



Village of Wales

Explanation of Sewer Service Charge

The Village of Wales collects sewage through a gravity system that transports the sewage to a central pumping station. The sewage is then pumped through a force main to the City of Waukesha's collection system and ultimately to the City's sewage treatment plant.

The Village of Wales charges the users of the sewage system a quarterly service fee based upon these three factors:

1. The size of the water meter that computes the volume of water used by the customer
2. The residential equivalent size of the property serviced, 1 REC = the equivalent of one residential household, estimated at 15,000 gallons of water usage per quarter
3. The volume of water used by the customer, in thousands of gallons per quarter.

Costs associated with the service location:

- City of Waukesha's administrative fee charged per meter serviced
- The size of the water meter
- Meter cellular reading system
- Postage for invoicing

Costs associated with the operation and maintenance of the system allocated on the number of REC's assigned to a service location

- Maintenance
- Meter readings
- Effluent sampling
- Grounds maintenance
- Billings & accounting
- System operation & engineering
- Insurance
- Meter & cellular sending replacement
- Diggers Hotline
- City of Waukesha's Class 2 Surcharges

Costs associated with volume charges

- Electricity used in the pumping system.
- City of Waukesha's volume based processing fee
- Pretreatment chemicals used at the Wales pumping station

Currently the Village of Wales does not charge for the cost of the physical infrastructure but eventually intends to fund a replacement account through user fees.

Village of Wales Sewer Rate Structure 2017 Sewer Service Charge

Every Service Receives the following four charges per quarter

| | <u>Units</u> | <u>Rates</u> | <u>Quarterly Charges Single Rec</u> | | | |
|--|---|------------------|-------------------------------------|-----------------------------|-----------------|-----------------|
| | | | <u>2017</u> <u>Rates</u> | <u>2016</u> <u>Rates</u> | <u>Change</u> | <u>Increase</u> |
| Volume charge, per '000 gallons | 1,000 gal | \$ 8.10 | \$ 8.10 | \$ 8.20 | \$ (1.50) | |
| Location charge based upon meter size | See Table Qtrly Meter Charge | | \$ 22.13 | \$ 21.09 | \$ 1.04 | |
| Class 2 Surcharges | REC's | \$ 31.42 | \$ 31.42 | \$ - | \$ 31.42 | |
| Fixed charge based upon Village assigned REC's | REC's | <u>\$ 116.78</u> | <u>\$ 116.78</u> | <u>\$ 95.44</u> | <u>\$ 21.34</u> | |
| | Fixed charge per REC on quarterly billing | \$ 148.20 | | | | |
| Total Revenues Generated | | | \$ 291.83 | \$ 239.53 | \$ 52.30 | 22% |

Class 2 Surcharges imposed by the City of Waukesha for excessively high levels of the following components in sewage:

BOD's - Biochemical oxygen demand is the amount of dissolved oxygen needed (i.e., demanded) by aerobic biological organisms to break down organic material ...

TSS - Total suspended solids is the dry-weight of particles trapped by a filter. It is a water quality parameter used for example to assess the quality of wastewater after treatment in a wastewater treatment plant. It is listed as a conventional pollutant in the U.S. Clean Water Act.

Phosphorus is often a focused on in wastewater effluent is that it is an essential mineral in the growth of algae and other biological organisms along with Nitrogen.

TKN - Total Kjeldahl Nitrogen is the U.S. EPA-approved parameter used to measure organic nitrogen and ammonia. The **TKN** content of influent municipal wastewater is typically between 35 and 60 mg/L.

| VILLAGE OF WALES | | | | | | | | |
|--|---|--------------|---------|-------------------------------------|---------------------------|-------------------|---------------|---|
| SANITARY SEWER SERVICE FEE COMPUTATION | | | | All Users are Charged the Surcharge | | | | |
| 2017 | | | | | | | | |
| | | Quarterly | | | | | | |
| | | Unit Charges | Total | Fixed Charge per REC | Charge per Meter Location | Class 2 Surcharge | Volume Charge | Comments |
| Operation Expenses | | | | | | | | |
| 820 | Pumpage & Meter | | | | | | | |
| | Contract With Starnet | | 2,100 | 2,100 | | | | 2/20/2017 |
| | Starnet data charges | | 480 | 480 | | | | \$120 per quarter |
| | ASI two meters read weekly | | 12,000 | 12,000 | | | | ASI 52 wks @ \$230 ea |
| 821 | Power for Pumping (electricity & diesel) | | | | | | | Lift Station |
| | Pump Station (using '000 gals for base) | 13,000.0 | 4,680 | | | | 4,680 | \$.36 per '000 gal (Feb 2017 cost) |
| | Madison Street Manhole | | 230 | 230 | | | | \$19/mo |
| 825 | Sewage Treatment | | | | | | | |
| | Excess Class 2 Charges per '000 gls | \$ 2.13 | 29,000 | | | 29,000 | | 39% more for excess charges in fourth qtr 2016 |
| | Waukesha volume charge, per '000 gal | \$ 6.02 | | | | | | Base processing rate |
| | Gals/REC/YR in '000s | 60.0 | | | | | | 60gls/day/pers @ 2.75 pers/rec |
| | REC's | 230.75 | 83,000 | | | | 83,000 | |
| | Waukesha administrative fee per meter | \$ 13.88 | | | | | | |
| | Number of Meters times 4 qtrs | 55 | 3,050 | | 3,050 | | | |
| 826 | Other Chemicals for Sewage Treatment & Transmission | | 25,000 | | | | 25,000 | Bioxide |
| 827 | Other Operating Supplies and Expenses | | | | | | | |
| | Engineer's sampling | | 6,000 | 6,000 | | | | |
| | Total Operation Expense | | 165,540 | 20,810 | 3,050 | 29,000 | 112,680 | |
| Maintenance Expenses | | | | | | | | |
| 831 | Maintenance of Sewage Collection System | | - | - | | | | |
| 832 | Maintenance of Sewage System Pumping Equipment | | 6,000 | 6,000 | | | | ASI |
| 832 | Maintenance of Sewage System Pumping Equipment | | 2,000 | 2,000 | | | | Wet Well Cleaning, two cleanings @ \$1,000 each per SH 11/21/16 |
| 832 | Maintenance of Sewage System Pumping Equipment | | 3,500 | 3,500 | | | | Flygt Xylem |
| 833 | Maintenance of Force Main (air relief valves) | | 16,000 | 16,000 | | | | \$16,000 for two cleanings |
| 834 | Maintenance of General Plant and Structures | | 4,000 | 4,000 | | | | Facilities and grounds & \$1k for generator maintenance |
| | Total Maintenance Expense | | 31,500 | 31,500 | - | - | - | |

| VILLAGE OF WALES | | | | | | | | |
|--|---|--------------|---------|--|---------------------------|-------------------|---------------|--|
| SANITARY SEWER SERVICE FEE COMPUTATION | | | | All Users are Charged the Surcharge | | | | |
| 2017 | | | | | | | | |
| | | | | Quarterly | | | | |
| | | Unit Charges | Total | Fixed Charge per REC | Charge per Meter Location | Class 2 Surcharge | Volume Charge | Comments |
| Customer Accounting and Collection Expenses | | | | | | | | |
| 840 | Billing, Collecting and Accounting | | 11,000 | 11,000 | | | | Village Staff |
| 840 | Utility Billing Software | | 1,000 | 1,000 | | | | UBMax/300 meters, online bill payment, e-meter reading |
| 842 | Meter Reading - | | | | | | | |
| | Badger Meter Orion, per meter per month | \$ 0.89 | | | | | | |
| | Number of Meters times 12 months | 660 | 600 | | 600 | | | |
| | Total Customer Accounting and Collection Expenses | | 12,600 | 12,000 | 600 | - | - | |
| Administrative and General Expenses | | | | | | | | |
| 851 | Office Supplies and Expenses | | 500 | 500 | | | | |
| | Postage | | 170 | | 170 | | | |
| 852 | Outside Services Employed - Engineer | | | | | | | |
| | General Engineering | | 16,000 | 16,000 | | | | Add \$11k more |
| | Attend meetings | | 5,000 | 5,000 | | | | Add \$2.5 more |
| 852 | Outside Services Employed - Accounting | | 5,000 | 5,000 | | | | |
| 852 | Outside Services Employed - Legal | | 2,500 | 2,500 | | | | |
| 852 | Outside Services Employed - Consultant | | | | | | | |
| 852 | Outside Services Employed - Diggers Hotline | | 4,000 | 4,000 | | | | |
| | Location services | | 1,000 | 1,000 | | | | |
| 853 | Insurance Expense | | 500 | 500 | | | | |
| 855 | DNR Fees | | - | - | | | | N/A |
| 856 | Miscellaneous General Expense | | | | | | | |
| 857 | Rents | | | | | | | Rent Storage location |
| | Total Administrative and General Expenses | | 34,670 | 34,500 | 170 | - | - | |
| | Replacement Fund | | 8,980 | 8,980 | | - | - | \$1,049 for meter replacement included in quarterly meter charge by size |
| | Depreciation expense | | - | - | | - | - | |
| | Total Depreciation & Replacement | | 8,980 | 8,980 | | - | - | |
| | Total Expenses | | 253,290 | 107,790 | 3,820 | 29,000 | 112,680 | |

| VILLAGE OF WALES | | | | | | | |
|---|---|-------------|----------------------|--|-------------------|---------------|-------------------|
| SANITARY SEWER SERVICE FEE COMPUTATION | | | | All Users are Charged the Surcharge | | | |
| 2017 | | | | | | | |
| Quarterly | | | | | | | |
| | Unit Charges | Total | Fixed Charge per REC | Charge per Meter Location | Class 2 Surcharge | Volume Charge | Comments |
| Cost Recovery | | | | | | | |
| Anticipated Costs | | \$ 253,290 | 107,790 | 3,820 | 29,000 | 112,680 | |
| Recovery Base | | | | | | | |
| Meters | 55 | | | 55 | | | |
| Residential equivalent units serviced by sewer system | 230.75 | | 230.75 | | 230.75 | | |
| Flow Volume, '000s per REC, annual | 60.0 | 13,845 | | | | 13,845 | |
| | | 13,845 | 230.75 | 55 | 230.75 | 13,845 | |
| Sewer Service Charge | | | | | | | |
| | | | | | | | See Note 2 |
| Annual Price per unit, total = single REC | | \$ 1,148.26 | \$ 467.13 | \$ 69.45 | \$ 125.68 | \$ 8.10 | |
| Quarterly Price per unit | | 291.83 | 116.78 | 17.36 | 31.42 | 8.10 | |
| 2016 quarterly rates | | 234.76 | 95.44 | 16.32 | - | 8.20 | |
| Estimated quarterly increase on single user REC | 22% | \$ 52.30 | \$ 21.34 | \$ 1.04 | \$ 31.42 | \$ (1.50) | |
| (1) | Meter charge does not include the depreciation component that is based on meter size. See Quarterly Meter Charge Table | | | | | | |
| (2) | Volume Charge is displayed as dollars per 1,000 gallons of flow. Average single residential equivalent unit equals 15,000 gals per quarter or 60,000 gals per year. | | | | | | |
| | Total estimate volume for the year is 13.845 million gals (239.75 REC's @ 60,000 gals per year) | | | | | | |

Village of Wales Sewer Service Rates
 Table 2 - 2017 Quarterly Charge by Meter Size

| Meter Size | Meter Replacement | Encoder Replacement | Cellular Replacement | Qtrly Base Charge | Total Quarterly Charge |
|------------|-------------------|---------------------|----------------------|-------------------|------------------------|
| 0.500 | \$ 0.81 | \$ 2.51 | \$ 1.45 | \$ 17.36 | \$ 22.13 |
| 0.625 | \$ 0.81 | \$ 2.51 | \$ 1.45 | \$ 17.36 | \$ 22.13 |
| 0.750 | \$ 1.19 | \$ 2.51 | \$ 1.45 | \$ 17.36 | \$ 22.51 |
| 1.000 | \$ 2.39 | \$ 2.51 | \$ 1.45 | \$ 17.36 | \$ 23.71 |
| 1.500 | \$ 6.60 | \$ 2.51 | \$ 1.45 | \$ 17.36 | \$ 27.92 |
| 2.000 | \$ 9.57 | \$ 2.51 | \$ 1.45 | \$ 17.36 | \$ 30.89 |
| 2.100 | \$ 30.35 | \$ - | \$ 1.45 | \$ 17.36 | \$ 49.16 |
| 3.000 | \$ 32.68 | \$ - | \$ 1.45 | \$ 17.36 | \$ 51.49 |

2.1" meter is a 2" MAG compound meter
 MAG meters do not require a separate encoder