Land at Rainbow Industrial Estate, West Drayton

Flood Risk Assessment

On behalf of **Troutbourne LLP**

Project Ref: 35321/2201 | Rev: Rev A | Date: September 2018

Office Address: 33 Bowling Green Lane, London, EC1R 0BJ
T: +44 (0)203 824 6600 E: london@peterbrett.com

Document Control Sheet

Project Name: **Land at Rainbow Industrial Estate, West Drayton**

Project Ref: **35321**

Report Title: **Flood Risk Statement**

Doc Ref: **35321/2001**

Date: **September 2018**

	Name	Position	Signature	Date
Prepared by:	Hayley Rudge	Engineer	*HR*	08/05/17
Reviewed by:	Elisabetta Torricelli	Associate	*ET*	08/05/17
Approved by:	Kieran Rushe	Equity Director	*KR*	08/05/17
For and on behalf of Peter Brett Associates LLP				

Revision	Date	Description	Prepared	Reviewed	Approved
-	08/07/17	Draft for Comments	HR	ET	
-	08/07/17	Final	HR	ET	KR
Rev A	26/09/18	Amendments to Development Proposals	HR	ET	KR

This report has been prepared by Peter Brett Associates LLP ('PBA') on behalf of its client to whom this report is addressed ('Client') in connection with the project described in this report and takes into account the Client's particular instructions and requirements. This report was prepared in accordance with the professional services appointment under which PBA was appointed by its Client. This report is not intended for and should not be relied on by any third party (i.e. parties other than the Client). PBA accepts no duty or responsibility (including in negligence) to any party other than the Client and disclaims all liability of any nature whatsoever to any such party in respect of this report.

© Peter Brett Associates LLP 2018

Contents

Executive Summary ..... **v**
1 Introduction ..... **vi**
1.1 Scope of Report vi
1.2 Sources of Information vi
1.3 Policy Context vi
1.4 Planning Background viii
1.5 Caveats/Exclusions viii
2 Site Setting **1**
2.1 Site Description 1
2.2 Topography 1
2.3 Hydrological Setting 2
2.4 Geology and Hydrogeology 2
2.5 Existing Drainage 2
2.6 Existing Flood Defences 2
3 Overview of Flood Risk **3**
3.1 Fluvial and Tidal Flooding 3
3.2 Surface Water Flooding 3
3.3 Reservoir Flooding 5
3.4 Groundwater Flooding 5
3.5 Sewer Flooding 5
3.6 Canals, Ponds or other Artificial Watercourses 5
3.7 Summary of Flood Risk 5
4 Impact of Climate Change **7**
5 Proposed Development **8**
5.1 Proposed Development 8
5.2 Flood Risk Vulnerability 8
5.3 Surface Water Management 8
6 Conclusion **9**

Figures

Figure 2.1 Site Location Plan 1
Figure 3.1 Extract of the online Flood Map for Planning 3
Figure 3.2 Extract of the online Risk of Flooding from Surface Water map 4

Tables

Table 4.1 Climate Change – Peak River Flow Allowances..... 7

Appendices

Appendix A Previous Report

Executive Summary

This Flood Risk Assessment (FRA) has been prepared by Peter Brett Associates LLP (PBA) to support a planning application for continued use of the site for airport car parking for a temporary period of two years at Rainbow Industrial Estate, West Drayton, London Borough of Hillingdon. The planning application seeks to renew the previous planning permission for use of the site as a temporary car park which was approved via appeal against an Enforcement Notice.

In accordance with the fundamental objectives of the National Planning Policy Framework (NPPF) (2018), the FRA demonstrates that:

i. The development is safe through appropriate management of flood risk;
ii. The development does not increase flood risk; and,
iii. The development does not detrimentally affect third parties.

The online Flood Map for Planning indicates that the site is located within Flood Zone 1 'Low Probability' of flooding (as defined in Planning Practice Guidance (PPG) Table 1) as follows:

> **Flood Zone 1 'Low Probability' less than a 1 in 1000 (0.1%) Annual Probability of flooding from the rivers and sea.**

The proposals for use of the land as temporary car parking as classified as 'Less Vulnerable' uses as defined in PPG Table 2. According to PPG Table 3, the land use is appropriate for Flood Zone 1. A NPPF Sequential Test is not required as the site is located within Flood Zone 1 and 'Less Vulnerable' uses are considered appropriate for Flood Zone 1 without the need to apply the Exception Test.

Whilst the majority of the site is considered as being at a 'Very Low' susceptibility to surface water flooding, there are areas located within the site boundary which are considered as being at a 'Low' and 'Medium' susceptibility to surface water flooding. The site is considered as being at a moderate risk of groundwater flooding. The site is not located within a Critical Drainage Area (CDA) but is located immediately to the west of CDA Group 1_015.

The site is located adjacent to the Grand Union Canal and whilst in the event of bank overtopping or breach flood water may enter the site, the risk of canal breach is considered to be low.

The site is also considered as being at a moderate risk of sewer flooding.

Development proposals are for use of the site as a temporary car park and as such, a surface water management strategy has not been prepared for the site. The site is a former industrial estate which is served by a positive drainage system. The use of the site as temporary car parking will not increase the impermeable area of the site and therefore, surface water runoff is not considered to increase as a result. Due to the temporary nature of the proposals, it is not proportionate to develop and implement a Sustainable Drainage Systems (SuDS) strategy and on this basis, it is proposed that the site continues to drain as existing.

In conclusion, the future occupants and users of the proposed development will be at a low risk of flooding. It is demonstrated that the proposal complies with the NPPF, PPG and the local planning policy with respect to flood risk and is appropriate development at this location.

1 Introduction

1.1 Scope of Report

1.1.1 This Flood Risk Assessment has been prepared by Peter Brett Associates LLP (PBA) on behalf of our Client, Drivefly, to support a planning application for the continued use of the site for airport car parking for a temporary period of two years at land at Rainbow Industrial Estate, West Drayton, London Borough of Hillingdon (LBH).

1.1.2 The planning application seeks to renew the previous planning permission for use of the site as a temporary car park which was approved via appeal against an Enforcement Notice.

1.2 Sources of Information

1.2.1 The FRA has been prepared based on the following sources of information:

- The **online Flood Maps** at https://flood-map-for-planning.service.gov.uk/ and https://flood-warning-information.service.gov.uk/long-term-flood-risk/;
- London Borough of Hillingdon's **Preliminary Flood Risk Assessment (PFRA)**, dated May 2011;
- London Borough of Hillingdon's **Strategic Flood Risk Assessment (SFRA)**, dated November 2008;
- West London **Strategic Flood Risk Assessment (SFRA)**, dated 2018; and
- London Borough of Hillingdon's **Surface Water Management Plan (SWMP)**.

1.3 Policy Context

1.3.1 This FRA has been prepared in accordance with the relevant national, regional and local planning policy and statutory authority guidance as follows:

- National policy contained within the **National Planning Policy Framework (NPPF)** dated July 2018, issued by Communities and Local Government, with reference to Section 14 'Meeting the challenge of climate change, flooding and coastal change';
- The NPPF **Planning Practice Guidance (PPG)** released in March 2014 ('Flood Risk and Coastal Change' section);
- **Flood Risk Assessments: Climate Change Allowances** released in February 2016 updates previous climate change allowances to support the NPPF;
- **The London Plan** (consolidated with alterations since 2011) (Greater London Authority, January 2017) provides the spatial development strategy for Greater London. Relevant policies are listed below:

  Policy 5.12 (Flood Risk Management)

  Requires development to comply with the London Plan and supplementary guidance (listed below), the Thames Estuary 2100 (EA, 2012) and relevant Catchment Flood Management Plans. Requirements in response to the Exception Test and development adjacent to flood defences is presented.

Policy 5.12 (Sustainable Drainage)

Requires sustainable urban drainage systems (SuDS) to be used unless there are practical reasons for not doing so. The importance of controlling surface water runoff in order of a priority is set by this policy.

- Guidance contained within Sustainable Design and Construction – The London Plan Supplementary Planning Guidance (Greater London Authority, 2014) which provides the following guidance;

  Paragraph 3.4.8 (Flooding) *requires development to restrict the rate of runoff and attenuate surface water runoff on-site.*

  Paragraph 3.4.10 (Flooding) *sets a maximum runoff rate of three times the equivalent greenfield rate for previously developed sites.*

- **The Draft New London Plan** (published November 2017 proposed to be finalised for 2019/2020) amends some of the previous recommendations with respect to flood risk and drainage. Relevant policies are listed below:

  Policy SI12 Flood Risk Management

  a) Current and expected flood risk from all sources across London should be managed in a sustainable and cost effective way in collaboration with the Environment Agency, the Lead Local Flood Authorities, developers and infrastructure providers.

  b) Development Plans should use the Mayor's Regional Flood Risk Appraisal and their Strategic Flood Risk Assessment as well as Surface Water Management Plan, where necessary, to identify areas where particular flood risk issues exist and develop actions and policy approaches aimed at reducing these risks. Boroughs should co-operate and jointly address cross-boundary flood risk issues including with authorities outside London.

  c) Development proposals which require specific flood risk assessments should ensure that flood risk is minimised and mitigated, and that residual risk is addressed. This should include, where possible, making space for water and aiming for development to be set back from the banks of watercourses.

  d) Developments Plans and development proposals should contribute to the delivery of the measures set out in Thames Estuary 2100 Plan. The Mayor will work with the Environment Agency and relevant local planning authorities, including authorities outside London, to safeguard an appropriate location for a new Thames Barrier.

  e) Development proposals for utility services should be designed to remain operational under flood conditions and buildings should be designed for quick recovery following a flood.

  f) Development proposals adjacent to flood defences will be required to protect the integrity of flood defences and allow access for future maintenance and upgrading. Where possible, development proposals should set permanent built development back from flood defences to allow for any foreseeable future upgrades.

  Policy SI13 Sustainable Drainage

  Amends the drainage hierarchy to introduce blue and green roofs as options for above ground attenuation and rainwater harvesting. This policy recommends the refusal of impermeable paving where appropriate, including on small surfaces such as front gardens and driveways.

- Local planning policy contained within the London Borough of Hillingdon's Local Plan Part 1 (adopted November 2012), with particular reference to Policy EM6 which states that:

  ''The Council will require new development to be directed away from Flood Zones 2 and 3 in accordance with the principles of the National Planning Policy Framework (NPPF).

  The subsequent Hillingdon Local Plan: Part 2 – Site Specific Allocations LDD will be subjected to the Sequential Test in accordance with the NPPF. Sites will only be allocated within Flood Zones 2 and 3 where there are overriding issues that outweigh flood risk. In these instances, policy criteria will be set requiring future applicants of these sites to demonstrate that flood risk can be suitably mitigated.

  The Council will require all development across the borough to use sustainable urban drainage systems(SuDS) unless demonstrated that it is not viable. The Council will encourage SuDS to be linked to water efficiency methods. The Council may require developer contributions to guarantee the long term maintenance and performance of SuDS is to an appropriate standard.''

1.4 Planning Background

1.4.1 A review of the LBH's planning portal indicates that following planning history for the site:

- 38058/APP/2013/1756 – Demolition of existing premises and erection of 99 residential units (C3), 50-unit extra care/dementia sheltered housing scheme (C3), 1,529.4 sqm light industrial floorspace comprising 17 business units (B1c) and 611.30sqm of restaurant/café (A3) floorspace, associated open space, car parking and landscaping. Planning permission for the above scheme was granted in July 2014.

- ENF/214/14 – A Planning Contravention Notice was issued in July 2016 which identified the site was being used for off-airport car parking and that this unauthorised use should cease.

- 38058/APP/2017/1340 - An application was submitted in April 2017 for 'Reserved Matters relating to Appearance and Landscaping of outline planning permission ref: 38058/APP/2013/1756 dated 23-07-2014 for Demolition of existing premises and erection of 99 residential units (C3), 50 unit extra care/dementia sheltered housing scheme (C3), 1,529.4sq.m light industrial floorspace comprising 17 business units (B1c) and 611.30sq.m of restaurant/cafe (A3) floorspace, associated open space, car parking and landscaping.' The application is currently being determined.

1.5 Caveats/Exclusions

1.5.1 This FRA has been prepared in accordance with the NPPF, regional and local planning policy. Any recommendations regarding floor levels are based on the relevant British Standards (BS 8533), the standing advice provided by the EA or based on common practice.

1.5.2 It should be noted that the insurance market applies its own tests to properties in terms of determining premiums and the insurability of properties for flood risk. Those undertaking development in areas which may be at risk of flooding are advised to contact their insurers or the Association of British Insurers (ABI) to seek further guidance prior to commencing development.

1.5.3 PBA do not warrant that the advice in this report will guarantee the availability of flood insurance either now or in the future.

2 Site Setting

2.1 Site Description

2.1.1 The site is located at grid reference (NGR) 505866 (E) 180493 (N) and covers an area of approximately 1.25 hectares (ha).

2.1.2 The site is bound by Trout Road to the north, an industrial area to the east known as Kirby Industrial Estate and the rear gardens of residential properties and the Al Falah Islamic Centre to St Stephen's Road to the south and the Grand Union Canal to the west.

2.1.3 The site was formerly an industrial site comprising a range of single storey and two storey industrial and commercial buildings but is currently cleared of buildings pending redevelopment.

2.1.4 A site located plan is presented in **Figure 2.1**.

Figure 2.1 Site Location Plan



Not to Scale

Contains Ordnance Survey data © Crown Copyright and database right 2016

2.2 Topography

2.2.1 Topographical levels for the site were obtained from the 'Foul Sewerage and Utilities Assessment' prepared by Ramboll (report reference 19890/3, Attached in **Appendix A**) which states that current ground levels on the site vary between 48.11 mAOD at the southern side of the site and 49.90 mAOD at High Street.

2.2.2 The water level in the canal at the time of survey was 49.29mAOD with a top of bank level of 49.51mAOD.

2.3 Hydrological Setting

2.3.1 A review of Ordnance Survey (OS) mapping indicates that the Grand Union Canal is located adjacent to the western boundary of the site.

2.3.2 Fray's River is located immediately to the west of the Grand Union Canal approximately 150m west of the site and flows in a southwards direction. Fray's River is an Environment Agency (EA) defined 'Main River'.

2.3.3 The River Pinn is located approximately 300m north of the site and flows in an eastwards direction before discharging into Fray's River approximately 200m northwest of the site. The River Pinn is an EA defined 'Main River'.

2.4 Geology and Hydrogeology

2.4.1 A review of the 1:50,000 scale British Geological Survey (BGS) online digital viewer indicates that the site is underlain by a bedrock geology of the 'London Clay Formation' comprising clay, silt and sand. The bedrock geology is classified as an unproductive stratum by the EA.

2.4.2 The online BGS 1:50,000 scale superficial geology map indicates that the site is underlain by the 'Langley Silt Member' comprising clay and silt. The superficial geology is classified as an unproductive stratum by the EA.

2.4.3 The National Soil Resources Institute (NSRI) Soilscape viewer indicates that the site is situated on 'loamy and clayey floodplain soils with naturally high groundwater'.

2.4.4 The site is not located within an EA Groundwater Source Protection Zone (SPZ).

2.5 Existing Drainage

On Site Drainage

2.5.1 Information contained within the 'Foul Sewerage and Utilities Assessment' prepared by Ramboll (report reference 19890/3) indicates that there are some existing roofs and hardstanding areas to the south of the site which drain to a pumping station. The pumping station discharges flows into the canal.

2.5.2 It is however, unknown how the remainder of surface water from the site is disposed of.

Public Sewer Network

2.5.3 Information contained within the 'Foul Sewerage and Utilities Assessment' prepared by Ramboll (report reference 19890/3) indicates that there is a surface water sewer located to the south of the site.

2.5.4 There is also a 225mm diameter foul sewer which crosses the site at a depth of 1.5m to 2m.

2.6 Existing Flood Defences

2.6.1 The site is located within Flood Zone 1 and is not considered to benefit from flood defences.

3 Overview of Flood Risk

3.1 Fluvial and Tidal Flooding

3.1.1 The first phase in identifying whether a site is potentially at risk of flooding is to consult the online Flood Map for Planning. This provides an initial indication of the extent of the Flood Zones, which is refined by the use of the more detailed site specific level survey and modelled flood levels.

3.1.2 An extract of the online Flood Map for Planning is presented in **Figure 3.1**.

Figure 3.1 Extract of the online Flood Map for Planning



Contains Environment Agency Information © Environment Agency and/or database right
Contains Ordnance Survey data © Crown Copyright and database right 2016

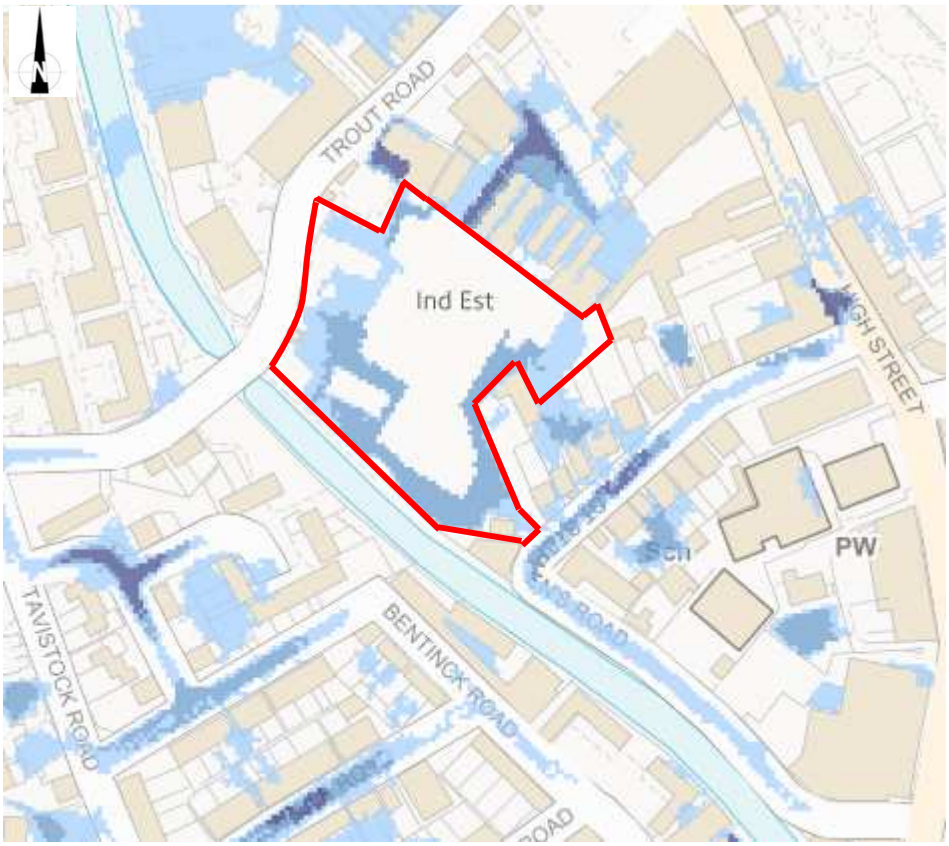
3.1.3 The online Flood Map for Planning indicates that the site is located entirely within **Flood Zone 1 'Low Probability' less than a 1 in 1000 (0.1%) Annual Probability of river or sea flooding**.

3.1.4 The risk of fluvial or tidal flooding is therefore considered to be low.

3.2 Surface Water Flooding

3.2.1 The online Risk of Flooding from Surface Water map shows where areas could be potentially susceptible to surface water flooding in an extreme rainfall event. An extract of the online Risk of Flooding from Surface Water map is presented in **Figure 3.2.**

Figure 3.2 Extract of the online Risk of Flooding from Surface Water map



Contains Environment Agency Information © Environment Agency and/or database right
Contains Ordnance Survey data © Crown Copyright and database right 2016

3.2.2 The online Risk of Flooding from Surface Water map indicates that the majority of the site is considered as being at a 'Very Low' susceptibility to surface water flooding. This is defined as having less than a 1 in 1000 (0.1%) Annual Probability of flooding in any one year.

3.2.3 The online Risk of Flooding from Surface Water map indicates that there is an area located within the northeast corner of the site and along the western boundary of the site which are considered as being at a 'Low' susceptibility to surface water flooding. This is defined as having between a 1 in 1000 and 1 in 100 (0.1%-1%) Annual Probability of flooding in any one year. A review of the online map indicates that flood depths could vary from 300mm to 900mm.

3.2.4 The online Risk of Flooding from Surface Water map indicates that there is an area located along the southern boundary of the site which is considered as being at a 'Medium' susceptibility to surface water flooding. This is defined as having between a 1 in 100 and 1 in 30 (1%-3.3%) Annual Probability of flooding in any one year. A review of the online maps indicates that flood depths in this area are unlikely to exceed 300mm.

3.2.5 It should be noted that these maps are generated using a relatively coarse methodology whereby rainfall inflows are routed over a ground surface model. The analysis assumes a suitable 'typical' approach to represent the effects of urban drainage infrastructure and highlights low lying areas of topography and preferential flow paths that may be more susceptible to surface water flooding in the event of extreme rainfall.

3.2.6 The PFRA indicates that there are no recorded incidents of surface water flooding in the vicinity of the site.

3.2.7 The SWMP indicates that the site is not located within a Critical Drainage Area (CDA) but is located immediately to the west of CDA Group 1_015.

3.3 Reservoir Flooding

3.3.1 The online Risk of Flooding from Reservoirs Map indicates that the site is not located within an area considered as being at risk in the event of reservoir breach.

3.3.2 It should be emphasised that the risk of flooding from reservoir breach is very small in any case; the EA is the enforcement authority for the Reservoir Act (1975) and all large raised reservoirs are inspected and supervised by reservoir panel engineers.

3.4 Groundwater Flooding

3.4.1 The PFRA indicates that the site is not located within an area which is considered as having increased potential for groundwater flooding.

3.4.2 The West London SFRA indicates that the site is located within an area with >=50% to <75% susceptibility to groundwater flooding.

3.4.3 The NSRI Soilscape viewer indicates that the site is situated on 'loamy and clayey floodplain soils with naturally high groundwater'.

3.4.4 The risk of groundwater flooding is therefore considered to be moderate.

3.5 Sewer Flooding

3.5.1 The PFRA indicates that there are 21-50 recorded incidents of sewer flooding in the UB7 7 post code area.

3.5.2 The SFRA states that all 21 recorded incidents are attributed to overloaded surface water sewers.

3.5.3 The risk of sewer flooding is therefore considered to be moderate.

3.6 Canals, Ponds or other Artificial Watercourses

3.6.1 The Grand Union Canal is located adjacent to the western boundary of the site. The PFRA, SFRA and SWMP did not contain any information relating to the risk of breach from the canal.

3.6.2 A review of ground levels indicates that the tow path is higher than the site and that in the unlikely event of flooding or canal breach that flood water may enter the site.

3.6.3 Regular inspections are undertaken to minimise the risk of breach failure as a result of flooding, vandalism or structural failure.

3.6.4 The risk of flooding from canals is however, considered to be low.

3.6.5 There are no other canals, ponds or other artificial watercourses located within the vicinity of the site.

3.7 Summary of Flood Risk

3.7.1 From a review of the information above, it can be concluded that the site is considered as being at low to moderate risk from surface water, groundwater and sewer flooding and at residual risk in the event of canal bank overtopping or breach.

3.7.2 The use of the site for temporary car parking does not increase the flood risk vulnerability of the site and does not increase the numbers of users at potential risk and therefore is considered appropriate development at this location.

4 Impact of Climate Change

4.1.1 In considering flood risk to the site, it is necessary to fully consider the potential impacts of climate change for the lifetime of the development within the mitigation measures.

4.1.2 In February 2016, the EA released new guidance of the application of climate change allowances in flood risk assessments.

https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances

4.1.3 This guidance provides contingency allowances for potential increases in peak river flow in Table 1, and potential increases in rainfall intensity in Table 2.

4.1.4 The peak river flow allowances table provides a range of allowances based on percentile (i.e. the degree of certainty of an event occurring, based on the range of climate change scenarios assessed through scientific investigations). The provided allowances are also subject to the vulnerability classified of the proposed use and the river basin district of the site.

4.1.5 The conditions at the site and consequent peak river flow allowances to be considered as part of the FRA are as detailed in **Table 4.1**.

Table 4.1 Climate Change – Peak River Flow Allowances

River Basin District	Flood Zone	Flood Risk Vulnerability Classification	Range of Climate Change Allowances Requiring Consideration (2070-2115)
			Central Allowance
Thames	1	Less Vulnerable	+25%

4.1.6 Whilst OS mapping indicates that the Grand Union Canal is located adjacent to the western boundary of the site and Fray's River is located approximately 150m west of the site, as the site is for temporary uses with an expected lifetime of 2 years, it is not considered that climate change will impact on the site and has not been considered further as part of this assessment.

5 Proposed Development

5.1 Proposed Development

5.1.1 This FRA accompanies a planning application for continued use of the site for airport car parking for a temporary period of two years.

5.1.2 The lifetime of the development is assumed to be two years.

5.2 Flood Risk Vulnerability

5.2.1 The NPPF follows a risk based approach in determining the suitability of land for development in flood risk areas, with the intention of steering all new development to the lowest flood risk areas.

5.2.2 According to the online Flood Map for Planning, the site is located within Flood Zone 1 (defined as having a 'Low' probability of flooding from the rivers and sea).

5.2.3 PPG Table 2 confirms the 'Flood Risk Vulnerability Classification' of a site, depending on the proposed usage. The classification is subsequently applied to PPG Table 3 to determine:

- Whether the proposed development is suitable for the Flood Zone in which it is located; and,
- Whether an Exception Test is required for the proposed development.

5.2.4 For the purposes of this assessment, the proposed use as a temporary car park falls within the 'Less Vulnerable' classification. A NPPF Sequential is not required as the site is located within Flood Zone 1 (defined as a 'Low' probability of flooding) and is therefore sequentially preferable. According to PPG Table 3, 'Less Vulnerable' uses are considered appropriate for Flood Zone 1 without the need to apply the Exception Test.

5.3 Surface Water Management

5.3.1 The site is currently used for temporary airport parking which has been cleared of previous buildings. The impermeable area of the site has been reduced as a result of the demolition of the existing buildings. The proposed use as a temporary car park for a further two years will not increase the overall impermeable area of the site and on this basis, it is considered the surface water runoff will not increase as a result of the temporary permission.

5.3.2 As the site was formerly an industrial site, the site is served by a positive drainage system and as such, any surface water runoff generated by the site during its use as a temporary car park can be positively drained.

5.3.3 Whilst the site will comprise greater than 1000m^2 of commercial space in the form of a temporary car park, the site is for temporary use as a car park and as such, the implementation of a Sustainable Drainage Systems (SuDS) strategy is not considered proportionate to the development.

6 Conclusion

6.1.1 This Flood Risk Assessment has been prepared by PBA to support a planning application for continued use of the site for airport car parking for a temporary period of two years at Rainbow Industrial Estate, West Drayton, LBH and concludes that:

- The online Flood Map for Planning indicates that the site is located within Flood Zone 1 'Low Probability' (as defined in PPG Table 1) as follows:

Flood Zone 1 'Low Probability' less than a 1 in 1000 (0.1%) Annual Probability of flooding from the rivers and sea.

- The proposals for use of the land as temporary car parking as classified as 'Less Vulnerable' uses as defined in PPG Table 2. According to PPG Table 3, the land use is appropriate for Flood Zone 1. A NPPF Sequential Test is not required as the site is located within Flood Zone 1 and 'Less Vulnerable' uses are considered appropriate for Flood Zone 1 without the need to apply the Exception Test.

- Whilst the majority of the site is considered as being at a 'Very Low' susceptibility to surface water flooding, there are areas located within the site boundary which are considered as being at a 'Low' and 'Medium' susceptibility to surface water flooding. The site is considered as being at a moderate risk of groundwater flooding. The site is not located within a Critical Drainage Area (CDA) but is located immediately to the west of CDA Group 1_015.

- The site is located adjacent to the Grand Union Canal and whilst in the event of bank overtopping or breach flood water may enter the site, the risk of canal breach is considered to be low.

- The site is also considered as being at a moderate risk of sewer flooding.

- Development proposals are for use of the site as a temporary car park and as such, a surface water management strategy has not been prepared for the site. The site is a former industrial estate which is served by a positive drainage system. The use of the site as temporary car parking will not increase the impermeable area of the site and therefore, surface water runoff is not considered to increase as a result. Due to the temporary nature of the proposals, it is not proportionate to develop and implement a Sustainable Drainage Systems (SuDS) strategy and on this basis, it is proposed that the site continues to drain as existing.

6.1.2 In conclusion, the future occupants and users of the proposed development will be at a low risk of flooding. It is demonstrated that the proposal complies with the NPPF, PPG and the local planning policy with respect to flood risk and is appropriate development at this location.

Appendix A Previous Report