

657A (97) 01 – Flood Risk Assessment

Client: Rhys Leighton

Proposals: Two storey side extension and single storey rear extension at 1 Woodfield Drive, Low Bradley, Keighley BD20 9EN.

(Note: Renewal / Resubmission of expired planning approval ref: 2020/21983/HH)

This FRA is prepared in support of a planning application for extension proposals at 1 Woodfield Drive, Low Bradley, Keighley BD20 9EN and is required as the area has identified as falling within an area at risk of flooding of some description.

1. Risk of Flooding from Rivers and Seas:

The nearest watercourses to the property are the Leeds Liverpool Canal located approximately 200m to the south-west and a beck approx. 200m to south-east running on the opposite side of Ings Lane.

The site is located not at risk of flooding from rivers or seas according to the Environment Agency Flood Risk Map / Flood Zone Plan:



Fig.1 Environment Agency Flood Zone Plan

(Source: <https://check-long-term-flood-risk.service.gov.uk/map>)

2. Risk of Flooding from Surface Water:

Pluvial flooding occurs when the amount of rainfall exceeds the capacity of drainage systems including the surcharge of watercourses and sewer systems and where the ground is unable to absorb adequate surface water. Pluvial flooding is often caused by high rainfall intensity but can also result from lower rainfall intensity and/or snow melt when the ground is already saturated or frozen.

The application site is identified as having a low risk of surface water flooding (below 300mm with low velocity):

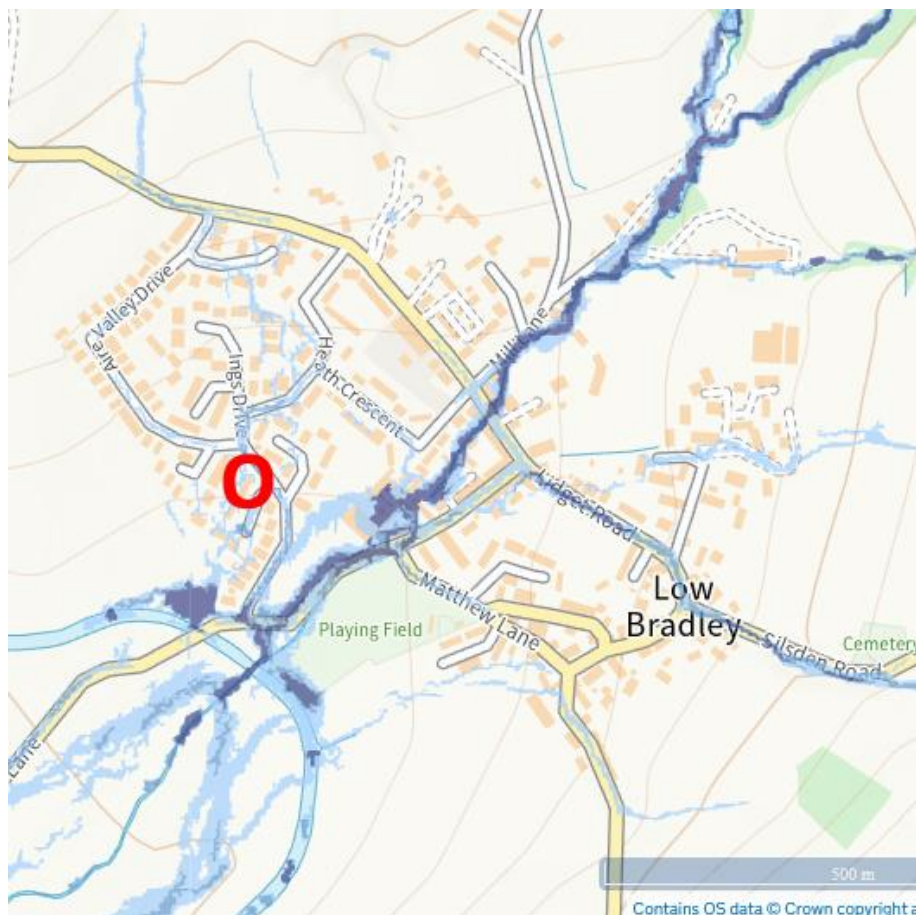


Fig.2 Environment Agency Flood Risk from Surface Water map
(Source: <https://check-long-term-flood-risk.service.gov.uk/map>)

The map indicates that the low risk of surface water derives from the adjacent highway to the east of the property. The flow path is in a southerly and south easterly direction due to the local topography.

According to the Environment Agency Flood Risk mapping, the property can be considered at low risk of pluvial flood risk.

3. Flood Proofing / Mitigation Measures:

The proposed development in this instance is the extension of an existing dwelling. The existing floor level of the property is to remain as existing and the proposed floor level in the extensions are to match. Nevertheless, flood resistance and mitigation measures should be employed including:

- All existing floor and external levels should remain as existing.
- The extent of impermeable external surfacing to be minimised.
- Surface water flow paths to be maintained as existing.

4. Flood Resistance & Resilience:

To protect fixtures and fittings within the habitable parts of the property, it is important to reduce the risk of water ingress and flood resilient materials must be used in construction. The developer understands the following options:

- New external walling to utilise good quality external walling products such as natural stone / facing bricks / concrete blocks / profiled metal cladding.
- Internal walls constructed using concrete blocks.
- External renders should not be used to low level (within flood risk expectations).
- Electrical fixtures are to be installed 600mm above finished floor level.
- Flood doors / gates / panels designed to prevent water ingress should be fitted to external door locations.
- Installation of non-return valves to prevent wastewater from backing up.