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Architectural Technology - Sustainable Engineering - Homes for Life

14-15-1 A

Flood Risk Assessment

for

10 St Catherine's Rd Littlehampton, West Sussex BN17 5HS

Prepared

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15 September 2014

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Introduction

Purpose

It was proposed to alter the access and layout of an existing 'House of Multiple Occupancy' (HMO) and planning-permission was being sought for approval of the proposed works (application number LU/230/14/PL). The local-authority (Arun District Council) have requested a 'Flood Risk Assessment' (FRA) for the project and this report fulfils that requirement.

Problem

The house was situated within a 'Zone 3a' area with a risk of flooding as described within the 'Technical Guidance to the National Planning Policy Framework' (NPPF:2012) and to summarise the document's contents on 'Section 2: Flood Risk' for the development.

Where development is necessary (*within Zone 3a*), making it (*the development*) safe without increasing flood risk elsewhere. For these purposes:

'Flood risk' means "risk from all sources of flooding - including from rivers and the sea, directly from rainfall on the ground surface and rising groundwater, overwhelmed sewers and drainage systems, and from reservoirs, canals and lakes and other artificial sources."

The NPPF definition for Zone 3(a) - high probability (*of flooding*) was:

"This zone comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year." (table-1:NPPF)

The NPPF continues with appropriate uses for land within Zone 3a with references to tables, i.e.:

"The water-compatible and less vulnerable uses of land (table 2) are appropriate in this zone...."

Table 2: "Flood risk vulnerability classification" states:

"More vulnerable Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels."

Clause 4 of the NPPF refers to Table 3: "Flood risk vulnerability and flood zone 'compatibility'" which shows the "More Vulnerable" classification as requiring an "Exception Test".

An "Exception Test" (as set out in the National Planning Policy Framework), the scope of a Strategic Flood Risk Assessment will be widened to consider the impact of the flood risk management infrastructure on the frequency, impact, speed of onset, depth and velocity of flooding within the flood zones considering a range of flood risk management maintenance scenarios." (Clause 5:NPPF)

However, The NPPF also states within Clause 10. "Minor developments are unlikely to raise significant flood risk issues unless they would:"

"have an adverse effect on a watercourse, floodplain or its flood defences;"

"would impede access to flood defence and management facilities; or"

"where the cumulative impact of such developments would have a significant effect on local flood storage capacity or flood flows."

Clause 10 further defines one definition of "Minor development" to mean:

"Minor non-residential extensions:
industrial/commercial/leisure etc. extensions with a footprint less than 250sqm."

"Alterations: development that does not increase the size of buildings e.g. alterations to external appearance."

"Householder development: e.g. sheds, garages, games rooms etc. within the curtilage of the existing dwelling in addition to physical extensions to the existing dwelling itself. This definition excludes any proposed development that would create a separate dwelling within the curtilage of the existing dwelling e.g. subdivision of houses into flats." (Footnote 10:NPPF)

Although the project could be classified as "Householder development: ..subdivision of houses into flats" it will be shown that the works were internal and there was no increase in the accommodation and so the project was considered as "Alterations" under Clause 10 which excludes the need for the "Exception Test".

With respect to the effects of Climate Change (Clause 11:NPPF), the Environment Agency was in the process of improving the coastal- and river-defences on the South-east coast and the River Arun 'East Bank' was included in the scheme. These defences would effectively protect the areas at the risk of flooding from the '100-year river and 200-year' tidal event.

Scope

The report opens with 'Method'; a section containing a description of the co-ordinates of the house and site-levels and how the data was obtained. The 'Discussion' follows and this section details the proposed works and the "Flood Risk" caused by the development and on the "Vulnerability" of the house. The report concludes with a recommendation of the flood-risk and references.

Method

Co-ordinates, datums and location

ETRS89 Coordinates: 0,48,25.44,W,0,32,24.41

Square TQ Easting 0291 Northing 0167

Datum 2.594 less 0.300 = 2.2m AOD at ground-level

Information obtained from the Ordnance Survey using the 'Benchmark locator' (BM:OS) and levels confirmed by site-visit.

Discussion

Existing Situation

The property was a Victorian Villa converted into three self-contained flats. The building had three floors and a basement. The basement was used for storage. The flats spanned the three floors with shared access at the front and side of the house and via a steel staircase situated at the rear. The house had been used as flats for a number of years

Proposed Works

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Proposed Works

It was proposed 're-define' the layout of the flats by giving each flat an independent and private access by removing internal-doors and the lift, bathrooms and kitchens. A new drain for the kitchen was proposed. These works have been shown on 'BKM' drawings numbered 1/5 and 4/5. No other external works were being considered.

Flood Risk

Due to the minor nature of the works and the sea defences, the scheme was not a 'flood risk' and the 'Exemption Test' need not be applied.

Effects of flooding

Localised flooding caused through rising water-table or excessive rain, say, may occur and this would cause damage to those areas close to ground-level. The basement was used for storage so was at low risk in a flood.

The areas of the house that would be flooded were primarily at the rear of the property, and the occupants should be made aware of 'good practice' in time of flood including how to protect property and on how to deal with the aftermath.

Vulnerability

Although the ground-floor flats were "more vulnerable" in a Zone 3 area there would be no material change to the 'vulnerable status' of the building due to the proposed works.

Conclusion

The house was in Zone 3a area at risk of flooding but recent sea defences have alleviated that risk. Furthermore, the proposed works were minor in nature - primarily moving or closing entrances - with no increase in building volume or accommodation. Therefore, it was concluded that the proposed alterations did not impose a 'flood Risk' and that the development was not any more vulnerable than already existing.

References

(NPPF:2012) Technical Guidance to the National Planning Policy Framework. March 2012. Department for Communities and Local Government