

Monitoring Flow Rate (l/s) and Volume (m³/day) of a Trade Effluent Discharge

Last Updated in April 2022

Introduction

Flow monitoring gives an accurate picture of the amount of trade effluent being discharged from a premises. This enables Wessex Water to ensure traders are complying, at all times, with their consented maximum flow rate and maximum daily discharge. Traders remaining within their consented limits allow Wessex Water to balance flows amongst traders whilst protecting the needs of the Water Recycling Centres. Maximum flow rate and maximum daily discharge volume limits also ensure that water recycling centres do not receive a higher volume than they are able to treat, and that the Sewer Network does not receive a higher flow rate than it has capacity to safely receive and convey.

Traders who discharge at volumes or flow rates greater than which they are permitted, risk Wessex Water's Water Recycling Centres and Sewer Network being subject to shock loading or even being overwhelmed. This can have an adverse effect on the performance and integrity of Wessex Water's assets, affecting Wessex Water's duty to protect the environment.

Flow monitoring also provides the added benefit for all parties of ensuring accurate billing.

For the above reasons, trade effluent sites discharging more than 30m³/day will be required to install a dedicated meter to continuously measure and record the daily volume (m³/day) and flow rate (l/s) of trade effluent being discharged to sewer.

Flow Monitoring Device

To ensure reliable and accurate flow readings, traders are required to use an [MCERTS](#) certified flow monitoring device. This maintains consistency between traders across the Wessex Water region. MCERTS is an Environment Agency monitoring certification scheme providing a standard of accuracy monitoring equipment must meet. CSA SIRA manage the scheme on behalf of the Environment Agency, please see the link above for a list of certified devices and service providers. Please note that whilst an MCERTS certified flow monitoring device is required, traders do not need to apply to CSA for an MCERTS inspection certificate ([section 2.6.3](#)) or inspection report.

Traders who are deemed high risk or have high flow discharges may require a logger or telemetry device. Traders who require loggers or telemetry devices will be notified by Wessex Water. The trader must then ensure any purchased MCERTS flow meter is compatible with a logger or telemetry device.

Installation

Correct installation of the flow meter is vital to ensure accuracy. The trader must ensure the location of the flow meter captures all discharge streams covered by their trade effluent consent. Flow meters are required to be installed by a qualified installer.

For traders with an existing flow meter installed on site, Wessex Water do not require the trader to replace the meter. Wessex Water may require a trader to replace their flow meter if they are in breach of their volume and/or daily flow limit, stipulated in their trade effluent consent. If the readings from the flow meter are not deemed accurate, Wessex Water may also request flow meters are replaced. If a trader has been notified that they require a logger or telemetry device, replacement of current flow meter with a compatible flow meter may be required.

Useful information and guidance regarding MCERTS issued by the Environment Agency can be found at [self-monitoring of flow: MCERTS performance standard](#)

Calibration and Maintenance

To ensure continued accuracy of flow meter readings, Wessex Water requires that traders undertake

annual calibration of flow meters. This service must be undertaken by a qualified third-party contractor who can provide a calibration certificate. Once completed the calibration certificate must be provided to Wessex Water for our records.

In addition to the yearly calibration of flow monitoring devices, traders will need to undertake regular maintenance of equipment and channels to ensure equipment operates at optimum performance. This ensures that accuracy of readings is maintained. Failure to properly maintain equipment and channels may lead to flow monitors overreading, potentially representing a breach of consent. Overreading flow meters will also result in inaccurate billing or unnecessary charges. The trader is obligated to ensure all responsibilities with regard to maintenance are communicated to the relevant personnel.

Data

Wessex Water require that flow data is collected and recorded in line with the following standards:

- Flow rate data must be continuous data (not a daily reading)
- Data must be continually recorded and made available to Wessex Water on demand
- Raw data will be made available on request by Wessex Water
- Traders should retain a copy of their flow data records for a minimum of 5 years
- Traders should monitor and self-report failures to Wessex Water as soon as becoming aware of them
- Data provided should be formatted in line with the below guidelines

How to format Volume data for Wessex Water

Volume data can be provided in the form of a table and/or graphical representation. These must show the total volume discharged to sewer on each individual day (24hr period) expressed in cubic meters per day (m³/day) and include a reference to the consent limit. Traders must also include the start and stop time of each 24hr period, which is used to link volume data to composite sampling machine data.

Example of acceptable table and graphical representation can be found below:

Table 1: Table showing Volume Data (m³/day)

Meter Model	Date	Start/Stop Time	Daily Volume (m³/day)	Consented Volume Limit (m³/day)
Watermaster V DN 40	15/02/2022 - 16/02/2022	10am-10am	1402.00	2000
Watermaster V DN 40	16/02/2022 - 17/02/2022	10am-10am	1419.50	2000
Watermaster V DN 40	17/02/2022 - 18/02/2022	10am-10am	1205.00	2000
Watermaster V DN 40	18/02/2022 - 19/02/2022	10am-10am	1295.20	2000
Watermaster V DN 40	19/02/2022 - 20/02/2022	10am-10am	1150.00	2000
Watermaster V DN 40	20/02/2022 - 21/02/2022	10am-10am	1871.00	2000
Watermaster V DN 40	21/02/2022 - 22/02/2022	10am-10am	1519.23	2000
Watermaster V DN	22/02/2022	10am-10am	1064.74	2000

40	- 23/02/2022			
Watermaster V DN 40	23/02/2022 - 24/02/2022	10am-10am	994.40	2000
Watermaster V DN 40	24/02/2022 - 25/02/2022	10am-10am	1298.68	2000
Watermaster V DN 40	25/02/2022 - 26/02/2022	10am-10am	962.34	2000
Watermaster V DN 40	26/02/2022 - 27/02/2022	10am-10am	853.60	2000
Watermaster V DN 40	27/02/2022 - 28/02/2022	10am-10am	813.83	2000

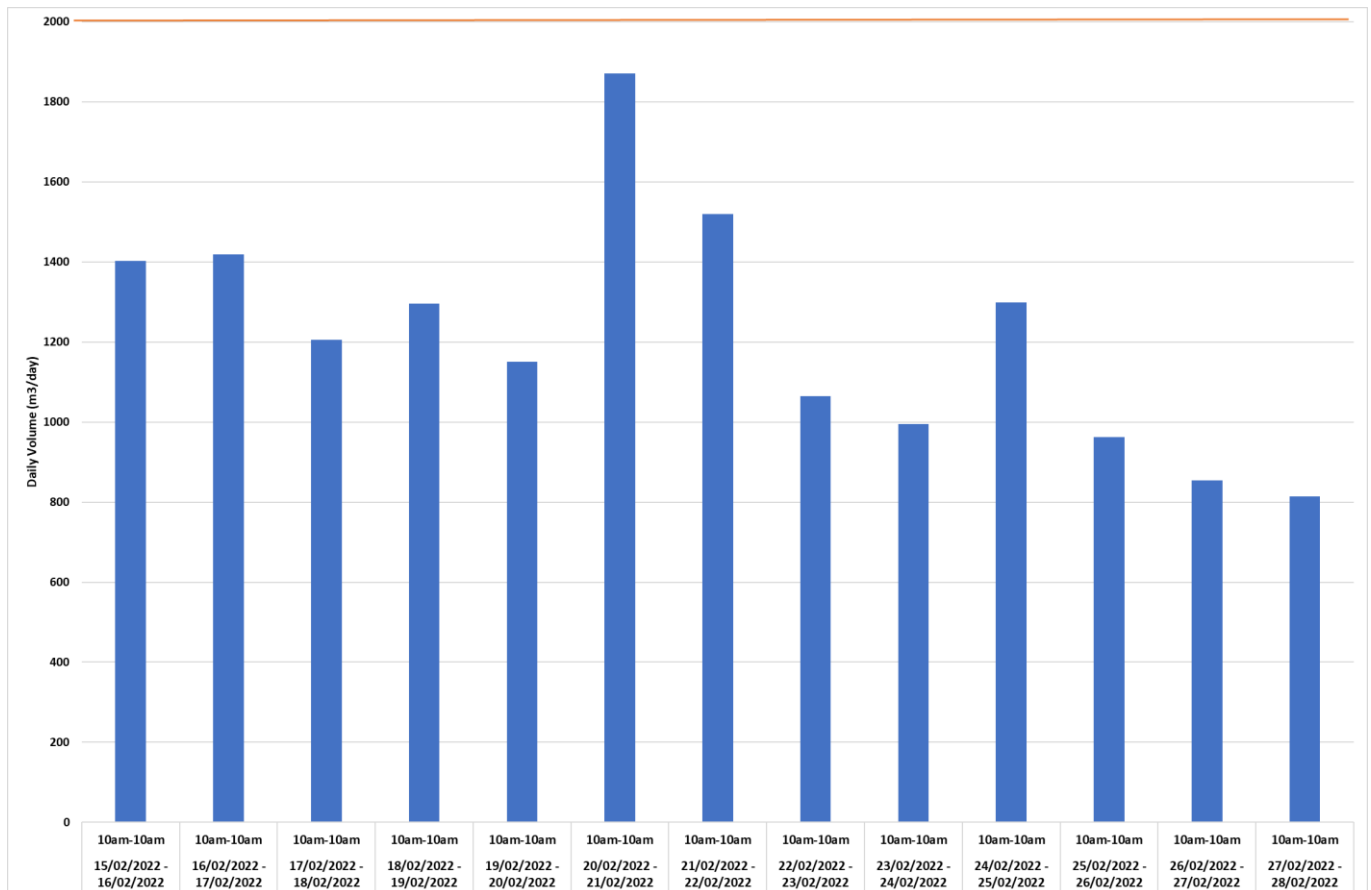


Figure 1: Graph showing Daily Volume (m3/day) with consent limit line

How to format Flow Rate data for Wessex Water

Flow rate data needs to be continuous. This can be achieved by either spot flow measurements with a minimum frequency of 5 minutes, or the average rate of flow over a period of 15 minutes.

Flow rate data can be provided in the form of a table and/or graphical representation. These must show the instantaneous flow rate of the discharge to sewer expressed in litres per second (l/s) and include a reference to the consent limit.

Examples of acceptable charts and graphical representations can be found below:

Table 2: Table showing continuous flow rate data (l/s)

Meter Model	Date and Time	Value (l/s)	Consent Limit (l/s)
Watermaster V DN 40	15/02/2022 00:05	7.91	20
Watermaster V DN 40	15/02/2022 00:10	8.04	20
Watermaster V DN 40	15/02/2022 00:15	7.9	20
Watermaster V DN 40	15/02/2022 00:20	7.57	20
Watermaster V DN 40	15/02/2022 00:25	7.14	20
Watermaster V DN 40	15/02/2022 00:30	7.14	20
Watermaster V DN 40	15/02/2022 00:35	7.17	20
Watermaster V DN 40	15/02/2022 00:40	7.39	20
Watermaster V DN 40	15/02/2022 00:45	6.61	20
Watermaster V DN 40	15/02/2022 00:50	6.61	20
Watermaster V DN 40	15/02/2022 00:55	6.39	20
Watermaster V DN 40	15/02/2022 01:00	6.73	20
Watermaster V DN 40	15/02/2022 01:05	0.94	20
Watermaster V DN 40	15/02/2022 01:10	6.92	20
Watermaster V DN 40	15/02/2022 01:15	6.14	20
Watermaster V DN 40	15/02/2022 01:20	8.05	20
Watermaster V DN 40	15/02/2022 01:25	5.01	20

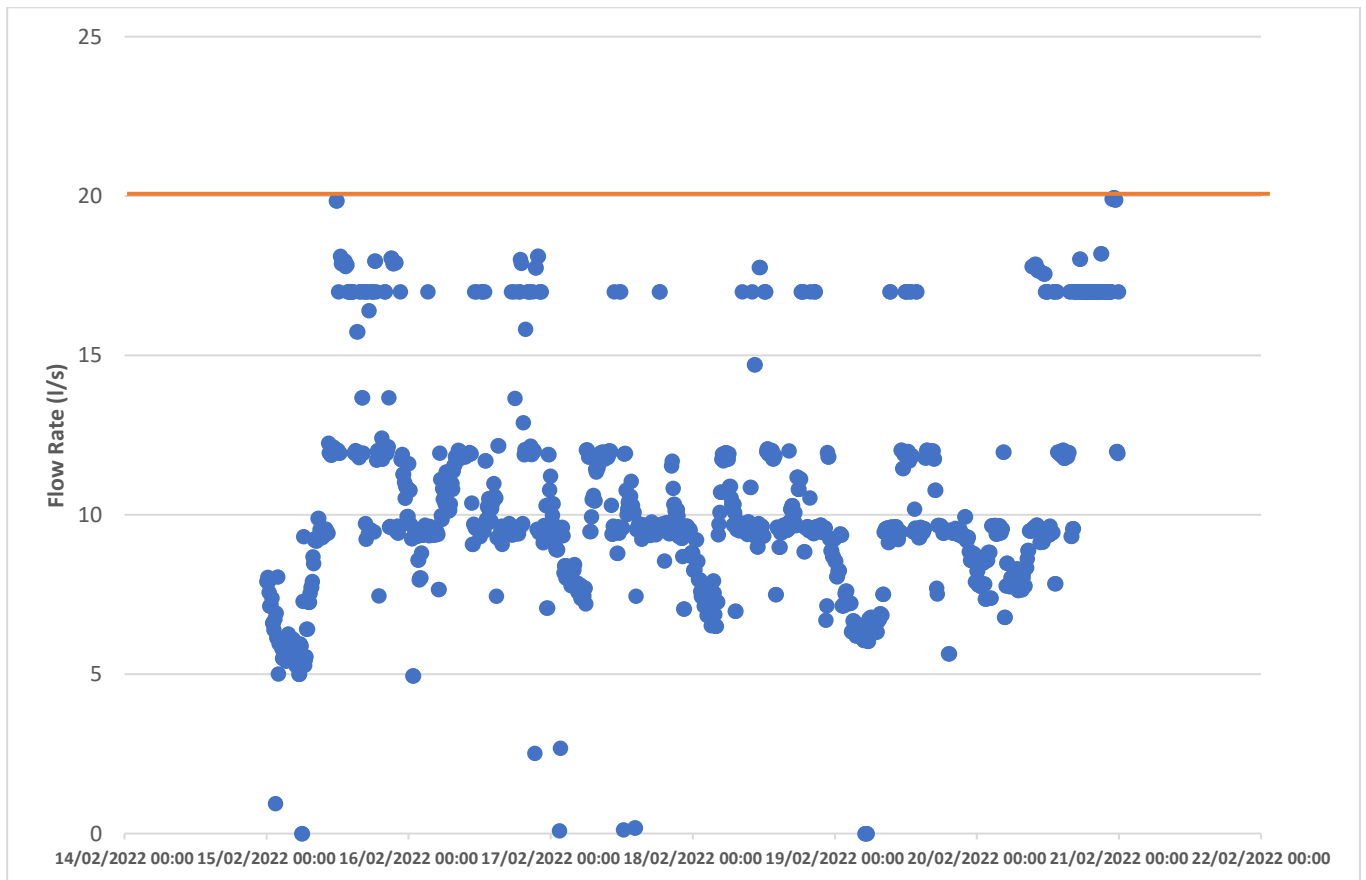


Figure 2: Graph showing flow rate (l/s)