
Wrexham County Borough Council
Management of Surface Water Generated from New Development – Advice Note

Pro-Forma A & B

Summit Healthcare – PHASE 2
Site of the former Green Dragon Public House
Salop Road
Wrexham
LL13 7AF

April 2017

PRO-FORMA A

1. Site location plan enclosed (1). The development national grid reference and postcode is shown on the drawings
2. See left hand side of drawing 170205-01-001-A (2) which includes surveyed levels and existing Phase 1 drainage.
3. See drawing 170205-01-002-A (3).
4. See drawing 170205-01-001-A (2) – left hand side.
5. See drawing 170205-01-001-A (2) – right hand side.
6. Infiltration tests have been undertaken which indicate that the use of a soakaway based drainage solution is deliverable.

See drawing 170205-01-003-A (6), test results PN173632 (7) and the soakaway design calculations (7) for the applied infiltration rate and soakaway design details.

There are no existing watercourses in the immediate vicinity of the development.

No additional surface water flows are to be directed into the public sewer network.

7. A soakaway is proposed for the surface water drainage from the scheme.
8. See drawing 170205-01-001-A (2) – left hand side.
9. See drawing 170205-01-001-A (2) – right hand side. Phase 2 of the site is largely derelict brownfield land and as such a Q_1 greenfield run-off rate has been calculated as 2.1 L/sec (4). Having said this the post-development discharge is via a soakaway.
10. The soakaway has been subject to a detailed design (7).

The design identified that approximately 80m³ of storage volume would be required for the 100yr + 40% climate change storm event using the applied infiltration rate.

11. The most feasible location for the soakaway is within the car park area of Phase 2 of the development. Due to spatial limitations it is proposed to use geo-cellular storage units to maximise storage capacity.
12. See drawing 170205-01-002-A (3) identifying the location of the proposed soakaway structure.
13. The on-site sewers and soakaway will be maintained by a management company appointed by the development owner. A maintenance regime is available from the manufactures of the soakaway structure. A geo-cellular structure can be more efficiently maintained than a traditional stone filled soakaway.
14. Phase 2 of the development is small and will be developed in one build phase.

PRO-FORMA B

15. Details of the soakaway structure are shown on drawing 170205-01-002-A (3).
16. Soakaway test results are included.
17. The required attenuated volume will be contained within one soakaway structure providing sufficient volume to limit the surface water flows from Phase 2 of the development with a satisfactory half-drain time.

The soakaway structure is sized to accommodate surface water run-off volumes form all events up to and including 100yr + 40% climate change events.

18. Calculations are included for the soakaway structure (8). These show that the proposed structure can safely accommodate surface water run-off volumes form all events up to and including 100yr + 40% climate change events without flooding the site.

Water from any exceedance event can be stored in additional capacity within the drainage network and manholes which have not been factored into the storage requirements as well as ponding in the car park with is lower than the proposed and existing adjacent site boundaries.

The climate change factor of 40% applied is also at the higher end of the government recommendations.