

Proposed Reed Bed System for Brookside & Castlewood

As stated, site limitations restrict the discharge of foul wastewater to freshwater or the public sewer. These limitations are concerns regarding the impact of phosphates on the River Cleddau Ddu SAC.

Based upon the above, along with real-world case study information gained from similar solutions installed by ExCAL Limited, we recommend implementing a horizontal 'aerated reed bed system' in conjunction with a suitably sized bio-disc (PTP) at Brookside and Castlewood.

The combined system would treat the foul wastewater effluent associated with the existing 18 wooden lodges (1st Stage) and the proposed installation of 12 new wooden lodges at the site (2nd Stage) to a very high standard prior to discharge to the local stream.

The proposed engineered wetland will consist of four aerated beds interlinked by a raised reed bed constructed from stone-filled gabion baskets.

The detailed report explaining the reed bed design (**342-02-01—Proposed Reed Bed System Brookside and Castlewood—Nov 23. pdf**) was submitted to NRW on 20/11/2024.

Notably, the proposed location for the reed bed system has been updated and is now within a section of grassland surrounded by a single tree line, located to the west of the proposed new development. The proposed location is visible in Figure 1 below: -

Also, it was concluded that the size of the reed bed required to treat both 1st and 2nd stage effluents would be significantly smaller based on the recent river/effluent sampling exercise, which indicated the phosphates and ammonia levels to be slightly less than anticipated (reference: B&C testing Results).

Figure 1 Proposed Updated Reed Bed Location

