Government of South Australia

SA Water

e-Bulletin
Business Technical Support

Water and Wastewater Efficiency

Issue 15 – January 2015

Happy New Year!

Wishing you a happy and safe 2015 from the Business Relations Team

This year, SA Water's Business Relations Team continues to offer technical support to our water and trade waste through the services outlined in this e-bulletin edition. So what is on the agenda for 2015? The following programs are currently available and aimed at helping SA Water's business customers.

- Technical support services for Trade Waste and Water Management
    - Leak Analysis and Water Profiling Program
    - Cleaner Production Program
- Information sheets, case studies and monthly e-bulletins
    - From this edition we are introducing a new Technical series into the e-bulletin which will break down how certain common devices such as pre-treatment devices actually work
- Workshops and site tours
- Account management and more!

2015 will also bring a brand new SA Water website which will improve access and usability of a brand new business section!

Want to know more? Visit our website via the link below or simply call or email us on the details in the banner below!

http://www.sawater.com.au/SAWater/YourBusiness/SaveWaterInYourBusiness/

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Technical Series

How does it work – Grease Arrestor

Common effluent contains a relatively low baseline of fats, oils and greases known in the industry as FOGs, but when concentrated FOGs from certain industries are introduced into the sewer and wastewater treatment systems the resulting issues can be significant. Depending on the loading and the location in the network where high concentrations might be discharged, FOGs can cause issues such as:

- sewer blockages leading to overflows and flooding
- increase in generation of sewer odours such as those from hydrogen sulphide which in turn can add to erosion of the sewer and its eventual collapse
- disruption of the wastewater treatment processes at the wastewater treatment plant

The impacts of FOGs in wastewater have been well noted right back to Victorian times when Grease Arrestors were first used in some form, and since then have been an integral method in managing FOGs effectively.

To combat concentrated FOGs from entering the sewer network Grease Arrestors are widely used and form a method of reaching compliance in many jurisdictions including here in South Australia.

How it works

A Grease Arrestor in principal is a very simple device that separates FOGs as well as heavier solids in the wastewater, relying on the principal that FOGs are lighter than the remainder of the wastewater and will therefore float and heavier solids will sink to the bottom.

This is illustrated in the following schematic where wastewater enters on the inlet side to the left of the grease arrestor, flow is dissipated by a baffle before wastewater makes its way into the first chamber where the majority of FOGs float to the top and heavier solids sink to the bottom. Wastewater then enters the second chamber where remaining FOGs are given a second chance to float to the top and solids sink to the bottom before the cleaner wastewater leaves via the outlet to discharge into the sewer network or in some cases into further treatment processes.

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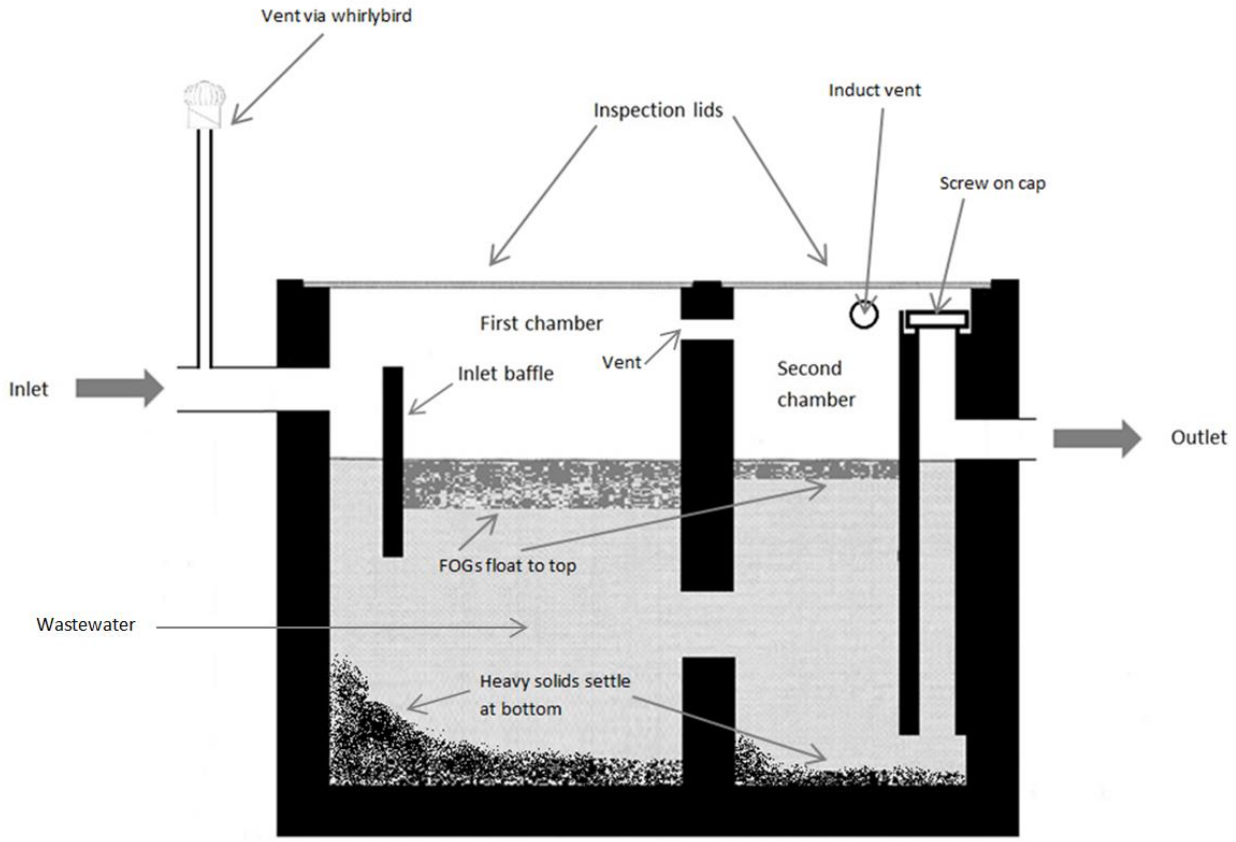
Figure 1: A typical 2 chamber Grease Arrestor



As flow continues over time the grease arrestor will accumulate more and more FOGs at the top of the arrestor as well as sediments at the bottom and removal of this separated waste is required by pumping out the waste into a tanker for removal and treatment off site. Several businesses in South Australia cater specifically for this task. The frequency of pump out is dependent on the quality and load of the influent wastewater as well as the size of the arrestor. Your Trade Waste officer can provide assistance in determining this frequency.

Choosing the correct size Grease Arrestor

Depending on the expected load and flow of the wastewater different sized grease arrestors will be required. In some cases a 2 chamber grease arrestor such as demonstrated above is enough to deal with the expected flow, whereas a larger flow may require a larger 3 chamber unit.

When a Grease Arrestor is specified as being required for compliance under an SA Water Trade Waste Authorisation, the Grease Arrestors is required to be a minimum of 1000 litres capacity and have a minimum hydraulic capacity to allow a minimum wastewater retention time of at least 1 hour during peak flow. This will allow enough time for FOGs to float and solids to sink. Additional capacity may be required for reasons such as to moderate high temperatures or to cater for business growth.

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Making sure your Grease Arrestor is working effectively

By following the key points below you can ensure that your Grease Arrestor is working as effectively as possible. Without the correct amount of maintenance your Grease Arrestor will fail.

- Reduce the amount of FOGs and Solids entering your wastewater stream
    - Reduce spillages and implement primary screening where possible
- Ensure your Grease Arrestor is appropriately sized for your expected peak flow
    - Too small and FOGs and solids could be carried through the arrestor
    - Too big and the contents could become septic
- Ensure your Grease Arrestor is pumped out frequently
    - Frequency depends on the amount of build-up of FOGs and solids in the arrestor
    - If you are having to pump out too frequently it is an indication your Arrestor is too small

Further information

Speak with your Trade Waste Officer or contact Trade Waste on 08 7424 1336.

Visit the SA Water Website to download further information sheets on Grease Arrestors http://www.sawater.com.au/SAWater/YourBusiness/TradeWaste

Trade Waste Technical Support

Cleaner Production Program available to assist with improving Trade Waste quality

SA Water's Business Technical Support offers a free Cleaner Production Program targeted at assisting SA Water customers seeking to reduce costs associated with treatment and disposal of wastewater from commercial and industrial businesses.

If you are having problems in adhering to your trade waste limits, have challenges with trade waste pre-treatment requirements or want to look for opportunities to minimise trade waste costs please contact us. More recently we have worked closely with some of our trade waste customers to implement some successful trade waste management strategies reducing costs and trade waste discharges to sewer. For example, one customer is saving approximately $8000 annually in reduced trade waste costs as a result of using the service.

For more information about our Cleaner Production Service you can visit our website via the link below or simply contact us at BusinessTechnicalSupport@sawater.com.au.

http://www.sawater.com.au/SAWater/YourBusiness/SaveWaterInYourBusiness/

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Leak Analysis and Water Profiling Service

Customers increase understanding of their water consumption patterns

SA Water's Business Technical Support continues to observe positive customer outcomes from the Leak Analysis and Water Profiling Service. The service involves attaching data logging equipment to water meters and exposed pipes to capture water consumption at set intervals as frequent as one minute. The data collected is analysed and graphs produced have been effective in identifying base flow leaks, cases of equipment left running, irrigation patterns and other opportunities for water efficiency and cost savings. It was revealed on one of our customers that over 90% of water use on a meter was occurring daily between 11:00 and 11:20pm at night when the site was closed!

To find out more please download our Leak Analysis and Water Profiling Information Sheet available under Services on the Business Technical Support webpage.

http://www.sawater.com.au/SAWater/YourBusiness/SaveWaterInYourBusiness/

Or contact us at BusinessTechnicalSupport@sawater.com.au or phone 08 7424 1333.

Disclaimer:

SA Water's Business Technical Services provides recommendations and suggestions only. It is advised that further investigations are detailed studies are completed before any projects are implemented. All applicable standards & guidelines (Australian, EU, AQUIS, HACCP, Australian Drinking Water Quality Guidelines etc.) should be adhered to, and care should be taken to ensure water and wastewater minimisation programs do not negatively impact health or processing operations.