

APPENDIX K

DAGENHAM EAST

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Area Name: Dagenham East

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 Dagenham East strategic development site is approximately 0.24km² in area and is located in the east of Barking and Dagenham (refer to Appendix A). The area is bounded by Foxlands Lane to the north, Eastbrookend Country Park to the east, the railway line to the south and Rainham Road South to the west.

The existing land use in the area is industrial, with a pharmaceutical plant currently located on the site. The proposed regeneration of the area will retain the industrial use of the site and incorporate new industry.

Description of Flood Risk

Flood Zones

The entire area of the Dagenham East 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. Surface water flooding within the Dagenham East strategic development site is illustrated in Figure K3.

The junction of Rainham Road South, Reede Road and Fowlands Road is predicted to be at a high risk from surface water flooding (greater than a 1 in 30 (3.33%) annual probability), with predicted flood hazard during a 1 in 100 (1%) annual probability event being classified as 'significant' (Danger for most). Although the area identified as being at risk is predominantly outside the strategic development area this may affect access and egress to the site.

Groundwater

The increased Potential for Elevated Groundwater map (iPEG), developed for the Barking and Dagenham SWMP, indicates the south of the site is within an area identified as having an increased potential for groundwater to interact with or rise to within 2m of the ground surface. For details of the iPEG map refer to the Level 1 SFRA report Section 5.3 and Appendix I. Groundwater emergence could pose flood risk to basement or below ground structures, as well as generate overland flows that are likely to pond in areas of flat topography or be similar in location to those discussed as part of the surface water flood analysis.

Defence or Reservoir Failure

The Dagenham East 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 that the area is not at risk of reservoir flooding.

Flood Warning Areas

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

Impact of Climate Change

The Dagenham East 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 there may be an increased risk of flooding along the southern boundary of the Dagenham East strategic development site, as well as along the existing access routes through the site.

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 Dagenham East strategic development site comprises new industrial development.

A site-specific flood risk assessment is required for developments in Flood Zone 1 where the development is 1 hectare or greater in area 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.

In particular the development of the site should take into consideration the high surface water flood risk identified at the junction of Rainham Road South, Reede Road and Fowlands Road. Development in this area should ensure that it is resilient to the risk of surface water flooding including the consideration of alternative access routes should access at this junction become unavailable.

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.

Consideration should also be given to the impact of flooding from other sources to the ability to provide safe access and egress. Dry access should be provided outside of the extent of areas indicated to be at risk of surface water flooding during the 1 in 100 (1%) annual probability event where possible. Where this is not possible, safe access with 'moderate' flood hazard should be demonstrated for all industrial/commercial development proposals.








Sustainable Drainage Systems

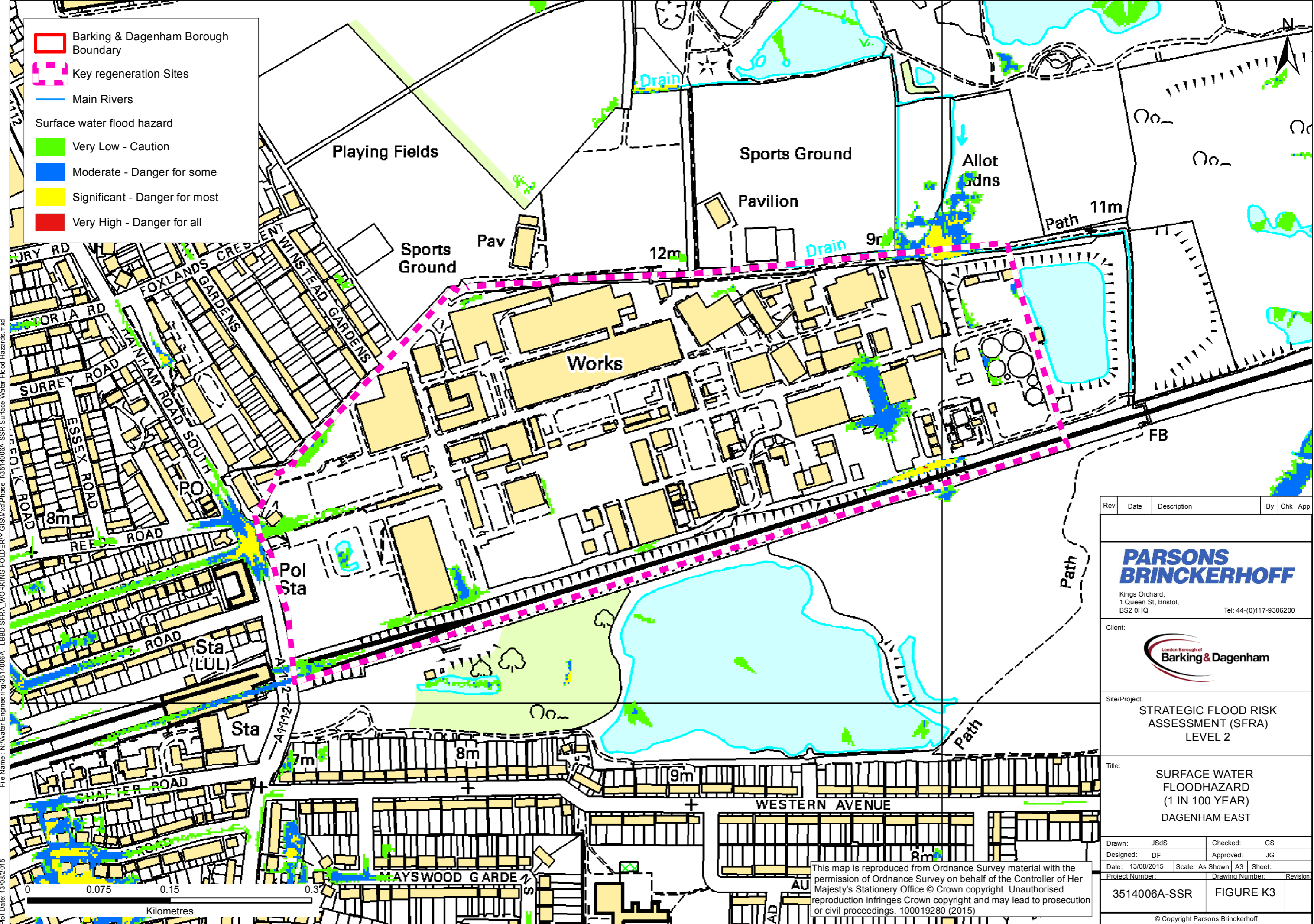
SUDS techniques as discussed in Section 7.7 of the Level 1 SFRA should be promoted wherever possible. The site should seek opportunities to integrate SUDS within the design of the site and provide

an exemplar of best practice techniques including good use of green space to accommodate a variety of SUDS features in order to control and treat runoff from the site.

The development of the Dagenham East strategic development site is likely to be completed in phases as plots of land are made available for development. The type of drainage system(s) adopted at the site may be constrained by the size of the development sites brought forward at different times and the contamination risks posed by the site's current and historic industrial heritage. However it is deemed likely that given the size of the likely development plots opportunities will be available to provide a system that demonstrates exemplar SUDS within the development sites and/or that serves multiple developments within the site by implementing an overall drainage strategy.

As this is a previously developed site it should strive to achieve betterment over existing discharge rates. Given the site's relatively high elevation within the catchment, developers should strive to achieve pre-developed greenfield rates as far as practicable in order to assist in the reduction of flood risk within areas at a lower elevation. Where this is not practicable a minimum betterment of 20%, whilst taking the potential effects of climate change into consideration, should be achieved.

-  Barking & Dagenham Borough Boundary
-  Key regeneration Sites
-  Main Rivers
- Surface water flood hazard
-  Very Low - Caution
-  Moderate - Danger for some
-  Significant - Danger for most
-  Very High - Danger for all



Rev	Date	Description	By	Chk	App

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Client:



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

Title:
SURFACE WATER FLOODHAZARD (1 IN 100 YEAR) DAGENHAM EAST

Drawn: JSdS	Checked: CS
Designed: DF	Approved: JG
Date: 13/08/2015	Scale: As Shown A3 Sheet:
Project Number:	Drawing Number: Revision:

3514006A-SSR **FIGURE K3**

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