

Combining ground water from a cavity drain system directly with a foul system, either foul pump systems or foul drains, is **NOT RECOMMENDED** or **ADVISED** for the following reasons:

- The principle risks involved are surcharging of the foul system, potential backflow into the cavity drain system and smells. The Foul non return valve will stop smells coming back from the discharge pipe work however the foul waste in the sump will still allow smells and gases to escape behind the cavity membrane system.
- The inclusion of traps between the cavity drainage system and the foul system will also only function in part and particularly only if they remain full of water. If the foul pump was to stop working, then appropriate action can be taken to stop the use of facilities discharging into the foul system, the exception to this is the ground water entering the structure and being drained by the cavity drain system.
- If the foul system has surcharged/failed then the ground water cannot drain into the sump, and discharge the cavity drain system, the only outcome of this the basement will be FLOODING.



Head Office:

Delta House, Merlin Way, North Weald, Epping, Essex, CM16 6HR
01992 523 523 | info@deltamembranes.com | www.deltamembranes.com

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Because of the risks involved we advise that ground water from the cavity system is sent to its own ground water dual pump system, incorporating a high level alarm, along with consideration for power failure with the inclusion of a power back up system.

Baring in mind we need a dual system for ground water, if we combined both, then a two pump foul system including a larger sump to accommodate the pumps, guide rails and control panels would be required, this would cost substantially more than using a dual ground water sump and a single foul water sump.

Therefore there is no cost benefit or technical benefit in utilising a foul system to deal with both foul and groundwater in basement situations. Foul sumps are never as reliable as ground water sumps, as things like fat that go into the sump as a liquid turn into a solid. This can cause blockages and break downs of the system. As we have unfortunately seen too many issues arising where the two systems are combined we do not recommend combining the cavity drain drainage with the foul system.

When the ground water and foul water is pumped away off site it will generally end up in a combined sewer system, BUT the foul and groundwater SHOULD NOT be combined within the basement.

