

Flood Risk Assessment

Single storey side return & rear extension at 40 Mill Green, Caversham, RG4 8EX

Site Address:

40 Mill Green, Caversham, Reading RG4 8EX

Description of development:

Single storey side return and rear extension in brick cavity construction with a small area of block/block cavity with external timber cladding. The extension increases the footprint of the property by 22m² but an existing shed which is to be demolished reduces this impact to 14m² of additional built environment.

Flood zone:

The property falls within Flood Risk Zone 3 as designated by the Environment Agency.

Estimated 1 in 100 year river flood level for development site:

The property dates back to the 1890's and as far as information is available the house has never flooded. Reading Borough Council own SFRA Appendix C shows the development site as having a 1% AEP risk of flooding (see appendix A) and this is also the case when 25% climate change is taken into account (see appendix B)

Level thresholds are proposed in the extension and flood proofing of the proposed development have been incorporated where appropriate (see below).

Risk of flooding from surface water:

Mapping from the Environment Agency has the development site in a low risk of flooding from surface water. However, surface water flooding is difficult to predict as it is dependant on many external local factors. SFRA indicates no risk of surface water flooding at the development site (see appendix C)

Level thresholds are proposed between the extension and the existing house which from all relevant information has never flooded.

Flood defenses:

The property is located to the north of the River Thames in Lower Caversham. Mapledurham Lock and Caversham Lock upstream act as flood defences by keeping the standard head water level at 36.59m AOD.

Flood Proofing:

- General - the proposed development is designed to resist any flood water to a height of 0.3m above ground level in line with EA and Guidance to Householders in the local area and aligns in part to the guidance in 'Improving the flood performance in new dwellings'. All the points below comply with the general advice for resilient design for water exclusion strategy.
- Foundations - mass concrete trench or strip footings, minimum 300mm thick and 1000mm deep (final depth to be determined on site and agreed with building control)
- Suspended ground floor slab - beam and block floor with a minimum 150mm void beneath with telescopic vents extending minimum 300mm above ground level
- Walls - masonry below dpc to be dense 7N concrete block or Class F2 brickwork in M6 mortar.
- Openings - windows and doors to be fully sealed and insulated cavity closers to be used at junctions with masonry.
- Services - openings in masonry for services to be fully sealed and hot water pipework in uninsulated areas to have insulating material (of a closed cell variety) of 0.045 W/moC of thickness equal to the outside diameter of the pipe.

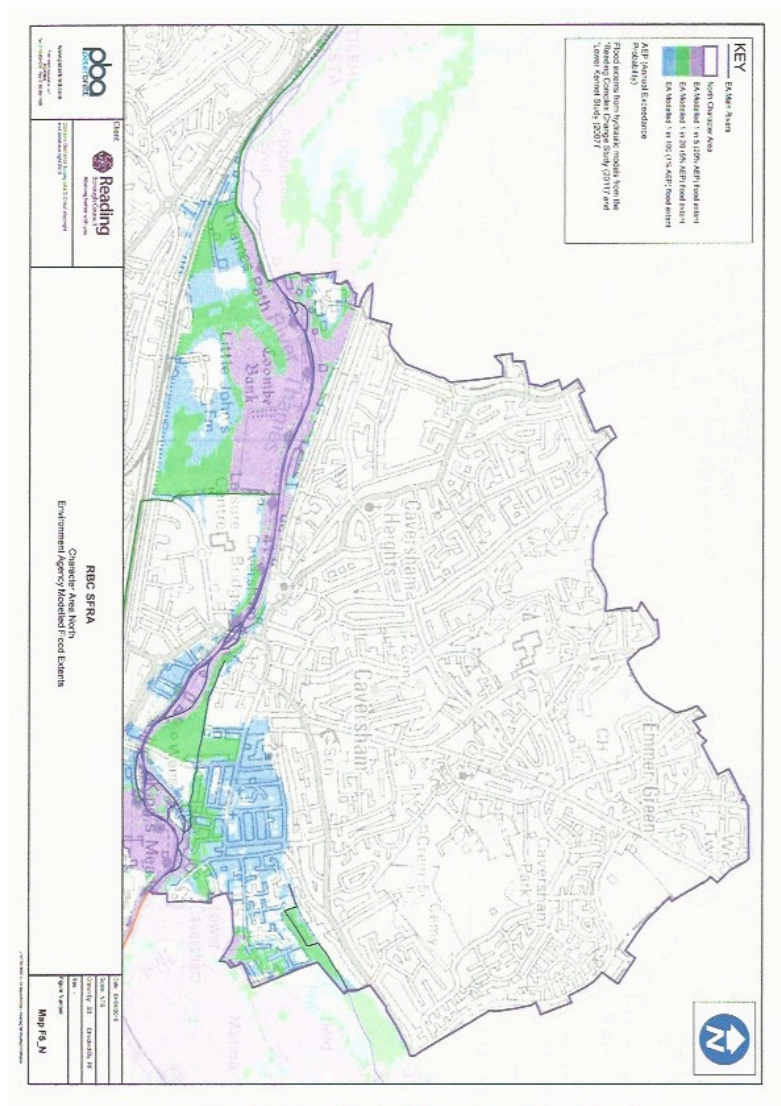
Surface Water Drainage:

Existing and new guttering to discharge into soakaways minimum 5m from any building.

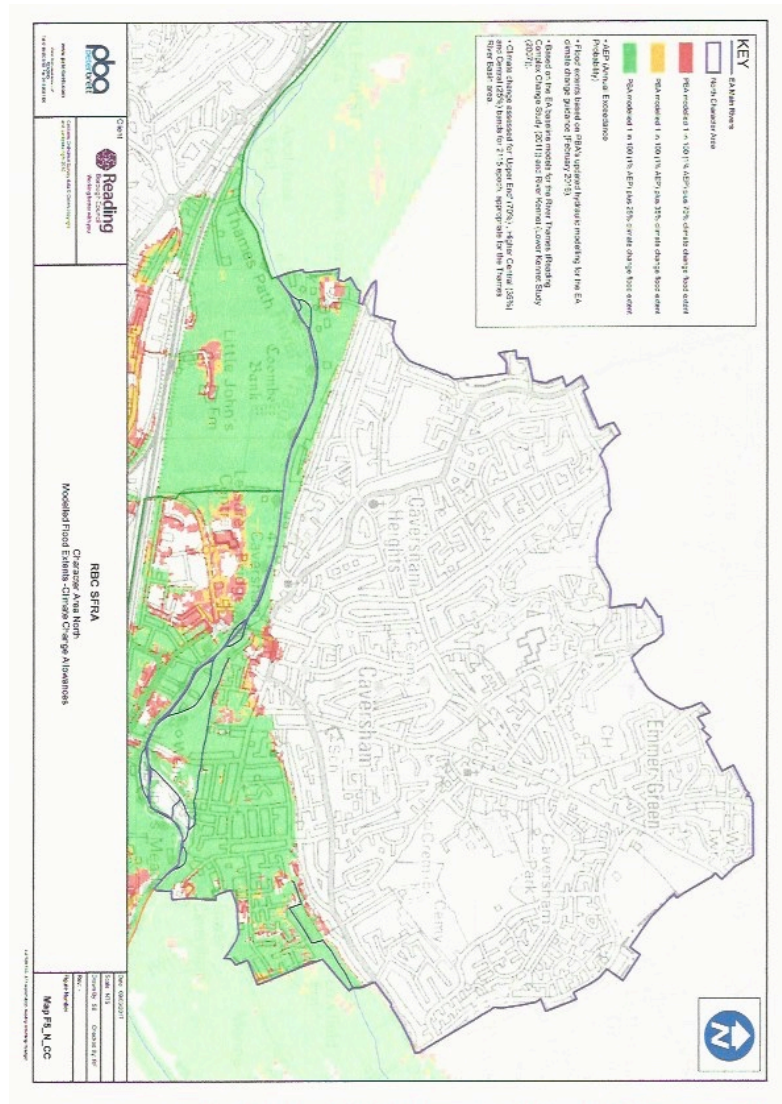
Assessment of flood risk for the site:

The property falls within Flood Risk Zone 3 and as such has a chance of flooding of 1% AEP (as shown in appendix A). However it must be noted that the property has never knowingly flooded since construction in the 1890's and as the extension is designed with level thresholds, is a modest scale to the rear of the property (ie away from the River Thames) and the construction takes into account the guidance for resilient design for water exclusion, all efforts have been to minimise the risk of flooding.

Appendix A



Appendix B



Appendix C

