296,825	\$ 136,489	\$ -	\$ -	\$ -	\$ -	\$ 382,029,068
IN SERVICE- TASK 10		-	-	-	-	-	-	-	-	-	-	-	-	-
MARNE CONNECTOR AGREEMENT		-	(165,220)	-	-	-	-	(164,159)	(25,318)	-	-	-	-	(354,697)
SADDLEBACK SEWER		-	-	-	277,999	17,149	-	-	-	-	-	-	-	295,148
TASK 11/16/21- CSO ACC. DEPRECIATION		-	(81,053,266)	-	-	-	-	-	-	-	-	-	-	(81,053,266)
O'BRIEN		-	(343,222)	343,222	-	-	-	-	-	-	-	-	-	-
VANPORTFLIET		-	(446,107)	446,107	-	-	-	-	-	-	-	-	-	-
REMEMBRANCE / 3 MILE		-	(938,924)	938,924	-	-	-	-	-	-	-	-	-	-
16th AVENUE		-	(56,799)	-	-	-	-	-	-	56,799	-	-	-	-
HAYES- WEST		-	(95,103)	-	-	-	-	95,103	-	-	-	-	-	-
HAYES- EAST		-	(127,435)	-	-	-	-	127,435	-	-	-	-	-	-
KINGSBURY	\$ 161,066		(161,066)	161,066	-	-	-	-	-	-	-	-	-	-
MEADOWWOOD TRAILS	26,736		(26,736)	-	-	26,736	-	-	-	-	-	-	-	-
OAK HOLLOW	26,736		(26,736)	-	-	-	26,736	-	-	-	-	-	-	-
COLLINDALE	26,736		(26,736)	26,736	-	-	-	-	-	-	-	-	-	-
THORNAPPLE	143,580		(143,580)	-	-	143,580	-	-	-	-	-	-	-	-
6000 28TH ST	48,274		(48,274)	-	-	48,274	-	-	-	-	-	-	-	-
THORNHILLS	59,204		(59,204)	-	-	59,204	-	-	-	-	-	-	-	-
ROBINHOOD	95,146		(95,146)	-	-	-	95,146	-	-	-	-	-	-	-
CASCADE SPRINGS	50,200		(50,200)	-	-	50,200	-	-	-	-	-	-	-	-
SHOREHAVEN	38,721		(38,721)	-	-	-	38,721	-	-	-	-	-	-	-
EAGLECREST	95,496		(95,496)	-	-	-	95,496	-	-	-	-	-	-	-
GREENBRIER	22,627		(22,627)	-	-	-	22,627	-	-	-	-	-	-	-
LINCOLN SCHOOL	67,991		(67,991)	-	-	-	67,991	-	-	-	-	-	-	-
REEDS LAKE	349,702		(349,702)	-	-	-	349,702	-	-	-	-	-	-	-
KRAFT	38,721		(38,721)	-	-	38,721	-	-	-	-	-	-	-	-
ORCHARD VISTA	18,532		(18,532)	-	-	18,532	-	-	-	-	-	-	-	-
BIRD AVE-ALPINE ESTATES	298,429		(298,429)	-	-	-	298,429	-	-	-	-	-	-	-
EAST PARIS	194,087		(194,087)	-	-	-	194,087	-	-	-	-	-	-	-
SERVICE MAINS														
LESS: SERVICE MAINS- TOTAL SUBS- PHY. LOC.			(12,989,447)	(4,902,680)	(6,693,955)	(650,508)	(140,457)	(224,453)	-	-	-	-	-	(25,601,500)
ADD: SERVICE MAINS- TOTAL ADDS- PHY. LOC.			6,771,291	3,702,550	2,425,171	102,685	22,409	28,889	-	-	-	-	-	13,052,995
		<u>\$ 140,547,907</u>	<u>\$ 84,768,145</u>	<u>\$ 21,729,862</u>	<u>\$ 16,553,669</u>	<u>\$ 11,470,300</u>	<u>\$ 10,970,255</u>	<u>\$ 2,159,640</u>	<u>\$ 167,970</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 288,367,748</u>
ACCUMULATED DEPRECIATION- ZONEGATED														
LIFT STATIONS / CHAMBERS:														
FULLER-BROOKVIEW	\$ 868,335		(669,703)	-	-	-	669,703	-	-	-	-	-	-	-
FULTON- MIDDLEBORROW	37,983		(37,983)	-	-	-	37,983	-	-	-	-	-	-	-
WEALTHY ST EXT. CHAMBER	211,118		(62,964)	58,976	-	-	-	3,988	-	-	-	-	-	-
WEALTHY	20,444		(6,889)	6,630	-	-	-	60	199	-	-	-	-	-
MARKET	8,560,214		(1,154,686)	894,114	-	-	217,258	25,338	17,976	-	-	-	-	-
VANPORTFLIET	446,107		147,412	(147,412)	-	-	-	-	-	-	-	-	-	-
REMEMBRANCE / 3 MILE	938,924		-	(155,693)	-	-	-	36,027	119,666	-	-	-	-	-
16th AVENUE	56,799		-	-	-	-	-	-	-	-	-	-	-	-
HAYES- WEST	95,103		-	-	-	-	-	(95,103)	95,103	-	-	-	-	-
HAYES- EAST	127,435		-	-	-	-	-	-	-	-	-	-	-	-
O'BRIEN	343,222		12,349	(44,032)	-	-	-	31,683	-	-	-	-	-	-
SERVICEMAINS-ZONEGATED ACC. DEPRECIATION			929,540	2,226,096	1,430,812	1,409,380	2,361,296	614,744	384,945	253,772	169,288	1,962,596	690,012	12,432,481
TOTAL- ZONEGATED ACC. DEPRECIATION		<u>\$ -</u>	<u>\$ (842,924)</u>	<u>\$ 2,838,679</u>	<u>\$ 1,430,812</u>	<u>\$ 1,409,380</u>	<u>\$ 3,286,240</u>	<u>\$ 616,737</u>	<u>\$ 617,889</u>	<u>\$ 253,772</u>	<u>\$ 169,288</u>	<u>\$ 1,962,596</u>	<u>\$ 690,012</u>	<u>\$ 12,432,481</u>
GRAND TOTAL- ACC. DEPRECIATION		<u>\$ 140,547,907</u>	<u>\$ 83,925,221</u>	<u>\$ 24,568,541</u>	<u>\$ 17,984,481</u>	<u>\$ 12,879,680</u>	<u>\$ 14,256,495</u>	<u>\$ 2,776,377</u>	<u>\$ 785,859</u>	<u>\$ 253,772</u>	<u>\$ 169,288</u>	<u>\$ 1,962,596</u>	<u>\$ 690,012</u>	<u>\$ 300,800,229</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED OPERATING EXPENSE ZONEGATING ALLOCATION BY GOVERNMENTAL UNIT - TASK #22
FISCAL YEAR ENDED JUNE 30, 2022**

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	\$ 23,442,365	\$ 23,442,365											
LIFT STATIONS:													
A. INTERCEPTOR	277,543		240,105	28,989	-	-	7,044	822	583	-	-	-	-
B. TRUNK	181,548		40,522	74,061	-	38,023	23,690	5,252	-	-	-	-	-
C. LOCAL COLLECTOR	472,783		80,190	58,849	-	97,760	171,525	27,367	26,772	-	-	10,320	-
SEWER LINES:													
A. INTERCEPTOR	270,617		154,468	39,226	69,316	7,607	-	-	-	-	-	-	-
B. TRUNK	626,980		223,777	157,353	142,650	55,005	31,449	16,063	683	-	-	-	-
C. LOCAL COLLECTOR	4,388,915		2,729,115	549,931	428,753	264,652	341,721	49,200	25,543	-	-	-	-
D. ZONEGATING			(112,113)	12,999	(30,200)	20,209	49,841	(5,336)	16,292	9,650	2,895	24,012	11,751
BULK METERING STATIONS	4,880		-	-	2,267	-	-	-	-	1,350	402	402	459
CUSTOMER ACCOUNTING *	3,245,802		2,498,750	251,809	213,184	88,448	169,755	13,989	9,867				
INDUSTRIAL PRETREATMENT	847,190	847,190											
SUBTOTAL OPERATING EXPENSE	33,758,623	24,289,555	5,854,815	1,173,217	825,970	571,704	795,025	107,357	79,740	11,000	3,297	34,734	12,210
ADMINISTRATIVE EXPENSE	2,779,342	1,957,897	530,111	94,569	66,579	46,083	64,084	8,654	6,428	887	266	2,800	984
TOTAL	\$ 36,537,965	\$ 26,247,452	\$ 6,384,926	\$ 1,267,786	\$ 892,549	\$ 617,787	\$ 859,109	\$ 116,011	\$ 86,168	\$ 11,887	\$ 3,563	\$ 37,534	\$ 13,194

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

METHOD OF DISTRIBUTION

WASTEWATER TREATMENT	100.000%	100.00%											
LIFT STATIONS:	(54)												
A. INTERCEPTORS	(1)	100.000%	(1)	-	-	-	-	-	-	-	-	-	-
B. TRUNK	(8)	100.000%	(3)	(3)	-	(1)	(1)	-	-	-	-	-	-
C. LOCAL	(45)	100.000%	(9)	(3)	-	(9)	(17)	(5)	(1)	-	-	(1)	-
SEWER LINES:													
TOTAL MILES:	931.28												
A. INTERCEPTOR MILES	47.67	100.000%	57.080%	14.495%	25.614%	2.811%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
B. TRUNK LINES MILES	110.45	100.000%	35.691%	25.097%	22.752%	8.773%	5.016%	2.562%	0.109%	0.000%	0.000%	0.000%	0.000%
C. LOCAL COLLECTOR MILES	773.16	100.000%	62.182%	12.530%	9.769%	6.030%	7.786%	1.121%	0.582%	0.000%	0.000%	0.000%	0.000%
D. ZONEGATING MILES	(6)		(19.75)	2.29	(5.32)	3.56	8.78	(0.94)	2.87	1.70	0.51	4.23	2.07
BULK METERING STATIONS	(6)		-	-	(2)	-	-	-	-	(1)	(1)	(1)	(1)
CUSTOMER ACCTG (1) NO. OF METERS	76,035.00	100.000%	76.984%	7.758%	6.568%	2.725%	5.230%	0.431%	0.304%				
INDUSTRIAL PRETREATMENT		100.000%	100.00%										
ADMINISTRATIVE EXPENSE (2)		100.000%	70.445%	19.073%	3.403%	2.395%	1.658%	2.306%	0.311%	0.231%	0.032%	0.010%	0.101%

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	\$ 41,563,549	70.9234%	\$ 98,049
CITY OF WALKER	5,209,128	8.8888%	12,288
CITY OF KENTWOOD	4,982,033	8.5013%	11,753
CASCADE TOWNSHIP	3,300,728	5.6323%	7,786
GRAND RAPIDS TOWNSHIP	2,857,580	4.8761%	6,741
TALLMADGE TOWNSHIP	470,365	0.8026%	1,110
WRIGHT TOWNSHIP	220,081	0.3755%	519
	<u>\$ 58,603,464</u>	<u>100.0000%</u>	<u>\$ 138,246</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ASSIGN DEPRECIATION EXPENSE TO CUSTOMER COMMUNITIES- TASK NO. 24
FISCAL YEAR ENDED JUNE 30, 2022**

COST CENTER	DEPRECIATION EXPENSE	INTEGRATED SYSTEM	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	
BY PHYSICAL LOCATION- TASK 11		\$ 7,733,073	\$ 8,548,005	\$ 904,995	\$ 800,892	\$ 452,788	\$ 431,807	\$ 128,154	\$ 2,505	\$ -	\$ -	\$ -	\$ -	\$ 19,002,219
ADD: IN SERVICE- TASK 10/8		-	157,300	-	9,634	-	6,607	-	-	-	-	-	-	173,541
MARNE CONNECTOR AGREEMENT			(2,695)					(10,307)	(1,563)					(14,565)
SADDLEBACK SEWER					22,313	1,429								23,742
LESS: TASK 11/16/21- CSO DEP. EXP.			(3,775,766)											(3,775,766)
LIFT STATIONS / CHAMBERS:														
FULLER-BROOKVIEW (GR)	\$ 18,488		(14,259)	-	-	-	14,259	-	-	-	-	-	-	-
FULTON- MIDDLEBORO (GR)	-		-	-	-	-	-	-	-	-	-	-	-	-
WEALTHY ST EXT. CHAMBER	8,261		(2,464)	2,308	-	-	-	156	-	-	-	-	-	-
WEALTHY	-		-	-	-	-	-	-	-	-	-	-	-	-
MARKET	367,888		(49,625)	38,426	-	-	9,337	1,089	773	-	-	-	-	-
VANPORTFLIET	34,991		11,562	(11,562)	-	-	-	-	-	-	-	-	-	-
REMEMBRANCE / 3 MILE	62,502		-	(10,364)	-	-	-	2,398	7,966	-	-	-	-	-
O'BRIEN	12,023		433	(1,543)	-	-	-	1,110	-	-	-	-	-	-
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	8,944													
GREENBRIER	1,616													
LINCOLN SCHOOL	5,121													
REEDS LAKE	24,979													
KRAFT	2,420													
ORCHARD VISTA	1,324													
16TH AVE	826		(826)	-	-	-	-	-	826	-	-	-	-	-
HAYES- WEST	2,160		(2,160)	-	-	-	-	-	2,160	-	-	-	-	-
HAYES- EAST	3,205		(3,205)	-	-	-	-	3,205	-	-	-	-	-	-
BIRD AVE-ALPINE ESTATES	23,258		(23,258)				23,258							
EAST PARIS	10,783		(10,783)				10,783							
SERVICEMAINS			(140,215)	29,288	(234,361)	34,790	117,327	27,665	21,988	2,704	4,430	118,328	18,056	-
ADJUSTED BY ZONEGATING		7,733,073	4,692,044	951,548	598,478	489,007	613,378	153,470	34,655	2,704	4,430	118,328	18,056	15,409,171
LESS CONTRIBUTIONS AMORTIZED														
TASK NO. 21		(1,005,355)	(1,141,217)	(503,433)	(501,834)	(376,182)	(332,439)	(106,200)	-	-	-	-	(14,429)	(3,981,089)
TOTAL		\$ 6,727,718	\$ 3,550,827	\$ 448,115	\$ 96,644	\$ 112,825	\$ 280,939	\$ 47,270	\$ 34,655	\$ 2,704	\$ 4,430	\$ 118,328	\$ 3,627	\$ 11,428,082

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ACCUMULATE REVENUE REQUIREMENTS BY CUSTOMER COMMUNITIES- TASK NO. 25
FISCAL YEAR ENDED JUNE 30, 2022**

COST CENTER	INTEGRATED SYSTEM	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	
OPERATION & MAINTENANCE EXPENSE- TASK NO. 22	\$ 26,247,452	\$ 6,384,926	\$ 1,267,786	\$ 892,549	\$ 617,787	\$ 859,109	\$ 116,011	\$ 86,168	\$ 11,887	\$ 3,563	\$ 37,534	\$ 13,194	\$ 36,537,965
DEPRECIATION EXPENSE TASK NO. 24	6,727,718	3,550,827	448,115	96,644	112,825	280,939	47,270	34,655	2,704	4,430	118,328	3,627	11,428,082
RETURN ON SYSTEM INVESTMENT TASK NO. 21	5,269,861	6,332,797	606,831	198,183	254,091	514,877	105,412	61,737	7,609	458	305,823	1,060	13,658,739
REVENUE CREDITS- TASK NO. 23		(98,049)	(12,288)	(11,753)	(7,786)	(6,741)	(1,110)	(519)					(138,246)
CSO DEBT SERVICE REQUIREMENTS		6,434,579											6,434,579
ALLOCATE:													
INTEGRATED SYSTEM CREDITS		(2,488,888)	(412,899)	(549,787)	(273,006)	(190,010)	(31,051)	(13,487)	(163,346)	(25,959)	(139,793)	-	(4,288,226)
INTEGRATED SYSTEM (A)	(38,245,031)	22,026,168	3,654,078	4,865,500	2,416,045	1,681,546	274,788	119,361	1,445,574	229,734	1,237,138	295,099	-
LESS: CIRCUIT BREAKER (B)		-	-	(211,314)	(19,617)	(147,457)	(21,763)	-					(400,151)
	<u>\$ -</u>	<u>\$ 42,142,359</u>	<u>\$ 5,551,623</u>	<u>\$ 5,280,022</u>	<u>\$ 3,100,339</u>	<u>\$ 2,992,263</u>	<u>\$ 489,557</u>	<u>\$ 287,915</u>	<u>\$ 1,304,428</u>	<u>\$ 212,226</u>	<u>\$ 1,559,030</u>	<u>\$ 312,980</u>	<u>\$ 63,232,742</u>

(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

	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
OLD METHOD- PLANT FLOW	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 295,099	\$ 295,099
NEW METHOD- PLANT FLOW / LAND	22,026,168	3,654,078	4,865,500	2,416,045	1,681,546	274,788	119,361	1,445,574	229,734	1,237,138	-	37,949,932
	<u>\$ 22,026,168</u>	<u>\$ 3,654,078</u>	<u>\$ 4,865,500</u>	<u>\$ 2,416,045</u>	<u>\$ 1,681,546</u>	<u>\$ 274,788</u>	<u>\$ 119,361</u>	<u>\$ 1,445,574</u>	<u>\$ 229,734</u>	<u>\$ 1,237,138</u>	<u>\$ 295,099</u>	<u>\$ 38,245,031</u>

(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
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 6/30/22</u>	<u>PRO FORMA * 6/30/23</u>
REVENUES:		
RETAIL/WHOLESALE SEWAGE SERVICE	\$ 61,904,930	\$ 62,576,698
CONNECTION FEES/FRONT FOOT FEES	817,068	400,000
SEWAGE SURCHARGES	3,718,914	1,972,114
RENEWABLE NATURAL GAS SALES	52,072	1,250,000
OTHER OPERATING REVENUES	1,014,070	809,018
INTEREST ON INVESTMENTS	883,718	516,580
MISCELLANEOUS	34,635	25,000
TOTAL REVENUES	<u>\$ 68,425,407</u>	<u>\$ 67,549,410</u>
OPERATING EXPENSES:		
OPERATIONS & MAINTENANCE	\$ 33,425,507	\$ 36,537,965
DEPRECIATION	19,002,219	19,002,219
TOTAL EXPENSES	<u>\$ 52,427,726</u>	<u>\$ 55,540,185</u>
ADDITIONS: DEPRECIATION	<u>19,002,219</u>	<u>19,002,219</u>
NET EARNINGS OF THE SYSTEM	<u>\$ 34,999,900</u>	<u>\$ 31,011,445</u>
DEBT SERVICE		
SERIES 2021 BONDS	\$ 2,632,356	\$ 3,493,588
SERIES 2020 BONDS	1,815,700	1,813,450
SERIES 2018 BONDS	2,762,750	2,765,750
SERIES 2016 BONDS	3,884,250	3,879,500
SERIES 2014 BONDS	5,461,250	2,288,000
SERIES 2013 BONDS	810,700	2,205,000
SERIES 2012 BONDS	537,400	26,000
SERIES 2010A&B BONDS (after BAB subsidy)	957,637	957,637
SERIES 2010 BONDS	1,481,250	5,836,250
SERIES 1998 BONDS	4,346,600	-
SENIOR LIEN	24,689,893	23,265,175
JUNIOR LIEN **	467,999	469,374
TOTAL	<u>\$ 25,157,892</u>	<u>\$ 23,734,550</u>
COVERAGE RATIO - SENIOR DEBT	<u>1.42</u>	<u>1.33</u>
COVERAGE RATIO - ALL DEBT	<u>1.39</u>	<u>1.31</u>

* SEWAGE SERVICE ADJUSTED FOR RATE REVISIONS OF 4.00% AND 1.07% EFFECTIVE 1/1/22 AND 1/1/23, RESPECTIVELY; OTHER REVENUES AND OPERATIONS & MAINTENANCE EXPENSE PER 2022 FISCAL PLAN, ADJUSTED FOR CARRYFORWARDS & KNOWN COST ADJUSTMENTS.

** 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		\$ 63,632,893
REVENUES FROM CURRENT RATES		
REU CHARGE	\$ 333,200	
MONTHLY METER CHARGE	17,815,624	
MONTHLY BILLING CHARGE	3,807,078	
COMMODITY CHARGE	<u>40,604,911</u>	<u>(62,560,813)</u>
INITIAL REQUIRED REVENUE INCREASE (DECREASE)		<u>\$ 1,072,080</u>
INITIAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>1.71%</u>
INITIAL SYSTEM REVENUE REQUIREMENTS FROM ABOVE		\$ 63,632,893
LESS: AMOUNT OF CIRCUIT BREAKER RELIEF TO REDUCE RR's TO RETAIL		(400,151)
SYSTEM REVENUE REQUIREMENTS		<u>\$ 63,232,742</u>
ACTUAL REQUIRED AMOUNT OF REVENUE INCREASE (DECREASE)		<u>\$ 671,929</u>
ACTUAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>1.07%</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	54,319	54,319	5,252	5,252	3,920	3,920	1,565	1,565	3,561	3,561	294	294		-
B 1"	1.7778	2,322	4,128	363	645	508	903	261	464	259	460	18	32	-	-
C 1 1/4"	2.7778	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D 1 1/2"	4.0000	1,017	4,068	177	708	342	1,368	170	680	116	464	10	40	-	-
E 2"	7.1111	654	4,651	86	612	186	1,323	64	455	27	192	3	21	-	-
F 3"	16.0000	113	1,808	8	128	22	352	9	144	8	128	2	32	-	-
G 4"	28.4444	75	2,133	7	199	13	370	3	85	1	28	-	-	-	-
H 6" and over	64.0000	34	2,176	6	384	3	192	-	-	5	320	1	64	-	-
<i>Other- Wright Twp</i>		<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	231	422.500
		58,534	73,283	5,899	7,928	4,994	8,428	2,072	3,393	3,977	5,153	328	483	231	422.500
TOTAL															<u>76,035</u>

Source: City of Grand Rapids, Michigan, Water/Sewer Customer Accounts/Meters Report, dated November 1, 2022.

CITY OF GRAND RAPIDS, MICHIGAN

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

SYSTEM REVENUE REQUIREMENTS \$ 42,142,359

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

73,283 meter equivalents x \$ 12.54 x 12 = \$ 11,027,626

MONTHLY BILLING CHARGE

58,534 meters x \$ 3.61 x 12 = 2,535,693

COMMODITY CHARGE

6,389,542 units (100 CF) x \$ 4.39 = 28,050,089 (41,613,408)

REQUIRED REVENUE INCREASE (DECREASE) \$ 528,951

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 1.27%

CITY OF GRAND RAPIDS, MICHIGAN

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

COMMODITY CHARGE:

$$\frac{\text{INTEGRATED SYSTEM COST}}{\text{BILLED UNITS}} = \frac{\$28,460,747}{6,389,542} = \underline{\underline{\$ 4.45 /100 CF *}}$$

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS \$ 42,142,359

NEW COMMODITY CHARGE
6,389,542 x \$ 4.45 \$ 28,433,462

NEW MONTHLY BILLING CHARGE
58,534 x \$ 3.56 x 12 2,500,572 (30,934,034)

\$ 11,208,325

$$\text{MONTHLY METER CHARGE} = \frac{\$11,208,325}{73,283 \times 12} = \underline{\underline{\$ 12.75 \text{ MONTHLY}}}$$

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 12.75	\$ 3.56	\$ 16.31	\$ 16.15
1"	1.7778	22.67	3.56	26.23	25.90
1 1/4"	2.7778	35.42	3.56	38.98	38.44
1 1/2"	4.0000	51.00	3.56	54.56	53.77
2"	7.1111	90.67	3.56	94.23	92.78
3"	16.0000	204.00	3.56	207.56	204.25
4"	28.4444	362.67	3.56	366.23	360.30
6" and over	64.0000	816.00	3.56	819.56	806.17

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2023

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

SYSTEM REVENUE REQUIREMENTS		\$ 5,551,623
REVENUES FROM CURRENT RATES		
MONTHLY METER CHARGE		
7,928 meter equivalents	x \$ 29.81	x 12 = \$ 2,836,004
MONTHLY BILLING CHARGE		
5,899 meters	x \$ 3.61	x 12 = 255,545
COMMODITY CHARGE		
815,030 units (100 CF)	x \$ 3.00	= <u>2,445,090</u>
		<u>(5,536,639)</u>
REQUIRED REVENUE INCREASE (DECREASE)		<u>\$ 14,984</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>0.27%</u>

CITY OF WALKER, MICHIGAN

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

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 3.01 /100 CF *
 \$ 3.00 x 100.27%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS			\$ 5,551,623
NEW COMMODITY CHARGE			
815,030 x \$ 3.01		\$ 2,453,240	
NEW MONTHLY BILLING CHARGE			
5,899 x \$ 3.56 x 12		<u>252,005</u>	<u>(2,705,245)</u>
			<u>\$ 2,846,378</u>

MONTHLY METER CHARGE = $\frac{\$2,846,378}{7,928 \times 12}$ = \$ 29.92 MONTHLY

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 29.92	\$ 3.56	\$ 33.48	\$ 33.42
1"	1.7778	53.19	3.56	56.75	56.61
1 1/4"	2.7778	83.11	3.56	86.67	86.42
1 1/2"	4.0000	119.68	3.56	123.24	122.85
2"	7.1111	212.76	3.56	216.32	215.59
3"	16.0000	478.72	3.56	482.28	480.57
4"	28.4444	851.06	3.56	854.62	851.54
6" and over	64.0000	1,914.88	3.56	1,918.44	1,911.45

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2023

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

SYSTEM REVENUE REQUIREMENTS * \$ 5,280,022

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

8,428 meter equivalents x \$ 5.88 x 12 = \$ 594,680

MONTHLY BILLING CHARGE

4,994 meters x \$ 3.61 x 12 = 216,340

COMMODITY CHARGE

1,323,333 units (100 CF) x \$ 3.31 = 4,380,232 (5,191,252)

REQUIRED REVENUE INCREASE (DECREASE) \$ 88,770

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 1.71%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 211,314

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

SYSTEM REVENUE REQUIREMENTS * \$ 3,100,339

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

3,393 meter equivalents x \$ 36.16 x 12 = \$ 1,472,291

MONTHLY BILLING CHARGE

2,072 meters x \$ 3.61 x 12 = 89,759

COMMODITY CHARGE

453,099 units (100 CF) x \$ 3.28 = 1,486,165 (3,048,215)

REQUIRED REVENUE INCREASE (DECREASE)

\$ 52,124

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES

1.71%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 19,617

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

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 3.34 /100 CF *
 \$ 3.28 x 101.71%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **		\$ 3,100,339
NEW COMMODITY CHARGE 453,099 x \$ 3.34		\$ 1,513,351
NEW MONTHLY BILLING CHARGE 2,072 x \$ 3.56 x 12	88,516	(1,601,867)
		<u>\$ 1,498,472</u>

MONTHLY METER CHARGE = $\frac{\$1,498,472}{3,393 \times 12}$ = \$ 36.80 MONTHLY

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 36.80	\$ 3.56	\$ 40.36	\$ 39.77
1"	1.7778	65.42	3.56	68.98	67.90
1 1/4"	2.7778	102.22	3.56	105.78	104.06
1 1/2"	4.0000	147.20	3.56	150.76	148.25
2"	7.1111	261.69	3.56	265.25	260.75
3"	16.0000	588.80	3.56	592.36	582.17
4"	28.4444	1,046.75	3.56	1,050.31	1,032.16
6" and over	64.0000	2,355.20	3.56	2,358.76	2,317.85

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2023

** REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 19,617

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

SYSTEM REVENUE REQUIREMENTS * \$ 2,992,263

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

5,153 meter equivalents x \$ 28.17 x 12 = \$ 1,741,920

MONTHLY BILLING CHARGE

3,977 meters x \$ 3.61 x 12 = 172,284

COMMODITY CHARGE

380,649 units (100 CF) x \$ 2.70 = 1,027,752 (2,941,956)

REQUIRED REVENUE INCREASE (DECREASE) \$ 50,307

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 1.71%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 147,457

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

SYSTEM REVENUE REQUIREMENTS * \$ 489,557

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

483 meter equivalents x \$ 24.69 x 12 = \$ 143,103

MONTHLY BILLING CHARGE

328 meters x \$ 3.61 x 12 = 14,209

COMMODITY CHARGE

36,778 units (100 CF) x \$ 8.81 = 324,014 (481,326)

REQUIRED REVENUE INCREASE (DECREASE) \$ 8,231

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 1.71%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 21,763

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

SYSTEM REVENUE REQUIREMENTS \$ 287,915

REVENUES FROM CURRENT RATES

REU CHARGE

422.500 meter equivalents x \$ 65.72 x 12 = \$ 333,200

MONTHLY METER CHARGE

422.500 meter equivalents x \$ - x 12 = -

MONTHLY BILLING CHARGE

231 meters x \$ - x 12 = -

COMMODITY CHARGE

20,983 units (100 CF) x \$ - = - (333,200)

REQUIRED REVENUE INCREASE (DECREASE) \$ (45,285)

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES -13.59%

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

MONTHLY REU CHARGE:

$$\frac{\text{SYSTEM REVENUE REQUIREMENTS}}{\text{TOTAL REU'S * 12 MONTHS}} = \frac{\$287,915}{422.500 \times 12} = \$ \underline{\underline{56.79}} \quad \text{MONTHLY REU CHARGE *}$$

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	\$ 56.79	7.5000	\$ 425.93	19.0000	\$ 1,079.01
1.5000	85.19	8.0000	454.32	20.0000	1,135.80
2.0000	113.58	8.5000	482.72	25.0000	1,419.75
2.5000	141.98	9.0000	511.11	30.0000	1,703.70
3.0000	170.37	9.5000	539.51	35.0000	1,987.65
3.5000	198.77	10.0000	567.90	40.0000	2,271.60
4.0000	227.16	11.0000	624.69	50.0000	2,839.50
4.4000	249.88	12.0000	681.48	60.0000	3,407.40
4.5000	255.56	13.0000	738.27	70.0000	3,975.30
5.0000	283.95	14.0000	795.06	80.0000	4,543.20
5.5000	312.35	15.0000	851.85	90.0000	5,111.10
6.0000	340.74	16.0000	908.64	100.0000	5,679.00
6.5000	369.14	17.0000	965.43	150.0000	8,518.50
7.0000	397.53	18.0000	1,022.22	200.0000	11,358.00

*NEW RATES EFFECTIVE ON JANUARY 1, 2023

CITY OF EAST GRAND RAPIDS, MICHIGAN

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

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 1,282,228
COMMODITY CHARGE		
439.106 units (MG) x	\$ 2,891.00	1,269,455
		<hr/>
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		<u>\$ 12,773</u>
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 22,200
MONTHLY SERVICE CHARGE		
\$1,851	x 12 MONTHS	22,212
		<hr/>
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		<u>\$ (12)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>0.99%</u>

CITY OF EAST GRAND RAPIDS, MICHIGAN

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

SYSTEM REVENUE REQUIREMENTS	\$ 1,304,428
NEW COMMODITY CHARGE *	
439.106 x \$ 2,920.00 =	(1,282,190)
	<hr/>
	<u>\$ 22,238</u>

MONTHLY SERVICE CHARGE * = \$ 22,238 / 12 = \$1,853

* NEW RATES EFFECTIVE ON JANUARY 1, 2023

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

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 203,775
COMMODITY CHARGE		
25.900 units (MG) x	\$ 7,941.00	205,672
		205,672
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ (1,897)
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 8,451
MONTHLY SERVICE CHARGE		
\$786	x 12 MONTHS	9,432
		9,432
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ (981)
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		-1.34%

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

SYSTEM REVENUE REQUIREMENTS	\$ 212,226
NEW COMMODITY CHARGE *	
25.900 x \$ 7,868.00 =	(203,781)
	<hr/>
	<u>\$ 8,445</u>

MONTHLY SERVICE CHARGE * = \$ 8,445 / 12 = \$704

* NEW RATES EFFECTIVE ON JANUARY 1, 2023

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

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 1,097,345
COMMODITY CHARGE		
278.043 units (MG) x	\$ 3,883.00	1,079,641
		1,079,641
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 17,704
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 461,685
MONTHLY SERVICE CHARGE		
\$39,377	x 12 MONTHS	472,524
		472,524
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ (10,839)
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		0.44%

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

SYSTEM REVENUE REQUIREMENTS	\$ 1,559,030
NEW COMMODITY CHARGE *	
278.043 x \$ 3,947.00 =	(1,097,436)
	<hr/>
	<u>\$ 461,594</u>

MONTHLY SERVICE CHARGE * = \$461,594 / 12 = \$38,466

* NEW RATES EFFECTIVE ON JANUARY 1, 2023

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

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 295,099
COMMODITY CHARGE		
116.742 units (MG) x	\$ 2,885.00	336,801
		336,801
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ (41,702)
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 17,881
MONTHLY SERVICE CHARGE		
\$1,590	x 12 MONTHS	19,080
		19,080
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ (1,199)
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		-12.05%

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

SYSTEM REVENUE REQUIREMENTS	\$ 312,980
NEW COMMODITY CHARGE *	
116.742 x \$ 2,528.00 =	(295,124)
	<hr/>
	<u>\$ 17,856</u>

MONTHLY SERVICE CHARGE * = \$ 17,856 / 12 = \$1,488

* NEW RATES EFFECTIVE ON JANUARY 1, 2023

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	2022 Rate	2023 Rate	% Change
Domestic	Property is domicile for single or multiple family use, such as homes, apartments, duplexes, condominium, etc.	\$ 110.00	\$ 110.00	0.00%
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).	\$ 165.00	\$ 175.00	6.06%

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, 2021 through June 30, 2022. Calculations of the rates are on file in the City Engineer's Office.

SEWER RATE STUDY
 SEWAGE DISPOSAL SYSTEM FUND
 RE-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	2022	\$3,400	-2.94%
	2023	\$3,300	
60 feet	2022	\$4,000	-5.00%
	2023	\$3,800	
66 feet	2022	\$4,400	-6.82%
	2023	\$4,100	
80 feet	2022	\$5,200	-5.77%
	2023	\$4,900	
100 feet	2022	\$6,400	-6.25%
	2023	\$6,000	

MEMORANDUM

CITY OF GRAND RAPIDS

Date: November 2, 2022

To: Jenessa Carter
Utility Financial Officer

From: Tiffany L. Berry
Assistant Environmental Service 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), and
- 4) Ammonia Nitrogen (NH₃).

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.

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				Industrial		Other
	2022	Volume	BOD	TSS	Phos	NH3			
Operation & Maintenance (See Part 2)	\$ 36,435,963	\$ 6,965,379	\$ 6,356,921	\$ 7,634,788	\$ 1,587,590	\$ 795,685	\$ 847,190	\$ 12,248,410	
Depreciation (See Part 3)	11,428,082	2,007,686	1,832,361	2,200,704	457,619	229,348	-	4,700,364	
Return on System Investment (See Part 3)	13,658,739	1,572,632	1,435,299	1,723,824	358,456	179,650	-	8,388,878	
Total	\$ 61,522,784	\$ 10,545,697	\$ 9,624,581	\$ 11,559,316	\$ 2,403,665	\$ 1,204,683	\$ 847,190	\$ 25,337,652	

Recommended Surcharge Rate - 2023

\$ 0.446 \$ 0.655 \$ 4.758 \$ 0.518

Actual Surcharge Rate - 2022

\$ 0.411 \$ 0.622 \$ 4.257 \$ 0.446

Change in Surcharge Rate - Amount- 2022 to 2023

\$ 0.035 \$ 0.033 \$ 0.501 \$ 0.072

Change in Surcharge Rate - Percent- 2022 to 2023

8.52% 5.31% 11.77% 16.14%

Loadings - lb/day (Per K.Anderson) *

59,150 48,324 1,384 6,377

Loadings - lb/year

21,589,872 17,638,138 505,160 2,327,727

* 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		Component Allocation (3)								
	Base Year- 2022	Calendar Year- 2023	See Task 30 - Part 4		Volume	Wastewater Surcharges				Industrial	Other
	Allocation (1)	Allocation (2)	Allocation Basis	Line No. Ref.		BOD	TSS	Phos	NH3		
Wastewater Treatment Plant											
Pre-Treatment	\$ 1,969,492	\$ 2,192,747	WWTP	(1)	\$ 2,192,747	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Primary Treatment	3,187,981	3,549,360	WWTP	(2)	-	1,064,808	2,129,616	-	354,936	-	-
Secondary Treatment	4,577,880	5,096,814	WWTP	(3)	1,274,203	2,038,726	764,522	764,522	254,841	-	-
Disinfection/Dechlorination	1,735,050	1,931,730	WWTP	(4)	1,931,730	-	-	-	-	-	-
Phosphorus Removal	1,144,574	1,274,319	WWTP	(5)	637,159	-	-	637,160	-	-	-
Residue Handling/Disposal	8,348,979	9,295,392	WWTP	(6)	929,539	3,253,387	4,740,650	185,908	185,908	-	-
	<u>\$ 20,963,956</u>	<u>\$ 23,340,362</u>			<u>\$ 6,965,378</u>	<u>\$ 6,356,921</u>	<u>\$ 7,634,788</u>	<u>\$ 1,587,590</u>	<u>\$ 795,685</u>	<u>\$ -</u>	<u>\$ -</u>
Lift Stations											
Interceptor		277,543	Collection	(11)	-	-	-	-	-	-	277,543
Trunk		181,548	Collection	(11)	-	-	-	-	-	-	181,548
Local Collector		472,783	Collection	(11)	-	-	-	-	-	-	472,783
Sewer Lines											
Interceptor		270,617	Collection	(11)	-	-	-	-	-	-	270,617
Trunk		626,980	Collection	(11)	-	-	-	-	-	-	626,980
Local Collector		4,388,915	Collection	(11)	0	-	-	-	-	-	4,388,915
Bulk Meter Stations		4,880	Collection	(7)	-	-	-	-	-	-	4,880
Customer Accounting		3,245,802	Admin	(8)	0	-	-	-	-	-	3,245,802
Industrial Pretreatment		847,190	Industry	(9)	-	-	-	-	-	847,190	-
Subtotal		\$ 33,656,620			\$ 6,965,378	\$ 6,356,921	\$ 7,634,788	\$ 1,587,590	\$ 795,685	\$ 847,190	\$ 9,469,068
Admin		2,779,342	Admin	(10)	0	-	-	-	-	-	2,779,342
Total		<u>\$ 36,435,963</u>			<u>\$ 6,965,379</u>	<u>\$ 6,356,921</u>	<u>\$ 7,634,788</u>	<u>\$ 1,587,590</u>	<u>\$ 795,685</u>	<u>\$ 847,190</u>	<u>\$ 12,248,410</u>
WWTP Allocation Factors		100.000%			29.842%	27.236%	32.711%	6.802%	3.409%	0.000%	0.000%

(1) Per K.Anderson 10/26/2022

(2) Primary Allocation of Current Year for Calendar 2022, based on 2021 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

<i>Description</i>	<i>Amount</i>	<i>Volume</i>	Wastewater Surcharges				<i>Industrial</i>	<i>Other</i>
			BOD	TSS	Phos	NH3		
<i>Integrated System (1)</i>	\$ 6,727,718	\$ 2,007,686	\$ 1,832,361	\$ 2,200,704	\$ 457,619	\$ 229,348	\$ -	\$ -
<i>Other</i>	4,700,364	-	-	-	-	-	-	4,700,364
<i>Total</i>	<u>\$ 11,428,082</u>	<u>\$ 2,007,686</u>	<u>\$ 1,832,361</u>	<u>\$ 2,200,704</u>	<u>\$ 457,619</u>	<u>\$ 229,348</u>	<u>\$ -</u>	<u>\$ 4,700,364</u>

Return on System Investment- Task 21

<i>Description</i>	<i>Amount</i>	<i>Volume</i>	Wastewater Surcharges				<i>Industrial</i>	<i>Other</i>
			BOD	TSS	Phos	NH3		
<i>Integrated System (1)</i>	\$ 5,269,861	\$ 1,572,632	\$ 1,435,299	\$ 1,723,824	\$ 358,456	\$ 179,650	\$ -	\$ -
<i>Other</i>	8,388,878	-	-	-	-	-	-	8,388,878
<i>Total</i>	<u>\$ 13,658,739</u>	<u>\$ 1,572,632</u>	<u>\$ 1,435,299</u>	<u>\$ 1,723,824</u>	<u>\$ 358,456</u>	<u>\$ 179,650</u>	<u>\$ -</u>	<u>\$ 8,388,878</u>

(1) Allocated on WWTP Allocation Factors * **29.8420%** **27.2360%** **32.7110%** **6.8020%** **3.4090%**

*** 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				Industrial %	Other %
					BOD %	TSS %	Phos %	NH3 %		
(1)	Pre-Treatment (a)	100.000%	WWTP	100.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
(2)	Primary Treatment (a)	100.000%	WWTP	0.000%	30.000%	60.000%	0.000%	10.000%	0.000%	0.000%
(3)	Secondary Treatment (a)	100.000%	WWTP	25.000%	40.000%	15.000%	15.000%	5.000%	0.000%	0.000%
(4)	Disinfection/Dechlorination (a)	100.000%	WWTP	100.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
(5)	Phosphorus Removal (a)	100.000%	WWTP	50.000%	0.000%	0.000%	50.000%	0.000%	0.000%	0.000%
(6)	Residue Handling/Disposal (a)	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%	0.000%	100.000%	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%

S-04

(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 2022 RS 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)	\$ 6,356,921	\$ 1,587,590	\$ 795,685	\$ 152,566	\$ 38,102	\$ 19,096
Disinfection/Dechlorination (1)(3) \$ 1,931,730	\$ 1,260,793	\$ 12,162	\$ 658,775	\$ 30,259	\$ 292	\$ 15,811
Total	\$ 7,617,714	\$ 1,599,752	\$ 1,454,460	\$ 182,825	\$ 38,394	\$ 34,907
Proposed Concentrated Waste Adjustment				\$ 0.101	\$ 2.191	\$ 0.037
Recommended Surcharge Rate - 2023				\$ 0.446	\$ 4.758	\$ 0.518
Surcharge with Adjustment				\$ 0.345	\$ 2.567	\$ 0.481

Concentrated Waste Loadings - lb/day	4,976	48	2,600
Concentrated Waste Loadings - lb/year	1,816,240	17,520	949,000

- (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 1.27
 Fixed Cost 60%
 Concentrated Waste Adjustment Factor 2.4%

(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, 2020 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

FY FY23

Permit Fee: \$ 400.00

IPP Costs:

Labor: \$ 73.28 per hour
Vehicle: \$ 4.01 per hour
Sampler: \$ 50.00 per day

IPP Accounting:

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

Laboratory Costs:

metals			
1 metal	\$	10.50	ea.
2 metals	\$	14.25	total
3 metals	\$	18.00	total
4 metals	\$	21.75	total
5 metals	\$	25.50	total
6 metals	\$	29.25	total
7 metals	\$	33.00	total
8 metals	\$	36.75	total
9 metals	\$	40.50	total
10 metals	\$	44.25	total
11 metals	\$	48.00	total
12 metals	\$	51.75	total
13 metals	\$	55.50	total
14 metals	\$	59.25	total
TSS	\$	10.50	ea.
BOD	\$	21.00	ea.
BOD 7	\$	21.00	ea.
COD	\$	15.50	ea.
Total Phosphorus	\$	10.50	ea.
pH	\$	5.25	ea.
EPA 624.1	\$	46.00	ea.
EPA 625.1	\$	102.00	ea.
BTEX/MTBE	\$	46.00	ea.
Sulfide	\$	21.00	ea.
Oil & Grease	\$	21.00	ea.
Total cyanide	\$	21.00	ea.
Hexavalent chromium	\$	26.00	ea.
Fecal coliform	\$	18.00	ea.
Ammonia nitrogen	\$	15.50	ea.
Mercury (EPA 245.1 or 245.2)	\$	18.50	ea.
Pesticides and PCBs EPA 608	\$	122.00	ea.

PCBs	\$	62.00	ea.
Phenols, Total	\$	21.00	ea.
PFAS EPA 537 Modified (sample, duplicate and blank are separate samples)	\$	245.00	ea.
PFAS by LCMSMS (sample, duplicate and blank are separate samples)	\$	285.00	ea.
EPA 1666 Volatile organics in pharmaceuticals	\$	46.00	ea.
EPA 524.2 Purgeable Organics	\$	46.00	ea.
Methyl Blue Active substances (MBAS)	\$	62.00	ea.
Color	\$	15.50	ea.

Explanation of Costs:

Labor: Labor is the hourly pay rate of an Industrial Pretreatment Program Inspector (classification 21A @ "F" step = to \$36.64 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 Water Resource Recovery Facility

Analysis: Laboratory costs are based on the most recently approved competitive bid obtained for contract work provided to the Grand Rapids Water Resource Recovery Facility

Permit No: Example 1

Company: Typical Metal Finisher 4 day sampling

Facility Address:

City, State, Zip

Permit Fee: \$ 400.00
Analytical Fee: \$ 1,120.74
Amount Due: \$ 1,520.74

Composite Samples: 4

IPP Requirements: man hours = 6.0 x \$ 73.28 = \$ 439.68
sampler days = 4.0 x \$ 50.00 = \$ 200.00
vehicle hours = 6.0 x \$ 4.01 = \$ 24.06

Total IPP Composite Costs: \$ 663.74

Laboratory Analysis:
(each composite)

Metals 6 \$ 29.25 = \$ 29.25
TSS 1 x \$ 10.50 = \$ 11.00
BOD x \$ 21.00 = \$ -
Total phosphorus x \$ 10.50 = \$ -
Ammonia nitrogen x \$ 15.50 = \$ -
EPA 625.1 x \$ 102.00 = \$ -
Sulfide x \$ 21.00 = \$ -
other x = \$ -

total per composite: \$ 40.25

Total Laboratory Composite Costs: \$ 161.00

Total Composite Sample Costs: \$ 824.74

Grab Samples: 4

IPP Requirements: man hours = 0.0 x \$ 73.28 = \$ -
vehicle hours = 0.0 x \$ 4.01 = \$ -

Total IPP Grab Costs: \$ -

Laboratory Analysis:

Metals \$ - = \$ -
pH 1 x \$ 10.50 = \$ 11.00
EPA 624.1 x \$ 5.25 = \$ -
EPA 625.1 x \$ 46.00 = \$ -
BTEX/MTBE x \$ 102.00 = \$ -
Sulfide x \$ 46.00 = \$ -
Oil & grease 1 x \$ 21.00 = \$ 21.00
Total cyanide 1 x \$ 21.00 = \$ 21.00
Hexavalent Chromium 1 x \$ 21.00 = \$ 21.00
other x = \$ -

total per grab: \$ 74.00

Total Laboratory Grab Costs: \$ 296.00

Total Grab Sample Costs: \$ 296.00

Total Analytical Permit Costs: \$ 1,120.74

Permit No: Example 3

Company: Stripping Process

Facility Address:
City, State, Zip

Permit Fee: \$ 400.00
Analytical Fee: \$ 234.44
Amount Due: \$ 634.44

Composite Samples: 1

IPP Requirements: man hours = 1.5 x \$ 73.28 = \$ 109.92
sampler days = 1.0 x \$ 50.00 = \$ 50.00
vehicle hours = 1.5 x \$ 4.01 = \$ 6.02

Total IPP Composite Costs: \$ 165.94

Laboratory Analysis: Metals 5 \$ 25.50 = \$ 25.50
(each composite) TSS 1 x \$ 10.50 = \$ 11.00
BOD x \$ 21.00 = \$ -
Total phosphorus x \$ 10.50 = \$ -
Ammonia nitrogen x \$ 15.50 = \$ -
EPA 625.1 x \$ 102.00 = \$ -
Sulfide x \$ 21.00 = \$ -
other x = \$ -

total per composite: \$ 36.50

Total Laboratory Composite Costs: \$ 36.50

Total Composite Sample Costs: \$ 202.44

Grab Samples: 1

IPP Requirements: man hours = 0.0 x \$ 73.28 = \$ -
vehicle hours = 0.0 x \$ 4.01 = \$ -

Total IPP Grab Costs: \$ -

Laboratory Analysis: Metals \$ - = \$ -
(each grab) pH 1 x \$ 10.50 = \$ 11.00
EPA 624.1 x \$ 5.25 = \$ -
EPA 625.1 x \$ 46.00 = \$ -
BTEX/MTBE x \$ 102.00 = \$ -
Sulfide x \$ 46.00 = \$ -
Oil & grease 1 x \$ 21.00 = \$ 21.00
Total cyanide x \$ 21.00 = \$ -
Hexavalent Chromium x \$ 21.00 = \$ -
other x = \$ -

total per grab: \$ 32.00

Total Laboratory Grab Costs: \$ 32.00

Total Grab Sample Costs: \$ 32.00

Total Analytical Permit Costs: \$ 234.44

Permit No: Example 4

Company: Surcharge

Facility Address:
City, State, Zip

Permit Fee: \$ 400.00
Analytical Fee: \$ 437.16
Amount Due: \$ 837.16

Composite Samples:

IPP Requirements: man hours = 0.0 x \$ 73.28 = \$ -
sampler days = 0.0 x \$ 50.00 = \$ -
vehicle hours = 0.0 x \$ 4.01 = \$ -

Total IPP Composite Costs: \$ -

Laboratory Analysis:
(each composite)

Metals \$ 29.25 = \$ 29.25
TSS x \$ 10.50 = \$ -
BOD x \$ 21.00 = \$ -
Total phosphorus x \$ 10.50 = \$ -
Ammonia nitrogen x \$ 15.50 = \$ -
EPA 625.1 x \$ 102.00 = \$ -
Sulfide x \$ 21.00 = \$ -
other x = \$ -

total per composite: \$ 29.25

Total Laboratory Composite Costs: \$ -

Total Composite Sample Costs: \$ -

Grab Samples: 4

IPP Requirements: man hours = 4.0 x \$ 73.28 = \$ 293.12
vehicle hours = 4.0 x \$ 4.01 = \$ 16.04

Total IPP Grab Costs: \$ 309.16

Laboratory Analysis:
(each grab)

Metals \$ - = \$ -
pH 1 x \$ 10.50 = \$ 11.00
EPA 624.1 x \$ 5.25 = \$ -
EPA 625.1 x \$ 46.00 = \$ -
BTEX/MTBE x \$ 102.00 = \$ -
Sulfide x \$ 46.00 = \$ -
Oil & grease 1 x \$ 21.00 = \$ 21.00
Total cyanide x \$ 21.00 = \$ -
Hexavalent Chromium x \$ 21.00 = \$ -
other x = \$ -

total per grab: \$ 32.00

Total Laboratory Grab Costs: \$ 128.00

Total Grab Sample Costs: \$ 437.16

Total Analytical Permit Costs: \$ 437.16

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 14, 2022

TO: Jenessa Carter
Utility Financial Officer

FROM: Arden Postma, P.E.
Hydraulic Engineer

**SUBJECT: 2022 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>2021 Rate</u>	<u>2022 Rate</u>	<u>2023 Rate</u>	<u>2022 to 2023 % Change</u>
8"-10"	\$4.77/ft	\$3.44/ft	\$8.72/ft	153.49%
8"-12"	\$9.98/ft	\$10.71/ft	\$15.57/ft	45.38%
8"-15"	\$18.95/ft	\$20.52/ft	\$34.88/ft	69.98%
10"-12"	\$5.12/ft	\$7.27/ft	\$6.85/ft	-5.78%
10"-15"	\$14.18/ft	\$17.08/ft	\$26.16/ft	53.16%
12"-15"	\$8.97/ft	\$9.81/ft	\$19.31/ft	96.84%

These rates have been determined in accordance with the Sewer Disposal System Rules and Regulations, and are approved for use from January 1, 2023, through December 31, 2023.

Due to the volatility in the economic marketplace and interruptions in the supply chain due to Covid-19, material prices have been impacted again this year. As a result of the price volatility we are seeing parallel changes in the Oversizing Rates.

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: Mike Grenier
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 June 30, 2022:

<u>UAB Partners</u>	<u>Sq. Miles of USD by CC</u>	<u>Percent</u>
Grand Rapids	45.346	37.526%
Walker	19.230	15.913%
Kentwood	14.227	11.773%
Cascade	16.814	13.914%
Grand Rapids Township	8.582	7.102%
Tallmadge Township	2.617	2.166%
Wright Township	0.898	0.743%
East Grand Rapids	3.370	2.789%
Ada	7.258	6.006%
Caledonia Township	2.499	2.068%
Total	<u>120.841</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)	\$ 76,611	12.50%
City & Customer Community Circuit Breaker (CCCCB)	536,274	87.50%
Total	<u>\$ 612,885</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	\$ 536,274	100.00%
Less: Amount Applied in Current Rate Study	(400,151)	-74.62%
Total CCCCCB Revenue Credit- Next Year's Rate Study	<u>\$ 136,123</u>	<u>25.38%</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 26, 2022

TO: Jenessa Carter
Utility Financial Officer

FROM: Charles Schroeder, P.E.
Assistant Environmental Services Manager

SUBJECT: 2022 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 is recommended to be \$76.59 / month which is the actual cost to the system for the additional flow.

CRS

**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 ¹	Estimated annual claims cost
System Retail Customers	76,035	Total retail customers ²
Grand Rapids Retail Customers	<u>58,534</u>	Total retail customers in Grand Rapids ²
Annual Cost	\$1.97 /yr/cust.	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	\$410 /MG	Unit conveyance cost ³
Treatment	<u>\$1,546</u> /MG	Unit treatment cost ³
Conveyance & Treatment	\$1,956 /MG	
Annual Cost	\$128.31 /yr/cust.	Annual cost for a connected FD

3. Actual MDNRE penalties for SSO's

Penalties for SSO

Grand Rapids Customers	58,534	
Penalties	\$25,000	Per occurrence
Potential SSOs	0 /year	Occurrences
Annual cost	<u>0</u> \$/year	
	\$0.00 /yr/cust.	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 ⁵
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>58,534</u>	Customers in Grand Rapids
Cost Per single Family Home	\$781.93 \$/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	1.5	Citywide engineering investigation
Staffing	2.0	Total staffing
Rate	<u>\$200,000</u> /year	Average loaded staffing rate ⁴
Total	\$400,000 /year	
Customers	<u>58,534</u>	In Grand Rapids
	\$6.83 \$/yr/cust.	

Annual Cost Summary

1. Avoided Claims	\$1.97	
2. Avoided Treatment	\$128.31	
3. Actual MDNRE Penalties for SSOs	\$0.00	
4. Avoided Future Projects	\$781.93	
5. Administration	<u>\$6.83</u>	
TOTAL	\$919.04 \$/yr/cust.	
	\$76.59 /month/cust.	Monthly fee for not disconnecting

Notes:

- ¹ Sinking fund annual budget
- ² Customer numbers per 2022 Rate Study
- ³ Value for sewer maintenance and WRRF costs from 2022 rate study.
- ⁴ Estimated staff rate with benefits
- ⁵ 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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Partner Community Contributions	D
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CITY OF GRAND RAPIDS AGENDA ACTION REQUEST

DATE: November 15, 2022

TO: Mark Washington, City Manager

COMMITTEE: Committee of the Whole
LIAISON: Mark Washington, City Manager

FROM: Jenessa B. Carter
Utility Financial Officer

SUBJECT: **2022 Water/Sewer Rate Study - Introduction**

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 the City of 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 46th 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 operations and service for calendar year 2023. Water Supply System revenue requirements increased by \$2,694,987 or 5.68% more than revenues generated by existing rates and charges. Sewage Disposal System revenue requirements increased by \$671,929 or 1.07% more than revenues generated by existing rates and charges. Comparatively, both identified system increases are less than the current rate of inflation, with annual inflation for the 12 months ending September 2022 at 8.2%.

Both Systems experienced fluctuations in the three-year average of billed volume that made an impact in the rate changes. Billed volume is used in the rate study to forecast the next calendar year's expected revenue. In 2010, the rate study implemented a three-year average billed volume to smooth significant volume variances and prevent reactionary rate fluctuations. The Water System experienced a 1.42% decrease in the three-year average of billed volume, largely due to wet weather experienced during peak irrigation times. This results in an upward pressure on rates for the Water System. The Sewer System experienced a 0.89% decrease in the three-year average of billed volume but a 4.13% increase over 2021. Billed volume increased year-over-year largely due to the lifting of COVID-19 pandemic restrictions; however, the three-year average fell as

2022 volumes did not outpace 2019. With overall consumption down, this causes upward pressure on rates for the Sewer System as well.

Asset management remains a priority for both Systems, and asset additions, combined with the increase in the return-on-investment (ROI) rate, are the biggest drivers in this year's study. Investments in water main replacements in the City of Grand Rapids and investments in assets at the Livingston Pump Station and Wilson Pump Station that are shared among several partner communities were the major drivers for the Water System rate increase. Integrated system improvements at the Lake Michigan Filtration Plant (LMFP) such as switchgear replacements, revetment improvements and residual improvements also contributed to the increase. Furthermore, the Water System is continuing to focus on private lead service line replacements for City of Grand Rapids residents in accordance with the Environmental Protection Agency (EPA) and The State of Michigan Environment, Great Lakes & Energy Division (EGLE) regulatory requirements.

With the Sewer System, investments in sewer mains in the City of Grand Rapids, including the first phase of the shared Market Avenue Trunk Sewer Relocation project were major drivers in this year's study. There was also work at the Wastewater Resource Recovery Facility (WRRF) related to the Biodigestion Program. On the operations side, additional contract work related to the Grand Valley Regional Biosolids Authority (GVRBA) program, an uptick in Consumers Energy costs, and continued price increase of process chemicals are considerable outlays influencing Sewer rates. Rate impacts were mitigated by the reduction in debt service from the Combined Sewer Overflow (CSO) program, and a significant uptick in surcharge revenue from an increase in industrial waste concentration this year. The System also started to generate revenue from the Biodigester Program as well.

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 \$130,446 to support the ICB, the program aimed to assist retail customers requiring assistance in payment of their water/sewer bills. This amount will again 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 CCCCCB and limit the revenue requirement changes. Total City and Customer Community Circuit Breaker funds used in the 2022 rate study was \$680,880 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 2022 Water and Sewer Rate Study has been made available to the Utility Advisory Board partners and other customer communities on November 10, 2022. 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 resolution for the 2023 Water and Sewer rates by the City Commission is scheduled for Tuesday, December 13, 2022.

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, 2022 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. Those wishing to provide feedback may submit comments to the City Clerk's Office or by sending an email to info@grcity.us. 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:

<https://www.grandrapidsmi.gov/Government/Departments/Water-System/Water-and-Sewer-Rate-Studies>.

Comments will be reported and considered as part of the FY2024 budget planning process.

**CITY OF GRAND RAPIDS, MICHIGAN
2022 PRELIMINARY WATER/SEWER RATE STUDY
SUMMARY OF REVENUE REQUIREMENT CHANGES
FOR RATES EFFECTIVE JANUARY 1, 2023**

	<u>WATER (1)</u>		<u>SEWER (1)</u>		
	<u>AMOUNT</u>	<u>PERCENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>	
RETAIL COMMUNITIES	GRAND RAPIDS	\$ 1,740,355	6.27%	\$ 528,951	1.27%
	WALKER	57,121	1.50%	14,984	0.27%
	NET OF CONTRIBUTION OF:	(181,741)			
	KENTWOOD	200,019	4.25%	88,770	1.71%
	CASCADE TWP	137,344	3.76%	52,124	1.71%
	GRAND RAPIDS TWP	160,044	6.27%	50,307	1.71%
	TALLMADGE TWP	7,941	3.31%	8,231	1.71%
WRIGHT TWP	N/A	N/A	(45,285)	-13.59%	
WHOLESALE COMMUNITIES	EAST GRAND RAPIDS	3,577	0.41%	12,761	0.99%
	ADA TWP	123,810	8.85%	6,865	0.44%
	OTTAWA COUNTY	83,034	3.40%	NA	NA
	GAINES TWP	N/A	N/A	(42,901)	-12.05%
	CALEDONIA TWP	N/A	N/A	(2,878)	-1.34%
<hr/>					
SYSTEM	\$ 2,694,987	5.68%	\$ 671,929	1.07%	
<hr/>					

(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	\$ 50,122,073	5.68%	\$ 63,232,742	1.07%
ADD: CCCCB RELIEF	280,729	0.59%	400,151	0.64%
SYSTEM CHANGE- WITHOUT RELIEF	<u>\$ 50,402,802</u>	<u>6.27%</u>	<u>\$ 63,632,893</u>	<u>1.71%</u>

**CITY OF GRAND RAPIDS, MICHIGAN
2022 PRELIMINARY WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON DOMESTIC USERS
BY CUSTOMER COMMUNITY *
FOR RATES EFFECTIVE JANUARY 1, 2023**

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2022</u>	<u>2023</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 99.90	\$ 106.14	\$ 6.24	6.25%
SEWER	140.64	142.38	1.74	1.24%
	<u>\$ 240.54</u>	<u>\$ 248.52</u>	<u>\$ 7.98</u>	3.32%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 99.36	\$ 100.83	\$ 1.47	1.48%
SEWER	163.26	163.65	0.39	0.24%
	<u>\$ 262.62</u>	<u>\$ 264.48</u>	<u>\$ 1.86</u>	0.71%
RATIO TO GR	1.09	1.06		
KENTWOOD				
WATER	\$ 101.37	\$ 105.75	\$ 4.38	4.32%
SEWER	97.98	99.45	1.47	1.50%
	<u>\$ 199.35</u>	<u>\$ 205.20</u>	<u>\$ 5.85</u>	2.93%
RATIO TO GR	0.83	0.83		
CASCADE TWP				
WATER	\$ 139.89	\$ 145.20	\$ 5.31	3.80%
SEWER	188.19	191.22	3.03	1.61%
	<u>\$ 328.08</u>	<u>\$ 336.42</u>	<u>\$ 8.34</u>	2.54%
RATIO TO GR	1.36	1.35		
GRAND RAPIDS TWP				
WATER	\$ 111.81	\$ 118.77	\$ 6.96	6.22%
SEWER	152.04	154.56	2.52	1.66%
	<u>\$ 263.85</u>	<u>\$ 273.33</u>	<u>\$ 9.48</u>	3.59%
RATIO TO GR	1.10	1.10		
TALLMADGE TWP				
WATER	\$ 90.96	\$ 94.86	\$ 3.90	4.29%
SEWER	269.91	274.41	4.50	1.67%
	<u>\$ 360.87</u>	<u>\$ 369.27</u>	<u>\$ 8.40</u>	2.33%
RATIO TO GR	1.50	1.49		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE DOMESTIC CUSTOMER
 QUARTERLY CONSUMPTION OF: WATER- 30.00 UNITS OR 22,440 GALLONS
 SEWER - 21.00 UNITS OR 15,708 GALLONS
 NO. OF MONTHS: 3

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

WRIGHT TWP-				
SEWER (No. of REU 1.00)	<u>\$ 197.16</u>	<u>\$ 170.37</u>	<u>\$ (26.79)</u>	-13.59%

CITY OF GRAND RAPIDS, MICHIGAN
2022 PRELIMINARY WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON COMMERCIAL USERS
BY CUSTOMER COMMUNITY
FOR RATES EFFECTIVE JANUARY 1, 2023

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2022</u>	<u>2023</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 502.95	\$ 537.27	\$ 34.32	6.82%
SEWER	946.92	959.79	12.87	1.36%
	<u>\$ 1,449.87</u>	<u>\$ 1,497.06</u>	<u>\$ 47.19</u>	3.25%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 457.15	\$ 464.41	\$ 7.26	1.59%
SEWER	763.83	766.23	2.40	0.31%
	<u>\$ 1,220.98</u>	<u>\$ 1,230.64</u>	<u>\$ 9.66</u>	0.79%
RATIO TO GR	0.84	0.82		
KENTWOOD				
WATER	\$ 439.07	\$ 457.71	\$ 18.64	4.25%
SEWER	697.56	709.95	12.39	1.78%
	<u>\$ 1,136.63</u>	<u>\$ 1,167.66</u>	<u>\$ 31.03</u>	2.73%
RATIO TO GR	0.78	0.78		
CASCADE TWP				
WATER	\$ 608.08	\$ 631.45	\$ 23.37	3.84%
SEWER	853.14	868.26	15.12	1.77%
	<u>\$ 1,461.22</u>	<u>\$ 1,499.71</u>	<u>\$ 38.49</u>	2.63%
RATIO TO GR	1.01	1.00		
GRAND RAPIDS TWP				
WATER	\$ 499.37	\$ 531.87	\$ 32.50	6.51%
SEWER	695.67	708.30	12.63	1.82%
	<u>\$ 1,195.04</u>	<u>\$ 1,240.17</u>	<u>\$ 45.13</u>	3.78%
RATIO TO GR	0.82	0.83		
TALLMADGE TWP				
WATER	\$ 559.76	\$ 580.64	\$ 20.88	3.73%
SEWER	1,886.88	1,919.10	32.22	1.71%
	<u>\$ 2,446.64</u>	<u>\$ 2,499.74</u>	<u>\$ 53.10</u>	2.17%
RATIO TO GR	1.69	1.67		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE COMMERCIAL CUSTOMER
QUARTERLY CONSUMPTION OF : WATER- 208.00 UNITS OR 155,584 GALLONS
SEWER - 198.00 UNITS OR 148,104 GALLONS
NO. OF MONTHS: 3

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

WRIGHT TWP				
SEWER (No. of REU 1.00)	<u>\$ 197.16</u>	<u>\$ 170.37</u>	<u>\$ (26.79)</u>	-13.59%

**CITY OF GRAND RAPIDS, MICHIGAN
2022 PRELIMINARY WATER/SEWER RATE STUDY
WATER & SEWER RATES FOR GRAND RAPIDS & RETAIL CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2023**

WATER RATES

	<u>METER CODE</u>	<u>GRAND RAPIDS</u>	<u>WALKER</u>	<u>KENTWOOD</u>	<u>CASCADE</u>	<u>GR. RAPIDS TOWNSHIP</u>	<u>TALLMADGE TOWNSHIP</u>	<u>WRIGHT TOWNSHIP</u>
COMMODITY CHARGE (HCF)		\$ 2.31	\$ 1.90	\$ 1.80	\$ 2.47	\$ 2.13	\$ 2.72	NA
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 12.28	\$ 14.61	\$ 17.25	\$ 23.70	\$ 18.29	\$ 4.42	NA
1"	B	\$ 18.93	\$ 23.07	\$ 27.77	\$ 39.23	\$ 29.61	\$ 4.96	NA
1-1/4"	C	\$ 27.48	\$ 33.95	\$ 41.29	\$ 59.20	\$ 44.17	\$ 5.65	NA
1-1/2"	D	\$ 37.93	\$ 47.25	\$ 57.81	\$ 83.61	\$ 61.97	\$ 6.49	NA
2"	E	\$ 64.53	\$ 81.10	\$ 99.87	\$ 145.74	\$ 107.27	\$ 8.64	NA
3"	F	\$ 140.53	\$ 177.81	\$ 220.05	\$ 323.25	\$ 236.69	\$ 14.77	NA
4"	G	\$ 246.93	\$ 313.21	\$ 388.30	\$ 571.76	\$ 417.88	\$ 23.36	NA
6" & Over	H	\$ 550.93	\$ 700.05	\$ 869.01	\$ 1,281.81	\$ 935.57	\$ 47.89	NA

SEWER RATES

	<u>METER CODE</u>	<u>GRAND RAPIDS</u>	<u>WALKER</u>	<u>KENTWOOD</u>	<u>CASCADE</u>	<u>GR. RAPIDS TOWNSHIP</u>	<u>TALLMADGE TOWNSHIP</u>	<u>WRIGHT TOWNSHIP</u>
COMMODITY CHARGE (HCF)		\$ 4.45	\$ 3.01	\$ 3.37	\$ 3.34	\$ 2.75	\$ 8.96	NA
REU Charge (Monthly) *		NA	NA	NA	NA	NA	NA	\$ 56.79
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 16.31	\$ 33.48	\$ 9.56	\$ 40.36	\$ 32.27	\$ 28.75	NA
1"	B	\$ 26.23	\$ 56.75	\$ 14.23	\$ 68.98	\$ 54.60	\$ 48.34	NA
1-1/4"	C	\$ 38.98	\$ 86.67	\$ 20.23	\$ 105.78	\$ 83.31	\$ 73.53	NA
1-1/2"	D	\$ 54.56	\$ 123.24	\$ 27.56	\$ 150.76	\$ 118.40	\$ 104.32	NA
2"	E	\$ 94.23	\$ 216.32	\$ 46.23	\$ 265.25	\$ 207.72	\$ 182.69	NA
3"	F	\$ 207.56	\$ 482.28	\$ 99.56	\$ 592.36	\$ 462.92	\$ 406.60	NA
4"	G	\$ 366.23	\$ 854.62	\$ 174.23	\$ 1,050.31	\$ 820.20	\$ 720.07	NA
6" & Over	H	\$ 819.56	\$ 1,918.44	\$ 387.56	\$ 2,358.76	\$ 1,841.00	\$ 1,615.72	NA

* REU - Residential Equivalent Unit (Wright Township Only)

FIRE PROTECTION RATES- ALL GOVERNMENTAL UNITS

6"	H	\$ 21.35	10"	J	\$ 59.35
8"	I	\$ 37.88	12"	K	\$ 85.41

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

**CITY OF GRAND RAPIDS, MICHIGAN
2022 PRELIMINARY WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON WHOLESALE CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2023**

	<u>2022</u>	<u>2023</u>	<u>PERCENTAGE CHANGE</u>
EAST GRAND RAPIDS			
WATER - SERVICE (MONTHLY)	\$15,106.00	\$14,452.00	-4.33%
- COMMODITY (100 CF)	\$1.20	\$1.22	1.67%
SEWER - SERVICE (MONTHLY)	\$1,851.00	\$1,853.00	0.11%
- COMMODITY (MG)	\$2,891.00	\$2,920.00	1.00%
ADA TWP			
WATER - SERVICE	\$47,613.00	\$56,931.00	19.57%
- COMMODITY	\$1.38	\$1.40	1.45%
SEWER - SERVICE	\$39,377.00	\$38,466.00	-2.31%
- COMMODITY	\$3,883.00	\$3,947.00	1.65%
OTTAWA COUNTY			
WATER - SERVICE	\$172.00	\$736.00	327.91%
- COMMODITY	\$1.28	\$1.32	3.13%
GAINES TWP			
SEWER - SERVICE	\$1,590.00	\$1,488.00	-6.42%
- COMMODITY	\$2,885.00	\$2,528.00	-12.37%
CALEDONIA TWP			
SEWER - SERVICE	\$786.00	\$704.00	-10.43%
- COMMODITY	\$7,941.00	\$7,868.00	-0.92%

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



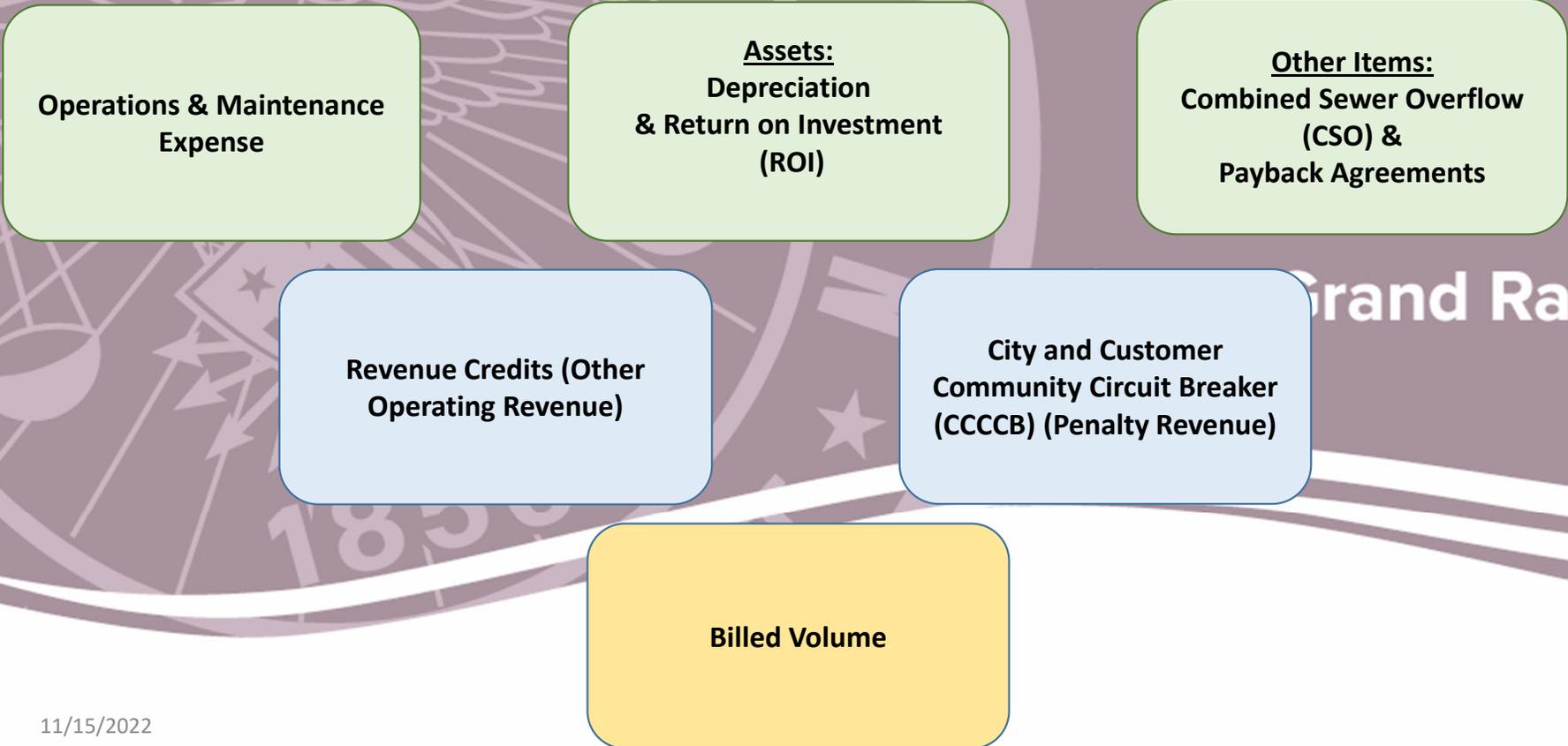
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City of Grand Rapids

Water & Sewer Systems

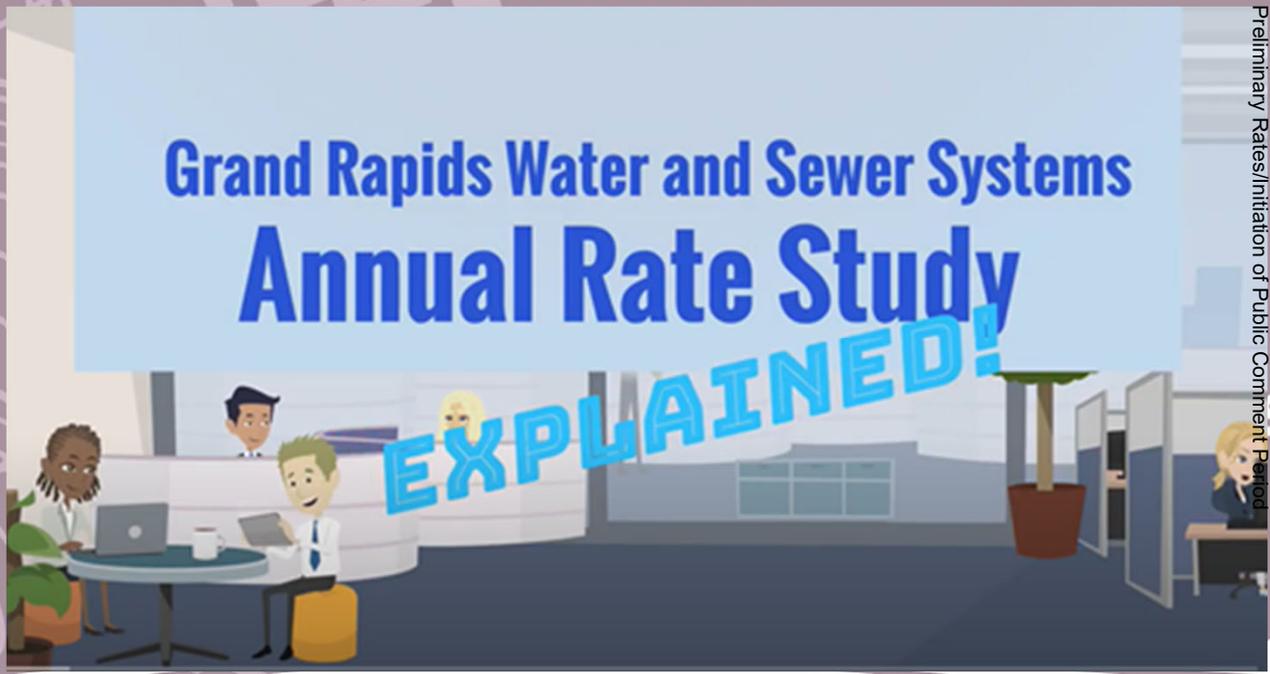
46th Annual Preliminary Rate Study
November 15, 2022

Building Blocks of the Revenue Requirement



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Grand Rapids



“¡Ahora
en
Español!”

Available here:
[Water and Sewer Rate Study
\(grandrapidsmi.gov\)](http://Water and Sewer Rate Study (grandrapidsmi.gov))

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15-Year Historical Rate Changes

Rate Study Year	Water Supply System			Sewage Disposal System		
	Revenue Requirements	% change in RR over prev year	% gross rate incr (decr) **	Revenue Requirements	% change in RR over prev year	% gross rate incr (decr) **
2007	\$ 40,270,271	1.62%	4.95%	\$ 42,742,825	11.60%	15.73%
2008	42,017,680	4.34%	2.45%	47,092,925	10.18%	14.69%
2009	42,939,752	2.19%	9.89%	51,378,424	9.10%	14.04%
2010	41,200,107	-4.05%	-6.27%	49,673,390	-3.32%	-3.30%
2011	41,802,404	1.46%	5.15%	50,082,541	0.82%	2.89%
2012	39,247,442	-6.11%	-4.41%	48,183,681	-3.79%	-2.46%
2013	38,646,748	-1.53%	-4.30%	48,946,212	1.58%	2.46%
2014	40,055,985	3.65%	2.50%	49,962,043	2.08%	2.81%
2015	40,178,439	0.31%	1.00%	49,868,027	-0.19%	0.30%
2016	41,187,517	2.51%	3.63%	50,400,344	1.07%	0.36%
2017	42,828,972	3.99%	2.45%	52,319,981	3.81%	3.08%
2018	43,868,464	2.43%	2.71%	54,611,300	4.38%	3.28%
2019	45,752,997	4.30%	2.47%	56,969,417	4.32%	3.49%
2020	45,501,943	-0.55%	0.62%	61,242,290	7.50%	7.92%
2021	47,692,896	4.82%	4.08%	62,943,059	2.78%	4.00%
2022*	50,122,073	5.09%	5.68%	63,232,742	0.46%	1.07%
AVG	42,707,106	1.53%	2.04%	52,478,075	3.27%	4.40%

* Revenue Requirements per the 2022 Preliminary Rate Study.

** The percentage gross rate increase (decrease) differs from the annual percentage change in Revenue Requirements due to differences in usage volumes/customers/application of Circuit Breaker -Annual inflation for the 12 months ending September 2022 was 8.2%

Grand Rapids

A-12

Rate Impact Factors - Water

2022 Water Rate Study Rate Drivers	% Impact
Increases:	
Assets – ROI and Depreciation: \$34.2M in service (water mains, Livingston PS, Wilson PS, LMFP Investments) (ROI % up)	3.77%
Revenue Credits/Integrated Connection Fee Credit (permits/inspections and connection fees down)	0.64%
Revenue Expectation (3-yr avg water billed volume down)	0.56%
O&M – Personnel services (union wage increases and sign on bonuses) Chemical pricing increases	0.47%
Circuit Breaker Credit (penalty revenue applied down)	0.24%
Proposed System Average Rate Increase	5.68%

and Rapids

A-13

Rate Impact Factors - Sewer

2022 Sewer Rate Study Rate Drivers	% Impact
Increases:	
Assets – ROI and Depreciation: \$13.3M in service (sewer mains, Market Ave Sewer Relocation, WRRF Investments) (ROI % up)	1.79%
O&M – GVRBA contract work Consumers Energy Chemical pricing increases	1.45%
Revenue Expectation (3-yr avg sewer billed volume down)	0.61%
Circuit Breaker Credit (penalty revenue applied down)	0.20%
Decreases:	
Revenue Credits/Integrated Connection Fee Credit (surcharge revenue up plus some green gas revenue from the digester)	(2.02%)
CSO Debt Service Requirement (GR only)	(0.96%)
Proposed Rate Increase	1.07%

and Rapids

A-14

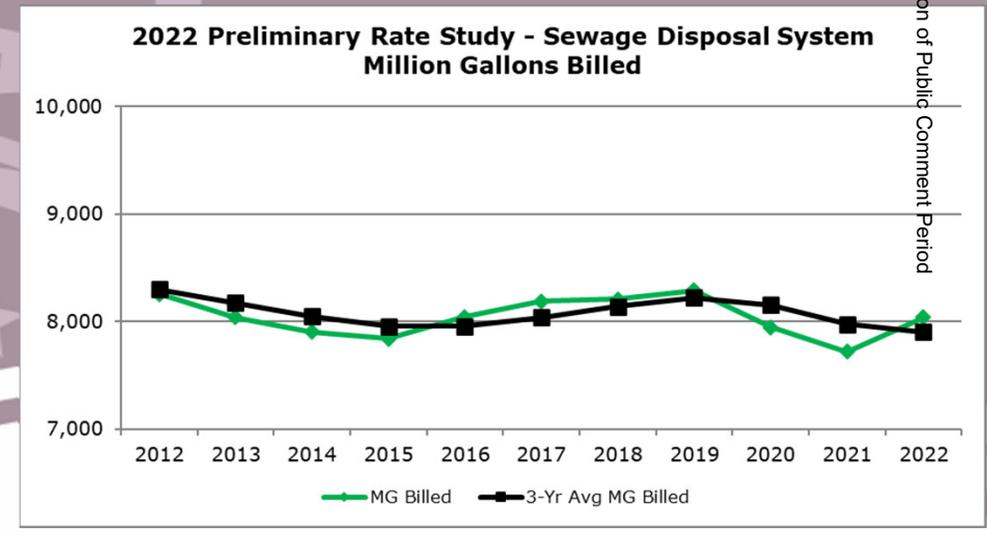
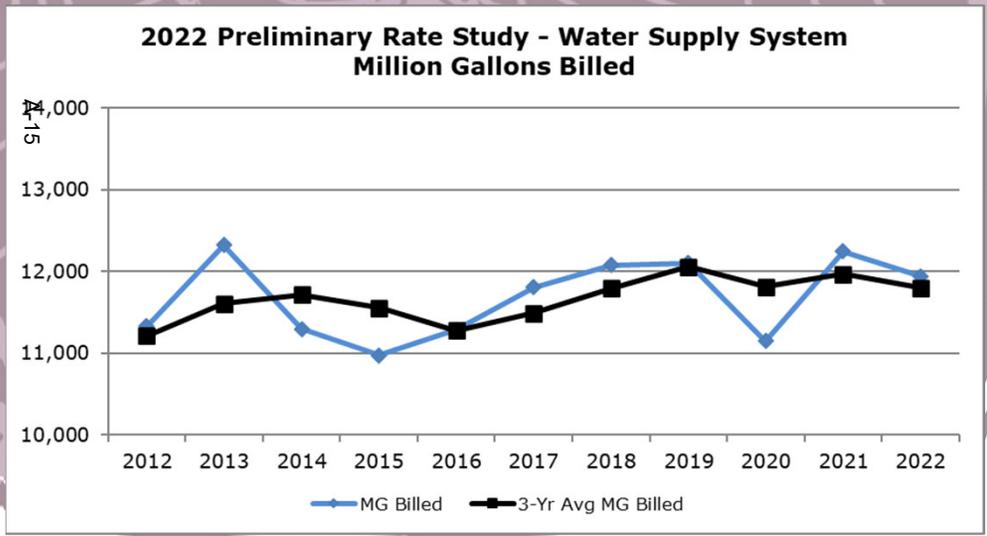
Billed Volume

Water Supply System

2022 Water volume down (2.48%) over 2021
 3-Yr Avg Water volume **down** (1.42%)

Sewer Disposal System

2022 Sewer Volume up 4.13% over 2021
 3-Yr Avg Sewer Volume **down** (0.89%)



Partner Communities Water Billed Volume FY22

VOLUME = 1,000 GALLONS

MUNICIPALITY	FY18		FY19		FY20		FY21		FY22		FY18 - FY22
	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	% CHANGE
GRAND RAPIDS	6,346,480		6,417,706	1.12%	5,899,570	-8.07%	6,288,343	6.59%	6,151,371	-2.18%	-3.01%
WALKER	939,897		929,719	-1.08%	835,703	-10.11%	952,327	13.96%	923,869	-2.99%	-1.77%
KENTWOOD	1,377,822		1,342,574	-2.56%	1,190,449	-11.33%	1,305,704	9.68%	1,270,170	-2.72%	-7.81%
CASCADE TWP	739,323		695,896	-5.87%	585,011	-15.93%	686,898	17.42%	697,931	1.61%	-5.60%
GRAND RAPIDS TWP	541,008		545,871	0.90%	462,801	-15.22%	573,570	23.93%	528,741	-7.82%	-2.29%
TALLMADGE TWP	37,179		41,592	11.87%	37,831	-9.04%	48,587	28.43%	52,057	7.14%	40.02%
EAST GRAND RAPIDS**	419,637		413,246	-1.52%	422,907	2.34%	430,073	1.69%	429,664	-0.10%	2.39%
OTTAWA COUNTY***	1,209,789		1,280,873	5.88%	1,299,136	1.43%	1,492,668	14.90%	1,426,225	-4.45%	17.89%
ADA TWP	463,080		438,337	-5.34%	417,313	-4.80%	466,832	11.87%	461,794	-1.08%	-0.28%
TOTAL	12,074,215		12,105,814	0.26%	11,150,721	-7.89%	12,245,001	9.81%	11,941,820	-2.48%	-1.10%

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Partner Communities Sewer Billed Volume FY22

VOLUME = 1,000 GALLONS

MUNICIPALITY	FY18		FY19		FY20		FY21		FY22		FY18 - FY22 % CHANGE
	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	
GRAND RAPIDS	4,931,223	-0.24%	4,998,134	1.36%	4,782,754	-4.31%	4,706,480	-1.59%	4,848,898	3.03%	-1.06%
WALKER	646,233	-0.73%	637,561	-1.34%	596,412	-6.45%	604,510	1.36%	628,004	3.89%	-2.02%
KENTWOOD	1,069,319	3.56%	1,060,147	-0.86%	976,528	-7.89%	1,001,673	2.57%	991,359	-1.03%	-7.09%
CASCADE	353,054	-1.59%	357,434	1.24%	330,505	-7.53%	335,188	1.42%	351,062	4.74%	-0.16%
GRAND RAPIDS TWP	284,378	-1.78%	293,245	3.12%	278,126	-5.16%	284,929	2.45%	291,121	2.17%	2.19%
TALLMADGE	24,350	13.50%	27,276	12.02%	25,812	-5.37%	27,089	4.95%	29,628	9.37%	21.07%
WRIGHT TWP	18,885	-2.98%	19,834	5.03%	20,025	0.96%	12,023	-39.96%	15,037	25.07%	-20.37%
EAST GRAND RAPIDS	441,259	12.13%	461,287	4.54%	498,507	8.07%	359,057	-27.97%	459,754	28.04%	4.19%
ADA TWP	296,101	-6.12%	291,737	-1.47%	292,738	0.34%	264,616	-9.61%	276,776	4.60%	-6.53%
CALEDONIA TWP	29,741	-5.98%	28,715	-3.45%	25,910	-9.77%	21,012	-18.90%	30,777	46.47%	3.48%
GAINES TWP	113,527	-15.19%	115,345	1.60%	122,183	5.93%	103,780	-15.06%	116,742	12.49%	2.83%
TOTAL	8,208,070	0.22%	8,290,715	1.01%	7,949,500	-4.12%	7,720,357	-2.88%	8,039,158	4.13%	-2.06%

System Investment –Asset Additions June 30, 2022

Water Supply System: \$34.2M	
Integrated System: \$4.7M	
LMFP Switchgear Replacements	\$2.4M
LMFP Revetment Improvements	\$1.2M
LMFP Residual Improvements	\$628k
LMFP Septic System Ph2	\$423k
Non-Integrated System: \$29.5M	
Grand Rapids:	
-Water Mains (\$222k Livingston, \$125k Mason-Monroe)	\$17.1M
-Auxiliary Equipment: Livingston PS, Wilson PS, Bristol PS, Dean Lake PS, distribution gear valves, pressure mod	\$4.1M
-Process Equipment: Livingston PS, Wilson PS, Booster D	\$3.2M
-Buildings: Livingston PS, Wilson PS	\$2.5M
-Storage: Wilson PS	\$1.6M
-Land Improvement/Machinery: Livingston PS	\$387k
Walker:	
-Water Mains	\$691k

Sewer Disposal System: \$13.3M	
Integrated System: \$1.6M	
WRRF – Biodigestion	\$767k
WRRF – Biogas to RNG	\$214k
WRRF – Phosphorus Recovery	\$298k
Other WRRF	\$306k
Non-Integrated System: \$11.7M	
Grand Rapids:	
-Sewer Mains (\$5.8M Market Ave and Plaster Creek)	\$11.7M
Cascade:	
-Sewer Mains	\$32k

-Denotes zoned (shared) asset.

Circuit Breaker Calculation

	Water/Sewer
City & Customer Community Circuit Breaker (CCCCB): Penalty Revenue (87.5%)*	\$913,118
Individual Circuit Breaker (ICB):	
Penalty Revenue (12.5%)	130,446
Other Non-op Revenue	80,000
Total ICB	\$210,446
Total Circuit Breaker Funds	\$1,123,564
*CCCCB funds used in 2022 Rate Study	\$680,880

Kent County Community Action (KCCA) facilitates the ICB on behalf of the City of Grand Rapids. In Calendar year (CY) 2022, the ICB moved to a reimbursement model for disbursements rather than issuing “draws”. Total remaining ICB balance for CY 2022 is \$129,209.77.

Grand Rapids

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Prelim 2023 Rate Impact by Community

Retail Communities: charges assessed directly to User based on water consumption (except for Wright Twp – REUs). Readiness to Serve (RTS) based on meter size and Commodity based on volume. City of GR maintains assets and bills users directly.

Wholesale Communities: charges assessed directly to Wholesale Community based on water consumption measured through a master meter at the point of service in the customer community. Readiness to Serve (RTS) based on non-integrated system requirements and Commodity based on volume. Customer community maintains assets and bills users directly.

	WATER (1)		SEWER (1)	
	AMOUNT	PERCENT	AMOUNT	PERCENT
RETAIL COMMUNITIES				
GRAND RAPIDS	\$ 1,740,355	6.27%	\$ 528,951	1.27%
WALKER	57,121	1.50%	14,984	0.27%
NET OF CONTRIBUTION OF:	(181,741)		-	
KENTWOOD	200,019	4.25%	88,770	1.71%
CASCADE TWP	137,344	3.76%	52,124	1.71%
GRAND RAPIDS TWP	160,044	6.27%	50,307	1.71%
TALLMADGE TWP	7,941	3.31%	8,231	1.71%
WRIGHT TWP	N/A	N/A	(45,285)	-13.59%
WHOLESALE COMMUNITIES				
EAST GRAND RAPIDS	3,577	0.41%	12,761	0.99%
ADA TWP	123,810	8.85%	6,865	0.44%
OTTAWA COUNTY	83,034	3.40%	NA	NA
GAINES TWP	N/A	N/A	(42,901)	-12.05%
CALEDONIA TWP	N/A	N/A	(2,878)	-1.34%
SYSTEM	\$ 2,694,987	5.68%	\$ 671,929	1.07%

Rapids

(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 CCCCCB).

Preliminary 2023 Quarterly Bill

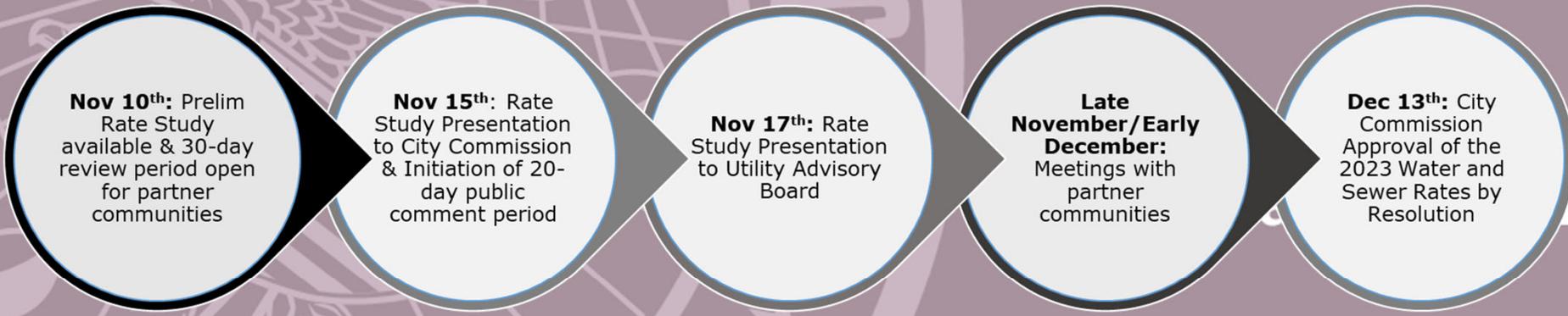
	APPROXIMATE QUARTERLY BILL		CHANGE	
	2022	2023	DOLLARS	PERCENT
GRAND RAPIDS				
WATER	\$ 99.90	\$ 106.14	\$ 6.24	6.25%
SEWER	140.64	142.38	1.74	1.24%
	<u>\$ 240.54</u>	<u>\$ 248.52</u>	<u>\$ 7.98</u>	3.32%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 99.36	\$ 100.83	\$ 1.47	1.48%
SEWER	163.26	163.65	0.39	0.24%
	<u>\$ 262.62</u>	<u>\$ 264.48</u>	<u>\$ 1.86</u>	0.71%
RATIO TO GR	1.09	1.06		
KENTWOOD				
WATER	\$ 101.37	\$ 105.75	\$ 4.38	4.32%
SEWER	97.98	99.45	1.47	1.50%
	<u>\$ 199.35</u>	<u>\$ 205.20</u>	<u>\$ 5.85</u>	2.93%
RATIO TO GR	0.83	0.83		
CASCADE TWP				
WATER	\$ 139.89	\$ 145.20	\$ 5.31	3.80%
SEWER	188.19	191.22	3.03	1.61%
	<u>\$ 328.08</u>	<u>\$ 336.42</u>	<u>\$ 8.34</u>	2.54%
RATIO TO GR	1.36	1.35		
GRAND RAPIDS TWP				
WATER	\$ 111.81	\$ 118.77	\$ 6.96	6.22%
SEWER	152.04	154.56	2.52	1.66%
	<u>\$ 263.85</u>	<u>\$ 273.33</u>	<u>\$ 9.48</u>	3.59%
RATIO TO GR	1.10	1.10		
TALLMADGE TWP				
WATER	\$ 90.96	\$ 94.86	\$ 3.90	4.29%
SEWER	269.91	274.41	4.50	1.67%
	<u>\$ 360.87</u>	<u>\$ 369.27</u>	<u>\$ 8.40</u>	2.33%
RATIO TO GR	1.50	1.49		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE DOMESTIC CUSTOMER
 QUARTERLY CONSUMPTION OF: WATER- 30.00 UNITS OR 22,440 GALLONS
 SEWER - 21.00 UNITS OR 15,708 GALLONS
 NO. OF MONTHS: 3

of Grand Rapids

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2022 Water & Sewer Rate Study Schedule



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Rate studies available online at:
<https://www.grandrapidsmi.gov/Government/Departments/Water-System/Water-and-Sewer-Rate-Study>



Grand Rapids Press

LEGAL AFFIDAVIT

AD#: 0010479092

Total

\$125.00

State of Michigan,) ss

County of Kent and County of Ottawa)

Nancy Block being duly sworn, deposes that he/she is principal clerk of MLive Media Group; that Grand Rapids Press is a public newspaper published in the city of Grand Rapids, with general circulation in Kent and Ottawa county, and this notice is an accurate and true copy of this notice as printed in said newspaper, was printed and published in the regular edition and issue of said newspaper on the following date(s):

Grand Rapids Press 11/15/2022

Nancy Block

Principal Clerk of the Publisher

Sworn to and subscribed before me this 15th day of November 2022

Teasha R Payne

Notary Public

TEASHA R. PAYNE
NOTARY PUBLIC, STATE OF MI
COUNTY OF MECOSTA
COMMISSION EXP FEB 24 2026
ACTING IN COUNTY OF Kent

CITY OF GRAND RAPIDS

WATER/SEWER RATES AND CHARGES FOR 2023 NOW AVAILABLE FOR PUBLIC COMMENT

The City of Grand Rapids has completed the "Preliminary Water/Sewer 2022 Rate Study" report, which is the basis for recommending water and sewer rates to become effective January 1, 2023, 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: <https://www.grandrapidsmi.gov/Government/Departments/Water-System/Water-and-Sewer-Rate-Study>

Opportunity for public commentary runs through December 5th. You may submit comments to the City Clerk's Office or by sending an email to info@grcity.us.

The Grand Rapids City Commission is scheduled to consider approval on the rates on Tuesday, December 13, 2022.

10479092-01

**92240 Result: Adopted.
Mover: O'Connor. Supporter: Reppart.**

WHEREAS:

1. The Water/Sewer rate studies have been undertaken and completed for the years 1976 through 2021; and
2. The 2022 Water/Sewer rate review has been completed using the same general methodology as the 1976 through 2021 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	\$118
Commercial	\$180

b. Integrated water connection fees

i. Plan Review and Connection Fee (PRC)

1. Residential Users (three residential units or less)

Meter Size	PRC Fee
¾ inch or less	\$380
1 inch	\$390
1½ inch	\$390

2. All other Users (including residential of more than 3 units, commercial, industrial, governmental and religious)

Meter Size	PRC Fee
¾ inch or less	\$725
1 inch	\$960
1½ inch	\$1,270
2 inch	\$1,750

3 inch	\$2,180
4 inch	\$3,130
6 inch	\$4,400

ii. Meter Capacity Fee (MCC) (when water and sanitary sewer connections are made at the same time only one Meter Capacity Fee shall be charged)

Meter Size	MCC Fee
¾ inch or less	\$210
1 inch	\$300
1½ inch	\$750
2 inch	\$880
3 inch	\$1,650
4 inch	At Cost
6 inch	At Cost
Ultrasonic Meters	
1-1/2" – 12"	At Cost

iii. Fire Protection Review Fee

All Fire Service Sizes	\$750
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iv. Commercial Plan Assessment Fee (for instances where there is an established connection or property has been previously reviewed)

All Sizes	\$125
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c. Commodity rates within the City of Grand Rapids

Domestic	\$2.31 per 100 cubic feet
Commercial	\$2.31 per 100 cubic feet
Industrial	\$2.31 per 100 cubic feet

d. Monthly service charge within the City of Grand Rapids

Size of Meter	Charge
¾ inch or less	\$12.28
1 inch	\$18.93
1¼ inch	\$27.48
1½ inch	\$37.93
2 inches	\$64.53
3 inches	\$140.53
4 inches	\$246.93
6 inches or larger	\$550.93

e. Fire protection charge

Size of Pipe	Monthly	Quarterly
6 inches	\$21.35	\$64.05
8 inches	\$37.88	\$113.64
10 inches	\$59.35	\$178.05
12 inches	\$85.41	\$256.23

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	\$3,200	\$3,600	\$3,900	\$4,500	\$5,400
Cost for 1½ inch Water Service	\$4,500	\$5,100	\$5,500	\$6,200	\$7,300
Cost for 2 inches Water Service	\$5,000	\$5,500	\$5,900	\$6,700	\$7,800

- g. Non-metered hydrant connection use fee (pool filling per connection) - \$100 refundable deposit + \$75/week
- h. Hydrant use permit (non-metered connection – residential customers) - \$50
- i. Hydrant use permit fee (metered connection) - \$300

- j. Metered hydrant connection use fee (per connection) - City of Grand Rapids account holder and Non-account holder - \$500 refundable deposit + \$25/week + metered volume (commodity charges at City of Grand Rapids rate)
- k. Hydrant connection assistance requests - \$100 service fee
- l. Hydrant flow test - \$200
- m. Tapping permits (all sizes) - \$375
- n. Meter service on/off requests (normal service hours 8am-7pm M-F)

Meter Size	Fee
All Sizes	\$70
Inspections/repair scheduled on & off request (may also need meter install)	\$70

- o. Meter replacement (non-system planned/scheduled replacement) (In addition to meter installation fee)

Meter Size	Fee
¾ inch or less	\$210
1 inch	\$300
1½ inch	\$750
2 inches	\$880
3 inches	\$1,650
4 inches or larger	At cost
Ultrasonic Meters	At cost

- p. Final or actual meter reading - \$60
- q. Meter testing fee – paid by customer if meter is accurate, no charge if meter is faulty (In addition to Service On/Off Requests Fee)

Meter Size	Fee
¾ inch or less	\$150
1 inch	\$150
1½ inch	\$200
2 inches	\$350
3 inches	\$500
4 inches or larger	At cost

Ultrasonic Meters	At cost
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- r. Meter interface unit replacement - \$170
- s. Security deposit - \$500
- t. Street opening permit - \$300
- u. Water inspection permit (within City) - \$85
- v. Water inspection permit (outside City) - \$100
- w. Sanitary Service line inspection permit (within City) - \$85
- x. Sanitary Service line inspection permit (outside City) - \$100
- y. Storm Service line inspection permit (within City) - \$85
- z. Storm Service line inspection permit (outside City) - \$100
- aa. Footing drain lateral inspection permit (within City) - \$85
- bb. Footing drain lateral inspection permit (outside City) - \$100
- cc. Sewer lateral service demolition/cap off inspection fee (within City) - \$85
- dd. Sewer lateral service demolition/cap off inspection fee (outside City) - \$100
- ee. Plumbing service re-inspection fee - \$85
- ff. Cross connection re-inspection fee - \$75
- gg. Irrigation Service Cut/Cap Administration fee - \$70
- hh. Delinquent Commercial Backflow Test fee (per device) - \$25
- ii. Customer requested onsite service - \$100
- jj. Administrative/Research fee (review or processing of account for non-payment, returned payment, shut-off, posting of property, and/or backflow non-compliance. Documentation creation for account of location information, FOIA request may still be required) – \$70
- kk. Late payment penalty – 10% of net
- ll. Missed appointment fee - \$50
- mm. 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, valves, meters, meter reading equipment, hydrants, and curb stops and box) - \$500 plus double commodity rate for estimated volume and unbilled readiness to serve charges that may apply plus doubling of penalties for each subsequent infraction
- nn. 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 any unbilled readiness to serve charges that may apply plus doubling of penalties for each subsequent infraction

- oo. Failure to return or return of damaged beyond repair / repairable hydrant connection equipment – Cost + 10%
- pp. Repair/replace damage to fire hydrant – Cost + 10%
- qq. Permit infractions/violations – \$100 plus double commodity rate for estimated volume and any unbilled readiness to serve charges that may apply plus doubling of penalties for each subsequent infraction
- rr. Returned check charge - \$30
- ss. Unauthorized service tap of Water or Sewer main - \$500 plus double commodity rate for estimated volume and any unbilled readiness to serve charges that may apply plus doubling of penalties for each subsequent infraction
- tt. Any cost recovery due to damaged 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%
- uu. Watermain oversizing rates

8 – 12 inches	\$30.17 per lineal foot
12 – 16 inches	\$57.40 per lineal foot
8 – 16 inches	\$87.57 per lineal foot

vv. Circuit breaker allocation

Individual Circuit Breaker (ICB)	\$210,446
City and Customer Community Circuit Breaker (CCCCB)	\$913,118

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	\$110
Commercial	\$175

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

i. Plan Review and Connection Fee (PRC)

1. Residential Users (three residential units or less)

Meter Size	PRC Fee
¾ inch or less	\$380
1 inch	\$390
1½ inch	\$390

2. All other Users (including residential of more than 3 units, commercial, industrial, governmental and religious)

Meter Size	PRC Fee
¾ inch or less	\$725
1 inch	\$960
1½ inch	\$1,270
2 inch	\$1,750
3 inch	\$2,180
4 inch	\$3,130
6 inch	\$4,400

ii. Meter Capacity Fee (when water and sanitary sewer connections are made at the same time only one Meter Capacity Fee shall be charged)

Meter Size	MCC Fee
¾ inch or less	\$210
1 inch	\$300
1½ inch – T2	\$750
2 inch – T2	\$880
3 inch – T2	\$1,650
4 inch – T2	At Cost
6 inch – T2	At Cost
Ultrasonic Meters	

1-1/2" – 12"	At Cost
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iii. Commercial Plan Assessment Fee (for instances where there is an established connection or property has been previously reviewed)

All Sizes	\$125
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c. Commodity rates within the City of Grand Rapids

Domestic	\$4.45 per 100 cubic feet
Commercial	\$4.45 per 100 cubic feet
Industrial	\$4.45 per 100 cubic feet

d. Monthly service charge within the City of Grand Rapids

Size of Meter	Charge
¾ inch or less	\$16.31
1 inch	\$26.23
1¼ inch	\$38.98
1½ inch	\$54.56
2 inches	\$94.23
3 inches	\$207.56
4 inches	\$366.23
6 inches or larger	\$819.56

e. Wastewater surcharges for industrial customers

BOD	\$0.446
TSS	\$0.655
Phos	\$4.758
NH3	\$0.518

f. Concentrated waste credit

BOD	\$0.101
Phos	\$2.191
NH3	\$0.037

g. Significant industrial user discharge permit fee - \$400 plus the surcharge analytical fees

h. Surcharge analytical fees

Metals	
1 Metal	\$10.50/each
2 Metals	\$14.25 total
3 Metals	\$18.00 total
4 Metals	\$21.75 total
5 Metals	\$25.50 total
6 Metals	\$29.25 total
7 Metals	\$33.00 total
8 Metals	\$36.75 total
9 Metals	\$40.50 total
10 Metals	\$44.25 total
11 Metals	\$48.00 total
12 Metals	\$51.75 total
13 Metals	\$55.50 total
14 Metals	\$59.25 total
TSS	\$10.50/each
BOD	\$21/each
BOD 7	\$21/each
COD	\$15.50/each
Total Phosphorus	\$10.50/each
pH	\$5.25/each
EPA 624.1	\$46/each
EPA 625.2	\$102/each
BTEX/MTBE	\$46/each

Sulfide	\$21/each
Oil and Grease	\$21/each
Total Cyanide	\$21/each
Hexavalent Chromium	\$26/each
Fecal Coliform	\$18/each
Mercury (EPA 245.1 or 245.2)	\$18.50/each
Ammonia	\$15.50/each
Pesticides and PCBs EPA 608	\$122/each
PCB's	\$62/each
Phenols	\$21/each
PFAS EPA 537 Modified (samples, duplicate and blank)	\$245/each
PFAS by LCMSMS (samples, duplicate and blank)	\$285/each
EPA 1666 Volatile Organics in Pharmaceuticals	\$46/each
EPA 524.2 Purgeable Organics	\$46/each
Methyl Blue Active Substances (MBAS)	\$62/each
Color	\$15.50/each
Labor	\$73.28/hour
Sampler	\$50/day
Vehicle	\$4.01/hour
Composite Labor	1.5 hours per sample
Grab Sample Labor	1.0 hours per sample

i. 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	\$3,300	\$3,800	\$4,100	\$4,900	\$6,000

j. Sewer oversizing rates

Description	Amount (per lineal foot)
8 – 10 inches	\$8.72
8 – 12 inches	\$15.57
8 – 15 inches	\$34.88
10 – 12 inches	\$6.85
10 – 15 inches	\$26.16
12 – 15 inches	\$19.31

k. Footing drain disconnect opt out charge - \$76.59 per customer per month

3. That the above Water and Sewer rates, charges and fees are approved and shall be effective January 1, 2023.

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 13, 2022.



Joel H. Hondorp, City Clerk

**92241 Result: Adopted.
Mover: O'Connor. Supporter: Reppart.**

WHEREAS:

1. The Water/Sewer rate studies have been undertaken and completed for the years 1976 through 2021; and
2. The 2022 Water/Sewer Rate Review has been completed using the same general methodology as the 1976 through 2021 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, 2023; and
2. That the Utility Financial Officer 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 13, 2022.



Joel H. Hondorp, City Clerk

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: January 1, 2023

TO: Molly J. Clarin
Chief Financial Officer

FROM: Jenessa B. Carter
Utility Financial Officer

SUBJECT: **2022 WATER/SEWER RATES STUDY PARTNER COMMUNITY CONTRIBUTIONS**

The following community has elected to make a contribution to reduce their water or sewer 2022 rate study 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	204369	\$181,741.34

JBC:jbc

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: December 13, 2022

TO: City of Grand Rapids Mayor and City Commissioners

FROM: Jenessa B. Carter, Utility Financial Officer

SUBJECT: **2022 Rate Study – City of Grand Rapids 20-day Public Comment Period Comments and Answers**

During the 2022 Water and Sewer Rate Study comment period, the City of Grand Rapids received three public comments included below and presented with the December 6, 2022, City Clerk’s Office Petitions and Communications. As indicated at the Committee of the Whole Preliminary Rate Study Presentation on November 15, 2022, all public comments received will be reviewed by staff and considered as part of the FY2024 budget planning process.

Email from Mr. Kyle Stedman:

From: Kyle Stedman
Sent: Thursday, November 17, 2022 5:52 PM
To: Customer Service Information Center
Subject: Water and sewer rates

Please stop this madness. Us families in Grand Rapids are already living check to check. Inflation rates are too high, why make our community suffer more. Do you want more homelessness? We as the people do not want this so please please see it in your hearts not to raise the rates.

Sincerely, Kyle Stedman

Email from Ms. Patricia Howard:

From: Patricia Howard
Sent: Wednesday, November 16, 2022 5:41 PM
To: Mayor <mayor@grand-rapids.mi.us>
Subject: Water rate increase

Mayor Bliss, I was under the impression that the water and sewer rates were not going to be raised in GR. Now a 7% increase? This is going to be very hard on low income and seniors. I don’t understand why this is being raised and am opposed to this

increase. A very bad time to hit the residents of GR again. Please rethink this increase.
Pat Howard

Email from Mr. Nick Palmer:

From: nick palmer

Sent: Thursday, November 17, 2022 9:13 PM

To: Customer Service Information Center <csic1@grand-rapids.mi.us>

Subject: Dont raise our water and sewer!

Dont raise our water and sewer rates, already very high!