

Haringey Sequential Testing

**Core Strategy
Identified Areas of Development**

March 2011

1.0 Summary

1.1 This paper sets out the Sequential and Exception Tests relating to the key regeneration areas in the Borough, as contained in the Core Strategy.

1.2 These areas are:

Haringey Heartlands Growth Area;
Tottenham Hale Growth Area;
Northumberland Park Area of Change;
Tottenham High Road Corridor Area of Change;
Seven Sisters Corridor Area of Change; and
Wood Green/Heartlands Area of Change.

2.0 Background

2.1 The North London Waste Plan Level 1 SFRA was completed in 2007; this covered all the 7 North London boroughs of Barnet, Camden, Enfield, Hackney, Haringey, Islington and Waltham Forest. The Level 1 SFRA has been used as background evidence to inform the application of the Sequential Test by the Haringey planning policy team on a more local basis than that available from the NLWP SFRA Level 1 assessment.

2.2 The Sequential Test should identify if it is possible to deliver all development within the London Borough of Haringey without needing to develop in Flood Zones 2 and 3. Should it be identified that there is an insufficient supply of comparable sites within Flood Zone 1, then it should be considered if it is possible to deliver all development within Flood Zone 1 and, where necessary, in Flood Zone 2. Should it be then identified that there is still an insufficient supply of sites within both Flood Zones 1 and 2, sites should be considered within Flood Zone 3.

2.3 Within Flood Zones 2 and 3, development should be directed to the sites of lowest flood risk (i.e. lowest probability, hazard and consequences from all sources of flooding, including the presence of flood defences) as indicated within this sequential test.

2.4 A sequential approach to sites that are identified as at risk of non-fluvial sources of flooding should also be applied, with development being directed to sites that are at the lowest risk from any source of flooding. Mapping of the potential risk of surface water flooding for Haringey has been supplied by the Environment Agency. Specific work on the identification of areas at risk from surface water flooding is ongoing as a part of the *Drain London* sub-regional work within London, working with Enfield, Hackney, Newham, Tower Hamlets and Waltham Forest. When available, this will be used to inform and update this SFRA.

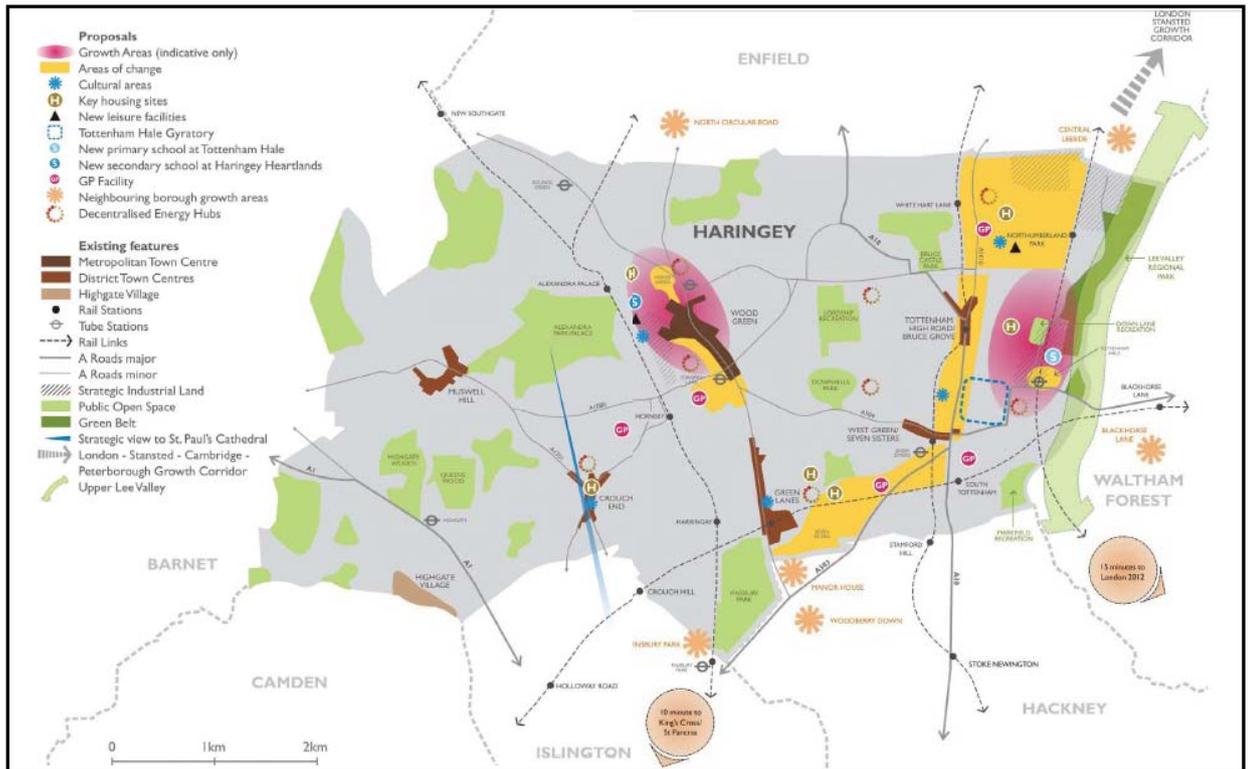
2.5 Should it be identified, through applying the sequential approach, that sites are necessary within Flood Zones 2 and 3, the vulnerability of the proposed development to flooding (as identified in Tables D.2 and D.3 of PPS25) should be taken into account. Where identified in Table D.3 of PPS25 the Exception Test will need to be applied.

2.6 A critical element of the Exception Test is the ability to demonstrate that the site can be developed safely and in a sustainable manner. This Sequential Test gives each identified development site and identifies the need or otherwise for the Exception Test for a specific site

2.7 It is important to recognise that Haringey has adopted a precautionary approach with respect to climate change for the allocation of sites. For this reason, this Sequential Test, is being carried out based upon Zone 3 and Zone 2 sites, whether entirely or partially within that zone. The assessment has been carried out on the Zone of higher flood risk.

3.0 London Borough of Haringey

Figure 3.1: Haringey Core Strategy Key Diagram



3.1 Haringey is one of the 32 London Boroughs, it is strategically located in the London-Stansted-Cambridge-Peterborough Growth Corridor. Its boundaries go from Highgate Village in the West to Tottenham in the East. The eastern boundary is defined by the River Lee, the Walthamstow Reservoirs and the Lee Valley Park. It is this eastern area that is predominantly at greater risk from fluvial flooding from the River Lee and its local tributaries.

4.0 Areas Identified for Development

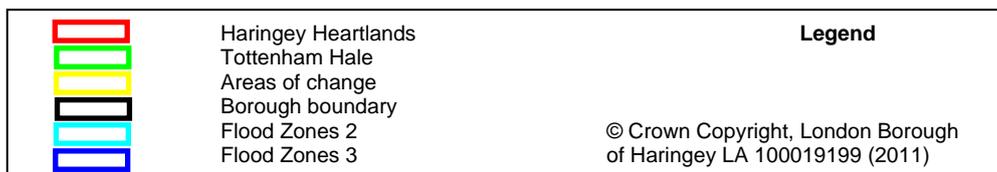
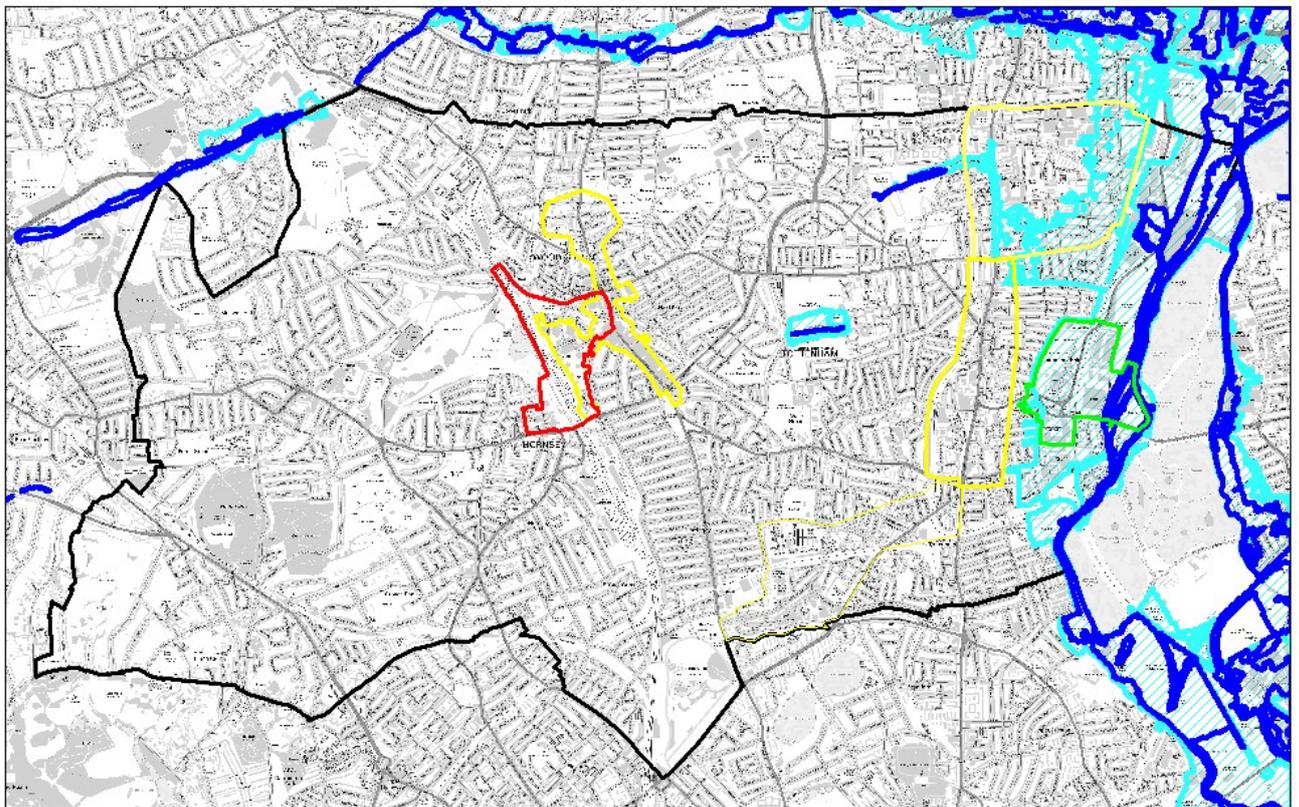
4.1 The key areas for development, as set out in the Core Strategy DPD (Development Management Document) Submission Version, are two Growth Areas (Heartlands and Tottenham Hale) and four Areas of Change (Seven Sisters Corridor, Tottenham High Road Corridor, Wood Green/Heartlands and Northumberland Park). These have been assessed for potential flood risk and are also being considered as alternatives for the Sequential Test. Table 5.1 below gives the proposed uses, the vulnerability and therefore whether Sequential and Exception tests are required. Where this requirement has been identified, these tests are below.

4.2 Haringey are also drafting a Sites DPD, a Development Management DPD and a Joint Waste DPD (The North London Waste Plan, being developed with the 6 surrounding boroughs). The Sites DPD and the Development Management DPD are still in draft form and where appropriate, identified sites at risk of flooding will be tested more thoroughly as a part of the development of these documents.

4.3 The NLWP has identified one site within Haringey as potentially suitable for waste management use, the former Friern Barnet sewage works at Pinkham Way (North Circular). This site has been assessed for flood risk during the process of developing the NLWP and so has not been included within this document. The site is designated for employment use and therefore is not available for housing.

4.4 The location of the two Growth Areas and the four Areas of Change within Haringey can be seen below. These areas have been overlaid onto the adopted PPS25 flood zones provided by the Environment Agency, 2010.

Figure 4.1. Identified Growth Areas and Areas of Change within Haringey



4.5 The areas identified within the Core Strategy for growth and for improvement are shown below with the Environment Agency 2010 Flood Zones.

Figure 4.2. Haringey Heartlands Growth Area

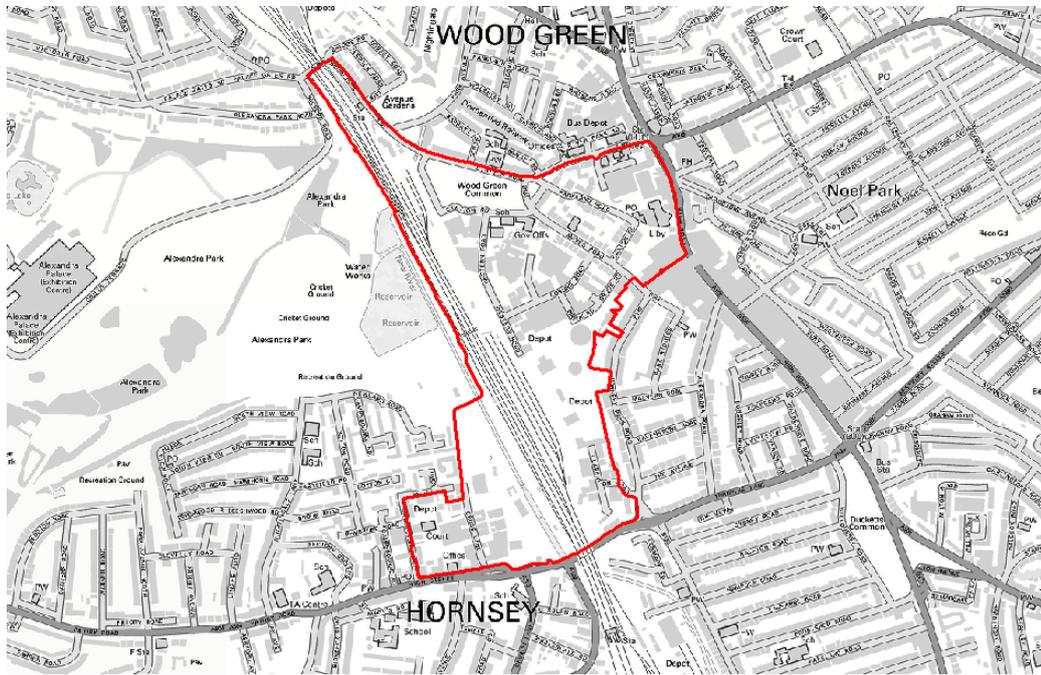


Figure 4.3. Tottenham Hale Growth Area

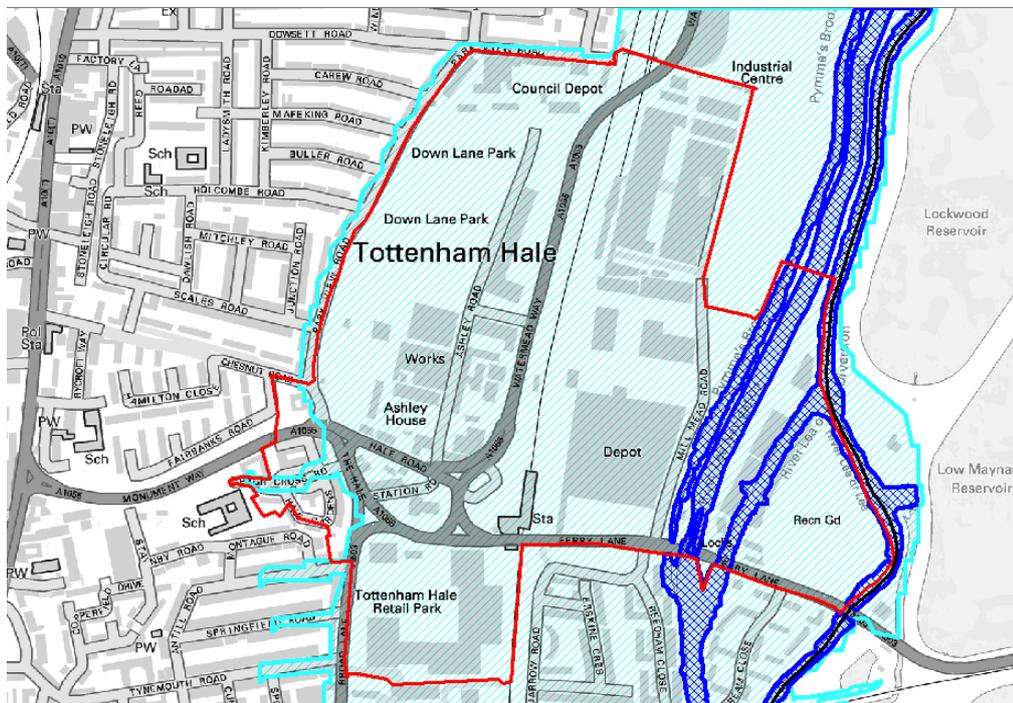
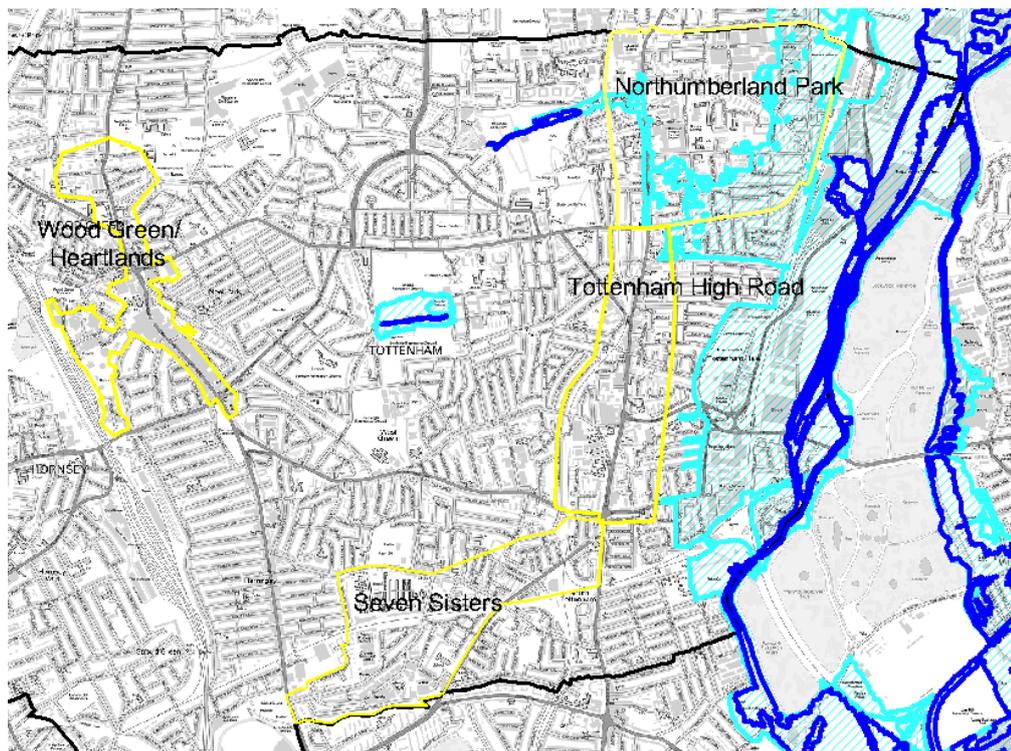


Figure 4.4. Map of Haringey Areas of Change



- 4.6 This document has considered the risk that flooding poses for all identified regeneration areas within Haringey, aiming to ensure the sustainability and safety of the areas (and surrounding land) from a flooding perspective, promoting development to areas of lesser flood risk. It is important that the development control process emphasises the critical importance of flood risk, influencing the design process accordingly. A brief overview of the key requirements for future development is provided below: Consideration of areas affected by Flood Zone 2 and Flood Zone 3 has been carried out. This is presented below
- 4.7 With the application of the Sequential Test, all sites within Zones 2 and 3, and/or exceeding 1ha in area within Zone 1, or at risk of flooding from a non-fluvial source within Flood Zone 1, will require a detailed Flood Risk Assessment in accordance with the findings of the Level 1 SFRA. This applies to the Growth Areas for the Core Strategy and for the Areas of Change. When proposing development, the layout of buildings and access routes should adopt a sequential approach, steering buildings (and hence people) towards areas of lowest risk within the boundaries of the site. This will also help towards ensuring that the risk of flooding is not worsened by, for example, blocked flood flow routes.
- 4.8 Development management policy is being developed in line with PPS25 and will apply to development in Zones 2 and Zones 3 inline with PPS25. These will represent the minimum standard that will be sought by both the Council and the Environment Agency at the planning application stage.
- 4.9 It should be acknowledged, though, that some areas that fall within defended areas of Haringey can still be exposed to a considerable residual risk of flooding, whereby the flood defences could be subject to breach, blockage or overtopping of the River Lee or the Lee Valley Reservoirs. The potential for a breach of the existing reservoirs has not been considered beyond the flood zone data provided by the EA, for example.

This fact should always be considered when making planning decisions and be reflected in the allocation, layout and management of development. A precautionary approach raises the awareness of flood risk in defended areas and helps to ensure that it is not discounted as part of development but is managed appropriately.

5.0 Identifying Areas Requiring Sequential Test and Exception Test.

5.1 Using the Flood Risk Vulnerability Classification given in Table D2 (PPS25, 2010) and the Flood Risk Vulnerability and Flood Zone Compatibility, each regeneration site has had the requirement for Sequential Testing and Exception Testing checked. The results are in Table 5.1 below.

Table D.3². Flood Risk Vulnerability and Flood Zone 'Compatibility'

Flood Risk Vulnerability classification (see Table D2)		Essential Infrastructure	Water compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zone (see Table D.1)	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test required	✓	✓
	Zone 3a	Exception Test required	✓	x	Exception Test required	✓
	Zone 3b 'Functional Flood plain'	Exception Test required	✓	x	x	x

Key:

✓ Development is appropriate

x Development should not be permitted

Table 5.1: Proposed Uses and Flood Vulnerability

Identified Regeneration Area	Flood Risk Zone	Potential Uses	Flood Vulnerability Classification	Appropriateness of Proposed Uses
Haringey Heartlands Growth Area	1	<ul style="list-style-type: none"> Residential Retail Commercial Community Facilities Open Space 	<ul style="list-style-type: none"> More vulnerable Less Vulnerable Less Vulnerable Less/More Vulnerable Water compatible development 	All uses appropriate
Tottenham Hale Growth Area	2	<ul style="list-style-type: none"> Residential Retail Commercial Open Space 	<ul style="list-style-type: none"> More vulnerable Less Vulnerable Less 	All proposed uses appropriate, but Sequential Test Required

		<ul style="list-style-type: none"> • Transport Infrastructure 	<ul style="list-style-type: none"> • Vulnerable • Water compatible development • Essential Infrastructure 	
Tottenham Hale Growth Area	3a	<ul style="list-style-type: none"> • Residential • Retail • Commercial 	<ul style="list-style-type: none"> • More vulnerable • Less Vulnerable • Less Vulnerable 	Exception test required Appropriate use Appropriate use Sequential Test Required
Tottenham Hale Growth Area	3b	<ul style="list-style-type: none"> • Residential • Retail • Commercial 	<ul style="list-style-type: none"> • More vulnerable • Less Vulnerable • Less Vulnerable 	No proposed use compatible
Northumberland Park Area of Change	1	<ul style="list-style-type: none"> • Residential • Retail • Commercial • Community Facilities • Leisure Uses 	<ul style="list-style-type: none"> • More vulnerable • Less Vulnerable • Less Vulnerable • Less/More Vulnerable • Less Vulnerable 	All proposed uses appropriate
Northumberland Park Area of Change	2	<ul style="list-style-type: none"> • Residential • Retail • Commercial • Community Facilities • Leisure Uses 	<ul style="list-style-type: none"> • More vulnerable • Less Vulnerable • Less Vulnerable 	All proposed uses appropriate, but Sequential Test Required
Tottenham High Road Corridor	1	<ul style="list-style-type: none"> • Residential • Retail • Commercial • Community Facilities • Open Space • Offices 	<ul style="list-style-type: none"> • More vulnerable • Less Vulnerable • Less Vulnerable • Less/More Vulnerable • Water compatible • Less Vulnerable 	All uses appropriate
Tottenham High Road Corridor	2 (small area to north)	<ul style="list-style-type: none"> • Residential • Retail • Commercial • Community Facilities • Open Space 	<ul style="list-style-type: none"> • More vulnerable • Less Vulnerable • Less Vulnerable 	All proposed uses appropriate, but Sequential Test Required

		<ul style="list-style-type: none"> Offices 	<ul style="list-style-type: none"> Less/More Vulnerable Water compatible Less Vulnerable 	
Seven Sisters Corridor	1	<ul style="list-style-type: none"> Residential Retail Commercial Community Facilities Open Space Offices 	<ul style="list-style-type: none"> More vulnerable Less Vulnerable Less Vulnerable Less/More Vulnerable Water Compatible Less Vulnerable 	All appropriate uses
Wood Green / Heartlands	1	<ul style="list-style-type: none"> Residential Retail Commercial Community Facilities Open Space 	<ul style="list-style-type: none"> More vulnerable Less Vulnerable Less Vulnerable Less/more vulnerable Water Compatible 	All appropriate uses

5.2 From the perspective of flood risk, the table above demonstrates that:

- The Zone 3b areas of Tottenham Hale are automatically unacceptable for the current proposed use. It should be noted that Essential Infrastructure and Water Compatible use may be permitted.
- In those areas falling wholly within Flood Zone 1, all proposed uses are acceptable. These areas are: Haringey Heartlands Growth Area, Wood Green/Heartlands Area of Change and Seven Sisters Corridor Area of Change.
- There is therefore a need for Tottenham Hale Growth Area, Northumberland Park Area of Change and the northern most part of Tottenham High Road Corridor to undergo the Sequential Test in order to determine whether there are any alternative sites in areas of lower flood risk. Where applicable, certain uses will also be subject to the Exception Test.

5.3 The Sequential Test and Exception Tests for the two key regeneration areas of Tottenham Hale and Northumberland Park are below. The area of the Tottenham High Road Corridor that falls into Zone 2 will be addressed as part of the Northumberland Park Area as they are geographically continuous and are affected by the same flood source.

6.0 Tottenham Hale Growth Area Sequential Test

- 6.1 Tottenham Hale is predominantly within Zone 2 with smaller areas within Zone 3a and 3b where the River Lee and the River Lee Flood Relief channel run. A considerable proportion of Northumberland Park and the very northern tip of the Tottenham High Road Corridor are located within flood Zone 2, Sequential Tests for the Tottenham Hale Growth Area and Northumberland Park Area of Change are therefore required.
- 6.2 The Tottenham Hale Growth Area, as defined within the London Plan, is bounded by residential properties to the north and west, on the southern side is Ferry Lane and the Ferry Lane residential estate. To the east are the Lee Valley Park and Walthamstow reservoirs, the River Lee and the river lee flood channel. The topography of the area is low lying and relatively flat, details of the change in topography for each site within the area are contained within the table below.
- 6.3 The area is predominantly within Zone 2 with small parts being adjoining to Zone 3. One site is particular, Hale Wharf, is surrounded by the River Lee and is therefore bounded by Zone 3. The British Geological Survey mapping indicates this area is overlying London Clay and Alluvium with the potential for Enfield Silt along the western edges. Underlying this is Kempton Park Gravel, then London Clay, Lambeth group (Woolwich and Reading Beds of mottled clay with sand and pebble beds) with Thanet Sand Formation (fine grained sand) then Chalk.
- 6.4 Tottenham Hale has been sub-divided into smaller development areas – Hale Wharf, Hale Village, Ashley Road – Station Interchange, Tottenham Hale Retail Park, Welbourne Area and Ashley Road. The area also includes Downhill Park, where there are no proposals for development. The current housing proposed is for over 3200 units (refer to Appendix 1 for further details), as well as an urban park linking to the Lee Valley Park and improvements to community infrastructure and the Tottenham Hale rail interchange. The Growth Area also has active employment areas and a successful retail park.
- 6.5 The London Plan requires the London Borough of Haringey to provide a significant number of new homes during the life of the Core Strategy, the accepted target is 6,800 from 2007/8 to 2016/17 based on evidence from the London Housing Capacity Study undertaken in 2004. Indicative capacity from the SHLAA (2009) suggests that the borough has the capacity for 8,200 new units over the period 2011 to 2021, capable of being met mainly through the use of brownfield development. The Core Strategy stated that along with the other Growth Area (Haringey Heartlands) and the four Areas of Change, Tottenham Hale will provide significant capacity for home building. As such, it is expected to accommodate large scale development to provide substantial numbers of new employment and housing with good public transport accessibility.
- 6.6 As the target given by the London Plan is a borough-wide target, the geographical area of search for the Sequential Test is considered to be the whole of Haringey. In deciding the sites to include in the Sequential Test, the following have been excluded on the grounds that they are not reasonably available:
- Sites in the Lee Valley Park (the only area of Green Belt within Haringey)
 - Public Green Space.
 - Employment Land.
 - Areas of the borough that are already developed or undergoing construction

6.7 The remaining sites are therefore considered “reasonably available” and are being included in the test are:

- Haringey Heartlands Growth Area
- Seven Sisters Corridor Area of Change
- Tottenham High Road Corridor Area of Change (Southern area)
- Wood Green/Heartlands Area of Change

7.0 Reasonably Available Sites

7.1 The sites that are being considered are described below.

Heartlands Growth Area, Wood Green/Heartlands Area of Change

Of the identified regeneration areas, Haringey Heartlands is entirely within Flood Zone 1. Some parts of the Wood Green/Heartlands Area of Change geographically overlays Haringey Heartlands. The emphasis in this area is for long term improvement to the metropolitan shopping area and small scale intensification of housing where windfall sites become available. This site was formerly the site of a gas works. A spine road has been constructed through the site to facilitate predominantly residential development. A planning application for Haringey Heartlands site has already been received and a decision is pending, the proposed use is for housing with areas of community open space and for areas of mixed employment use. Therefore this site is not available for consideration within the Sequential Test for alternative sites for the development proposed in Tottenham Hale Zone 2. The peripheral windfall sites within Haringey Heartlands do not have the capacity to replace Tottenham Hale proposed housing development sites.

Seven Sisters Corridor Area of Change

The Seven Sisters Corridor is fully within Flood Zone 1. It is a predominantly residential area that includes Seven Sisters Underground Station, with a corridor of local shopping centres along an arterial road. The potential development is likely to be dominated by smaller, windfall sites and so do not have the capacity to replace Tottenham Hale proposed housing development sites.

Northumberland Park Area of Change

This Area of Change is situated in the north-east corner of Haringey, bordering the two boroughs of Enfield and Waltham Forest. It is partially within Zone 1 and partially within Zone 2 due to fluvial flooding from the Rover Lee and its tributary, the Moselle Brook. The area is predominantly residential with significant industrial/commercial areas within it. It includes the northern most stretch of Tottenham High Road and the Tottenham Hotspur Football Ground. The major development site for this area is Tottenham Hotspurs new ground and an associated supermarket. The potential development elsewhere within this area is likely to be dominated by smaller, windfall sites and so do not have the capacity to replace Tottenham Hale proposed housing development sites.

Tottenham High Road Corridor Area of Change (Southern area)

The Tottenham High Road Corridor predominately within Flood Zone 1, with an area to the North which has the Moselle Brook (culverted) running through it, resulting in an increased risk of flood and is within Flood Zone 2. This corridor is also a series of local shopping centres along a key arterial road. This historical route is made up of a number of continuous Conservation Areas due to its interesting mixture of valuable historical buildings. The potential development is likely to be dominated by smaller, windfall sites and so do not have the capacity to replace Tottenham Hale proposed housing development sites.

7.2 The Sequential Test carried out demonstrates that there are no sequentially preferable sites available. In this regard, the proposed scheme clearly satisfies the Sequential Test set out in PPS25 as the “reasonably available” sites within Haringey are unable to accommodate any significant levels of additional development. As such, they do not obviate or reduce the need to develop at Tottenham Hale. To allocate this scale of development elsewhere would not be in accordance with the London Plan.

7.3 The Tottenham Hale Growth Area therefore has undergone a Sequential Test for alternative sites within the borough. The sequential test has shown that sites of a similar size are unlikely to be available and that the available sites are unlikely to have the appropriate capacity to fully replace the identified need.

8.0 Exception Test

8.1 *For the exception test to be passed:*

- a) it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk, informed by a SFRA where one has been prepared. If the DPD has reached the ‘submission’ stage – see Figure 4 of PPS12: Local Development Frameworks – the benefits of the development should contribute to the Core Strategy’s Sustainability Appraisal;*
- b) the development should be on developable previously-developed land or, if it is not on previously developed land, that there are no reasonable alternative sites on developable previously-developed land; and*
- c) a FRA must demonstrate that the development will be safe, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.*

8.2 Test a) is passed as significant benefits of development include:

- The benefit of development of the Growth Areas contribute towards the aims and objectives of the Core Strategy Sustainability Appraisal by the provision of sites for sustainable housing for Haringey over the life of the plan.
- The London Plan has identified the Upper Lee Valley as an Opportunity Area in order to accommodate a proportion of London’s future Growth. This will therefore reduce the need for areas of open space/green field land in London to be developed.
- Development at Tottenham Hale will provide a significant proportion of the target for new homes that the London Plan requires Haringey to deliver.
- Development of Tottenham Hale will provide a improvements to public transport, in particular the rail interchange at Tottenham Hale, serving the community and improving links to and from the surrounding area.
- New employment opportunities will be created through the increased yield of industrial land.
- New areas of open space are to be created as part of the links between the transport interchange and the Lee Valley Park, including the de-culverting of a tributary of the River Lee.
- Previously vacant brownfield sites are being developed into high quality mixed housing, creating new communities.
- Improvements to access by opening up and creating new walk ways and cycle ways, linking in with the London cycle network.

8.3 Test b) requires that the development be on previously developed land. The area is made up of a number of brownfield sites – including a former storage depot, a Council

refuse and cleaning depot as well as commercial/industrial parks. Accordingly it is considered that test b) is passed.

- 8.4 Within the Tottenham Hale Growth Area, each individual development proposal is required to carry out a full Flood Risk Assessment, submitted with the planning application, which must demonstrate that the development will be safe, without increasing flood risk elsewhere, and wherever possible reduce flood risk overall.
- 8.5 The Council will, in full consultation with the Environment Agency, assess the applications against these criteria in order to fulfil the requirements of Test c).
- 8.6 In conclusion, Haringey considers that the proposed development at Tottenham Hale Growth Area passes the Sequential Test and parts a) and b) of the Exception Test. Application for development will need to demonstrate that Part c) can be fulfilled.

9.0 Northumberland Park Area Sequential Test

- 9.1 Northumberland Park is partially within Zone 1 and partially within Zone 2 there are no areas within Zone 3. The source of potential flooding is on the east from the River Lee, and to the south from the Moselle Brook, a tributary of the River Lee. Much of the Moselle has been culverted. The very northern tip of the Tottenham High Road Corridor is also located within flood Zone 2 Sequential Test, for the Northumberland Park Area of Change is therefore required.
- 9.2 The Northumberland Park Area of Change is bounded to the north by the London Borough of Enfield, to the east by the River Lee and the River Lee flood channel within the Lee Valley Regional Park. Enfield has proposed residential development for up to 5000 homes within Central Leaside, just to the north of the boundary between the two boroughs. The area is predominantly residential but has significant industrial/commercial areas within it, including Strategic Industrial Land. Core Strategy policies proposed the retention of the employment areas. The area also includes the Tottenham Hotspur football ground which has submitted a planning application for enlargement and a new large supermarket on the adjacent site. The area has a high rate of social and economic deprivation. The British Geological Survey mapping indicates this area is overlying London Clay and Alluvium with the potential for Enfield Silt along the western edges. Underlying this is Kempton Park Gravel, then London Clay, Lambeth group (Woolwich and Reading Beds of mottled clay with sand and pebble beds) with Thanet Sand Formation (fine grained sand) then Chalk.
- 9.3 The proposed development at Tottenham Hotspur Football ground includes a new, larger stadium, a hotel, club shop, museum, supermarket and at least 200 new homes. The flood issues of this major development have been addressed within the application and a full Flood Risk Assessment was received.
- 9.4 The London Plan requires the London Borough of Haringey to provide a significant number of new homes during the life of the Core Strategy, the accepted target is 6,800 from 2007/8 to 2016/17 based on evidence from the London Housing Capacity Study undertaken in 2004. Indicative capacity from the SHLAA (2009) suggests that the borough has the capacity for 8,200 new units over the period 2011 to 2021, capable of being met mainly through the use of brownfield development. The Core Strategy stated that along with the other Growth Area (Haringey Heartlands) and the four Areas of Change, Northumberland Park will provide significant capacity for home building. As such, it is expected to accommodate large and small scale development to provide substantial numbers of new employment and housing with improved public transport accessibility.

9.5 As the target given by the London Plan is a borough-wide target, the geographical area of search for the Sequential Test is considered to be the whole of Haringey. In deciding the sites to include in the Sequential Test, the following have been excluded on the grounds that they are not reasonably available:

- Sites in the Lee Valley Park (the only area of Green Belt within Haringey)
- Public Green Space.
- Employment Land.
- Areas of the borough that are already developed or undergoing construction

9.6 The remaining sites are therefore considered “reasonably available” and are being included in the test are:

- Haringey Heartlands Growth Area
- Seven Sisters Corridor Area of Change
- Tottenham High Road Corridor Area of Change (Southern area)

10.0 Reasonably Available Sites

10.1 The sites that are being considered are described below.

Heartlands Growth Area, Wood Green/Heartlands Area of Change

Of the identified regeneration areas, Haringey Heartlands is entirely within Flood Zone 1. Some parts of the Wood Green/Heartlands Area of Change geographically overlays Haringey Heartlands. The emphasis in this area is for long term improvement to the metropolitan shopping area and small scale intensification of housing where windfall sites become available. This site was formerly the site of a gas works. A spinal road has been constructed through the site to facilitate predominantly residential development. A planning application for Haringey Heartlands site has already been received and a decision is pending, the proposed use is for housing with areas of community open space and for areas of mixed employment use. Therefore this site is not available for consideration within the Sequential Test for alternative sites for the development proposed in Northumberland Park Area of Change. The peripheral windfall sites within Haringey Heartlands do not have the capacity to replace Tottenham Hale proposed housing development sites.

Tottenham Hale Growth Area

Tottenham Hale is predominately within Zone 2 with smaller areas within Zone 3. It is bounded by residential properties to the west and the River Lee and River Lee Flood Relief Channel to the east. There are current proposals for over 3200 new homes, an urban park and improvements to the Tottenham Hale rail interchange. The area has active employment areas and a successful retail park. An outline planning application the Tottenham Hale main site has already been received and granted, the proposed use is for housing with areas of community open. Therefore much of this area is not available for consideration within the Sequential Test for alternative sites for the development proposed in Northumberland Park Area of Change.

Seven Sisters Corridor Area of Change

The Seven Sisters Corridor is fully within Flood Zone 1. It is a predominantly residential area that includes Seven Sisters Underground Station, with a corridor of local shopping centres along an arterial road. The potential development is likely to

be dominated by smaller, windfall sites and so do not have the capacity to replace Tottenham Hale proposed housing development sites.

Tottenham High Road Corridor Area of Change (Southern area)

The Tottenham High Road Corridor predominately within Flood Zone 1, with an area to the North which has the Moselle Brook (culverted) running through it, resulting in an increased risk of flood and is within Flood Zone 2. This corridor is also a series of local shopping centres along a key arterial road. This historical route is made up of a number of continuous Conservation Areas due to its interesting mixture of valuable historical buildings. The potential development is likely to be dominated by smaller, windfall sites and so do not have the capacity to replace Tottenham Hale proposed housing development sites.

10.2 The Sequential Test carried out demonstrates that there are no sequentially preferable sites available. In this regard, the proposed scheme clearly satisfies the Sequential Test set out in PPS25 as the “reasonably available” sites within Haringey are unable to accommodate any significant levels of additional development. As such, they do not obviate or reduce the need to develop at Northumberland Park. To allocate this scale of development elsewhere would not be in accordance with the London Plan.

10.3 The Northumberland Park and northern area of the Tottenham High Road Corridor therefore have undergone a Sequential Test for alternative sites within the borough. The sequential test has shown that a sites of a similar size are unlikely to be available and that the available sites are unlikely to have the appropriate capacity to fully replace the identified need.

11. Exception Test

11.1 *For the exception test to be passed:*

- a) it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk, informed by a SFRA where one has been prepared. If the DPD has reached the ‘submission’ stage – see Figure 4 of PPS12: Local Development Frameworks – the benefits of the development should contribute to the Core Strategy’s Sustainability Appraisal;*
- b) the development should be on developable previously-developed land or, if it is not on previously developed land, that there are no reasonable alternative sites on developable previously-developed land; and*
- c) a FRA must demonstrate that the development will be safe, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.*

11.2 Test a) is passed as significant benefits of development include:

- The benefit of development of the Growth Area and the Area of Change contribute towards the aims and objectives of the Core Strategy Sustainability Appraisal by the provision of sites for sustainable housing for Haringey over the life of the plan.
- The London Plan has identified the Upper Lee Valley as an Opportunity Area in order to accommodate a proportion of London’s future Growth. This will therefore reduce the need for areas of open space/green field land in London to be developed.

- Development at Northumberland Park and the northern area of Tottenham High Road Corridor will provide a significant proportion of the target for new homes that the London Plan requires Haringey to deliver.
- Development of Northumberland Park and the northern area of Tottenham High Road Corridor will provide a improvements to public transport, including improvements to the overground rail station at White Hart Lane, serving the community and improving links to and from the surrounding area.
- New employment opportunities will be created through the increased yield of industrial land.
- New areas of open space are to be created as part of the development of the Tottenham Hotspur football ground.
- Previously vacant brownfield sites are being developed into high quality mixed housing, creating new communities.
- Improvements to access by opening up and creating new walk ways and cycle ways, linking in with the London cycle network.

11.3 Test b) requires that the development be on previously developed land. The area is made up of a number of brownfield sites – including small scale commercial units. Accordingly it is considered that test b) is passed.

Within the Northumberland Park and the northern area of Tottenham High Road Corridor, each individual development proposal within Zone 2 is required to carry out a full Flood Risk Assessment, submitted with the planning application, which must demonstrate that the development will be safe, without increasing flood risk elsewhere, and wherever possible reduce flood risk overall.

The Council will, in full consultation with the Environment Agency, assess the applications against these criteria in order to fulfil the requirements of Test c).

12.0 Conclusion

12.1 Haringey considers that the proposed development at Northumberland Park and the northern area of Tottenham High Road Corridor passes the Sequential Test and parts a) and b) of the Exception Test. Application for development will need to demonstrate that Part c) can be fulfilled.

Appendix 1

13.0 Further Detail on Feasibility of Development in Flood Zones within Haringey

13.1 Zone 3 Site Within Haringey Tottenham Hale Growth Area

13.2 3a Uses limited to Essential Infrastructure (exception test required) and/or Water Compatible uses, Less Vulnerable uses and More Vulnerable uses (exception test required).

13.3b Uses limited to Water Compatible uses and Less Vulnerable uses (exception test required).

13.4 Feasibility Summary

Key Development Site within Tottenham Hale Growth Area	Proposed use and Units Nos in Housing Trajectory	Description of site Topography	Flood Zone	Feasibility Comments
Hale Wharf	Mixed Use including residential (Housing is more vulnerable use)	With levels of approximately 10.2m at entrance to site, dropping to 8.8m AOD. Site is an island site with the River Lee and the River Lee flood alleviation channel as boundaries. There is only one access point on Forest Road.	Zone 2, surrounded by Zone 3	Site surrounded by River Lee and River Lee Flood Channel. Access to site also in Zone 3, as More Vulnerable Use proposed, exception test required. Site Clarification as to whether 3a and/or 3b required prior to Flood Assessment.

13.5 Zone 2 Sites Within Haringey Tottenham Hale Growth Area

13.6 Feasibility Summary

Key Development Sites within Tottenham Hale Growth Area	Proposed use and Units Nos in Housing Trajectory	Description of site Topography	Flood Zone	Feasibility Comments
Hale Village (former GLS site)	Mixed use including 1210 residential (Housing is more vulnerable use)	With original levels of approximately 8.6m AOD, now being landscaped and re-levelled as	Zone 2	Outline planning Application granted 2007, detailed permission granted and phase 1 completed (student accommodation). Construction of rest of residential and commercial underway. FRA submitted.

Key Development Sites within Tottenham Hale Growth Area	Proposed use and Units Nos in Housing Trajectory	Description of site Topography	Flood Zone	Feasibility Comments
		part of mixed use development.		Site no longer available for development.
Ashley Road Area Station Interchange	Improvements to rail interchange.	With levels of approximately 8.5 m AOD	Zone 2	Essential Infrastructure appropriate for this location. Flood Risk Assessment required.
Tottenham Hale Retail Park	Potential housing site, 200 units (Housing is more vulnerable use)	With levels of approximately 8.9 m AOD	Zone 2	Existing use of retail defined as less vulnerable, appropriate for this location. A change of use to 200 housing units requires sequential test. Alternative locations within Haringey of similar size or larger. 6 alternative sites of a size to fit 200 or more units have been identified. These are: Haringey Heartlands (not available) St Anne's hospital Land at Lawrence Road Lawrence Road (Phase 2) Haringey Civic Centre site or Leaside Bus Depot.
Welbourne Area	Potential housing site, 20 (Housing is more vulnerable use)	With levels of approximately 8.2 m AOD, rising to the western side of the site.	Zone 2	Eastern half of site only is in Flood Zone 2. Western side is in Flood Zone 1. Mitigation and safe exit from site is feasible.
Ashley Road - phase 1 Ashley Road - phase 2	1600 Homes (Split between sites, housing is more vulnerable use)	with levels of approximately 8.5m AOD	Zone 2	Site availability linked with move of Haringey depot to Marsh Lane. If site becomes available for redevelopment then housing proposed. No identified sites or available within the borough found to be of a large enough size to move development off these sites into Flood Zone 1.

13.7 Potential Housing Sites Located entirely in Zones 1

Identified sites	Ward(s)		Capacity	Status
Growth Areas				
Haringey Heartlands	Noel Park	1	1100	<p>Site Specific Proposal in Haringey UDP - application submitted. Total number of housing units to be agreed (currently range of 900 - 1100)</p> <p>Although having the canalised New River running through and being adjacent to the Moselle Brook, the area is not identified as being in Flood Risk Zones 2 or 3. The condition of the culvert close to this location for the Moselle has been described by the EA as POOR.</p> <p>Ground water abstraction boreholes are located within this site.</p> <p>There are no pressing planning constraints placed on this site by PPS25, however, it is essential that sustainable drainage techniques are stipulated as a development control recommendation to reduce the runoff from the site (thereby not exacerbating existing localised drainage problems nearby).</p>
Haringey Heartlands (Area north of core Eastern utilities land)	Noel Park	1	350	Potential Housing Site - forms part of the overall Heartlands Framework