

Flood Risk Assessment (FRA) template

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1 Site description

1.1 Site address

Proposed development at 14 St James Avenue, Lancing, West Sussex, BN15 0NN.
Note: some of the supplied drawing title blocks referenced 17 St James Avenue; this Flood Risk Assessment is prepared for 14 St James Avenue (please ensure the final issued drawing set matches the correct address).

1.2 Vulnerability classification

The proposal is an extension and loft conversion to an existing single dwellinghouse (C3 residential use). This is classified as 'More Vulnerable' development in the NPPF Planning Practice Guidance flood risk and coastal change.

1.3 Flood zone incompatibility

Flood Zone classification (rivers and sea) is to be confirmed using the Environment Agency Flood Map for Planning for the confirmed site address.
Assuming Flood Zone 1 (low probability) the proposed 'More Vulnerable' development is compatible.
If the confirmed location is within Flood Zone 2 or 3, further assessment may be required and the Sequential/Exception Tests would need to be addressed.

1.4 Lifetime of development

Residential development lifetime assumed to be 100 years.

1.5 Local Plan policies and SFRA recommendations

The site lies within the Adur District area (Adur & Worthing). The FRA should have regard to the latest adopted Local Plan policies on flood risk and drainage, and the Adur & Worthing Strategic Flood Risk Assessment (SFRA). Any LLFA requirements for surface water management (West Sussex County Council as LLFA) should be followed.
This FRA is proportionate to a small-scale householder extension and loft conversion.

2 Assess flood risk

2.1 Existing site

The application relates to an existing residential plot within an established residential area on St James Avenue, Lancing. The site plan shows a conventional suburban plot with the dwelling set back from the highway. Spot heights shown on the location plan indicate the locality is on a gentle slope (approx. 30.4m to 37.8m across the wider area), which promotes overland drainage away from higher ground. No change is proposed to the use of the site.

2.2 Fluvial flood risk

2.2.1 Design flood event

Fluvial (river) flood risk is to be screened using the Environment Agency Flood Map for Planning (rivers and sea) for the confirmed address. As this is a householder-scale extension/loft conversion, no increase in fluvial floodplain storage is proposed. Finished floor levels of the existing dwelling are retained.

2.2.2 Residual fluvial risk

Residual risk relates to events exceeding the design standard and potential failure/overtopping of any upstream defences. For this small-scale development, residual risk is managed by ensuring:

- no sleeping accommodation is introduced at ground floor that would increase vulnerability; and
- safe refuge is available at higher levels within the dwelling if needed.

2.3 Tidal flood risk

2.3.1 Design flood event

Tidal flood risk is to be screened using the Environment Agency Flood Map for Planning (rivers and sea) for the confirmed address. Lancing is within a coastal district; however the site is inland within a residential street and no direct interaction with the shoreline is proposed.

2.3.2 Residual tidal risk

Residual tidal risk (including events exceeding design standard, defence failure and tide-locked drainage) will be addressed through:

- maintaining existing threshold/FFL arrangements;
- ensuring safe access/egress routes are available via the local road network; and
- providing safe refuge at first floor/loft level.

2.4 Surface water flood risk

2.4.1 Design flood event

Surface water flood risk (pluvial) should be screened using the Environment Agency 'Check long term flood risk' / Risk of Flooding from Surface Water mapping. The plot is on a slight gradient and existing drainage is assumed to discharge to the existing surface water system/soakage as per the current dwelling.

2.4.2 Residual risk

Residual surface water risk arises from intense rainfall, blocked gullies, or exceedance of drainage capacity. Mitigation includes:

- directing runoff to permeable areas where possible;
- maintaining/clearing existing gullies and rainwater goods; and
- providing exceedance routing away from the dwelling (e.g., towards garden areas) without affecting neighbouring properties.

2.5 Sewer flood risk

Sewer flood risk is generally associated with surcharge during intense rainfall. No new foul connections are proposed beyond typical domestic drainage.

Where additional bathrooms are added, connections should be designed to current Building Regulations and water company requirements. Non-return valves can be considered if historical sewer surcharge is known locally.

2.6 Groundwater flood risk

Groundwater risk in this area should be checked on the Environment Agency long-term flood risk service. Given the nature of development (loft conversion/extension) with no basement, groundwater risk to the proposed works is expected to be low.

2.7 Reservoir flood risk

Reservoir flood risk should be screened using the Environment Agency long-term flood risk mapping. If within an area at risk of reservoir inundation, the probability of such an event is very low; no specific mitigation is typically required for householder works beyond general emergency planning.

2.8 Canals and other artificial sources of flood risk

No canals, raised water features, or other artificial flood sources have been identified on or immediately adjacent to the site based on the submitted plans.

2.9 Coastal erosion risk implications on tidal flood risk

The proposal is within an established built-up residential area; no works are proposed on the coast. Coastal erosion is not expected to affect the site within the development lifetime.

2.10 Interactions of various sources

Potential interactions include tide-locked outfalls affecting surface water drainage during extreme coastal events, and combined heavy rainfall with high tides. These interactions are addressed through maintaining existing drainage arrangements and providing safe refuge above ground floor level.

2.11 Design flood level according to all the sources identified

No site-specific modelled flood levels have been provided for this householder scheme. The existing finished floor level is retained. If EA mapping identifies Flood Zone 2/3 or significant surface water risk, site-specific levels may be required.

2.12 Exception Test

Not expected to be required for a householder extension/loft conversion if the site is within Flood Zone 1. If the confirmed site location is within Flood Zone 3 and the development is considered 'More Vulnerable', the Exception Test may be required depending on the extent of the works and local policy.

2.13 Summary of flood risks

Primary potential flood mechanisms for the locality are tidal/fluvial (coastal district) and surface water during intense rainfall.
The scheme is small-scale and retains existing finished floor levels. Surface water management and maintenance of existing drainage are the key mitigation measures.

3 Avoid flood risk

3.1 Evidence of the Sequential Test

The Sequential Test is typically applied by the Local Planning Authority. This proposal is for alterations to an existing dwelling in its current location; there is no reasonable alternative site.

3.2 Sequential Approach

The development follows a sequential approach by locating the most vulnerable uses (sleeping accommodation) at first floor/loft level rather than at ground floor, and by maintaining existing floor levels/thresholds.
Any new external hardstanding should be permeable where practicable to minimise runoff.

4 Control flood risk

4.1 Proposed site levels

Existing site levels are broadly retained. The proposed sections indicate:

- Ground Floor FFL = 0.000
- Loft FFL = 2.760
- Ridge level = 5.721

(relative to the drawing datum).

No lowering of ground levels or excavation of basements is proposed.

4.2 Flood flow route

Overland exceedance flows are expected to follow the local topography; the wider area is shown to be on a gentle gradient. Exceedance routing should be kept away from the dwelling and directed to garden/permeable areas without diverting flows to neighbouring properties.

4.3 Existing or proposed flood risk management infrastructure

No new flood defences are proposed. Existing local flood risk management infrastructure (e.g., highway drainage) will remain unaffected. The proposal does not impede any designated flood flow routes or flood storage areas (to be confirmed via EA mapping).

5 Mitigate flood risk

5.1 Risk to people

Risk to occupants is low for this small-scale development provided:

- occupiers register for Environment Agency flood warnings (where available);
- an internal safe refuge is available at first floor/loft level; and
- residents are aware of emergency procedures during extreme events.

5.2 Risk to property/building

Maintain existing thresholds and floor levels. Consider flood-resilient finishes at ground floor (tile floors, raised sockets) if EA mapping indicates elevated risk. Ensure rainwater goods are maintained to avoid localised flooding.

5.3 Risk to essential services

Key services (electricity/gas) should be located/maintained above potential flood entry points where practicable. Service intakes should be sealed and protected in accordance with utility provider guidance.

5.4 Floodplain storage and conveyance compensation

Not applicable: the works are to an existing dwelling and do not create new footprint within a functional floodplain (to be confirmed via EA mapping). No loss of floodplain storage is anticipated.

5.5 Surface water management

Surface water strategy for the small-scale works:

- retain existing drainage arrangements where adequate;
- direct roof runoff from new works to existing rainwater system or to new soakaway(s) subject to ground conditions;
- use permeable paving for any new hardstanding where practicable;
- avoid increasing runoff to the highway and neighbouring plots.

Detailed design to Building Regulations / SuDS hierarchy and LLFA guidance.

6. Manage flood risk

6.1 Safe access and escape

Safe access/egress is via St James Avenue and the surrounding road network. In the event of flooding, occupants should follow Environment Agency warnings and avoid driving/walking through floodwater.

6.2 Evacuation plan

A formal evacuation plan is not typically required for householder development. Occupants should:

- sign up to Environment Agency flood alerts/warnings (if available);
- keep a small flood plan (grab bag, shutting off utilities, key contacts);
- move to higher levels within the dwelling if advised and safe to do so, and evacuate when instructed by emergency services.

6.3 Residual flood risk

Residual risks include flooding beyond design standards, blockage of drains, and climate change increasing rainfall intensity/sea levels. These are managed through maintenance of drainage, safe refuge, and awareness of warnings.

6.4 Betterment provision

Where feasible, the proposal provides betterment by improving rainwater management (e.g., new gutters/downpipes, permeable surfacing) and ensuring internal refuge at higher floor levels.

7. Summary of measures

- Confirm Flood Zone and long-term flood risk using EA services for the correct address.
- Retain existing ground and finished floor levels; no basement excavation.
- Manage surface water via existing system and/or soakaways; permeable surfacing where practicable.
- Maintain drainage and provide exceedance routing to permeable areas.
- Ensure safe refuge at first floor/loft level and sign up to flood warnings.