

# **Caulmert Limited**

Engineering, Environmental & Planning  
Consultancy Services

**Purbrook Park School  
Proposed Re-Development  
Flood Risk Assessment**

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## EXECUTIVE SUMMARY

### Background

Caulmert Ltd was commissioned by Purbrook Park School authority to carry out a Flood Risk Assessment for the extension and remodelling of their school in Havant, Hampshire.

The Environment Agency Flood Map, shows that the school hence the areas for the proposed developments are located within Flood Zone 1, and hence classified as 'Low Probability' of flooding according to the Technical Guidance to the National Planning Policy Framework<sup>(Ref.1)</sup>.

### Methodology

The risk of flooding from fluvial (river flooding), surface water, groundwater, the existing drainage, the proposed drainage and reservoirs were considered.

### Flood Risk

The flood risk assessment concludes that:

- The site is situated within Flood Zone 1 (Low Probability) of the Environment Agency indicative flood outline.
- There is residual risk of surface water flood from the existing drainage system as a result of heavy intense rainfall exceeding the capacity of the existing drainage soakaways, but the risk is considered to be low.
- There is residual flood risk as a result of blockages of the proposed SUDS, or as a result of high intensity, short duration, localised storms which produce runoff rates which cannot be taken into drains quickly enough. All floor levels to new building should be set above surrounding ground and road levels. Hence, the risk is considered to be low.
- Other flood risks considered included, groundwater, proposed drainage and reservoir inundation. These are not considered to pose a flood risk to the proposed development.
- There is no risk of flooding from the existing pond to the north east of the site.

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## 1.0 INTRODUCTION

### 1.1 Terms of Reference

- 1.1.1 Caulmert Ltd was commissioned by Purbrook Park School (the School) authority to carry out a Flood Risk Assessment (FRA) for the Re-development of the School which consists of a two storey extension at the front of the school (Block A), an infill building (Block B), and a gym store to rear of the existing gym halls (Block C), together with additional parking spaces, external hard/soft landscape enhancements and footpaths hereinafter referred to as the Re-Development within the School boundary in Purbrook, Hampshire.
- 1.1.2 An FRA is required to establish the suitability of the site for the proposed Re-development in relation to flooding. The FRA reported herein has been carried out in accordance with the requirements of the National Planning Policy Framework (NPPF)<sup>(Ref.1)</sup> and its accompanying Technical Guidance<sup>(Ref.2)</sup>.

## 2.0 CONTEXT AND SCOPE OF WORK

### 2.1 Requirements

- 2.1.1 This FRA follows guidance provided in section 10 of NPPF and its Technical Guidance.
- 2.1.2 In accordance with NPPF, a site specific FRA must demonstrate that the proposed Re-Development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce the overall flood risk of the area.
- 2.1.3 Where appropriate, the following aspects of flood risk should be addressed by all planning applications in flood risk areas:
- The existing area liable to flooding.
  - The probability of flooding occurring now and over time.
  - The extent and standard of existing flood defences and their effectiveness over time.
  - The likely depth of flooding.
  - The rates of flow likely to be involved.
  - The likelihood of impacts to neighbouring areas, properties and habitats.
  - The effects of climate change.
  - The nature and currently expected lifetime of the proposed Re-Development and the extent to which it is designed to deal with flood risk.

### 3.0 SOURCES OF INFORMATION

#### 3.1 Relevant Studies

##### *Previous Studies*

- 3.1.1 No previous studies have been carried out for the proposed Re-Development in relation to flood risk.

##### *Preliminary Flood Risk Assessment*

- 3.1.2 In 2011, Preliminary Flood Risk Assessment (PFRA)<sup>(Ref.3)</sup> was prepared by Hampshire County Council (the Council) as Lead Local Flood Authority (LLFA) to assist in meeting its duties to manage local flood risk and to deliver the requirements of the Flood Risk Regulations 2009.
- 3.1.3 The Preliminary Flood Risk Assessment provides a high level overview of flood risk from a variety and combination of flood sources including surface water, ground water and ordinary watercourses as well as the interaction with main rivers, the sea and reservoir flooding.
- 3.1.4 According to PFRA, although there are no nationally significant flood risk areas within Hampshire, the PFRA report and the data collected will be used to identify local flood risk areas, and areas where further information is required to better determine and understand local flood risk across Hampshire. In turn, this will be used to inform the Local Flood Risk Management Strategy (LFRMS) required under the Flood and Water Management Act 2010 (the Act) and to identify additional areas where surface water management plans or other work may be required.
- 3.1.5 The location of the School has not been identified as potential flood risk in the PFRA study. However, according to PFRA report every effort is made to ensure that new or proposed developments within Council's area will not increase local flood risk and where practicable, actually reduce local flood risk.

##### *Hampshire Local Flood Risk Management Strategy*

- 3.1.6 The Hampshire Local Flood Risk Management Strategy (LFRMS)<sup>(Ref.4)</sup> is an important new tool to help individuals, communities, businesses and authorities understand and manage flood risk within the county. Its primary focus is on local flooding from surface water, groundwater or ordinary watercourses such as streams and ditches. The Council is responsible for managing this type of flood risk.
- 3.1.7 Due to the small scale of the mapping on the LFRMS's flood maps, it is difficult to clearly locate the School site.

### **South East Hampshire Catchment Flood Management Plan**

- 3.1.8 The South East Hampshire Catchment Flood Management Plan (CFMP)<sup>(Ref.5)</sup> was produced by the Environment Agency (EA) in 2009 as part of their flood management and development policy across the catchment. According to the CFMP, the proposed Development site falls within Sub-Area 4, Havant and Denmead and Policy Option 4 which is described as:

*'Areas of low, moderate or high flood risk where we (the EA) are already managing the flood risk effectively but where we (the EA) may need to take further actions to keep pace with climate change.'*

- 3.1.9 According to the CFMP:

*'This policy will tend to be applied where the risks are currently deemed to be appropriately-managed, but where the risk of flooding is expected to significantly rise in the future. In this case we (the EA) would need to do more in the future to contain what would otherwise be increasing risk. Taking further action to reduce risk will require further appraisal to assess whether there are socially and environmentally sustainable, technically viable and economically justified options.'*

### **Strategic Flood Risk Assessment**

- 3.1.10 In 2007, Partnership for Urban South Hampshire (PUSH) produced a Strategic Flood Risk Assessment (SFRA)<sup>(Ref.6)</sup> in accordance with Planning Policy Statement 25 (PPS25)<sup>(Ref.7)</sup>. PPS25 was replaced by NPPF in March 2012.
- 3.1.11 The purpose of the SFRA is to assess and map all forms of flood risk, from groundwater, surface water, impounded water bodies, sewer and river sources, taking into account future climate change predictions, to allow PUSH to use this as an evidence base to locate future development primarily in low flood risk areas.
- 3.1.12 The location of Purbrook Park School has not been identified as potential flood risk in the SFRA.

## **4.0 SITE DESCRIPTION**

### **4.1 Location and Details**

- 4.1.1 The locations of the proposed Re-Development sites within the School boundary are included in Appendix 1. The proposed sites cover a combined area of about 0.01ha and consist of areas of relatively hardstanding. The School is bordered on all sides by residential properties and roads.