

09 0253

**PROPOSED REDEVELOPMENT AND ERECTION OF NEW RESIDENTIAL DWELLINGS ON LAND AT 331 UXBRIDGE ROAD, RICKMANSWORTH, HERTS; WD3 8DS.**

**DESK TOP STUDY ON FLOOD RISK ASSESSMENT**

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The proposal the subject of this study comprises the reinstatement of the existing front building as 4 two bed dwellings and the development of 4 three bed town houses in a terrace to the rear, in lieu of 6 two bedroom apartments approved previously, together with associated undercroft street parking

**Definition of Flood Hazard**

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The site of the proposed development lies principally within Flood Zone 1 - **low probability**- which is defined as land having less than a 1 in 1000 annual probability of river flooding in any one year, bordered by Flood Zone 3 **high probability** (with an annual probability of flooding of 1% or greater from rivers) and as indicated in The Environment Agency's (EA) Flood Zones. Accordingly the Agency would consider the site and any buildings would be at a low/high risk of flooding as set out in detail in PPS 25. The land would therefore be appropriate for all uses in this zone of existing development, as would be expected for an area of mature development.

This flood map includes terrestrial levels obtained by what is called a "sonar fly-over", which is a computerised aerial assessment devised only as a general guide to flood conditions in a particular area. It gives a "broad brush sweep" only and the EA are committed by policy to help all enquirers over ways and means of meeting their criteria, based on the fact that the flood map is for guidance only. The EA admits that the category of modelling is "low confidence"

It is because of this scenario that consideration is also given to historical evidence of flooding, based on previous worst flood conditions, together with an allowance as mentioned later in this assessment. This rationale gives a far more meaningful flood datum than a general "broad brush" interpretation particularly as it is based on fact, as against the modelled methodology and the inevitable surmise element.

**Likelihood of Flooding**

The EA have advised the site is in an area, which falls outside the extent of the extreme flood at the time of their assessment of the likelihood of flooding. Further they have indicated that the site has not previously flooded and this is confirmed by the local authority and anecdotally locally.

The EA have supplied data taken from the Upper Colne Strategy Model ( Halcrow 2004) where the relevant node label of RD049A applies and which gives a modelled flood level for a 1 in 100 year return period of 44.08 AOD. The confidence level given to this figure is defined as low. The River Colne runs to the south of the application site

### **Development details**

A comparison of the footprints and permeable areas is provided within the existing/proposed plans within this report . This shows a decrease in the footprints and hard standing of 67% , a total of 326m<sup>2</sup> less. There is an increase of permeable surfaces of 102% which is 160m<sup>2</sup> less .

### **Levels**

The application site has an area of approximately 0.06 Ha. The on site levels range from 43.65 AOD to the east and 44.16 AOD to the west, 43.71 AOD to the south and 44.58 AOD to the north. The level of the fronting Uxbridge Road is 44.59 AOD.

The floor levels of the new building within the development should be set at a minimum of 0.300m above the modelled flood level which will equate to 44.08 + 0.300m = 44.38 AOD, which achieves a level above the climate change allowance datum and is some 0.300m above the general ground level. This aspect will require the agreement of the local authority.

### **Offsite Impacts**

The matter of sustainable drainage has been considered and it would be recommended that a SUDS scheme be appropriate for this site using the permeable paving technique or similar to achieve an attenuated run-off. This would comprise permeable paving to the access and parking areas, to drain into either an agreed watercourse or surface water sewer. On site investigation will determine whether an infiltration or tanked system is appropriate. The whole of this aspect will require the agreement of the local authority and should be the condition of any consent.

### **Residual Risk**

The question of a dry access has historically been confirmed as being achieved and established and there is no anecdotal evidence of flooding to this site. This is confirmed by the street level adjacent to the application site being above the modelled flood level referred to above

Historically the back and sides of the site have been protected from flooding by a high brick wall being absorbed into the on-site property . This is as high as 3 stories in one part , dropping to 2.4 metres high and finally to 1.5 metres .

Due to the state of this wall and the many years it has been there it is considered that it could offer a danger to occupants on the site should it remain in its present condition and height . Force of water at time of possible flood could underwash it and make it collapse . Because of that it is recommended that a new wall be built at a height of 1.5m using flood resilience techniques as described within this report.

Also it is noted that part of the wall lies within a metre of the waterway . This technically offends by-law regulations with regard to waterside access and maintenance . Because of this it is recommended that when the new wall is built it is at no point less than 8 metres from the bank of the waterway.

The fact that historically this wall has existed is another reason to accept local anecdotal evidence that the site has never flooded because it has always protected the area which might be affected by flood zone 3.

In order to take account of any slight flood risk as described, it would be proposed, subject to the agreement of the local authority, and in view of the circumstances as regards such slight risk, that the residents of the redeveloped site be a subscriber to the EA Flood Watch initiative subject to the agreement of the local authority.

Also for evacuation procedures (to be part of the dwellings operating and general manual advice) generic details of which are supplied by this company and enclosed with the study. The development will also be the subject of the latest appropriate flood resilience building criteria where relevant, with details to be agreed with the local planning authority.

### Compensation

Due to the fact that the possible flood area has historically been protected by the wall (as detailed above) it is not considered that compensation is required . Also there is a considerable reduction in impermeable area on site which equates to a betterment under this classification

### Sequential/Exception Test

It is considered the provisions of **PPS 25 Annex D - The Sequential Test** – are relevant here as we are dealing with appropriate development, but the local authority will rule on this point, and implement an exception procedure if they deem it necessary.

We have discussed design standards under planning regulations with the client and it is apparent that to a great extent the LPA wish the design to reflect historic building features on the site . For that reason it is obvious that the LPA wish this site to be developed in such a way as to reflect its historical significance.

In so doing the LPA are making it an exceptional case under the guide-lines of PPS25 As its recent history has been that of a warehouse the perceived plans for this site would offer betterment both in terms of planning and flood risk . There is no doubt that if this site were allowed to degenerate it could become structurally unsound and so exacerbate flood risk both on and off site . It is worthy of note that a private lane lies next to the site ,another reason for making sure it has safety of passage for pedestrians especially at a time of possible flood risk .

I am of the opinion therefore that this proposal which involves partial redevelopment in an existing built up area can be considered de minimus as a minor development proposal, and coupled with the measures as outlined can be safely accommodated within the advices contained in **PPS 25**.

### **Conclusion**

The site is afforded the appropriate protection to flooding as indicated in **PPS 25**, and it is unlikely that any meaningful inundation will occur to prejudice the proposal. The circumstances as regards a slight flood risk described in this study, incur implementing the Flood Watch provision supplied by the EA, and other measures as described above.

P P FEARNSIDE FICE

19th February 2009