
Barons Cross, Leominster – Persimmon Homes East Wales

Phoenix Design Drainage Response to Planning Comments

January 2024

In response to planning comments received from Herefordshire Council and Balfour Beatty regarding the proposed drainage on the Persimmon Homes Barons Cross, Leominster development. Planning Ref 193754.

Development Description

It is proposed that the surface water system will be designed to Sewers for Adoption 7th edition and put forward for adoption to Dwr Cymru Welsh Water.

Surface Water Drainage

Amendment to condition 8

- It is proposed the Section 278 surface water drainage be adopted by Herefordshire highways, this has been agreed with Andy Byng through the S278 vetting process.
- The development drainage will be put forward to DCWW under a Section 104 agreement to which we have already received comments and no significant issues have been raised in relation to the adoptability of the system.
- Once the scheme is completed and adopted it is proposed that the maintenance of the above-stated sewers will pass to Herefordshire highways and DCWW.

Infiltration Test Results

Ground investigation with soakaway testing included within submission.

Attenuation calculations

Revised microdrainage surface water calculations showing the systems has been designed to cater for the 1 in 100 year + climate change event to submitted shortly.

Compliance with current Welsh Water Adoption Criteria

Following comments and discussion with DCWW they have accepted that if the current design is amended to provide a crate system to cater for the 1 in 10 year event with a basin above to cater for the 1 in 100 year plus climate change event, this arrangement would be adoptable. The S104 adoption would include the Hydrobrake chamber and downstream pipework to the final outfall location.

Technical review of basin design

- In order for the attenuation basin to be DCWW adoptable the basin and crate system will need to be an offline system.
- The design of the outfall headwall will conform to the requirements of Sewers for Adoption 7th edition and DCWW requirements so a safety grille is proposed to be installed.
- Turning head arrangement to be provided to allow maintenance of basin and flow control chamber, swept path tracking information to be submitted shortly.
- The gradient of the proposed basin slopes to be 1 in 3 slopes.
- The proposed Hydrobrake chamber will be set to the specified sump depths and widths specified by Hydro International so as to ensure the full functionality of the flow control device.
- A new land drainage consent application will be submitted in due course.

Surface Water Drains

- Given the need for the larger pipe sizes to cater for the surface water design the presence of the larger pipe sizes is unavoidable. We consider the likelihood a person/child lifting manhole cover and falling into the chamber to be extremely low.
- Hydraulic calculations demonstrating self-cleaning velocity and no surcharging during the 2 year event to follow.

Exceedance

- Flood exceedance plan to be submitted shortly.
- The design of the proposed piped system is to cater for up to 1 in 100 year + CC event, so the pipe system from the site to the attenuation is sized to cater for these events.

Foul Water Drainage

- Our current design shows a 225mm diameter foul pipe connecting to the DCWW system.