

Although the Advanced Enviro))Septic technology at the heart of all System O)) solutions are completely passive with an incredibly simple use, some elements are essential to ensure its optimal functioning, unequalled durability and worry-free performance for its owner.

The ventilation is one of these elements. It allows not only for oxygen to flow – required for the metabolism of aerobic bacteria – but also for the appropriate evacuation of fermentation gasses that are generated during the biological degradation of pollutants.

This is why it is so important to ensure – in its design, installation and use – that the regular passage of air through the system is adequate.



## VENTILATION

### Basically...

In its most rudimentary form – that is, when it is gravity-fed – the passage of air within a System O)) system requires only the installation of an entry vent at the piezometer end of the system.

This vent allows air to enter, then move through the Advanced Enviro))Septic pipes to cross the distribution box and the septic tank before evacuating through the exit vent, which is located on the roof of the house. A 3-m minimum height differential is required between the vents to ensure an adequate air flow.



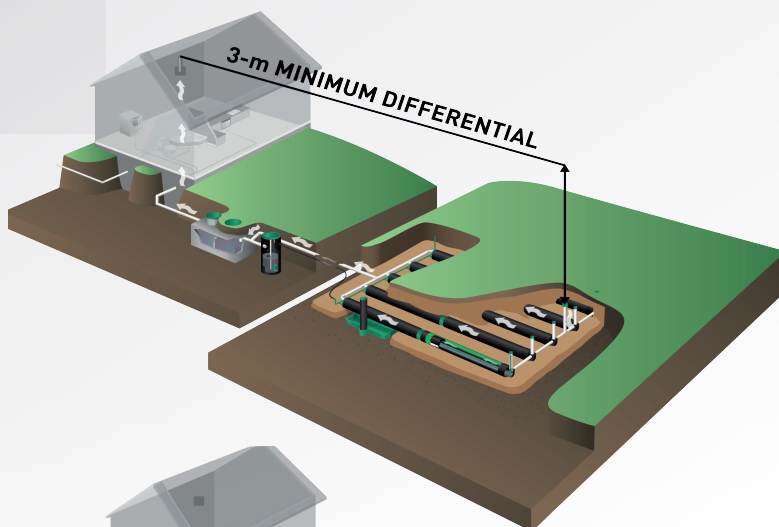
Specific situations can require the ventilation be modified to maintain the proper passage of air.

### Using a lifting station

As the ventilation must necessarily go through the septic tank to reach the roof vent, this circuit is inevitably broken by the outflow pipe when a lifting station is in play. The System O)) solution must then be ventilated another way. Two options are possible:

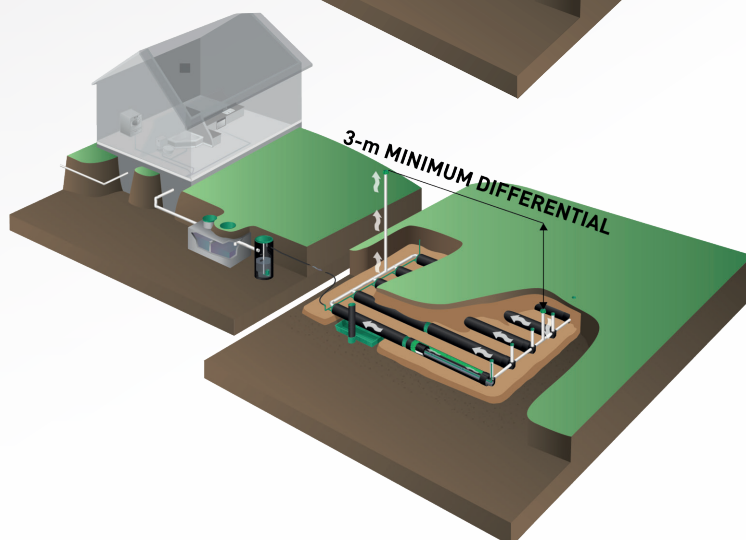
#### The bypass pipe

You can bypass the lifting station to ensure the free passage of air. This way, the air flow will still have access to the pre-treatment tank and the roof vent. In this case, a bypass line must be installed inside the lifting station or upstream from it.



#### Installing an exit vent

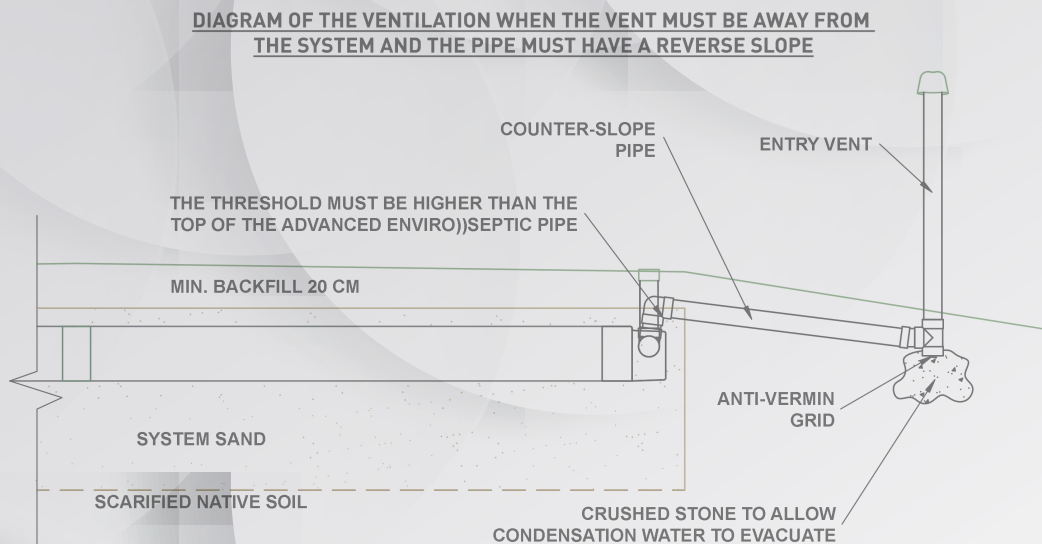
In some situations where the lifting station is far from the System O)) solution, the best option is to install a second vent – an exit vent – at the start of the system. The 3-m minimum differential remains very important. You should hide the exit vent behind a tree or an infrastructure, for aesthetic reasons.



## HIDING THE ENTRY VENT

We also recommend hiding the entry vent, but two essential elements must be respected:

1. A high point must be installed to avoid having wastewater flow out during high water moments in the system
2. A “T” with anti-vermin grid or drilled 90° elbow must be installed under the vent to allow the condensation to evacuate.



Otherwise, the entry vent could fill with water, completely blocking the ventilation and leading to gasses – that is, odours – leaching from the entry vent..

## BUILDING AWARENESS WITH END USERS

The end user has part of the responsibility in ensuring the optimal passage of air.

First, the effluent filter must be cleaned twice a year. An effluent filter is an accessory to the septic tank, installed at its exit. Required or strongly recommended in most Canadian provinces for all precast septic tanks, the effluent filter is an improvement on the treatment chain. But the effluent filter can accumulate solids with time, leading to its blockage, which will also block the passage of air. This will not only reduce the efficiency of the treatment, but will force the gasses to exit from the easiest and closest exit – the entry vent. Problems with odours can then occur in systems where the effluent filter is not properly maintained.

Then, the possibility of reducing the height of the entry vent (at the end of the system) is often offered for aesthetic reasons – to better hide the vent in the surroundings. This cannot be done with the exit vent (at the start of the system) since a 3-m minimum differential must be maintained. In cold climates, the vent must be returned to an adequate height before it starts snowing: the blockage of the entry vent by the snow will block the system's ventilation, leading to an ineffective treatment and potential problems with odours.

In the interest of ensuring end users benefit from an efficient and worry-free System O)) installation, end users must be aware of both these considerations.



## CONCLUSION

The ventilation is an essential element that is too often neglected on some systems, particularly when a lifting station is used. It is to everyone's advantage to insist on its importance and the best practices related to its installation and use.