

Date: 1 July 2026
Application: 253071



WOKINGHAM
BOROUGH COUNCIL

WBC Drainage

Development Management &
Compliance

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Dear WBC Drainage,

Approval of Reserved Matters Consultation

Application Number: 253071

Applicant: The Owner and/or Occupier

Site Address: Land To West Of Park Lane, Charvil, RG10 9TS

Parish: Charvil

Grid Reference: Easting - 477511, Northing - 175185

Type of Development: Major Dwellings (10+)

Proposal: Application for approval of Reserved Matters pursuant to Outline Planning Consent 232704 comprising details of 75 homes, together with associated internal access roads, parking, public open space, landscaping and sustainable drainage systems (SuDS). Details of appearance, landscaping, layout and scale to be considered.

Development Management has received the above application, and we require your comments on the proposal using the recommended memorandum below. The documents associated with this are available to view in NEC DM using the application number 253071. Alternatively, public documents are available to view on the Council's planning application search page: [Wokingham Borough Council Online Planning](#).

Please index your response into NEC DM against the application. If you are recommending conditions, you should give a reason with reference to relevant policies. A list of standard conditions can be requested from the case officer.

Your observations are required in respect of this application by **26 July 2026**.

Yours sincerely,
Development Management & Compliance

MEMORANDUM

From:	NT	To (Case Officer):	Kieran Neumann
Service	WBC Drainage	App No:	253071
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Site Visit Made:	No		

Summary Of Recommendations

- ☐ No comment
- ☐ No objection
- ☐ No objection subject to conditions (and reasons) **stated below**
- ☒ Request further information before determination as **stated below**
- ☐ Objection due to the reason(s) **stated below**

Comments On Proposal

The applicant has submitted a further updated Flood Risk Assessment and Drainage Strategy Report (Issue 2, dated 25/06/2026) prepared by SIM (SIM Ref P25-0896), updated to reflect a revised site layout.

The submission has been reviewed against the LLFA SuDS Proforma and the outline planning conditions 28 and 29 secured under consent 232704. The LLFA's own consultation response dated 19 May 2026 (reviewing Issue 2 of the FRA) set out eight specific technical requirements and recommended a position of Further Information Required. This assessment determines the extent to which the Issue 2 FRA addresses those eight requirements. The Issue 2 report has been updated to reflect a revised site layout and is not accompanied by a point-by-point response to the LLFA's 19 May 2026 comments; this assessment has therefore been undertaken independently against those eight items. Progress has been made on two of the previously outstanding items, and one new technical query has arisen from the updated hydraulic model, but several core items remain unresolved. The LLFA is not yet able to move from its Further Information Required position.

2. Assessment Against Previous LLFA Condition Requirements

Conditions 28 and 29 of Outline Consent 232704 set out eight specific technical requirements. The table below assesses the extent to which each is now addressed in the reserved matters FRA.

Condition 28 Requirement	Status	LLFA Assessment
1. BRE 365 test results demonstrating whether infiltration is achievable or not	PROVIDED	4 no. soakage tests to BRE 365 were undertaken by Geo-Integrity . Rates ranged from 1.97×10^{-6} m/s (SA3) to 3.03×10^{-4} m/s (SA4). Results are included in Appendix B of the FRA. SATISFIED.
2. Use of SuDS following the SuDS hierarchy, preferably infiltration	PROVIDED	The FRA includes a formal SuDS hierarchy assessment . Infiltration has been correctly ruled out due to elevated winter groundwater (0.33–0.62 mbgl) and inability to achieve 1m clearance. Discharge to existing drainage ditch via watercourse is justified.
3. Full calculations: 1 in 100-year + 40% CC; runoff at QBar (3.83 l/s/ha or better)	PARTIAL	Improved. Appendix H of Issue 3 now includes full Causeway Flow+ printouts (node schedule, link schedule, and storm results from the 2yr to the 1:100yr+40%CC event, summer and winter profiles). The scheme limits post-development discharge to QBAR (6.5 l/s for 1.7ha catchment, equating to 3.82 l/s/ha). Two matters remain: (a) these are PDF printouts, not the native Flow model file LLFA's own audit function requires the electronic model file, not a printed results table, so this should still be requested; (b) the 1:30yr+35%CC winter run flags node S37 as "FLOOD RISK" (level 44.505m, depth 0.905m against a 44.800m cover level) a different status to the surrounding "SURCHARGED" nodes which requires the consultant's explanation before the modelling can be accepted. The total required attenuation storage volume (m ³) is also still not stated in the report text. PARTIALLY SATISFIED native Flow file and clarification of the S37 flood risk flag required.
4. Separate drainage systems for proposed adopted highways and residential dwellings	PARTIAL	Unchanged from Issue 1. Section 7.12 notes highway systems 'offered for adoption' and that private drainage serves individual properties. The drainage strategy drawing (Appendix F) is referenced but no explicit confirmation that highway and private systems are hydraulically separate with independent outfalls. This must be clearly demonstrated on the drainage layout drawing with adoption extents annotated. STILL PARTIALLY SATISFIED not addressed in Issue 2.
5. Description of how the development will deal with surface water overland flows	PROVIDED	Section 7.9 (Exceedance) addresses overland flow management. Finished floor levels are set above road levels, road gradients direct overland flows away from dwellings, and a finished levels plan is included in Appendix F. A 300mm freeboard between storage feature cover levels and finished floor levels is stated. SATISFIED.
6. Groundwater monitoring confirming seasonal high groundwater levels	PROVIDED	Winter groundwater monitoring was undertaken between November 2025 and March 2026 at standpipes CT2 and CT5 (5 visits). Results show peak groundwater at 0.30 mbgl (CT5, March 2026) and 0.62 mbgl (CT2, February 2026). Results are tabulated

		in Figure 2.2 and included in Appendix B. This is a significant improvement over the outline stage. SATISFIED.
7. Drainage strategy plan showing SuDS locations and sizing; base of SuDS $\geq 1\text{m}$ above seasonal high water table	PARTIAL	Improved but not resolved. Appendix I of Issue 2 now includes cross-section drawings for the detention basin(s) with actual levels (e.g. SE basin base at 38.000mAOD, 1:100yr+40%CC max water level 39.200mAOD). However: (a) the winter groundwater results (CT2/CT5) are still reported only in metres below ground level, with no AOD conversion given anywhere in the report, so there is still no explicit written demonstration that basin bases sit $\geq 1\text{m}$ above the seasonal high groundwater table; (b) a formal SuDS component schedule with swale dimensions and permeable paving sub-base depths relative to groundwater is still not included. PARTIALLY SATISFIED — AOD cross-check against groundwater and a full SuDS schedule still required.
8. Details demonstrating how SuDS will be managed throughout the lifespan of the development and who will be responsible	PARTIAL	Section 7.12 states: property owners responsible for individual drainage; highway/shared systems offered for adoption or maintained by a management company via a communal service charge. This wording is unchanged from Issue 1 the maintenance plan itself has still not been provided. STILL PARTIALLY SATISFIED.

Section 1: Site & Application Details

All basic site details are provided within the FRA. The site address, site area (7ha), flood zone (predominantly Zone 1 with FZ2/3 to the south), existing land use (greenfield), proposed development (75 units, minimum 100-year design life), The existing drainage constraints including proximity of the drainage ditch to the south and Thames Water sewers along Park Lane and The Hawthorns are documented.

Section 2: SuDS Hierarchy Assessment

A formal hierarchy assessment is presented in Figure 7.1 of the FRA. Each disposal option is considered:

- Rainwater harvesting: assessed as feasible and incorporated.
- Infiltration to ground: correctly ruled out due to winter groundwater levels. BRE 365 tests show variable rates but the 1m clearance requirement from the 0.30 mbgl peak cannot be achieved. The risk of dissolution features in chalk underlying the site .further constrains infiltration. Lined basins are proposed.
- Discharge to watercourse: identified as feasible via the ordinary watercourse approximately 50–100m south of the site. Controlled at QBAR rate. This is the proposed disposal route.
- Surface water sewer and combined sewer: correctly excluded as the watercourse route is available.

The hierarchy assessment follows the statutory sequence and justifications are sound.

Section 3: Ground Investigation & Infiltration Feasibility

The Geo-Integrity Phase I/II ground investigation report has been provided in Appendix B. Winter groundwater monitoring data from November 2025 to March 2026 confirms seasonal high groundwater at 0.30 mbgl (CT5) and 0.62 mbgl (CT2). BGS geology is discussed in Section 2.4.

SATISFIED — infiltration correctly ruled out; groundwater monitoring is robust.

Section 4: Hydrology & Runoff Calculation Inputs

The following are assessed:

- Catchment assessment: The site is assessed as a 1.7ha (post-development impermeable) area draining from 7ha total site. The report outline FRA for greenfield rates (3.83 l/s/ha QBAR from the Campbell Reith study). Off-site inflow from the northern spoil heaps and adjacent land is still not explicitly discussed in Issue 3 and continues to require confirmation that upstream catchment flows through the site have been considered.
- Rainfall model: FEH 2022 (FEH22) rainfall data is stated as the basis for hydraulic analysis in Section 7.8.1.
- CC allowances: 40% for 1:100yr and 35% for 1:30yr applied, consistent with EA peak rainfall allowance map for the Loddon and tributaries management catchment (Figure 7.4). COMPLIANT.
- Urban creep uplift: A 10% allowance for future increases in roof area is included in the drained area calculations.
- Pre and post-development impermeable area: Post-development impermeable area stated as 1.7ha . Pre-development is greenfield. Also Greenfield runoff rate calculations: QBAR = 3.83 l/s/ha taken from approved outline FRA. Applied to 1.7ha = 6.5 l/s. off-site catchment contribution requires clarification.

Section 5: Runoff Rates & Attenuation Storage Requirements

Runoff rates and volumes are tabulated for Qbar, 1:2, 1:30, 1:30+35%, 1:100, and 1:100+40% events in Figures 7.3 and 7.5. Post-development QBAR discharge is 6.5 l/s (equivalent to 3.82 l/s/ha) which meets the condition requirement.

The long-term storage volume approach is explained . The decision to discharge excess volume at QBAR (rather than 2 l/s/ha, the lower value) is justified by reference to C753 guidance.

Outstanding items:

- Attenuation storage volume in m³: Figure 7.11 shows volumes but does not state the total required attenuation storage in m³

STATUS: PARTIALLY SATISFIED.

Section 6: SuDS Components – Detailed Design Summary

The following SuDS components are proposed and assessed:

- Permeable paving: Proposed for parking areas and driveways. Partial infiltration design (no impermeable liner but perforated collection pipe beneath). Typical cross-section referenced , Sub-base depths, storage volume contribution, and whether Highways adoption requirements have been confirmed are not stated.
- Swales / filter drains: Proposed alongside road network. Described as shallow. Typical cross-sections referenced (Figure 7.9). Swale dimensions (base width, side slopes, longitudinal gradient) are not tabulated in the report.
- Bioretention / rain gardens: Proposed alongside road network. Perforated collection pipe to below-ground system.
- Detention basins: Two basins proposed (one west, one southeast). Southeast basin designed with permanent pool, low flow channels. Lined with impermeable membrane. Appendix I of Issue 3 now provides a cross-section with base/water levels (SE basin base 38.000mAOD), an improvement on Issue 2. However, base levels are still not cross-referenced against groundwater in AOD terms, and swale dimensions and permeable paving sub-base depths remain unconfirmed.
- SuDS treatment train and pollution hazard indices: Section 7.10 and Figure 7.12 present a pollution mitigation assessment confirming the treatment train.
- SuDS construction details: Referenced as included in Appendix I.

PARTIALLY SATISFIED — treatment train and component types are appropriate; however, a formal SuDS component schedule with dimensions, invert levels, and storage contributions is required.

Section 7: Hydraulic Modelling & Network Verification

Causeway Flow software has been used for hydraulic analysis. Results are referenced in Appendix H. The proforma includes specific audit requirements for Causeway Flow:

- Appropriate Cv values: Not confirmed in the report text.
- FEH22 rainfall simulation: Stated as used
- Hydraulic losses at nodes: Not addressed.
- Causeway Flow file audit: Improved. Appendix H of Issue 3 now includes full Flow+ printouts (node schedule, link schedule, and storm results across the 2yr to 1:100yr+40%CC range). However, these are printed results tables, not the native electronic Flow model file the proforma requirement is for LLFA to run its own audit using the Causeway auditing function, which requires the model file itself. This should still be requested. In addition, the 1:30yr+35%CC winter run flags node S37 with a "FLOOD RISK" status (level 44.505m, depth 0.905m, against a 44.800m cover level) distinct from the "SURCHARGED" status shown at neighbouring nodes — which the consultant needs to explain before the model can be accepted. STILL AN OUTSTANDING ITEM, though materially progressed.
- 1:30yr no surface flooding evidence: Figure 7.11 shows 1:30yr post-development discharge at 6.2 l/s (within QBAR limit). No surface flooding reported for 1:30yr event. COMPLIANT in principle but requires Flow file verification.
- 1:100+CC surface flood routing: Section 7.9 and Appendix F address overland flow routing with exceedance arrows
- Exceedance plan with safe overland flow paths: Referenced in Appendix F.
- Outfall level checks vs receiving network: Unchanged. The discharge is to an ordinary watercourse. The invert level of the proposed outfall structure relative to the receiving watercourse bed level is still not confirmed in Issue 2, notwithstanding the "outfall to existing ditch" annotation on the Appendix F drawing.

PARTIALLY SATISFIED — methodology is sound and printed model output is now provided, but the native Flow file for independent LLFA audit and clarification of the S37 flood risk flag are still required.

Section 8: Adoption, Maintenance & Whole-Life Management

Section 7.12 of the FRA provides a brief maintenance strategy:

- Individual property drainage: owner responsibility.
- Highway and shared systems: offered for Highways adoption or managed by a management company funded via communal service charge.
- Full Maintenance plan deferred to detailed design stage condition 28 discharge.

The proforma requires: PARTIALLY SATISFIED — framework is described but the maintenance plan has not been provided at this stage.

Section 9: Drawings & Supporting Information Checklist

Required Item	Status	Comments
Drainage layout (levels, inverts, gradients)	PARTIAL	Referenced in Appendix F; network inverts now available via the Appendix H node/link schedule. Adoption extents (highway vs private) still not annotated on the drainage layout drawing.
Exceedance routing plan	PROVIDED	Finished levels plan with overland flow arrows included in Appendix F.
SuDS component schedule	MISSING	Basin cross-section with levels now provided in Appendix I, but a full schedule covering swale dimensions and permeable paving sub-base depths is still not provided.

Ground investigation logs	PROVIDED	Geo-Integrity report 25-07-12 included in Appendix B with borehole test results.
FEH calculations & hydraulic modelling outputs	PARTIAL	Runoff calculations in Appendix E; full Causeway Flow+ printouts (nodes, links, storm results) now in Appendix H. Native Flow model file still not submitted for LLFA audit; S37 "FLOOD RISK" flag requires explanation.
Utility correspondence	PROVIDED	Thames Water consultation response included in Appendix G. Foul capacity constraints noted
Phasing & temporary drainage strategy	MISSING	Unchanged no construction phase drainage strategy provided in Issue 2.
Winter groundwater monitoring data	PROVIDED	Appendix B
SuDS construction details	PROVIDED	Included in Appendix I.
Drained area plan	PROVIDED	Included in Appendix E.

4. Key Outstanding items and items provided – As above

5. Additional LLFA Observations

Discharge to OWC

The proposed discharge to the OWC to the south of the site will require an Ordinary Watercourse Consent. Issue 2 does not address the capacity of the receiving watercourse to accept the proposed controlled discharge at QBAR without increasing flood risk downstream, nor the status of any consent application.

Spoil Heap Management and Watercourse Ownership and Riparian Responsibility

The topographic survey identifies two spoil heaps on the eastern and western sides of the site (873m³ and 1,001m³ respectively). Issue 2 still does not address the disposal or reuse of this material, nor how their removal would affect site drainage during construction this should be addressed in the construction phase drainage strategy. The FRA states the ordinary watercourse lies predominantly in third-party land with a small section in highways land. The applicant should confirm ownership and riparian responsibilities for the receiving watercourse, and how the proposed outfall structure will be accessed for maintenance.

7. Recommended LLFA Position - **OBJECTION – Further Information Required**

The Issue 2 FRA makes progress on the hydraulic modelling (full Causeway Flow+ printouts now provided) and on basin detailing (Appendix I cross-sections with levels), but it is not accompanied by a point-by-point response to the LLFA's 19 May 2026 comments, and the majority of the previously outstanding items remain unresolved. The outstanding items listed above must be addressed before the LLFA can be satisfied that the requirements of Planning Conditions 28 and 29 (Outline Consent 232704) have been met at reserved matters stage. In particular: the native Causeway Flow model file for independent LLFA audit and an explanation of the S37 "FLOOD RISK" flag; confirmation of hydraulic separation between highway and private drainage with adoption extents annotated; an AOD cross-check of basin base levels against seasonal high groundwater, together with a full SuDS component schedule; a construction phase drainage strategy addressing the spoil heaps; confirmation of OWC downstream capacity and riparian responsibility; and the outstanding maintenance plan, are all considered outstanding matters that must be resolved. Should the applicant address the outstanding items, the LLFA would anticipate being able to support approval.

Cnditions & Reasons (if required)			
Date:	10/07/2026	Signed:	NT