



Redrow Homes South Midlands

Drainage Explanatory Note

Land between Royston Road and Cambridge Road, Barkway

September 2025

1. Introduction

1.1 This note supports an application made under Section 73 ('S.73') of the Town and Country Planning Act 1990 (as amended), which seeks to vary the wording of condition 20 of outline planning permission reference 18/01502/OP.

1.2 Condition 20 currently states:

'The development permitted by this planning permission shall be carried out in accordance with the approved Flood Risk Assessment carried out by Ardent Consulting reference 163461-02a dated June 2018. The surface water drainage scheme should include;

- 1. Implementation of the appropriate drainage strategy based on infiltration into using appropriate above ground SuDS measures and indicated on Surface Water Drainage drawing.*
- 2. Provision of storage to ensure no increase in surface water run-off volumes for all rainfall events up to and including the 1 in 100 year + 40% climate change event.*

The mitigation measures shall be fully implemented prior to full site occupation and in accordance with the timing / phasing arrangements embodied within the scheme, or within any other period as may subsequently be agreed, in writing, by the local planning authority.

Reason: To reduce the risk of flooding to the proposed development and future occupants.'

1.3 The need to vary this condition has been discussed with Officers during negotiation of application references 24/01994/S73 (now withdrawn) and 24/01883/RM.

2 Proposal

2.1 It is proposed that the wording of condition 20 be amended to the following. However, should the Local Planning Authority consider that alternative wording would be more appropriate, we would welcome discussion with Officers regarding this.

Notwithstanding the surface water drainage strategy set out within the approved Flood Risk Assessment (Ardent Consulting, reference 163461-02a dated June 2018), prior to commencement of development a detailed surface water drainage scheme shall be submitted to and approved in writing by the Local Planning Authority. The surface water drainage scheme shall include:

- 1. Implementation of the appropriate drainage strategy based on infiltration into using appropriate above ground SuDS measures; and*
- 2. Provision of storage to ensure no increase in surface water run-off volumes for all rainfall events up to and including the 1 in 100 year + 40% climate change event.*

The surface water drainage scheme shall be fully implemented prior to full site occupation and in accordance with the timing / phasing arrangements embodied within the scheme, or within any other period as may subsequently be agreed, in writing, by the local planning authority.

Reason: To reduce the risk of flooding to the proposed development and future occupants.

3 Rationale

- 3.1 Further to the ongoing discussions in respect of the above applications, it has been established that the surface water drainage strategy set out in the approved Flood Risk Assessment by Ardent Consulting Engineers ref: 163461-02a dated June 2018 ('the OPP FRA'), and secured by condition 20 of the outline planning permission, would be challenging to implement and that a more preferable solution has been identified.
- 3.2 The drainage strategy within the OPP FRA indicated the use of infiltration basins to allow the disposal of surface water from the site. This was based on infiltration testing undertaken by Green Earth Management Company (GEMCo) in February 2017. This testing concluded that shallow infiltration was unsuitable given the presence of shallow clay deposit but recommended depths of 2.4m would provide rates in the order of 10-6 m/sec.
- 3.3 As part of ongoing Ground Investigation Assessment and due diligence undertaken by Redrow Homes following purchase of the site, an additional investigation was undertaken by RPS which included trial holes, boreholes and borehole soakaway testing (Ref: BMK23256_Barkway Ground Conditions Report, dated 13 May 2024). A copy of this report is provided at Appendix A.
- 3.4 The conclusion of the investigation was that shallow soakage rates up to 5m in depth would be very poor due to the extent of clay within the material. Beyond 5m the clay content reduced significantly and the infiltration potential increased, therefore infiltration by deep

bore soakage was recommended. The other major conclusion was that the location of the chalk varied across the site and this variance was very acute in some locations. Therefore, locations of infiltration systems would need to be carefully considered against the trial hole data obtained.

- 3.5 A recent scheme located to the south of the proposed development site (reference 18/00919/DOC) has similarly utilised a deep bore soakage disposal method.
- 3.6 Following the conclusion of this recent RPS ground investigation, it is clear that the outline drainage strategy would not generate a suitable surface water disposal system and an alternative solution is required.
- 3.7 Redrow now proposes that the proposed development utilise infiltration through deep bore soakaways as the primary method of surface water disposal for the site. The proposed drainage strategy has been developed to utilise a storage system of balancing ponds located strategically around the development and in similar locations to the outline design, albeit the final design of these basins would be subject to discharge through the requirements of condition 20 and as part of any reserved matters application for layout. The water from these balancing ponds would be directed towards borehole soakaways located in the chalk to disperse the water and infiltrate to the ground.
- 3.8 Environment Agency consent will be sought for this disposal method, via the water quality permitting scheme.
- 3.9 A detailed drainage design has been submitted as part of reserved matters consent application reference 24/01883/RM, and the Lead Local Flood Authority ('LLFA') has raised no objections to the revised surface water drainage scheme proposals (Appendix B). The scheme would adequately ensure that surface water resulting from the development would be adequately managed such that it does not pose a risk of flooding either on, or off-site and the scheme. The revised drainage scheme would accord with the requirements of Policy NE8 of the adopted North Hertfordshire Local Plan 2011-2031.
- 3.10 In addition, the LLFA raised no objections to the suggested condition wording amendment as proposed in the, now withdrawn, earlier S73 application (Appendix C).