Introduction

A pond was recently created in the field immediately to the south of the property The Croft, Heol Ddu, to provide drinking water for the Castellau Fach Farm livestock. The pond is fed by the Nant Castellau and then discharges back into the same watercourse. It is proposed to submit a formal planning application To Rhondda Cynon Taf County Borough Council (RCTCBC) to regularize this situation.

The RCTCBC Lead Local Flood Authority has contacted the landowner regarding the requirements for Ordinary Watercourse Consent (OWC) and it is intended to prepare and submit an OWC application as required soon after the planning application.

Correspondence has also been exchanged with National Resources Wales (NRW) regarding the size of the pond. A topographical site survey was undertaken towards the end of January 2024 and the size of the pond was confirmed by the surveyor as 4040sqm surface area and 2828cum volume.

Local Surface Water Drainage

The Nant Castellau watercourse flows from north to south adjacent to the garden of The Croft, traverses the farm field to the south and flows under the Heol Ddu highway via an old stone arch culvert. It then follows alongside the highway in a south-westerly direction for around 500m to join with the Nant Muchudd. The Nant Muchudd subsequently joins with the River Ely to the north of Talbot Green.

The location for the pond was chosen where the land naturally dipped into a shallow bowl that would waterlog in times of heavy rainfall, effectively a natural location for the feature.

The land is classified as Flood Zone A on the National Resources Wales flood mapping meaning that it is not considered to be at risk of fluvial or tidal flooding. Further downstream, the River Ely is considered to have some fluvial flood risk so care should be taken not to increase this potential downstream flood risk.

The NRW flood risk mapping does, however, also indicate some risk of surface water flooding in the area. There is a low point along the Heol Ddu highway adjacent to the Castellau Independent Chapel that is downstream of the pond and the existing culvert that is located under the road at this low point has been known to flood and overflow onto the highway and this has happened quite regularly over recent years during high intensity storms.

Proposed Pond and Nant Castellau

The pond has been created on-line with the Nant Castellau in a natural shallow bowl with raised embankments to the west and the south. The pond inlet is formed with an open rock cascade feature that transitions into a dipped shallow ford to maintain agricultural access to the farm fields. The interface between the gravel track and the new pond is formed with large flat rocks to provide a stable edge to the pond and gently drop the water across the ford and into the pond.

The pond outlet is formed with a 3.0m wide weir structure with 3.0m wide concrete spillway with inset rock baffles to break the flows and slow the velocity of the water. After passing through the weir and spillway, the flows continue through the original natural watercourse of the Nant Castellau.

The concrete weir structure allows the natural low flow conditions to continue through the pond and the watercourse and serves to limit the maximum flows in high flow conditions when the pond provides additional attenuation volume that wasn't available before the pond was created.

The creation of the pond and the provision of additional attenuation storage volume on the land at Castellau Fach Farm will contribute towards alleviating the historical flooding that has occurred across Heol Ddu at its low point around the Castellau Independent Chapel.

SuDS Surface Water Drainage

The pond has been assessed against the Sustainable Drainage Systems Standards for Wales as published by the Welsh Assembly Government that sets out six criteria to be considered.

Standard S1 – Surface Water Run-off Destination

The means of surface water disposal have been considered in accordance with current SuDS guidance and is summarized as follows. Level 1 is the collection of surface run-off for re-use. The pond will provide drinking water for livestock, and this is an effective partial use of rainwater on the farm. Level 2 is infiltration into the ground, but the ground is not suitable for infiltration methods and is not appropriate at this location. Level 3 comprises the discharge to a watercourse, and this is the main method of continuing to discharge the flows that are received from the Nant Castellau.

Standard S2 – Surface Water Run-off Hydraulic Control

The pond outlet is formed by a 3.0m wide weir and spillway that forms an effective hydraulic control system during high flow conditions that will offer some added protection against flood risk to the downstream watercourses.

Standard S3 – Water Quality

The water quality of the Nant Castellau is already of a good standard. The pond additionally provides a standing water volume of around 2800cum and this will offer settlement time for water passing through the pond to have any suspended solids that may be collected by the upstream watercourse to settle out before continuing downstream to the receiving watercourses. The pond will therefore make a positive contribution towards the water quality.

Standards S4 and S5 – Amenity and Biodiversity

The creation of the pond integrates well with the local environment, contributing to both amenity and biodiversity. The surface water features enhance the site and promote well-being for farm workers, local inhabitants, and visitors. The pond supports natural local habitat, creating a more diverse self-sustaining and resilient local ecosystem.

Standard S6 – Construction, Operation and Maintenance

The pond and its inlet and outlet structures have been constructed in a manner to ensure easy access and minimum maintenance. The pond is accessed via the gated farm access track, only 60m from Heol Ddu highway. The inlet and outlet structure are unlikely to suffer any blockages as they have been constructed as open channels with a weir outfall to operate under all weather conditions and maintain the natural flows through the watercourse.

The pond offers a positive outcome when considered against the six standards for Sustainable Drainage Systems as outlined above.

Documents Appended

Drawing 2478-D01-A: Site Location Plan
Drawing 2478-D02-A: Pond Layout
Drawing 2478-D03-A: Pond Sections

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For UTC ASSOCIATES