

EXAMPLE NO. VII

MUNICIPALITY WITH NO METERS. COMMODITY CHARGES ARE BASED ON RESIDENTIAL EQUIVALENT UNITS. SEE EQUIVALENT UNITS. SEE APPENDIX A, PAGE 14.

If the system includes both water and sewer services, and some customers have only one service, or where there is a large volume of bulk sales, Water and sewer commodity rates should be calculated separately. Otherwise only one commodity rate is necessary.

ABBREVIATIONS: C = Contingency Allowance; G, followed by a number = Guideline Item; M.G. = Thousand Gallons; M & O = Maintenance & Operation costs; S = Sewer; Units = Residential Equivalent Units; W = Water.

USE SPACES BELOW () to insert your own data.
Data for preceding year should be projected for 2 years to allow for increases, e.g., estimate increases in costs, number of likely new customers, and number of additional Units, taking into consideration extra Units chargeable to customers who will use more water than residences. See Appendix A.

CAPITAL COST OF SYSTEM, GROSS; ANNUAL DEBENTURE COST & CONTINGENCY ALLOWANCE.

G. 4 & G. 5.

	<u>Capital cost</u>		<u>Contingency Allowance</u>	
Water Production & Distribution	\$ 250,000	()	\$ 2,500	()
Sewage collection & disposal	<u>200,000</u>	()	<u>2,000</u>	()
Total	450,000	()	4,500	()
Annual Debenture costs	\$ 36,000	()		
Recovered by:				
Frontage charges	12,000	()		
Tax on assessment	24,000	()		
Rates	-	()		

UTILITY CASH SURPLUS, accumulated to end of previous year \$4,000 ()
" RESERVE FUND, balance at end of previous year \$8,000 ()

WATER: Produced or purchased 25,000 M.G. ()
Less unaccounted for, normally say 10% 2,500 M.G. ()
Estimated sales 22,500 M.G. ()

Note: Percentage of water produced which is unaccounted for should be estimated taking into consideration condition of distribution system.

CUSTOMERS: W & S	265 ()	Note: If any customers are located outside of Municipality, or L.I.D., show number of customers and Units charged to each. G. 21.
W only	15 ()	
S only	<u>5 ()</u>	
Total	285 ()	

EXAMPLE NO. VII - Page 2

RESIDENTIAL EQUIVALENT UNITS: (Including as many Units as required)

Units charged To customer	Number of customers	Units charged to all customers		
		Total Units	Units for Water service	Units for Sewer service
* 1	250 ()	250 ()	245 ()	235 ()
1 1/2	10 ()	15 ()	15 ()	15 ()
2	8 ()	16 ()	16 ()	16 ()
3	6 ()	18 ()	18 ()	18 ()
4	1 ()	4 ()	4 ()	4 ()
5	1 ()	5 ()	5 ()	5 ()
6	1 ()	6 ()	6 ()	6 ()
7	1 ()	7 ()	7 ()	7 ()
8	1 ()	8 ()	8 ()	8 ()
9	1 ()	9 ()	9 ()	9 ()
10	2 ()	20 ()	20 ()	20 ()
11	1 ()	11 ()	11 ()	11 ()
12	1 ()	12 ()	12 ()	12 ()
13	Nil ()	- ()	- ()	- ()
14	Nil ()	- ()	- ()	- ()
15	<u>1</u> ()	15 ()	<u>15</u> ()	<u>15</u> ()
Total	285 ()	()	391 ()	381 ()

* Note: Of customers charged 1 Unit, 15 customers use water only, and 5 sewer only. See "customers", page 1 of this example.

In determining number of Units to be charged to each customer, use Appendix A, pages 15 and 16, as a guide, subject to any exceptional circumstances which may exist.

RATE CALCULATIONS:

Based on Operating Expenses and Contingency Allowances. See G. 9. If any debenture costs, or any mandatory appropriations to Utility reserve funds, are to be recovered through rates, these should be included as an expense also. (See G. 4) Hydrant rentals are charged to recover costs of maintaining and replacing hydrants, which are part of the Water Distribution system: these rentals should be deducted from Water costs in calculating rates, as shown below:

Annual Costs	Calculation of Rates	Rates Derived
\$5,000	ADMINISTRATION COSTS. G.2.	Per Quarter
()	Cost - \$5,000 () Customers 285 () by 4 Q.	
	= Customer Service Charge	= \$4.40 ()

RATE CALCULATIONS: (Continued)

<u>Annual Costs</u>	<u>Calculation of Rates</u>	<u>Rates Derived</u>
\$27,500 ()	WATER PRODUCTION & DISTRIBUTION COSTS: G.15. M & O \$25,000 () + C \$2,500 (), Less Hydrant Rentals \$660 () = Net Cost \$26,840 () W. Units 391 () by 4 Q.	
	<u>= W. Rate per Unit per Q.</u>	= \$17.20 ()
\$10,500 ()	SEWAGE COLLECTION & DISPOSAL COSTS: M & O \$8,500 () + C \$2,000 () S. Units 381 () by 4 Q.	
	<u>= S. Rate per Unit per Q.</u>	= \$ 7.00 ()
\$43,000	Total expenses for rate calculation, excluding debenture charges recovered through taxes.	

BULK SALES RATE:

Calculate cost of W. & S. service per M.G. to connected customers, as follows:

$$\frac{\text{Expenses for rate calculation (above) } \$43,000 ()}{\text{M.G. of Water sold (page 1 of Example) } 22,500 ()} = \text{W. \& S. rate per M.G.} = \$ 1.90 ()$$

Calculate cost of Water service per M.G. as follows:

$$\frac{\text{M \& O + C cost: W. } \$27,500 ()}{\text{M \& O + C cost: W. } \$27,500 + \text{S. } \$10,500 ()} = \text{Water rate per M.G.} = \$ 1.40 ()$$

Calculate Bulk Rate per M.G. as follows:

$$\begin{aligned} &\text{Cost for rate calculation } \$43,000 (), \\ &\text{Plus debenture cost } \$36,000 (), \text{ multiply} \\ &\text{Cost for rate calculation } \$43,000 () \\ &\text{this result by W. rate per M.G. } \$1.40 () \\ &\text{to derive } \underline{\text{Bulk Sales Rate per M.G.}} = \$ 2.60 () \end{aligned}$$

ESTIMATED ANNUAL REVENUES & EXPENSES

REVENUE

Service Charges - 285 () customers @ \$4.40 () by 4 Q. = \$ 5,016	()
Commodity Charges:	
391 () W. Units @ \$17.20 () by 4 Q. = \$27,101	()
381 () S. Units @ \$ 7.00 () by 4 Q. = 10,668	()
Bulk water sales - Nil M.G. () @ \$2.60 per M.G. Nil	()
Hydrant Rentals: 22 () hydrants @ \$30 () = 660	()
Total Revenue	43,445 ()
Total Expenses (above)	43,000 ()
Estimated Surplus	445 ()

Note: Estimated revenue should exceed estimated expenses.

SCHEDULE OF QUARTERLY RATES:

This information marked [] below gives an indication of the number of Units which may be chargeable to various customer, using the "average" Units set forth in the study shown in Appendix A, pages 15 and 16. This does not take into account any adjustments which may be considered under exceptional circumstances.

1. Flat rates, quarterly, based on Units charged to each customer:

A. Water & Sewer Note: Each customer other than residences should be described by no.

Units	Customer	Service Charge	Commodity Rates		Quarterly Bill
			Water	Sewer	
1	Single family residence; Church; Garage, no wash rack:[Hall up to 250 seats, infrequent use]; Small commercial;	\$4.40 ()	\$17.20 ()	\$ 7.00 ()	\$28.60 ()
1 1/2	Small store, with 1 ste; Beauty Shop;	4.40 ()	25.80 ()	10.50 ()	\$40.70 ()
2	Garage, with 1 wash rack; Rink; Bakery, Small; Grocery & Butcher shop: Café, 30 to 50 seats;	4.40 ()	34.40 ()	14.00 ()	52.80 ()
3	Apt. Bldg., 3 stes;	4.40 ()	51.60 ()	21.00 ()	77.00 ()
4	Laundromat, with 4 washing machines;	4.40 ()	68.80 ()	28.00 ()	101.20 ()
5	Hotel or Motel, 10 rooms, no dining or beverage room; Sr. Citizens Home, [8 single rooms, 1 double room];	4.40 ()	86.80 ()	35.00 ()	125.40 ()

EXAMPLE NO. VII - Page 5

6	Elem. School [6 rooms, 1 shower, 150 to 180 students];	4.40 ()	103.20 ()	42.00 ()	149.60 ()
7	Laundromat, with 7 washing machines;	4.40 ()	120.40 ()	49.00 ()	173.80 ()
8	Hotel [8 modern rooms, restaurant, up to 30 seats, beverage room, 40 to 50 seats];	4.40 ()	137.60 ()	56.00 ()	198.00 ()
9	Sr. Citizens Home, [12 single rooms, 2 double rooms];	4.40 ()	154.80 ()	63.00 ()	222.20 ()
10	Apt. block, [10 suites];	4.40 ()	172.00 ()	70.00 ()	246.40 ()

1. Flat rates, quarterly, based on Units charged to each customer:

A. Water & Sewer (continued)

<u>Units</u>	<u>Customer</u>	<u>Service Charge</u>	<u>Commodity Rates</u>		<u>Quarterly Bill</u>
			<u>Water</u>	<u>Sewer</u>	
11	Hotel [10 rooms, 40 Restaurant seats, 60 beverage room seats];	4.40 ()	189.20 ()	77.00 ()	270.60 ()
12	Collegiate [8 rooms, 4 showers, 175 to 225 students];	4.40 ()	206.40 ()	84.00 ()	294.80 ()
13	No example	4.40 ()	223.60 ()	91.00 ()	319.00 ()
14	No example	4.40 ()	240.80 ()	98.00 ()	343.20 ()
15	Hospital [Full service, 10 beds];	4.40 ()	258.00 ()	105.00 ()	367.40 ()

B. Water only

Quarterly Charge will be the same as in A. above, for customers with the same number of Units allocated, except that the Sewer Commodity charge will be excluded.

C. Sewer only

Quarterly Charge will be the same as in A. above, for customers with the same number of Units allocated, except that the Water Commodity charge will be excluded.

2. Bulk Sales

All water sold in bulk by the Utility will be charged at \$2.60 per M.G. (See Bulk Sales Rate, page 3 of this example), with a minimum charge of \$1.50 per load.

3. Service to customers outside Municipality, or L.I.D., limits

The Council of the Municipality may sign agreements with customers for the provision of water and sewer services to properties located outside the legal boundaries for the Municipality, or Local Improvement District. Such agreements shall provide for payment of the appropriate rates set out in paragraphs 1 of this schedule, as well as a surcharge, set by resolution of Council, which shall be equivalent to the frontage levy and general and special taxes in effect at the time, or as may be in effect from time to time, and would be levied on property concerned if it were within these boundaries. In addition, all costs of connecting to the Utility's mains, and installing and maintaining service connections will be paid by the customer.

4. Reconnection fee. See G. 25

5. Billing and penalties. See G. 23 & 24.

Hydrant rentals. See G. 17.