

APPENDIX J

**WANTZ INDUSTRIAL ESTATE LSIS**



**WANTZ INDUSTRIAL ESTATE LOCAL SIGNIFICANT INDUSTRIAL SITE**

**Area Name:** Wantz Industrial Estate Local Significant Industrial Site

**Location:** Dagenham

**River Catchment:** Beam River

**NPPF Flood Zone (majority of area):** Flood Zone 1

**NPPF Flood Zone (worst case):** Flood Zone 1

**Introduction**

Wantz Industrial Estate strategic development site is approximately 0.16km<sup>2</sup> in area and is located in the east of Barking and Dagenham (refer to Appendix A). The area is bound by Oxlow Lane in the north, the A1112 in the east, Dagenham and Redbridge Football Club in the south and Hunters Hall Road in the west.

The existing land use in the area is industrial, currently comprising the Sterling Industrial Estate. The proposed development of the site will retain the existing industrial land use and may incorporate residential development at the boundary of the site.

**Description of Flood Risk***Flood Zones*

The entire area of the Wantz Industrial Estate 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 that there is significant risk of surface water flooding within the site. Surface water flooding within the Wantz Industrial Estate strategic development site is illustrated in Figure J3.

An overland flow path passes through the centre of the site from Oxlow Lane towards the football ground, in part following Manchester Way. Modelling indicates that this is a significant overland flow route originating in Central Park, to the north of Wantz Industrial Estate. A depth of surface water flow greater than 1m is predicted to occur within the site during a 1 in 100 (1%) annual probability rainfall event. The associated flood hazard classification is 'significant' (Danger to most). In addition, predicted flooding on Wantz Road and Oxlow Lane, also classified as 'significant' (Danger to most), may impact access and egress along the existing main road through the site.

This area is identified as the 'Sterling Industrial Estate in Oxlow Lane' Local Flood Risk Zone (LFRZ) in the Barking and Dagenham SWMP.

*Groundwater*

The increased Potential for Elevated Groundwater map (iPEG), developed for the Barking and Dagenham SWMP, indicates Wantz Industrial Estate is within the 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 Wantz Industrial Estate 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 Wantz Industrial Estate strategic development site is not located within an Environment Agency Flood Warning or Flood Alert area.

#### *Impact of Climate Change*

The Wantz Industrial Estate 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 the flow path through the centre of the Wantz Industrial Estate strategic development site will be exacerbated, potentially resulting in a significant width of the site at increased risk of flooding.

### **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 Wantz Industrial Estate strategic development site comprises retaining the existing industrial use and possibly incorporating residential development at the boundary of the site.

Given the existing surface water flood risk to the development site it is recommended that where possible a green corridor is created through the centre of the site to reduce the risk of flooding to both existing and future properties. It is recommended that detailed surface water modelling is used to enable the development of an appropriate masterplan for the site.

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.

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 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 'very low' flood hazard should be demonstrated for all residential development proposals, and safe access with 'moderate' flood hazard should be demonstrated for all industrial/commercial development proposals.

### *Sustainable Drainage Systems*

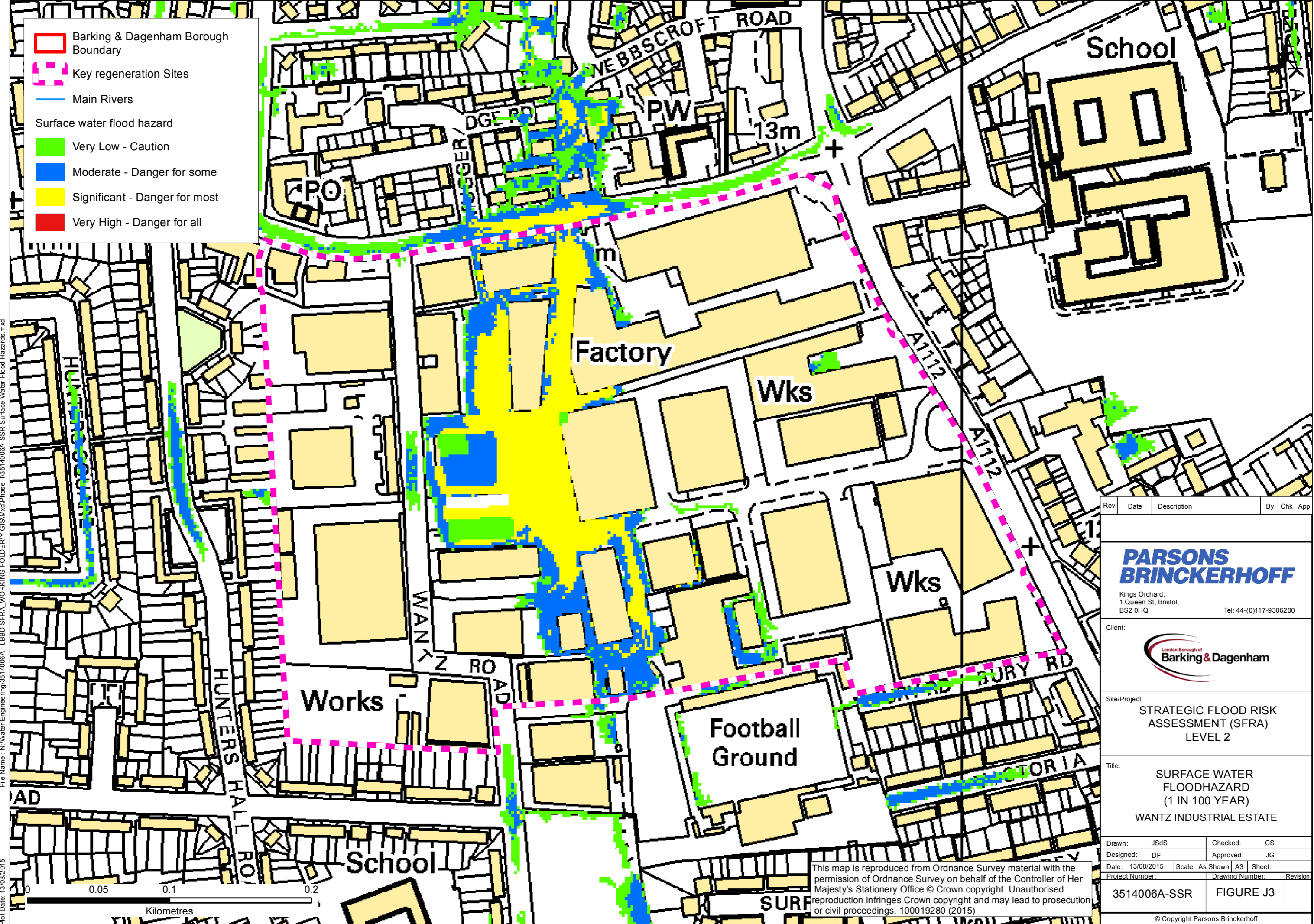
SUDS techniques as discussed in Section 7.7 of the Level 1 SFRA should be promoted wherever possible. The site should seek opportunities to integrate SUDS within the design of the site and provide an exemplar of best practice techniques including good use of green space to accommodate a variety of SUDS features in order to control and treat runoff from the site.

The development of the Wantz Industrial Estate 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 could be constrained by the size of the development sites brought forward at different times. However given the existing surface water flood risk to the site it is recommended that a strategic surface water drainage assessment for the site as a whole is completed as part of the wider flood risk management strategy to enable an overall drainage strategy to be formulated and then followed on a plot by plot basis.

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



File Name: N:\Water Engineering\3514006A - LBBD SFRA - WORKING FOLDER\GIS\IMd\Phase 1\3514006A-SSR-Surface Water Flood Hazards.mxd  
 Login: desouzaj  
 Plot Date: 13/08/2015

Rev	Date	Description	By	Chk	App

**PARSONS BRINCKERHOFF**

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Client:



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

Title:  
SURFACE WATER FLOODHAZARD (1 IN 100 YEAR) WANTZ INDUSTRIAL ESTATE

Drawn: JSdS	Checked: CS
Designed: DF	Approved: JG
Date: 13/08/2015	Scale: As Shown   A3   Sheet:
Project Number: 3514006A-SSR	Drawing Number: FIGURE J3
Revision:	

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