# BIRD IN HAND PUB LONDON BOROUGH OF CAMDEN

# FLOOD RISK EMERGENCY PLAN

KK4 LTD

DOCUMENT REFERENCE: 21170-FRA-RP-02 | C01



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#### **Authorisation and Version Control**

Water Environment was commissioned by KK4 Ltd to produce an Emergency Plan for Flood Risk for the proposed development on the site known as the Bird in Hand Pub, 12 West End Lane, London.

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#### **Document Version History**

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## **ABBREVIATIONS**

Acronym	Definition
AOD	Above Ordnance Datum
AEP	Annual Exceedance Probability
CC	Climate Change
DEFRA	Department for Environment Food and Rural Affairs
EA	Environment Agency
FFL	Finished Floor Level
FRA	Flood Risk Assessment
FREP	Flood Risk Emergency Plan
LLFA	Lead Local Flood Authority
LPA	Local Planning Authority
NPPF	National Planning Policy Framework
PPG	Planning Practice Guidance
RBWM	Royal Borough of Windsor and Maidenhead
SFRA	Strategic Flood Risk Assessment



#### 1 INTRODUCTION

- 1.1 The site of the proposed residential development is located at 12 West End Lane. The Bird in Hand has been vacant since 2002 and includes a public house at its ground floor and a single residential dwelling above. Number 14 West End Lane sits alongside the former Bird in Hand Pub, forming its eastern elevation, however, this does not form part of the Application Site.
- 1.2 Proposals are for the redevelopment of the pub building (including the dwelling) at the site into one large residential unit and to build nine new residential units at the rear of the site. The existing pub contains one residential unit at the first floor. Post development there will be a total of ten residential units at the site.
- 1.3 The site also lies in an area with an annual probability of flooding of 3.3% according to the Gov.UK risk of flooding from surface water maps.
- 1.4 The existing basement at the site is to be refurbished but not extended. No new basements are proposed and as such a Basement Impact Assessment is not required.
- 1.5 A Flood Risk Emergency Plan (FREP) has been produced to set out the evacuation procedures and safe access routes from the development in the event of flooding. This document has been prepared with reference to the government website guidance on Flooding and Extreme Weather<sup>1</sup>, and due consideration to the updated National Planning Policy Framework<sup>2</sup> (NPPF) and the latest Planning Practice Guidance for Flood Risk and Coastal Change<sup>3</sup> (PPG).
- 1.6 It is strongly recommended that any future resident(s) develops and maintains an individual Personal Flood Plan<sup>4</sup> which should be derived from the latest version of this overarching plan, particularly where the resident does not own the freehold to the site.
- 1.7 This plan must be reviewed and updated a minimum of every three years, and additionally, after an evacuation event or exercise, following changes in ownership of the properties, and following any change to flood risk or warning process that is used by the Environment Agency (EA).
- 1.8 Details of any changes should be sent to:

#### **London Borough of Camden**

#### Disclaimer

1.9 The advice provided within this plan is based on the available information at the time. It is the responsibility of the freeholder(s), management company of the units, and future occupants to ensure that any additional risks specific to the property are fully considered.

<sup>&</sup>lt;sup>1</sup> Flooding and extreme weather, Available at: <a href="https://www.gov.uk/browse/environment-countryside/flooding-extreme-weather">https://www.gov.uk/browse/environment-countryside/flooding-extreme-weather</a> Accessed 26/01/2023

<sup>&</sup>lt;sup>2</sup> Ministry of Housing, Communities and Local Government, Revised National Planning Policy Framework, 20 July 2021

<sup>&</sup>lt;sup>3</sup> Ministry of Housing, Communities and Local Government (March 2014), Planning Practice Guidance: Flood Risk and Coastal Change, <a href="https://www.gov.uk/guidance/flood-risk-and-coastal-change">https://www.gov.uk/guidance/flood-risk-and-coastal-change</a> Accessed 26/01/2023

<sup>&</sup>lt;sup>4</sup> https://www.gov.uk/government/publications/personal-flood-plan accessed 26/01/2023



## 2 AIM AND OBJECTIVES

- 2.1 The aim of this Flood Warning and Evacuation Plan is to ensure the safest possible emergency response, including evacuation, of the occupants of 12 West End Lane during a major flood event.
- 2.2 The main objectives of this plan are to:
  - raise awareness of the risk of flooding at 12 West End Lane;
  - detail the available flood warnings and estimated lead times to flooding on the site;
  - · consider how the plan is triggered, by whom and when; and
  - detail what actions are required by those people in the area.



## 3 LOCATION

3.1 The site is located on West End Lane (NW6 4NX) and is located within the jurisdiction of the London Borough of Camden which is the responsible authority for emergency planning in the area.

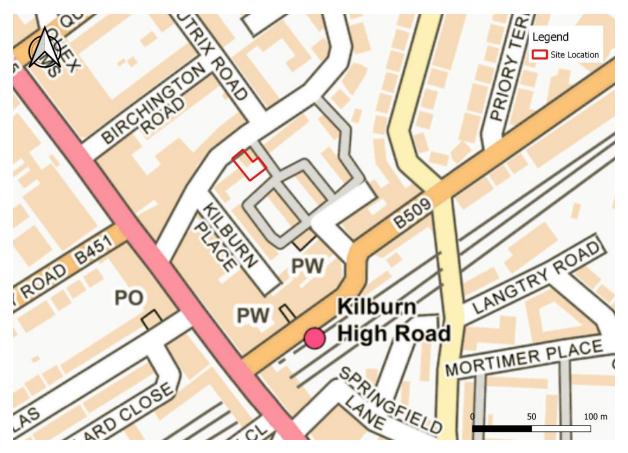


Figure 1 - Location of proposed development site

- 3.2 The site is located to the north of Maida Vale and St John's Wood. The red line boundary coincides with the property boundary, and the site is bounded by other residential properties (including access roads) on all sides, with West End Lane to the front (north).
- 3.3 The Bird in Hand has been vacant since 2002 and includes a public house at its ground floor and a single residential dwelling above. Number 14 West End Lane sits alongside the former Bird in Hand Pub, forming its eastern elevation, however, this does not form part of the Application Site.
- 3.4 The primary vehicular and pedestrian access route to the site is via West End Lane, which is a two-way street.



#### 4 FLOOD RISK

#### Sources of Flooding

- 4.1 The Flood Risk Statement<sup>5</sup> for the proposed development considered the risk of flooding from rivers, the sea, surface water, groundwater, sewers, and artificial sources.
- 4.2 The most significant source of potential flooding on the site is from surface water flooding. The risk of flooding from other sources was assessed to be negligible or mitigated within the scope of the assessment.

#### Probability of Flooding

4.3 The Gov.UK risk of flooding from surface water maps are shown in Figure 2 and Figure 3. Flooding from surface water arises during intense rainfall events when flood waters are unable to infiltrate into the ground or discharge into local ditches or artificial drainage infrastructure. Flooding events are typically of short duration (unless there is a drainage system blockage) but can be severe.

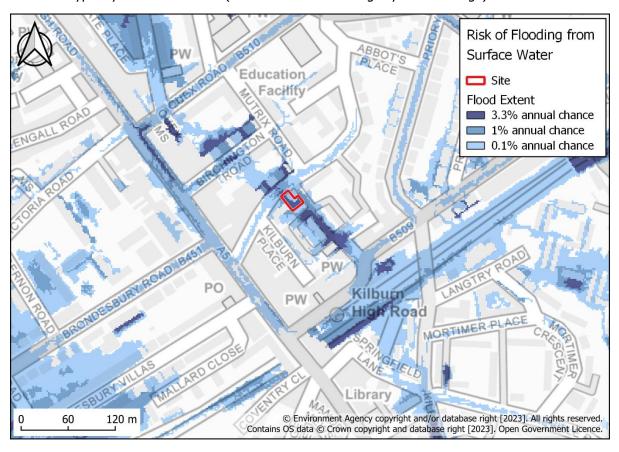


Figure 2 - Gov.UK Risk of Flooding from Surface Water

<sup>&</sup>lt;sup>5</sup> Water Environment Limited Report 22028-FRA-RP-01 C02, January 2023

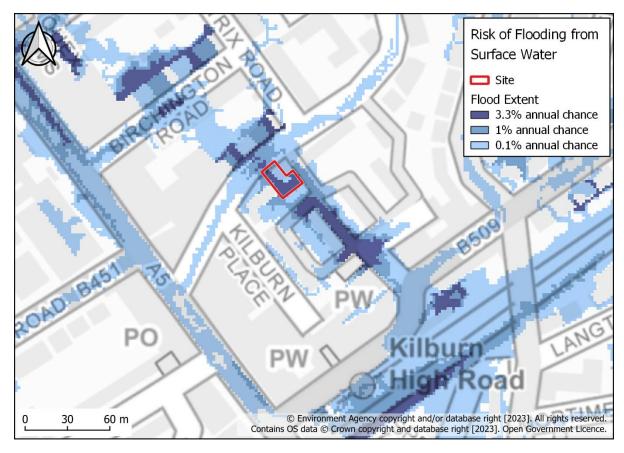


Figure 3 - Gov.UK Risk of Flooding from Surface Water (enlarged)

- 4.4 The site is situated in an area with a 3.3% annual risk of flooding.
- 4.5 The design event is the 1% AEP plus climate change event. It is important to note that surface water maps do not include future climate change, therefore it is common practice to evaluate the 1% AEP event as well as the 0.1% AEP event as a sensitivity test for what might happen in the future over the lifetime of the development. In this way it is possible to use the worst-case scenario (0.1% AEP) as a surrogate for the design 1% AEP plus climate change event.
- 4.6 The EA surface water modelling includes flood hazard mapping based on the Hazard to People Classification as described in "Supplementary Note on Flood Hazard Ratings and Thresholds for Development Planning and Control Purposes Clarification of Table 13.1 of FD2320/TR2 and Figure 3.2 of FD2321/TR1". The output can be seen in Figure 4.
- 4.7 The flood hazard rating is a combination of depth and velocity, as shown in Table 1, with the results grouped as follows:
  - 0.50 to 0.75: Very low hazard
  - 0.75 to 1.25: Danger for some (includes children, the elderly and the infirm)
  - 1.25 to 2.00: Danger for most (including the general public)
  - > 2.00: Danger for all (including emergency services)
- 4.8 The mapping shows that the site and immediate surrounding urban areas are defines as "danger for most", with some onsite areas of "danger for some". The flood hazard is however restricted by the topography in which the property is located. As such, the flood hazard reduces to below "very low hazard" within 10 to 20 m on either side of the site.

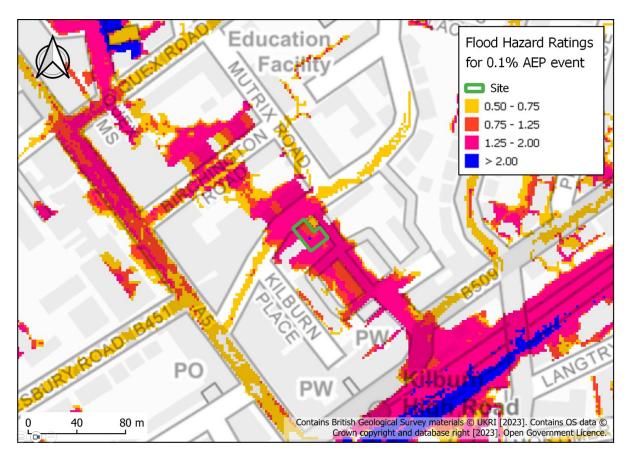
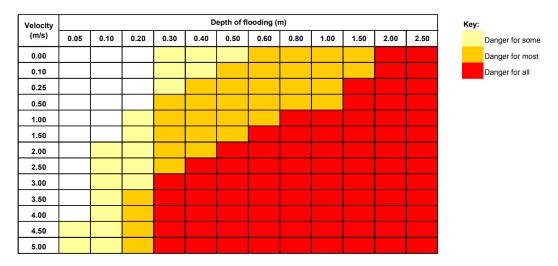


Figure 4 – Surface Water Flood Hazard Ratings for the Site (0.1% AEP / 1 in 1000 year event)

Table 1 – Danger to people for different combinations of depth and velocity (DEFRA, 2320)



#### Flood Depths

- 4.9 The Flood Risk Assessment set the design flood water level for the development using the 0.1% AEP risk of flooding from surface water flooding mapping. The maximum onsite flood water level is approximately 33.10 m AOD. External ground levels are generally 32.00 m AOD, therefore flood depths of up to 1.10 m could be expected.
- 4.10 The EA Risk of Flooding from Surface Water indicates that the following range of flood depths may be expected at the entrances to the two parts of the onsite development:



The refurbished existing building: 900 mm to 1200 mm.
 The new build development: 600 mm to 900 mm.

#### Impact of Flooding

- 4.11 The new build section of the development has finished floor levels (FFLs) set at 33.40 m AOD, 300 mm above the design flood water level.
- 4.12 The refurbishment of the existing building was unable to raise the FFL above the existing estimated level of 33.22 m AOD, therefore the refurbishment will implement property flood resilience (PFR) measures. However, flood depths of up to 890 mm relative to internal FFLs may be expected for the design flood event.
- 4.13 As the flood depths for the refurbished building are over 600 mm, internal flooding of the property should be anticipated unless the design of the development introduces defence measures and structural improvements to withstand the hydrostatic pressure from external flooding.



## 5 PREVENT, PROTECT, PREPARE

5.1 This section identifies actions that can be taken to prevent flooding, protect against flooding and prepare for flooding.

#### Flood Prevention

5.2 The London Borough of Camden flood risk management strategy document outlines the measures implemented by Camden Council to mitigate risks of surface water flooding occurring. While there are no physical measures implemented due to the nature of surface water flooding, there are tighter policies to ensure the design of new developments are more flood-resilient.

#### Flood Protection

#### Refurbished Existing Building

- 5.3 The refurbishment of the existing building will retain FFLs below the flood level, but will include the use of property flood resilience (PFR).
- 5.4 Subject to measures being implemented adequately, this section of the property may be protected from flooding, unless internal flooding is allowed to occur once flood depths exceed 600 mm.

#### New-Build Property

5.5 The new-build section of the development will be a minimum of 300mm above the 33.1m AOD flood level. This should protect any resident in this section from the internal flooding of their properties.

#### Preparation for Flooding

- 5.6 In order to be prepared for potential flood events, occupants should consider the following actions prior to occupation:
  - produce a Personal Flood Plan (useful information including a downloadable flood plan template available from the government website at www.gov.uk/prepare-for-flooding);
  - refer to the National Flood Forum "About to be Flooded" for further guidance: www.nationalfloodforum.org.uk/about-to-be-flooded/
  - assemble a flood kit for use by residents in an emergency including important documents, torch, waterproof high visibility jacket, first aid kit, buoyancy aids and blankets. This flood tool kit should not be located on the ground floor (but above the flood water level) and should be easily accessible;
  - compile a list of useful contacts for residents, emergency services, contact details of staff and occupants;
  - ensure that all residents have been shown how to turn off the electricity, gas and water in an emergency;
  - acquire any flood protection items listed in Personal Flood Plan; and
  - confirm that the household and commercial insurance policy is adequate.
- 5.7 The Environment Agency has produced a document that gives advice regarding "Preparing for a flood", "During a flood" and "After a flood". This can be found online at:



www.gov.uk/government/uploads/system/uploads/attachment\_data/file/403213/LIT\_5216.pdf

5.8 The Agency also produced a document titled "Flooding: advice for the public" which also provides useful information regarding how to prepare for, and react during, a flood. This can be found online at:

www.gov.uk/government/uploads/system/uploads/attachment\_data/file/401980/flood\_leaflet\_ 2015\_final.pdf

5.9 The National Flood Forum produced a "Ready for Flooding" document in 2014. It gives advice on how to prepare for a flood, what to do during the flood event what to do after a flood, health and safety advice, who to contact, advice about rogue traders and insurance, flood products / flood resilience measures and drinking water advice. This should also be read by residents to help prepare for a flood event.

www.nationalfloodforum.org.uk/wp-content/uploads/Ready-For-Flooding-26-11-14.pdf

5.10 Advice on pets can be found here:

https://www.bluecross.org.uk/advice/pets/pets-and-floods



#### 6 FLOOD WARNINGS

#### Flood Warning Lead Times

6.1 Surface water flooding occurs due to significant rainfall over a short duration, typically occurring during the rainfall event. Flooding can therefore occur very quickly with little warning.

#### **Environment Agency Flood Warning Areas**

- 6.2 The Environment Agency Flood Warning Areas provide flood warnings for river and sea flooding. Surface water flooding is not covered by the EA service.
- 6.3 If in the future the EA update their service to provide warnings for surface water flooding, this document should be revised to include the relevant details to sign up to receive updates.

#### Other Local Flood Warning Services

- 6.4 There are no known local flood warning services.
- 6.5 In all circumstances, when a major incident occurs, the first action should be to contact the Emergency Services by telephoning 999.
- 6.6 The Emergency Management (Camden Council) co-ordinates the Council's response to serious emergencies in the borough. All public enquiries during an emergency should use:

During office hours: 020 7974 4444

Out of hours: 020 7974 4444

#### **National Updates**

6.7 All Environment Agency flood warnings are published on the Gov.UK website, together with a live map showing current alerts, river levels, tide levels, groundwater levels and latest rainfall observations:

https://check-for-flooding.service.gov.uk/

6.8 The Met Office issues weather forecasts for the UK, including severe weather warnings:

www.metoffice.gov.uk/public/weather/warnings

6.9 The Gov.UK website also contains relevant links to information and regular updates:

www.gov.uk/browse/environment-countryside/flooding-extreme-weather

6.10 Current traffic information is available from the National Highways website:

https://nationalhighways.co.uk/travel-updates/travel-alerts/

with live mapping provided at <a href="https://www.trafficengland.com/">https://www.trafficengland.com/</a>

Commercial websites with live traffic information include:

www.theaa.com/route-planner/traffic-news and www.rac.co.uk/route-planner/traffic-news

6.11 Social media sites for the above organisations are also useful sources of information, however no social media pages should be relied upon as the sole source of information regarding potential flooding:



- London Borough of Camden provide local updates on Twitter (@CamdenCouncil),
   Facebook (@LBCamden) and Instagram (@CamdenCouncil)
- The Met Office regularly updates weather warnings on Twitter (@metoffice), Facebook (@metoffice) and Instagram (@metoffice)
- The Environment Agency provides updates on flood warnings on Twitter (@envagency),
   Facebook (@environmentagency) and occasionally Instagram (@envagency)
- National Highways provides updates on Twitter (@NationalHways), Facebook (@NationalHways) and Instagram (@nationalhways)

#### **Local Updates**

- 6.12 During times of heavy rainfall, occupants should check TV, radio stations, news apps and social media for information regarding flood risk. This may allow for extra preparation time, enabling the properties, contents and people to be better protected against the effects of flooding. Updates and news on flooding for the local area can be obtained from local television news reports and from local radio stations, including the following sources:
  - BBC Radio London 94.9FM and 104.1FM, DAB 12A and Freeview channel 721 <u>www.bbc.co.uk/sounds/play/live:bbc\_london</u>
     Twitter (@BBCRadioLondon)
  - BBC, ITV and Sky News Channels
  - Camden Council Twitter @CamdenCouncil



#### 7 FLOOD WARNING AND RESPONSE

#### Flood Warnings and Alerts

- 7.1 As the property does not lie in a Flood Warning Area, there would be no official warnings regarding surface water flood risk to the property.
- 7.2 Surface water flooding would occur during heavy, typically short duration, rainfall events and as such future occupiers of the dwellings should respond directly to observed flooding at the property.

#### Response to Flooding

7.3 In the event of observed surface water flooding on the roads and exterior areas of the property, the response of people on site will depend on what part of the development they occupy.

#### Refurbished Existing Property

- 7.4 The ground floor level of the refurbished property may be below the level of exterior surface water flooding. Occupiers should ensure, where possible, that any flood defence and/or water exclusion measures are correctly installed/closed before deep exterior flooding occurs.
- 7.5 If external flooding reaches depths at which the property is allowed to flood, occupiers should remain on the first-floor level or above and stay there until flooding recedes or they are evacuated by emergency services.
- 7.6 The EA Risk of Flooding from Surface Water indicates that the entrance to the building lies in an area where flood depths of 900 mm to 1200 mm may be expected.
- 7.7 Evacuation should only be considered when safe to do so, as described in further detail in Chapter 8.

#### New-Build Property

- 7.8 The ground floor level of the new-build property has been set above the estimated external surface water flood level. Occupiers will be able to remain within the building and wait until flooding recedes.
- 7.9 The EA Risk of Flooding from Surface Water indicates that the entrance to the building lies in an area where flood depths of between 600 mm to 900 mm may be expected.
- 7.10 Surface water flooding may be deep at the entrance to the building, therefore evacuation should only be considered when safe to do so, as described in further detail in Chapter 8.



### 8 EVACUATION

#### Personal Safety in a Flood Event

- 8.1 The following should be considered carefully by occupants before evacuating the premises during a flood event:
  - 1 Do not put yourself at risk in the event of a flood, personal safety is paramount. Stay safe in a flood event.
  - 2 Be aware that floods bring their own unique hazards, the majority of which will be hidden from view.
  - 3 Never enter water which is over 300 mm in depth with any velocity. The velocity of water can be easily underestimated and, with sufficient speed, 300 mm is sufficient to knock people over and/or raise vehicles. Always take a precautionary approach and if you are unsure how deep flood water is, do not enter.
  - 4 Do not enter or try to swim through fast flowing water as you could be swept away or struck by an object in the flow.
  - 5 Avoid wading through flood water as this is likely to be contaminated with raw sewage as drains and sewers overflow.
  - 6 Do not drive vehicles though flood water.

#### Pedestrian Evacuation Procedure

- 8.2 The surface water flood hazard mapping showed that pedestrian evacuation during the peak of the design flood event would not be safe. Any evacuation during the peak of the event should only be when supported by emergency services. The safest action would be to remain in place until flooding recedes to a lower hazard rating.
- 8.3 Pedestrian access and egress from the site during a surface water flood event would depend on the severity of the event, which is unlikely to be known during the event itself. As such, any pedestrian evacuation should be made considering the flood depths at the entrance to the two buildings on site.
- 8.4 If flood depths at the entrances are less than 300 mm and appear slow moving, then it may be safe or "danger for some". Higher flow rates (i.e. 0.5 m/s) would increases the flood hazard to "danger for most".
- 8.5 The following guidelines are provided for any consideration of evacuation during flood events:
  - Occupants should perform a visual check of the evacuation route prior to evacuation.
  - Pedestrians should not attempt to pass through any floodwater where the underlying surface of the ground is not visible through the water.
  - The very old, very young or disabled should not attempt to cross flood waters of any depth.
  - It is safe to remain in the building at first floor or above throughout the design flood event.
  - Occupants should follow the directions of the emergency services.



8.6 Considering the flood hazard mapping (see Figure 4), Figure 5 shows the two pedestrian flood evacuation routes proposed for the developments on site.

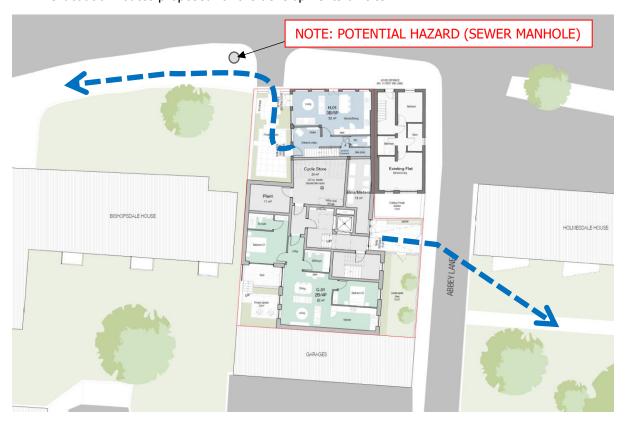


Figure 5 - Proposed Pedestrian Evacuation Routes

#### Refurbished Existing Building

- 8.7 Occupants of the refurbished existing buildings should, when safe to do so, exit the property and turn left and proceed eastwards, up West End Lane.
- 8.8 The route should remain on the footway, close to the Bishopsdale House boundary, as there is a potential hazard of the sewer manhole cover on the footway, whose cover may have been displaced during the flood event.



Figure 6 - Proposed Pedestrian Evacuation Route for Refurbished Building, showing hazard.



#### New-Build Property

- 8.9 Occupants of the new-build property should, when safe to do so, exit the property and proceed directly across Abbey Lane, crossing the grass and onto the footpath at the rear of Holmesdale House.
- 8.10 There are no known hazards along the proposed route shown.

#### Vehicular Evacuation Procedure

- 8.11 The development does not include any car parking, therefore no vehicular evacuation from the property will be required.
- 8.12 If vehicular support away from flooding is required, pedestrian evacuation through the floodwater will be required.
- 8.13 Vehicular evacuation can occur by leaving the site on either side along West End Lane.

#### Other Hazards

8.14 During a flood event, apart from heavy rainfall and the possible presence of flood water, there may also be strong winds associated with a storm system. Strong winds can cause trees or branches to fall that may create additional hazards during evacuation. In addition, roof tiles or other debris may be dislodged from surrounding properties. Refuge should not be sought by foot or within cars beneath large trees. Occupants should proceed with caution and avoid any fallen debris.



### 9 SITE RE-OCCUPATION

- 9.1 Once the flood event has passed it may be possible to return to the property if it has been evacuated or it may be possible to vacate the property if occupants have remained inside. Only return to the property once it is safe to do so and once permission has been granted by any emergency services in attendance.
- 9.2 Upon returning to the site, it will be important to consider some of the hazards that may be present on the site following a flood event, including:
  - standing water remaining on the site;
  - transported debris on the site that could form a tripping hazard;
  - silt or residue deposited on the site that may be slippery; and
  - potentially contaminated or electrified water.
- 9.3 As a priority, insurance companies should be contacted, and the structural condition of the property should be visually inspected from the outside by a competent professional prior to reoccupation. This is to identify if there has been any damage to the integrity of the building.
- 9.4 Upon entering the premises, a clean-up operation can commence. Occupants may need to:
  - commission immediate emergency pumping/repair work if necessary to prevent further damage;
  - open doors and windows to ventilate the development;
  - contact local authority or health service to find out where occupants can get help to clean up;
  - contact utility providers to have them check services before re-use;
  - dispose of all food that may have been in contact with floodwater as contamination could have occurred (for further assistance contact your local authority Environmental Health department for advice);
  - keep a comprehensive record of flood damage (photographs, videos etc.);
  - contact your insurance broker's (24 hour) Emergency Helpline which will be able to provide information on dealing with compensation claims; and
  - get an advice guide to repairing flood damaged property from Floodline (0345 988 1188).



## 10 EMERGENCY CONTACTS

#### **Environment Agency**

10.1 Floodline Warnings Direct is a free service which sends you a direct message when flooding is expected and may affect your property. Flood warnings will give you time to prepare for flooding which could save you time, money and heartache. You can receive warnings by telephone, mobile, email, SMS text message or fax.

Floodline on 0345 988 1188 or Textphone 0345 602 6340

[Quickdial Number 315021]

#### Local Resilience Forum

10.2 The Thames Valley Local Resilience Forum co-ordinates the multi-agency flood plans for the Thames valley and are responsible for emergency flood evacuation efforts. They can be contacted in writing.

Thames Valley Local Resilience Forum, Thames Valley Police Headquarters South, Kidlington, OX5 2NX

tvlrf@thamesvalley.pnn.police http://tham

http://thamesvalleylrf.org.uk/

#### **Local Authorities**

10.3 The London Borough of Camden emergency phone numbers.

020 7974 4444 (daytime)

020 7974 4444 (out of office hours)

#### Fire and Rescue Services

10.4 The London Fire Brigade responds to all emergency calls from residents through the 999 call system. The local fire station is West Hampstead Fire Station, 327B W End Ln, London NW6 1RS.

999 (Emergencies)

#### **Local Police Station**

10.5 The nearest police station is 4th Floor E Block Macmillan, Eastbourne Terrace, W2 1FT.

999 (Emergencies)

101 (Non-emergencies)



## 11 MONITORING

- 11.1 This FREP is to be reviewed no less than every three years from the date the first flood escape plan is first approved by the Council and/or immediately after any major flooding event at the site.
- 11.2 The site and grounds will be managed by the freeholder and/or the management company who will monitor implementation of the FREP.
- 11.3 If necessary, such as after a flood event, the FREP will be reviewed and updated accordingly. This is to be undertaken by a flood risk professional.
- 11.4 Occupants will be provided with contact details for the managing company as part of their lease/purchase agreement so that they can also report any issues with implementation of the FREP.