ARDENT
CONSULTING ENGINEERS
AN EMPLOYEE OWNED COMPANY

LAND SOUTH OF BARROW GREEN ROAD, OXTED

BETWEEN:

TANDRIDGE DISTRICT COUNCIL

(Council)

AND

CROUDACE HOMES LIMITED

(Appellant)

APPEAL REF: APP/M3645/W/25/3372747

PLANNING REF: TA/2025/245

HYDROLOGY PROOF OF EVIDENCE - SUMMARY

REV: FINAL
December 2025

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1. Qualifications and experience

1.1. My name is Brian Cafferkey, BEng (Hons) MSc CEng MICE MIEI MCIWEM. I am a Chartered Civil Engineer and Director of Ardent Consulting Engineers. I hold a Bachelor of Engineering degree in Civil Engineering and a Master of Science in Environmental Engineering. I have over 35 years' experience in flood risk and drainage engineering, with expertise supporting private and public sector clients.

1.2. I was instructed by Croudace Homes Limited to provide hydrological evidence for this appeal in relation to their appeal against the decision of Tandridge District Council to refuse to grant outline planning for the site Land South of Barrow Green Road, Oxted. The planning application has planning reference TA/2025/245.

2. Introduction

2.1. This summary and the accompanying proof of evidence focuses on surface water flows entering The Bogs Ancient Woodland from the watercourse, overland flows and surface water runoff from the development. This is to address **Key Issue 6 (biodiversity impacts)** and **Key Issue 9 (surface water flood risk)** in the Council's Officer Report **(CD3.1)** and Statement of Case **(CD7.1)**.

2.2. The proof seeks to address two areas not agreed with Tandridge District Council:

A. The requirement for a conceptual hydrological model of The Bogs and wet woodland.

B. The hydrological impacts based on the continuity of an adequate water supply to The Bogs.

2.3. Within this proof, I focus my evidence and my opinion on the above points that have not been agreed by the Council, as part of the outline planning application for the Site.

3. Site location and development proposals

3.1 The Site is located to the northwest of Oxted and is currently an agricultural field. The Site is bound to the north by Barrow Green Road, a railway line and residential development further north of the railway line. A railway line and cemetery are located to the east of the Site, with residential properties on Wheeler Avenue and The Bogs to the south.

3.2 An ordinary watercourse flows southwards along the western boundary, leading to The Bogs woodland located to the southwest of the Site. The watercourse is primarily fed by a Southern Water surface water sewer that discharges into the watercourse in the northwest of the Site. Refer to **Figure 3.1** below.

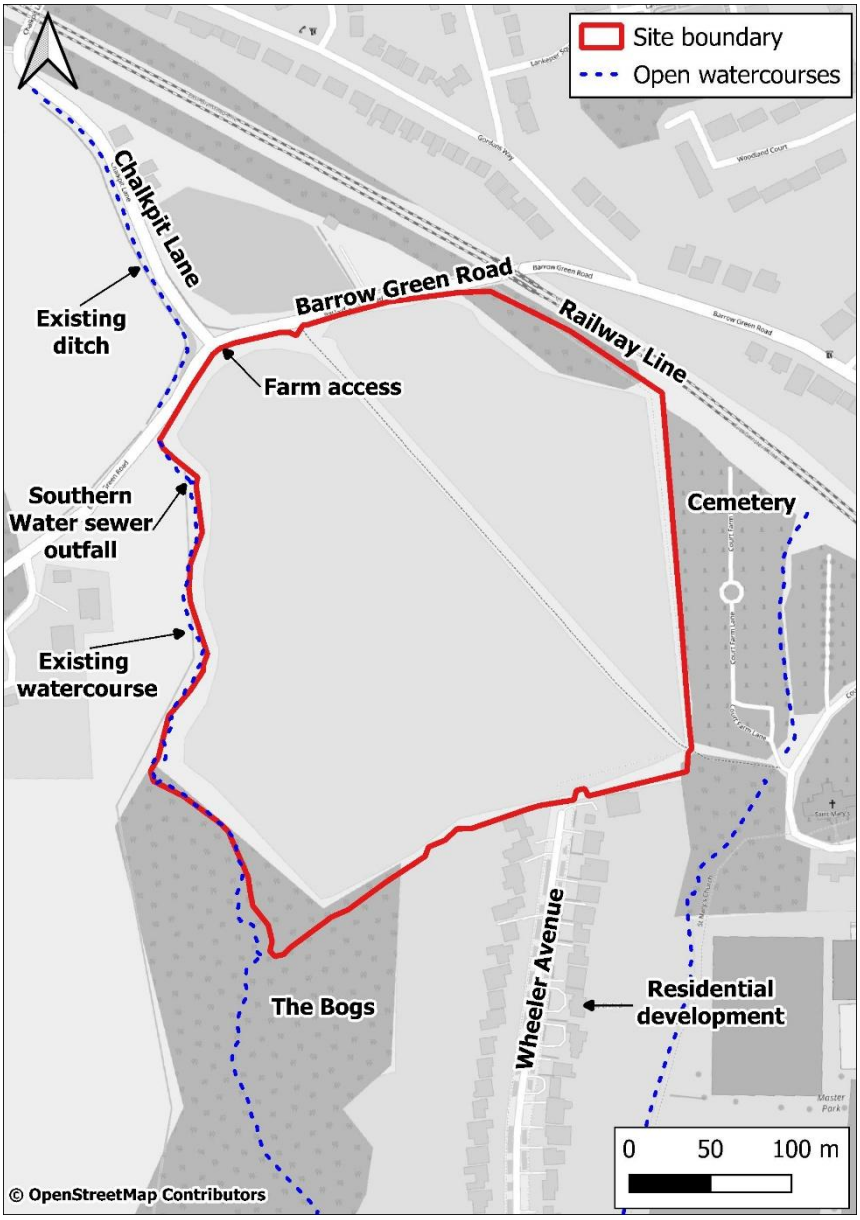

Figure 3.1: Site Location and Existing Watercourses

3.3 The development proposals for the outline application consist of a residential development of up to 190 dwellings (including affordable homes) (Use Class C3), an extra care facility with up to up 80 beds (Use Class C2), together with the formation of vehicular access, landscaping, parking, open space, green and blue infrastructure, and all other associated development works. All matters are reserved except access.

4. Policy Context

National Planning Policy Framework (December 2024)

4.1 The National Planning Policy Framework (the NPPF) and the Planning Practice Guidance set out the Government's planning policies, and how they are expected to be applied. Paragraphs 170-182 relate to planning and flood risk.

Tandridge District Council Core Strategy (Adopted October 2008)

4.2 The Core Strategy (**CD4.1**) sets out the vision and strategy to inform development up until 2026. The Core Strategy also contains policies that address the key issues across the district in relation to social progress, environmental protection and ensuring a sustainable economy. Policy CSP 17 relates to biodiversity.

Tandridge Local Plan Part 2: Detailed Polices 2014-2029 (Adopted July 2014)

4.3 Tandridge District Council Local Plan Part 2 (**CD4.2**) supports the adopted Core Strategy (Part 1 of the Tandridge Local Plan) by containing a set of detailed planning policies to be applied locally in the assessment and determination of planning applications over the plan period (2014 - 2029). Policy CSP 19 (Page 51) relates to Biodiversity, Geological Conservation & Green Infrastructure.

4.4 Policy DP21 (Page 56) deals with Sustainability Water Management, Water Quality, Ecology, Hydromorphology and Flood Risk. Policy DP21(E) relates to Flood Risk.

4.5 Surrey County Council acting in their role and Lead Local Flood Authority (LLFA), confirmed on the 4 August 2025 they have no objection to the proposals subject to condition (**CD3.2J**).

4.6 The Council has confirmed that flood risk is not a reason for refusal within the Officer's Report and Statement of Case.

5 Summary and Conclusion

5.1 The purpose of this evidence has been to address the two remaining areas of disagreement between the Appellant and the Council: (1) the necessity for any further conceptual hydrological modelling beyond that already undertaken, and (2) whether the proposed development would interrupt or diminish the continuity of an adequate water supply to The Bogs ancient woodland and pSNCI. These matters underpin Key Issue 6 and Key Issue 9 in the Council's Officer Report and Statement of Case.

Requirement for a Further Conceptual Hydrological Model

5.2 The Council's Statement of Case asserts that the hydrological assessment should provide a conceptual hydrological model of The Bogs and wet woodland, and in particular show the importance of the contribution of flow from the development Site. My proof has demonstrated that such a conceptual model has in fact already been provided through the hydraulic modelling undertaken by Ardent.

5.3 The modelling deployed, ReFH2-generated net rainfall profiles, and a TUFLOW hydraulic model, which routes rainfall-derived runoff, sewer discharges, and overland exceedance flows across both the urban and rural components of the catchment. A distributed model is, by definition, a conceptual hydrological model, but of higher sophistication than lumped or semi-distributed alternatives.

5.4 This constitutes the most rigorous and proportionate method available for a development scale assessment. Distributed modelling is standard industry practice for hydrological impact assessments in complex mixed catchments. Therefore, there is no technical justification for requiring an additional, separate conceptual model, as all hydrological pathways to The Bogs, including the relative scale of the Site's contribution which have already been represented within the model.

5.5 Accordingly, it is my view that the conceptual hydrological approach adopted is robust, appropriate, compliant with best practice, and satisfies the requirement identified by the Council. It is therefore my opinion that no further conceptual hydrological modelling is necessary.

Continuity of an Adequate Water Supply to The Bogs

5.6 The second issue concerns whether the development would threaten the continuity of water supply to The Bogs. The Council's concern originated from an interpretation of early modelling outputs suggesting marginal reductions in flood levels downstream of the Site. These concerns have been addressed comprehensively through the updated hydrological and hydraulic simulations undertaken in October and December 2025.

5.7 The pre-development modeling showed that The Bogs is predominantly sustained by flows from the 1.46 km² upstream catchment conveyed via the Southern Water surface water sewer and the ordinary watercourse to the west of the Site. As no works are proposed to the watercourse, the main flows to The Bogs will continue to be from the ordinary watercourse.

5.8 The catchment within which the Site sits is located immediately upstream of The Bogs and represents approximately 0.11 km² of natural catchment area. This is around 7.5% of the total contributing catchment area and plays a minor hydrological role in relation to the dominant inflows entering The Bogs.

5.9 Two post-development modelling scenarios were examined to address the Council's concerns:

A. **Diffuse discharge greenfield surface water runoff from the Site;** in which rainfall is applied uniformly across the Site replicating greenfield runoff in the post-development catchment scenario;

B. **Point discharge greenfield surface water runoff from the Site**; in which the Site's surface water network intercepts runoff, and the resulting point discharges regulated to variable greenfield runoff rates which are incorporated into the catchment model and discharge to The Bogs at the corresponding greenfield runoff rates for each of the rainfall events assessed.

5.10 Both approaches demonstrate that post-development peak flows into The Bogs result in negligible changes for all storm events from the 1 in 1-year to the 1 in 100-year plus 45% climate change allowance, including the high-frequency, low-magnitude events specifically requested by the Council. As such, the impact to The Bogs in terms of flows is appropriately assessed as neutral.

5.11 Based on all evidence provided, it is my opinion that the proposed development will not compromise, diminish, or interrupt the continuity of an adequate water supply to The Bogs. The hydrological regime supporting the wet woodland will remain functionally unchanged.

Overall Conclusion

5.12 In conclusion, the hydrological assessments undertaken are robust, proportionate, and consistent with national and industry standards. The distributed conceptual model adopted already provides a complete representation of the catchment functioning needed to address Key Issue 6. The post-development hydrological regime has been demonstrated to preserve the continuity of an adequate water supply to The Bogs, consistent with Key Issue 9, such that the only matter of concern identified by the Council is resolved.

5.13 On this basis, there is no hydrological reason to refuse the outline planning application.