

## SUSTAINABLE WATER/WASTE MANAGEMENT PLANT

A key aspect of the proposal is to create an environmentally friendly home, applying sustainable solutions wherever feasible.

Contributing to this aim is the proposed approach to the waste treatment for the Chapel, by using a zero-energy natural filtration system whereby the water table discharge meets environmental agency standards through a natural process.

Natural, organic and exceptionally reliable, this non electric sewage treatment plant (also known as packaged treatment plant) incorporates a patented coconut husk fragment-based filtering media; a rehabilitated and natural organic material which treats the wastewater using zero energy.

It is designed for standard residential properties, small commercial buildings, and due to its ability to cope with periods of no use, is ideal for seasonal holiday homes and campsites.

Silent and odourless and with an exceptionally high quality of final effluent, the Ecoflo biofilter is also used for Sites of Special Scientific Interest (SSSI), such as farmlands, canals, etc, therefore areas considered to represent the country's natural heritage.

The Ecoflo biofilter complies with EN12566-3 as a domestic sewage treatment plant and with EN12566-6 for use after the use of existing septic tanks. It also complies with EN12566-7 for tertiary treatment of wastewater.

To provide an overview of how such a system works, the key aspects remain pertinent.

The system is based on a two staged approach:

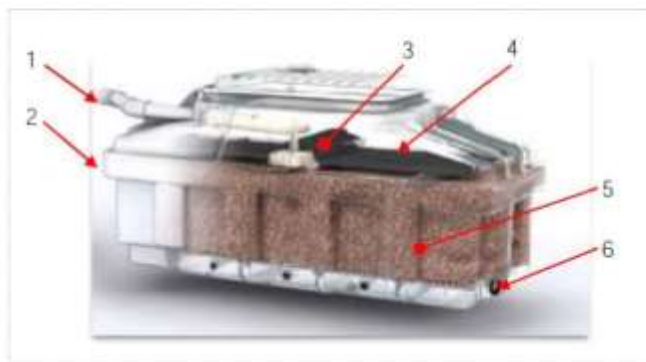
firstly, the process of settlement;

subsequently, a filtration process to clarify and treat the water discharge.

This filtration is done via coconut husks, which offer a natural filtration alternative to chemicals promoting the replenishment of healthy bacteria back into the ecosystem.

The system is zero energy, which contributes to both positively to the functionality should the Chapel not be used for any period and the core ethos of sustainability. This gravity-based system requires no pump and is perfectly suited to the planning proposal, as the system sits several meters below the ground level of the Chapel.

The Ecoflo® Filter operating principle allows the system to be used continuously or intermittently without requiring any special precautions or having any impact on the quality of the treatment.



1. Inlet, flow from the septic tank

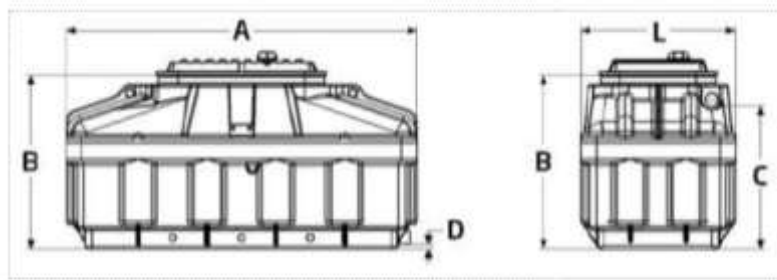
2. Biological filter chamber

3. Tipping bucket

4. Distribution plate (typical)

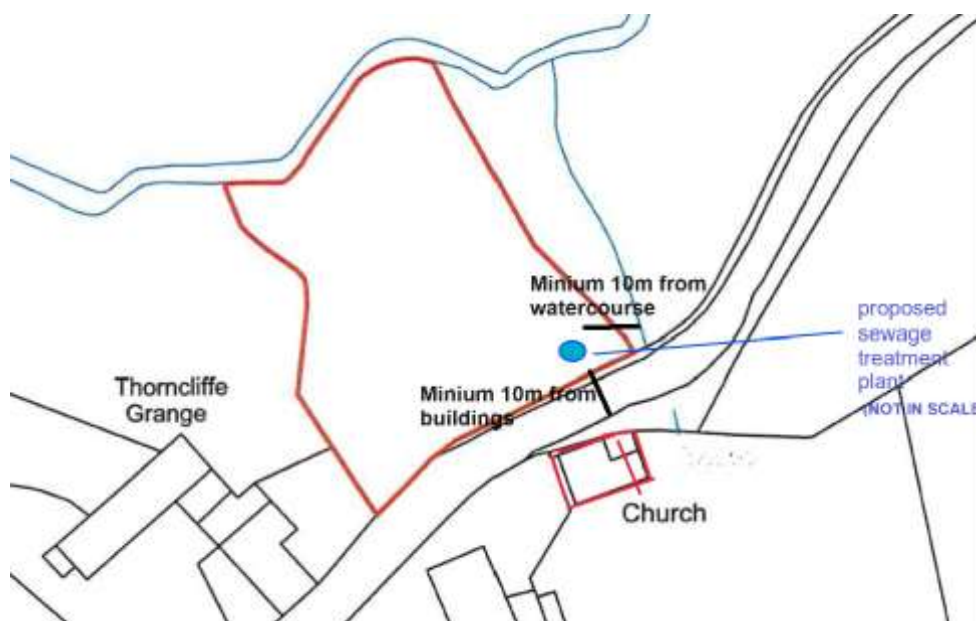
5. Coco husk media

6. Effluent exiting the plant



| ECOFLO® Filter |                                   | 4PE  | 6PE  |
|----------------|-----------------------------------|------|------|
| A              | Overall Length (mm)               | 2420 | 3320 |
| B              | Overall Height to ground (mm)     | 1360 | 1360 |
| L              | Overall Width (mm)                | 1210 | 1210 |
|                | Inlet / Outlet Pipe Diameter (mm) | 110  | 110  |
| C              | Standard Inlet Invert (mm)        | 1120 | 1120 |
| D              | Standard Outlet Invert (mm)       | 30   | 30   |

The location of the sustainable waste management unit will be installed underground, much in the same fashion as a traditional septic tank, below ground.



For its installation, Building Regulations Approved Document H2 will apply under 1.11 Packaged Treatment Works, and requires minimal site work. It is to note that the Ecoflow or equivalent packaged treatment plant that is proposed includes within its built-in treatment a wetland/reed beds treatment system in accordance with Guidance Approved Document H2 1.45 to 1.51.

The discharge from the wastewater treatment plan will be sited 10 metres away from the watercourse as well as the Chapel or any other buildings

The tank can be accessed via a discreet, green manhole covering, minimising visibility, and retaining the natural aesthetics of the current environment.

Examples of dimensions are provided below taken from the 'Eco flow' system. The minimum capacity of the smallest model would be 4-6 persons living full time at the property with this capacity able to double periodically for any special occasions/gatherings. As such, even the smallest unit would provide more than ample capacity for the proposed development. However, regardless of the size of the unit, the aesthetic discretion is retained.

The tank requires an annual service by qualified and approved professional. This does not require a removal of the tank but it is done on site with the removal of the access cover.

