APPENDIX N

BARKING AND DAGENHAM COLLEGE

BARKING AND DAGENHAM COLLEGE

Area Name: Barking and Dagenham College
Location: Dagenham
River Catchment: Beam River
NPPF Flood Zone (majority of area): Flood Zone 1
NPPF Flood Zone (worst case): Flood Zone 1

Introduction

The Barking and Dagenham College strategic development site is approximately 0.06km^2 in area and is located in the east of Barking and Dagenham (refer to Appendix A). The area is bounded by a residential area to the north, Dagenham Road in the east and Central Park to the south and west.

The site is currently greenfield and forms part of Central Park. The proposals for the Barking and Dagenham College strategic development site comprise the provision of c. 200 homes.

Description of Flood Risk

Flood Zones

The entire area of the Barking and Dagenham College strategic development site is within Flood Zone 1 and is therefore not considered to be at risk of flooding from fluvial or tidal sources.

Surface Water

The Environment Agency Risk of Flooding from Surface Water map indicates the site is generally at low risk of surface water flooding. The only area predicted to be at a high risk of flooding is a small area at the eastern end of the existing car park area. Surface water flooding within the Barking and Dagenham College strategic development site is illustrated in Figures N3.

Groundwater

The increased Potential for Elevated Groundwater map (iPEG), developed for the Barking and Dagenham SWMP, indicates that Barking and Dagenham College is not within an area identified as having an increased potential for groundwater to interact with or rise to within 2m of the ground surface.

Defence or Reservoir Failure

The Barking and Dagenham College strategic development site is located in Flood Zone 1 and is therefore not within an area benefitting from flood defences or at risk of flooding due to breach of any flood defences.

The Environment Agency Risk of Flooding from Reservoirs map indicates the area is not at risk of reservoir flooding.

Flood Warning Areas

The Barking and Dagenham College strategic development site is not located within an Environment Agency Flood Warning or Flood Alert area.

Impact of Climate Change

The Barking and Dagenham College strategic development site is not predicted to be at risk of fluvial or tidal flooding, now or in the future.

The effects of climate change will potentially increase the frequency and intensity of surface water flood risk within the Borough. A comparison of the Environment Agency 1 in 100 (1%) annual probability and 1 in 1000 (0.1%) annual probability predicted surface water flood extents, provided in the Level 1 SFRA report, suggests that although the Barking and Dagenham College strategic development site is at low

risk from surface water at present, the area currently occupied by the college car park may be at an increased risk in the future.

Planning Recommendations

Spatial Planning and Development Control

Development of the site should be undertaken in accordance with the principles as set out within Section 1 of this report and Section 7 of the Level 1 SFRA. It is understood that the proposed development within the Barking and Dagenham College strategic development site comprises the provision of c. 200 homes.

A site-specific flood risk assessment is required for developments in Flood Zone 1 where the development is 1 hectare or greater or at significant risk of flooding from other sources (i.e. surface water, sewerage systems or reservoirs).

The need and scope of a site-specific flood risk assessment in Flood Zone 1 should be discussed and agreed with the Council. However, it is recommended that, at minimum, a site-specific flood risk assessment is provided for development at risk of surface water flooding up to the 1 in 30 (3.33%) annual probability event, or at risk of flooding to a depth greater than 300mm during the 1 in 100 (1%) annual probability event.

Within a development site, a sequential approach should be adopted that takes into account all sources of flood risk including the potential effects of climate change.

To ensure the flood resistance of a building, it is recommended that ground floor levels are situated 300mm above adjacent ground level, or above the estimated 1 in 100 (1%) annual probability flood depth.

Basement structures are considered acceptable in Flood Zone 1, although where possible they should be designed to prevent the overland flow of water entering the basement structure up to and including the 1 in 30 (3.33%) annual probability event.

Sustainable Drainage Systems

The Barking and Dagenham College development site is currently predominantly greenfield and therefore the risk of contamination may be low. SUDS techniques as discussed in Section 7.7 of the Level 1 SFRA should be promoted at the site. The site should seek opportunities to integrate SUDS within the design of the site and provide an exemplar of best practice techniques including good use of green space to accommodate a variety of SUDS features in order to control and clean runoff from the site.

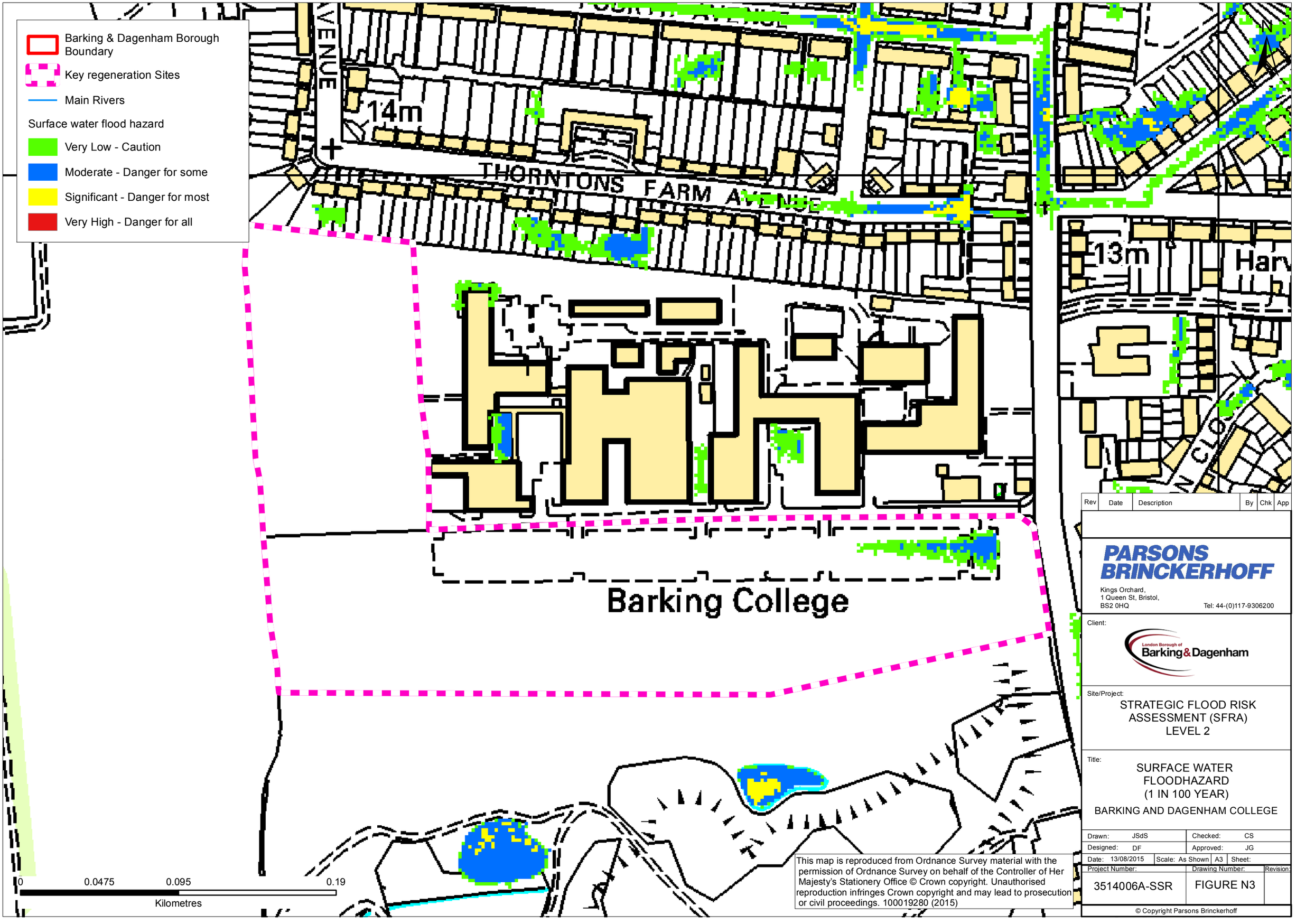
As the site is predominantly greenfield any development at the site should strive to achieve greenfield runoff rates. Given the strategic development site's relatively high elevation within the catchment and its proximity to the known overland flow surface water flow path towards the Wantz Industrial Estate strategic development site, the management of surface water runoff from this site is of particular importance.

Where the peak discharge from the site is less than 5l/s, it may be acceptable to limit discharge to a minimum rate of 5 l/s up to the 1 in 100 (1%) annual probability event to reduce the risk of blockage. However, a flow control device that reduces peak flows below 5 l/s is still acceptable and should be promoted when:

- A robust maintenance regime and appropriate maintenance contract is provided by the developer; and
- An appropriate overflow device can be included within the design that will direct flows to less vulnerable areas should the flow control device block and surcharge.

Reducing the flow rate to below 2l/s is, however, considered to pose greater risk and this would be considered an appropriate minimum discharge rate for most development unless robust controls are in place for managing residual risk.

Where the development is too small to warrant the use of storage features it is essential that SUDS techniques appropriate to the development are implemented to maximise the other benefits, principally reducing discharge during small rainfall events, maximising infiltration potential, improving resilience to climate change, providing treatment and enhancing biodiversity.



Rev	Date	Description	By	Chk	App

PARSONS BRINCKERHOFF
Kings Orchard,
1 Queen St, Bristol,
BS2 0HQ
Tel: 44-(0)117-9306200

Client: London Borough of Barking & Dagenham

Site/Project:
STRATEGIC FLOOD RISK ASSESSMENT (SFRA) LEVEL 2

Title:
SURFACE WATER FLOODHAZARD (1 IN 100 YEAR)
BARKING AND DAGENHAM COLLEGE

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Designed: DF		Approved: JG	
Date: 13/08/2015	Scale: As Shown A3	Sheet:	
Project Number:		Drawing Number:	Revision:
3514006A-SSR		FIGURE N3	

File Name:: N:\Water Engineering\3514006A - LBBD SFRA_WORKING FOLDER\Y GIS\Mxd\Phase II\3514006A-SSR-Surface Water Flood Hazards.mxd
Login: desouzaj
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