

Flood & Levels Evidence Pack

Severn floodplain, Tewkesbury GL20

SCREENING VERDICT

A detailed flood risk assessment is likely to be required. The site is in Flood Zone 3, where standing advice does not apply to most development.

The site is in Flood Zone 3. Lowest surveyed level within the boundary is 9.7 mAOD, mean 10.9 mAOD.

The level inferred from the mapped extent boundary nearby is 12.3 mAOD (from 1361 boundary points, spanning 1.7 m). This is inferred from where the mapped extent meets surveyed ground — it is not a modelled flood level, which the Environment Agency issues only through a Product 4 request.

NaFRA2 records a high likelihood of flooding from rivers and the sea, taking defences and climate change into account.

MEASURED AND INFERRED VALUES

Lowest site level	9.74 mAOD (surveyed)
Mean site level	10.92 mAOD (surveyed)
Highest site level	12.72 mAOD (surveyed)
Flood zone	Flood Zone 3 — approximately 100% of the site boundary
NaFRA2 likelihood	High — flooding from rivers and the sea, with defences and climate change taken into account. Not the same question as a flood zone.
Inferred extent-edge level	12.28 mAOD — INFERRED from 1361 points on the mapped extent boundary, spanning 1.71 m. This is not a modelled flood level.
Floor level, lower bound	12.88 mAOD — 600 mm above the inferred extent-edge level. A LOWER BOUND, not a recommendation: the published rule also takes the adjacent road level, which this pack does not survey.
Climate change allowance	21% uplift on peak river flow — Avon Warwickshire management catchment (Severn river basin district), 2080s epoch, central allowance.

WHAT A FULL FLOOD RISK ASSESSMENT ADDS

Surveyed levels to a known datum rather than remote-sensed ones; the modelled flood level for the design event, obtained from the Environment Agency or by modelling; the sequential and exception tests where they apply; residual risk behind defences and in a breach; a drainage strategy; safe access and egress; and a signed professional opinion your local planning authority can rely on. This pack is the evidence base those start from, not a replacement for any of them.

Screening assessment from remote-sensed data (EA composite, surveyed 2019, ±15 cm RMSE

(composite-level)) — not a substitute for a site survey or a professional Flood Risk Assessment.

METHOD AND LIMITATIONS

Ground levels are read from the Environment Agency 1 m LiDAR composite digital terrain model, sampled only within the site boundary. 14,447 surveyed cells contributed; 0.0% of cells inside the boundary carried no survey and were excluded rather than interpolated. Accuracy is ± 15 cm RMSE (composite-level), a property of the composite and not a measurement of this site.

Flood extents are the Environment Agency Flood Map for Planning as republished on planning.data.gov.uk, and NaFRA2 for defended likelihood. Flood zones are undefended and take no account of climate change; NaFRA2 accounts for both. They answer different questions and are reported separately for that reason.

The extent-edge level is INFERRED: the mapped flood extent is where a modelled water surface met the ground, so the surveyed ground level along that boundary approximates the modelled level. It was taken as the median of 1361 boundary points within range of the site, spanning 1.71 m. A wide spread means the reach is not level and the single figure should be treated with more caution. This is not, and must not be used as, the modelled flood level: the Environment Agency issues modelled levels only through a Product 4 data request, at model nodes and where available.

Floor levels follow the published rule: finished floor levels should be a minimum of whichever is higher of 600 mm above the average ground level of the site, the adjacent road level, or the estimated flood level (Environment Agency, "Flood risk assessment: Flood Zones 1, 2, 3 and 3b", floor levels section (gov.uk, updated 28 May 2026; re-verified 9 Aug 2026)). This pack computes the first term and, where available, an inferred proxy for the third. It does not survey adjacent road level to the building(s) — not surveyed by this pack; your consultant or a topographic survey supplies it, and if it is higher than the levels below it governs. The figure given is therefore a lower bound. The published guidance allows the margin to be reduced to 300 mm "where there is a high level of certainty about your estimated flood level" — a remote-sensed screening does not provide that certainty, so no reduction is applied here.

Climate change allowances are the Environment Agency's peak river flow allowances by management catchment, retrieved 2026-08-09 from

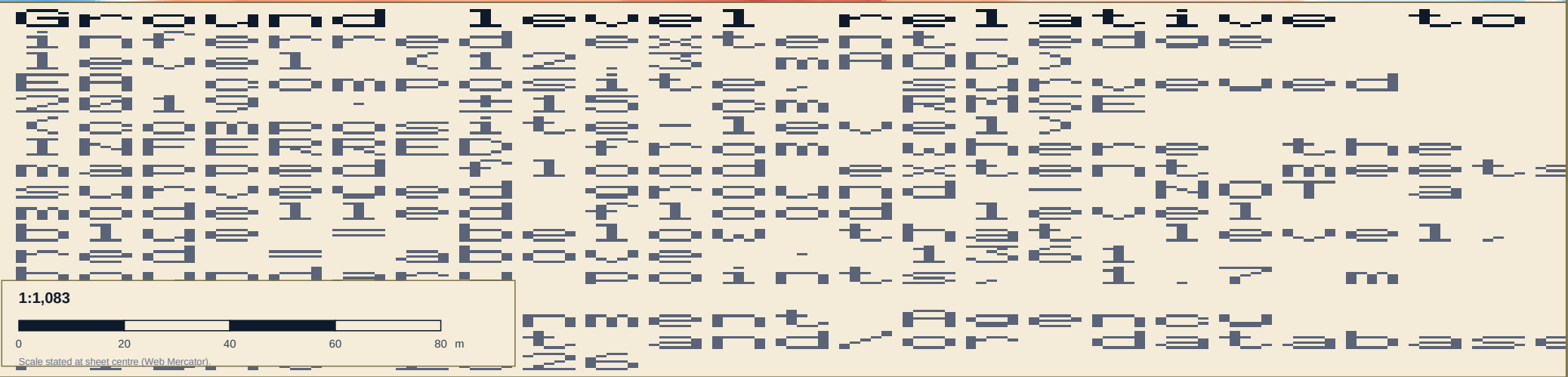
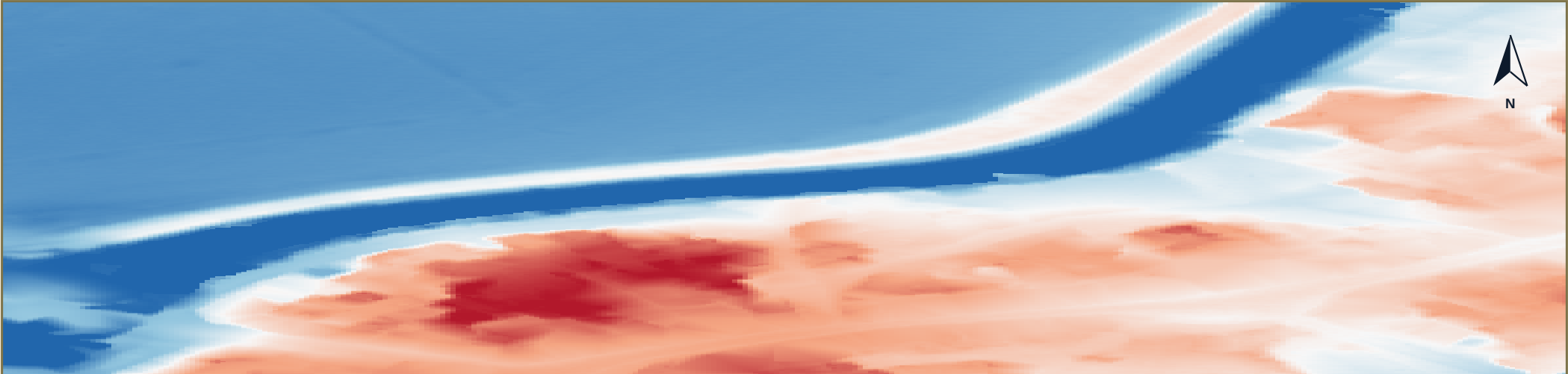
<https://www.gov.uk/government/publications/peak-river-flow-climate-change-allowances-by-management-catchment> — spatial edition "Climate Change Allowances: Peak River Flows by Management Catchment", downloaded from https://environment.data.gov.uk/api/file/download?fileDataSetId=1f23ea8f-6b72-48cc-acec-153c1bba9177&fileName=Climate_Change_Allowances_Peak_River_Flow_by_Management_Catchment.geojson.zip. June 2021 release; the dataset states no further updates are scheduled. Allowances are published per management catchment; the river-basin-district table was withdrawn in July 2021. Residential development is classified "more vulnerable", which in flood zones 2 and 3a takes the central allowance; guidance directs that residential development be treated as having a minimum lifetime of 100 years, which reaches the 2080s epoch (2070 to 2125). If your scheme is essential infrastructure or a different vulnerability class, read the appropriate column from the full table overleaf.

This pack screens. It does not model, and it makes no planning judgement. Its verdict says what is likely on the published evidence, and a local planning authority or the Environment Agency may reach a different view on the same site.

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LEGEND

Flood Risk Zone

- Flood risk level 3
- Flood risk level 2
- Site boundary (redline)

DATA VINTAGES

Flood Risk Zone

vintage not published by source

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PLANNING CONSTRAINTS

SITE
Severn floodplain, Tewkesbury GL20

SHEET
02

CLIENT
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DATE
09 Aug 2026

PROJECT
Flood & Levels Evidence Pack

DRAWN BY
Planning Constraints