



Land at Rainbow Industrial Estate, West Drayton

Flood Risk Assessment

On behalf of **Troutbourne LLP**

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Contents

Executive Summary	1
1 Introduction	2
1.1 Scope of Report.....	2
1.2 Sources of Information	2
1.3 Policy Context.....	2
1.4 Planning Background	Error! Bookmark not defined.
1.5 Caveats/Exclusions	5
1.6 Flood Risk Assessment credentials	5
2 Proposed Development Site	6
2.1 Site Description	6
2.2 Topography	6
2.3 Hydrological Setting.....	7
2.4 Geology and Hydrogeology.....	7
2.5 Existing Drainage	7
2.6 Existing Flood Defences.....	7
3 Assessment of Flood Risk	8
3.1 Fluvial and Tidal Flooding	8
3.2 Surface Water Flooding.....	8
3.3 Reservoir Flooding	10
3.4 Groundwater Flooding	10
3.5 Sewer Flooding.....	10
3.6 Canals, Ponds or other Artificial Watercourses.....	10
3.7 Summary of Flood Risk	11
3.8 Impact of Climate Change	11
4 Proposed Development and Sequential Test.....	12
4.1 Development Proposals	12
4.2 Flood Risk Vulnerability.....	12
4.3 Sequential Approach	12
4.4 Surface Water Management	13
5 Conclusion.....	14

Figures

Figure 2.1 Site Location Plan	6
Figure 3.1 Extract of the online Flood Map for Planning	8
Figure 3.2 Extract of the online Risk of Flooding from Surface Water map.....	9

Tables

Table 4.1	Climate Change – Peak River Flow Allowances.....	11
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Appendices

Appendix A - Ramboll 'Foul Sewerage and Utilities Assessment' (2012)	
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Executive Summary

This Flood Risk Assessment (FRA) has been prepared by Stantec to support a retrospective planning application for use of the site for sui generis storage uses for a temporary period of 12 months at Rainbow Industrial Estate, West Drayton in the London Borough of Hillingdon.

The planning application seeks a meanwhile use of the site pending a wider scheme for redevelopment of the Rainbow and Kirby industrial estate sites.

In accordance with the fundamental objectives of the National Planning Policy Framework (NPPF) (2019), 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 impact to other 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 storage 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 however considered to be low as the site sits at a higher level to the canal.

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

The proposals are made for sui generis use of the site including open and closed storage uses and other commercial uses for a temporary period and as such, a surface water drainage strategy has not been prepared for the site.

The site is a former industrial estate which is served by a positive drainage system.

The proposed use of the site 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 surface water drainage strategy for the proposed use and on this basis, the site will continue 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, NPPG 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 Stantec UK Ltd on behalf of Troutbourne LLP to support a retrospective planning application on land at Rainbow Industrial Estate, West Drayton in the London Borough of Hillingdon (LBH).
- 1.1.2 The proposals follow the refusal of planning permission by LB Hillingdon (LBH) on 19th August 2021 for *'Installation of two portacabins and retention of entrance gates and proposed change of use for Use Class Sui Generis including container storage; open and closed storage of building and scaffolding materials; storage of aggregate materials; vehicle storage and sales for a period of 36 months (part retrospective application)'* (LPA Ref: 38058/APP/2021/1327).
- 1.1.3 The proposals have been revised and a shorter time period for a meanwhile use of the site is now sought whilst a mixed use, residential-led scheme for the wider Rainbow and Kirby Industrial sites is discussed with the LPA during pre-application discussions and a formal planning application is then submitted and determined.
- 1.1.4 An FRA (September 2018) was previously prepared by Stantec in relation to a 2018 application for the continuation of the airport parking use for a further 24 month period.
- 1.1.5 The airport parking use has now ceased, and an alternative temporary use of the site is now sought,

'Retention of entrance gates and change of use for Use Class Sui Generis including container and skip storage; open and closed storage of building, scaffolding and lighting materials; storage of aggregate materials; vehicle storage and sales; and associated installation of portacabins, container stores, transportable silos and other structures for a period of 12 months (retrospective application).'

1.2 Sources of Information

- 1.2.1 The FRA has been prepared based on the following sources of information:
- The **Environment Agency (EA) Online Flood Maps for Planning**^[1] and Long Term Flood Risk^[2] ;
 - London Borough of Hillingdon's **Preliminary Flood Risk Assessment (PFRA) Addendum**, dated 2017;
 - 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:

¹ <https://flood-map-for-planning.service.gov.uk/>

² <https://flood-warning-information.service.gov.uk/long-term-flood-risk/>

- National policy contained within the **National Planning Policy Framework (NPPF)** dated February 2019, 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)** published in March 2019 ('Flood Risk and Coastal Change' section);
- **Flood Risk Assessments: Climate Change Allowances** released in February 2016, and updated in July 2020 updates previous climate change allowances to support the NPPF;
- **The London Plan** (Greater London Authority, March 2021) provides the spatial development strategy for Greater London. 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 Local Flood Risk Management Strategies, where necessary, to identify areas where particular and cumulative 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 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. Unless exceptional circumstances are demonstrated for not doing so, development proposals should set be set back from flood defences to allow for any foreseeable future maintenance and upgrades in a sustainable and cost-effective way."*

Policy SI13 Sustainable Drainage

- a) *"Lead Local Flood Authorities should identify – through their Local Flood Risk Management Strategies and Surface Water Management Plans – areas where there are particular surface water management issues and aim to reduce these risks. Increases in surface water run-off outside these areas also need to be identified and addressed.*
- b) *Development proposals should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible. There should also be a preference for green over grey features, in line with the following drainage hierarchy:*

- 1) *rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)*
 - 2) *rainwater infiltration to ground at or close to source*
 - 3) *rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens)*
 - 4) *rainwater discharge direct to a watercourse (unless not appropriate)*
 - 5) *controlled rainwater discharge to a surface water sewer or drain*
 - 6) *controlled rainwater discharge to a combined sewer.*
- c) *Development proposals for impermeable surfacing should normally be resisted unless they can be shown to be unavoidable, including on small surfaces such as front gardens and driveways.*
- d) *Drainage should be designed and implemented in ways that promote multiple benefits including increased water use efficiency, improved water quality, and enhanced biodiversity, urban greening, amenity and recreation."*
- 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."*
- The London Borough of Hillingdon's Local Plan Part 2 (adopted January 2020). Relevant policies are listed below:

Policy DMEI 9

"Development proposals in Flood Zones 2 and 3a will be required to demonstrate that there are no suitable sites available in areas of lower flood risk. Where no appropriate sites are available, development should be located on the areas of lowest flood risk within the site. Flood defences should provide protection for the lifetime of the development. Finished floor levels should reflect the Environment Agency's latest guidance on climate change.

Development proposals in these areas will be required to submit an appropriate level Flood Risk Assessment (FRA) to demonstrate that the development is resilient to all sources of flooding."

Policy DMEI 10

“Applications for all new build developments (not conversions, change of use, or refurbishment) are required to include a drainage assessment demonstrating that appropriate sustainable drainage systems (SuDS) have been incorporated in accordance with the London Plan Hierarchy (Policy 5.13: Sustainable drainage).”

1.4 Caveats/Exclusions

- 1.4.1 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.
- 1.4.2 The Construction (Design and Management) Regulations 2015 (CDM Regulations) will apply to any future development of this site which involves “construction” work, as defined by the CDM Regulations. As such it is the responsibility of the proposed developer (ultimate client) to fulfil its duties under the CDM Regulations.
- 1.4.3 The approach for the FRA and proposals for the surface water management strategy are based on the requirements of the EA and Hillingdon London Borough Council in its role as Lead Local Flood Authority (LLFA).
- 1.4.4 The findings of this FRA are based on data available at the time of the study and on the subsequent assessment that has been undertaken in relation to the development proposals.
- 1.4.5 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.
- 1.4.6 Stantec does not warrant that the advice in this report will guarantee the availability of flood insurance either now or in the future.

1.5 Flood Risk Assessment credentials

- 1.5.1 Stantec has many years of experience in, amongst other areas, the assessment of flood risk, hydrology, flood defence and river engineering. The authors and reviewers of the document are experienced engineers, and the reviewers are members of chartered institutions such as the Chartered Institution of Water and Environmental Management (CIWEM) or the Institution of Civil Engineers (ICE).
- 1.5.2 A FRA (September 2018) was previously prepared by Stantec in relation to a 2018 application for the continuation of the airport parking use for a further 24 month period on this site.

2 Proposed Development Site

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 is cleared off development and was formerly an industrial site comprising a range of single storey and two storey industrial and commercial buildings. The site comprises off unmade ground with the exception of a small area of hardstanding by the Trout Road entrance and an internal road.
- 2.1.4 A site located plan is presented in **Figure 2.1**.

Figure 2.1 Site Location Plan



Not to Scale

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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 southern 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.

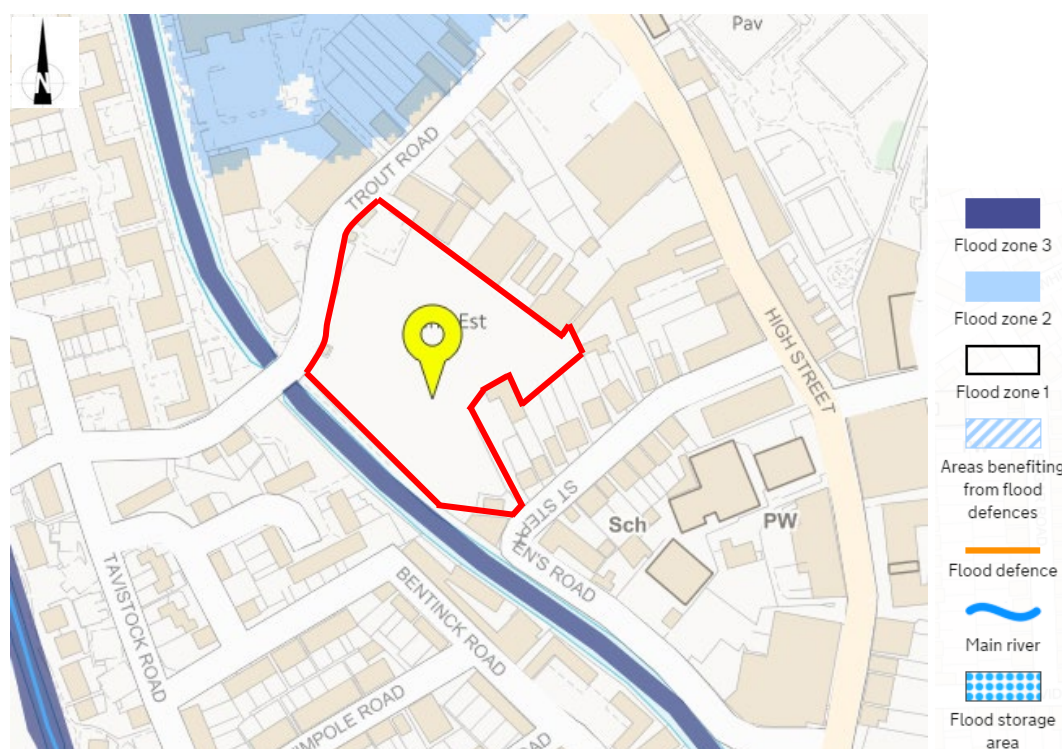
3 Assessment of Flood Risk

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' hosted on the GOV.UK website. This website presents Flood Zones, which are the starting point for assessing the probability of flooding from rivers and/or the sea. They are also used as the basis for determining which development types are appropriate within a given location and whether the Sequential Test or Exception Test need to be applied.

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



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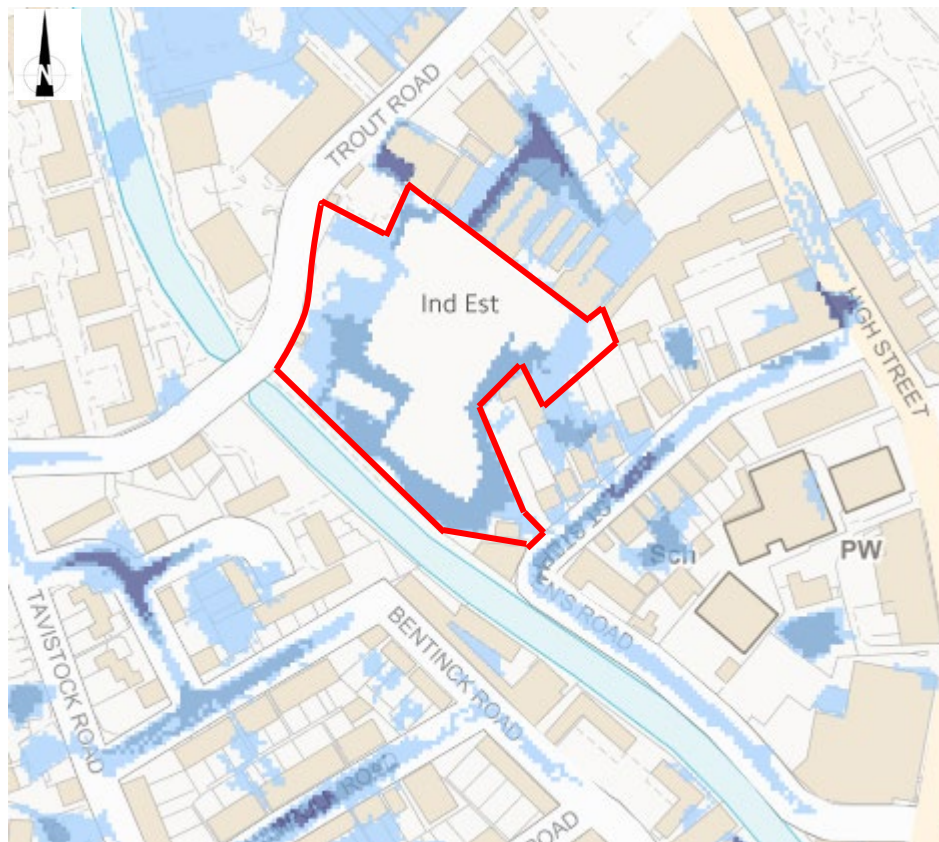
3.1.3 The online Flood Map for Planning indicates that the site is located entirely within **Flood Zone 1 'Low Probability' less than a 1 in 1000 (0.1%) Annual Exceedance Probability (AEP) of river or sea flooding.**

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



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- 3.2.2 The online Risk of Flooding from Surface Water map indicates that a large portion of the site is considered as being at a 'Very Low' risk to surface water flooding. This is defined as having less than a 1 in 1000 (0.1%) AEP of flooding in any one year.
- 3.2.3 The EA mapping indicates that there are areas located within the northeast and southeast corner, as well as a flow path running parallel to the western boundary of the site which are considered to be at 'Low' risk of surface water flooding. This is defined as having between a 1 in 1000 and 1 in 100 (0.1%-1%) AEP of flooding. A review of the online map indicates that flood depths could vary from 300mm to 900mm and the flood velocities are predominantly lower than 0.25m/s.
- 3.2.4 The EA mapping indicates that there are several areas located in close proximity to the permitter of the scheme's northeastern to western boundary of the site, shown to be at 'Medium': defined as having between a 1 in 100 and 1 in 30 (1%-3.3%) AEP to 'Low' risk of surface water flooding. A review of the online maps indicates that flood depths in this area are predominantly less than 300mm and the velocities are less than 0.25m/s.
- 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.
- 3.2.8 The overall risk of surface water flooding is considered to be low to moderate.

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 $\geq 50\%$ 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 16-25 recorded incidents of sewer flooding in the UB7 7 post code area in the period December 2011 to June 2017.
- 3.5.2 The West London SFRA shows there to be no sewer flooding records in the area according to the Thames Water 2017 dataset.
- 3.5.3 The SFRA / PFRA does not detail if there were any sewer flooding recorded within the site or at close proximity. The proposed development will continue to discharge, as per the existing scenario and therefore there will be no increased impact on the local sewer network. Therefore, the risk of sewer flooding is considered to be low.

3.6 Canals, Ponds or other Artificial Watercourses

- 3.6.1 The Grand Union Canal is located adjacent to the southern boundary of the site. The canal is maintained by the Canal and River Trust and forms a branch of the organisation's longest canal linking London to Birmingham^[3] (C&RT, 2021). 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 [Grand Union Canal | Walks near me | Canal & River Trust](#)

- 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.

3.8 Impact of Climate Change

- 3.8.1 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.
- 3.8.2 The EA released new guidance of the application of climate change allowances in flood risk assessments⁴. This guidance provides contingency allowances for potential increases in peak river flow in Table 1, and potential increases in rainfall intensity in Table 2.
- 3.8.3 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.
- 3.8.4 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**.

River Basin District	Flood Zone	Flood Risk Vulnerability Classification	Range of Climate Change Allowances requiring consideration (2070–2115)
			Central
<i>Thames</i>	<i>1</i>	<i>Less Vulnerable</i>	+25%

Table 4.1 Climate Change – Peak River Flow Allowances

- 3.8.5 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 three years, it is not considered that climate change will impact on the site and has not been considered further as part of this assessment.

⁴ <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

4 Proposed Development and Sequential Test

4.1 Development Proposals

- 4.1.1 This FRA accompanies a planning application for,

'Retention of entrance gates and change of use for Use Class Sui Generis including container and skip storage; open and closed storage of building, scaffolding and lighting materials; storage of aggregate materials; vehicle storage and sales; and associated installation of portacabins, container stores, transportable silos and other structures for a period of 12 months (retrospective application).'

- 4.1.2 The proposed use is sought for a temporary period of 12 months as a meanwhile use of the site whilst a mixed use, residential-led scheme for the Rainbow and Kirby Industrial sites is discussed with LBH during pre-application discussions and a formal planning application is submitted and determined.

- 4.1.3 The site has historically had a mixed commercial use and proposed temporary uses are considered consistent with those previous uses.

4.2 Flood Risk Vulnerability

- 4.2.1 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.

- 4.2.2 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).

- 4.2.3 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.

- 4.2.4 For the purposes of this assessment, the proposed use as a temporary storage facility 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.

4.3 Sequential Approach

- 4.3.1 The NPPF encourages the application of the 'sequential approach' in the master-planning process for new developments, i.e. locating the more sensitive/vulnerable elements of new development in the areas which lie at lowest probability of flooding and, conversely, reserve the areas of the site at greatest risk of flooding for the least vulnerable elements of the development (or, preferably, leave such areas undeveloped or as soft landscaping).

- 4.3.2 In line with these principles, it is recommended that any temporary development is located outside the areas at risk of surface water flooding, where feasible. Where this is not possible, safe access and egress routes should be located outside of these areas at risk (or in areas where the flood depth is less than 300mm).

4.4 Surface Water Management

- 4.4.1 The site is vacant and is cleared off development excepting the temporary uses.
- 4.4.2 The impermeable area of the site has been reduced as a result of the demolition and clearance of historic commercial use buildings. The proposed use as a temporary storage facility for 12 months 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.
- 4.4.3 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 storage facility can be positively drained.
- 4.4.4 Whilst the site will comprise more than 1000m² of commercial space in the form of a temporary storage structures and enclosures, the site is for temporary use and as such, the implementation of SuDS strategy is not considered proportionate to the development.

5 Conclusion

5.1.1 This Flood Risk Assessment has been prepared by Stantec to support a planning application on land 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 for temporary sui generis commercial uses and is classified as a 'Less Vulnerable' use 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' risk 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 particularly as the site is located at a high level than the canal.
- The site is also considered as being at a low risk of sewer flooding.
- Temporary development should be located outside the areas risk of surface water flooding, where feasible. Where this is not possible, safe access and egress routes should be provided outside of these areas at risk (or in areas where the flood depth is less than 300mm).
- Development proposals are for a temporary use of 12 months and 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 temporary use of the site 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 surface water drainage strategy. On this basis, it is proposed that the site will continue to drain as existing.

5.1.2 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, NPPG and the local planning policy with respect to flood risk and is appropriate development at this location.

Appendix A

Ramboll Foul Sewerage and Utilities Assessment 2012