

Application: Installation of a Package Sewage Treatment Plant and Infiltration Drainage System

Site Address:

Wade Court Cottage

Wade Court

Havant

Hampshire

Flood Resilience of the Proposed Sewage Treatment Plant

Flood Risk and Operation of the Proposed Package Treatment Plant

The proposed One2Clean CARAT 3750L package sewage treatment plant has been located within the existing driveway serving Wade Court Cottage in order to minimise visual impact whilst providing suitable access for maintenance.

The site is located within an area where flooding from tidal sources and/or surface water may occur. The design of the foul drainage system has therefore considered the potential effects of flood events on both the operation of the treatment plant and the protection of the surrounding environment.

The proposed installation has been designed in accordance with the principles contained within the **National Planning Policy Framework (NPPF)**, the **Planning Practice Guidance (PPG)** **Flood Risk and Coastal Change**, **Approved Document H of the Building Regulations**, and relevant **Environment Agency guidance** for small sewage treatment plants.

Flood Resilience Measures

The proposed installation incorporates the following flood resilience measures:

- the treatment plant will be installed below ground and securely anchored in accordance with the manufacturer's installation specification to resist flotation during periods of groundwater rise or floodwater inundation;
- all inspection covers will be fitted flush with the surrounding driveway and designed to prevent ingress of surface water under normal operating conditions;
- incoming foul drainage will continue to operate under gravity without reliance on external pumping systems;
- all electrical equipment associated with the treatment plant (compressor and control equipment) will either be located above the predicted flood level where practicable or protected within a weatherproof enclosure designed to prevent flood damage;
- pipework connections will be sealed to minimise infiltration of floodwater into the treatment process;
- following any significant flood event the system will be inspected by a suitably qualified maintenance contractor before returning to normal service if required.

Environmental Protection

The treatment plant provides biological treatment of domestic wastewater to a high standard before discharge to the infiltration drainage field.

The proposed treated effluent quality is:

Parameter	Performance
BOD	7 mg/l
Suspended Solids	14 mg/l
Ammonia	0.5 mg/l
Phosphate	1.6 mg/l
Nitrate	7.9 mg/l

During flood conditions the system remains a sealed treatment unit. The design minimises the risk of untreated sewage escaping into floodwater.

Should an extreme flood event occur beyond the design standard, temporary reductions in treatment efficiency may occur, however the likelihood of pollution is considered low due to:

- the sealed construction of the treatment tank;
- secure pipe connections;
- biological treatment occurring within enclosed chambers;
- regular servicing in accordance with the manufacturer's maintenance schedule.

Recovery Following Flooding

Following any significant flooding event:

- the treatment plant will be inspected;
- electrical equipment will be checked before operation;
- sludge levels will be assessed if necessary;
- servicing will be undertaken where required before full operation resumes.

This maintenance regime ensures the continued effective treatment of foul wastewater.

Conclusion

The proposed package sewage treatment plant is considered compatible with the identified flood risk at the site. The installation incorporates appropriate resilience measures to minimise flood damage, prevent pollution, and ensure that the system can be safely returned to operation following any flood event.

The proposal will therefore not increase flood risk elsewhere nor give rise to unacceptable environmental impacts.