

8 Core Policies - Environmental Improvement

8.1 Managing Hillingdon's natural environment and improving local air quality especially in areas currently above both national and European limits is one of the main challenges for this Hillingdon Local Plan: Part 1- Strategic Policies. Hillingdon has a considerable network of green spaces as well as rivers and canals. These natural environments are essential to the diversity of the borough as well as promoting a healthy way of life and helping to mitigate the effects of climate change.

8.2 Hillingdon's population is expected to grow over the life of this Hillingdon Local Plan: Part 1- Strategic Policies, and there will be increasing pressure on the natural environment to accommodate growth, and to manage the increasing human impacts.

8.3 Hillingdon's natural environment is highly important to the attractiveness and performance of the Borough and its protection and enhancement is an essential element of the Hillingdon Local Plan: Part 1- Strategic Policies. This chapter sets out the way that Hillingdon will protect and enhance the environment over the period of the Hillingdon Local Plan: Part 1- Strategic Policies. The Environmental Improvement chapter is organised into five parts:

1. Climate change adaptation and mitigation;
2. Open spaces, rivers and canal corridors;
3. Biodiversity and geological conservation;
4. Land, water, air and noise; and
5. Minerals and waste management.

Climate Change Adaptation and Mitigation

Strategic Objectives

- SO8: Protect and enhance biodiversity to support the necessary changes to adapt to climate change. Where possible, encourage the development of wildlife corridors.
- SO10: Improve and protect air and water quality, reduce adverse impacts from noise including the safeguarding of quiet areas and reduce the impacts of contaminated land.
- SO11: Address the impacts of climate change and minimise emissions of carbon and local air quality pollutants from new development and transport.
- SO12: Reduce the reliance on the use of the car by promoting safe and sustainable forms of transport, such as improved walking and cycling routes and encouraging travel plans.

Related policies: EM1, EM7, EM8, BE1, T1

8.4 Climate change is a global problem that requires local action as well as national. The Climate Change supplement to PPS1 acknowledges that the UK is likely to see more extreme weather events, including hotter and drier summers, flooding and rising sea-levels. The 2006 Stern Review assessed the impacts of climate change on the UK population and concluded that there will be profound and rising costs for global and national prosperity as well as severe effects on people's health and the natural environment. Responding to this challenge, the Government has set a legally binding target of reducing CO2 emissions by 80% by 2050 with the Mayor of London setting a regional target of 60% for London by 2025 ⁽³⁸⁾.

8.5 However, reducing emissions is only part of the climate change challenge and we also have to ensure that we can adapt to the changing climate. The more extreme changes in weather pattern could lead to water shortages and conversely, an increased risk of flooding and hotter summers will require greater consideration of urban heat islands and the need for cooling in new development. In addition, the natural environment will come under threat from the changing climate as well as from increasing development pressures.

Main Challenges

8.6 Table 3.1 in Chapter 3 identifies six main challenges relating to climate change adaptation and mitigation:

- Pressure to balance the demands of growth and the impacts of flood risk with minimal harm on the environment.
- The need to maintain and improve the current water resources and quality.
- The need to control, reduce and mitigate noise, especially around Heathrow and the major road network.
- The need to mitigate air quality impacts especially around the strategic road network and Heathrow Airport, in order to work towards achievement of both national and European Union standards at relevant locations and improve the local air quality for communities.
- National and EU requirements to meet Climate Change and Carbon Dioxide emission targets.
- Threats to the biological and geological interests of the borough from development pressures and climate change.

8.7 The Borough is committed to ensuring that new development will address the climate change challenge. However, this challenge should not be seen as a radical change in an approach with new demands being placed on developers, instead it should be viewed as an opportunity to help deliver against a number of Borough wide aspirations. Responding to the challenge should result in a higher quality development for the Borough that as well as mitigating and adapting to climate change has the added benefit of:

- Reducing annual energy consumption and costs for existing and future generations.
- Reducing the pressures on water resources.
- Providing a greater interaction between built and natural environment and making more space for wildlife.
- Promoting a healthier way of life.

38 London Plan (2011), Greater London Authority

- Improving local air quality.
- Exploiting the opportunities from the 'green economy' and associated employment prospects.
- Helping development to be ready for future changes now, and not locking in the need for future generations to alter buildings to address climate change.

8.8 Many of the buildings that will be in use at the end of the plan period and beyond are already built. The Local Plan will be able to set standards for new development that are far more advanced than have been seen in recent years, but a more innovative approach is required to ensure the existing building stock can be upgraded.

8.9 Energy prices in the UK are forecasted to continue to rise making newer more energy efficient buildings more appealing. However, this will result in a gulf in building quality from modern build to those still in use from the past century. The Council will need to work with developers to identify opportunities to help upgrade the existing building stock. In some instances, it might be more appropriate to relax standards to the minimum required for building regulations for new development in order for developers to contribute to upgrading the existing stock. This could help reduce the energy consumption for whole communities whilst still realising a good quality of new development. There will also be a requirement to address the need to conserve the historic environment when implementing climate change mitigation and adaptation measures taking a balanced approach between the extent of the mitigation of climate change involved against the potential harm to the significance of the heritage asset or its setting.

8.10 The London Heat Mapping exercise revealed several areas within the Borough have concentrated areas of high heat demand. These areas represent opportunities to deliver district heating networks that can provide an efficient form of delivering the heating demands of large areas. Heating networks are developed around a central location that produces heat, either directly through gas fired heat and power, or from waste heat from large scale power stations. These networks can provide a resource efficient method of supplying heat to residential and commercial units. This saves energy, money and importantly helps to reduce carbon emissions. The PPS1 Climate Change Supplement consultation includes requirements for Councils to investigate potential for district heating networks. The Borough intends to complete a heat mapping exercise similar to the London wide approach. Developers will be required to follow the policies that emerge from the exercise and these will be laid out in the development management document.

8.11 Climate change is a very broad subject and cannot be tackled by an isolated policy issue. For example, a policy on reducing the reliance on private car use is included within the transport section (see Policies T1, T2, T3 and T4), and matters for sustainable design are included within the built environment section (see Policy BE1). Climate change is not a separate topic that needs addressing but is integrated within the Hillingdon Local Plan: Part 1- Strategic Policies framework. Policy EM1 below includes criteria that need to be considered throughout the development of the Local Plan. The subsequent Hillingdon Local Plan: Part 2 -Site Specific Allocations LDD and Development Management Policies LDD along with any future SPD's must accord with the overarching principles of this policy.

Policy EM1: Climate Change Adaptation and Mitigation

The Council will ensure that climate change mitigation is addressed at every stage of the development process by:

1. Prioritising higher density development in urban and town centres that are well served by sustainable forms of transport.
2. Promoting a modal shift away from private car use and requiring new development to include innovative initiatives to reduce car dependency.
3. Ensuring development meets the highest possible design standards whilst still retaining competitiveness within the market.
4. Working with developers of major schemes to identify the opportunities to help provide efficiency initiatives that can benefit the existing building stock.
5. Promoting the use of decentralised energy within large scale development whilst improving local air quality levels.
6. Targeting areas with high carbon emissions for additional reductions through low carbon strategies. These strategies will also have an objective to minimise other pollutants that impact on local air quality. Targeting areas of poor air quality for additional emissions reductions.
7. Encouraging sustainable techniques to land remediation to reduce the need to transport waste to landfill. In particular developers should consider bioremediation⁽³⁹⁾ as part of their proposals.
8. Encouraging the installation of renewable energy for all new development in meeting the carbon reduction targets savings set out in the London Plan. Identify opportunities for new sources of electricity generation including anaerobic digestion, hydroelectricity and a greater use of waste as a resource.
9. Promoting new development to contribute to the upgrading of existing housing stock where appropriate.

The Borough will ensure that climate change adaptation is addressed at every stage of the development process by:

10. Locating and designing development to minimise the probability and impacts of flooding.
11. Requiring major development proposals to consider the whole water cycle impact which includes flood risk management, foul and surface water drainage and water consumption.
12. Giving preference to development of previously developed land to avoid the loss of further green areas.

39 Bioremediation can be defined as any process that uses microorganisms or their enzymes to return the environment altered by contaminants to its original condition. Source: http://www.bionewsonline.com/w/what_is_bioremediation.htm

13. Promoting the use of living walls and roofs, alongside sustainable forms of drainage to manage surface water run-off and increase the amount of carbon sinks⁽⁴⁰⁾.
14. Promoting the inclusion of passive design⁽⁴¹⁾ measures to reduce the impacts of urban heat effects.

Implementation of Policy EM1- how we will achieve this

- The Council will implement policy EM1 through the topic policies in the Hillingdon Local Plan: Part 1- Strategic Policies.
- The above criteria are essential to ensure that this Hillingdon Local Plan: Part 1- Strategic Policies and future Local Plan plans and programmes can help the Borough respond positively to climate change. The implementation of the criteria is embedded within most of the Hillingdon Local Plan: Part 1- Strategic Policies.
- In addition to the above, there will be a requirement to include the criteria in the development of the Hillingdon Local Plan: Part 2- Heathrow Area Policies Local Development Document. This will ensure that this highly important growth area is fully considerate of the environmental challenges alongside the social and economic matters.
- All the above criteria will be fed into the preparation of the Hillingdon Local Plan: Part 2- Development Management Policies Local Development Document (LDD). This LDD will provide further details which development proposals must follow.
- A separate Heat Mapping Exercise will be undertaken by the Council in accordance with the London Plan requirements. This will build on the work in the London Heat Mapping exercise which has revealed possible opportunities for district heat networking to provide a more efficient approach to community heating needs. Policies in the Hillingdon Local Plan: Part 2- Development Management Policies LDD will require developers to investigate and link into identified networks.

Flexibility

Figures for reducing CO2 emissions in Hillingdon take account of national targets and regional targets in the London Plan (2011).

- 40 A carbon sink is a natural or man-made reservoir that accumulates and stores some carbon-containing chemical compound for an indefinite period. The natural environment works as a carbon sink absorbing Carbon Dioxide and generating oxygen.
- 41 Passive design is about ensuring that the fabric of the building and the spaces within it respond effectively to local climate and site conditions in order to maximise comfort for the occupants. Source: <http://www.level.org.nz/passive-design/>

Monitoring of Policy EM1- how we will measure success

Monitoring of the policy EM1 will be through the Annual Monitoring Report with specific links to:

- **E1 (Core) Indicator:** Number of planning permissions granted contrary to the advice of the Environment Agency on either flood defence grounds or water quality. **Target:** No planning permission will be granted contrary to the advice of the Environment Agency on either flood defence grounds or water quality (or any other targets set by Government).
- **E2 (Core) Indicator:** Change in areas of biodiversity importance. **Target:** i) Preserve the area of wildlife habitats; and ii) Minimise loss of designated areas to development (or any other targets set by Government).
- **E3 (Core) Indicator:** Renewable energy generation. **Target:** 20% of energy needs from renewable sources for larger applications (or any other targets set by Government).
- **LO16 (Local) Indicator:** The average standard assessment procedure (SAP) rating of local authority owned dwellings. **Target:** BV63 Increase energy efficiency of local authority owned dwellings. Target for 2006/07 was 71.5. Targets for, 2007/08, 2008/09 and 2009/10 are 67.5, 68 and 68.5 respectively.
- **LO17 (Local) Indicator:** Annual average concentrations of nitrogen dioxide (NO₂) in specific parts of the Borough. **Target:** 40 µg/m³.

Open Spaces, Rivers and Canal Corridors**Strategic Objectives**

SO3: Improve the quality of, and accessibility to, the heritage value of the borough's open spaces, including rivers and canals as areas for sports, recreation, visual interest, biodiversity, education, health and well being. In addition, address open space needs by providing new spaces identified in Hillingdon's Open Space Strategy.

SO9: Promote healthier and more active lifestyles through the provision of access to a range of sport, recreation, health and leisure facilities.

Related policies: EM2, EM3, EM4, EM5

8.12 Open spaces, including its network of green spaces, woodlands, river and canal corridors are among the borough's most valuable assets and a fundamental part to the borough's character that is appreciated by residents and visitors alike.

8.13 The borough is characterised by an extensive network of open spaces, from the large expanse of Green Belt land, countryside and woodlands in the north, Colne Valley Regional Park stretching north to south along the western edge of the borough, and a network of Metropolitan Open Land, Green Chains, smaller parks and open spaces, playing fields both public and private, river and canal corridors in between.

8.14 Green Belt, Metropolitan Open Land and Green Chains have an important role to play as part of Hillingdon's multi-functional green infrastructure and are a strategic feature of the borough.

8.15 The river and canal corridors and associated hinterlands (also known as the Blue Ribbon Network) link across borough boundaries and also have a strategic function in west London. The Grand Union Canal originated as an arterial freight route that carried materials between sites from London and links all the way to Birmingham. It is therefore a very important link between boroughs and provides much wider opportunities for walking, angling and cycling.

8.16 Other types of open spaces are also important in the context of a suburban and densely built-up area, such as roof terraces, front and back gardens including trees, wildlife gardens, allotments and amenity areas around housing estates.

8.17 Hillingdon's open spaces, rivers and canals play an important role in helping to tackle climate change. The natural environment works as a carbon sink absorbing Carbon Dioxide and generating oxygen. Climate change is a major global challenge and loss of carbon sinks, particularly on a large scale, is detrimental to tackling this problem. In addition, the green and blue networks of open space, rivers and canals, are integral to the delivery of sustainable development. They also promote a healthy way of life, encourage social cohesion, and provide an attractive alternative environment to an urban setting. The Grand Union Canal also promotes education and sustainable transport.

8.18 For the purpose of the Hillingdon Local Plan: Part 1- Strategic Policies, the network of open space is organised into three categories:

1. Green Belt, Metropolitan Open Land and Green Chains;
2. Blue ribbon network and
3. Open spaces, sport and leisure.

Green Belt, Metropolitan Open Land and Green Chains

8.19 Green Belt: The Borough has 4,970 hectares of Green Belt ⁽⁴²⁾. In physical and perceptual terms the borough is the western edge and gateway to London. The Green Belt extends westwards from the Colne Valley and covers much of the northern third of the Borough with large tracts through Stockley Park and through Harmondsworth and Harlington to the north of Heathrow Airport.

42 Strategic Environmental Assessment Environmental Report May 2005 (Amendments made – 20 April 2006)

8.20 The most important attribute of green belts is their openness. The main purpose of Hillingdon's Green Belt is to keep land open and free from development, to maintain the character and identity of individual settlements and to make a clear distinction between rural and urban environments, in support of strategic objective SO3. The Hillingdon Local Plan: Part 1- Strategic Policies aims to create sustainable communities by concentrating new development in urban areas and local town centres. The Green Belt's role is to help reinforce this strategy by strictly controlling development in the open countryside.

8.21 Metropolitan Open Land (MOL): The borough contains 10 areas designated as Metropolitan Open Land. This designation is given to areas of open land that have a London-wide significance and that are considered to perform the following three functions: providing a clear break in the urban fabric and contributing to the green character of London; including open air facilities serving the leisure, recreational, sports, arts and cultural needs of Londoners outside their local area; and containing a feature or landscape of historic, recreational or biodiversity value of national or regional significance.

8.22 Green Chains: Hillingdon is fortunate to have a diversity of habitats, linked by natural and man made corridors that enable flora and fauna to migrate into the centre of London. The green links between sites, both for recreation and wildlife, include public footpaths, bridleways, canals, rivers, streams and tree lined streets and road verges, all of which contribute to the green network within the Borough.

8.23 Green Belt, Metropolitan Open Land and Green Chains are included on Map 8.1.

8.24 The Green Belt Study (2006) is being reviewed and recommendations for minor adjustments to address boundary anomalies to the Green Belt, Metropolitan Open Land and Green Chains. The Council does not consider that major adjustments to Green Belt boundaries are necessary to accommodate growth over the period covered by the Hillingdon Local Plan: Part 1- Strategic Policies. However, minor adjustments to the boundary will be undertaken in the Hillingdon Local Plan: Part 2- Site Specific Allocations LDD with more detailed policies in the Development Management Policies LDD. In addition, the revised Green Belt Study will identify areas that no longer serve Green Belt purposes. Where appropriate these areas will also be brought forward in the Hillingdon Local Plan: Part 2- Site Specific Allocations Local Development Document.

Main Challenges

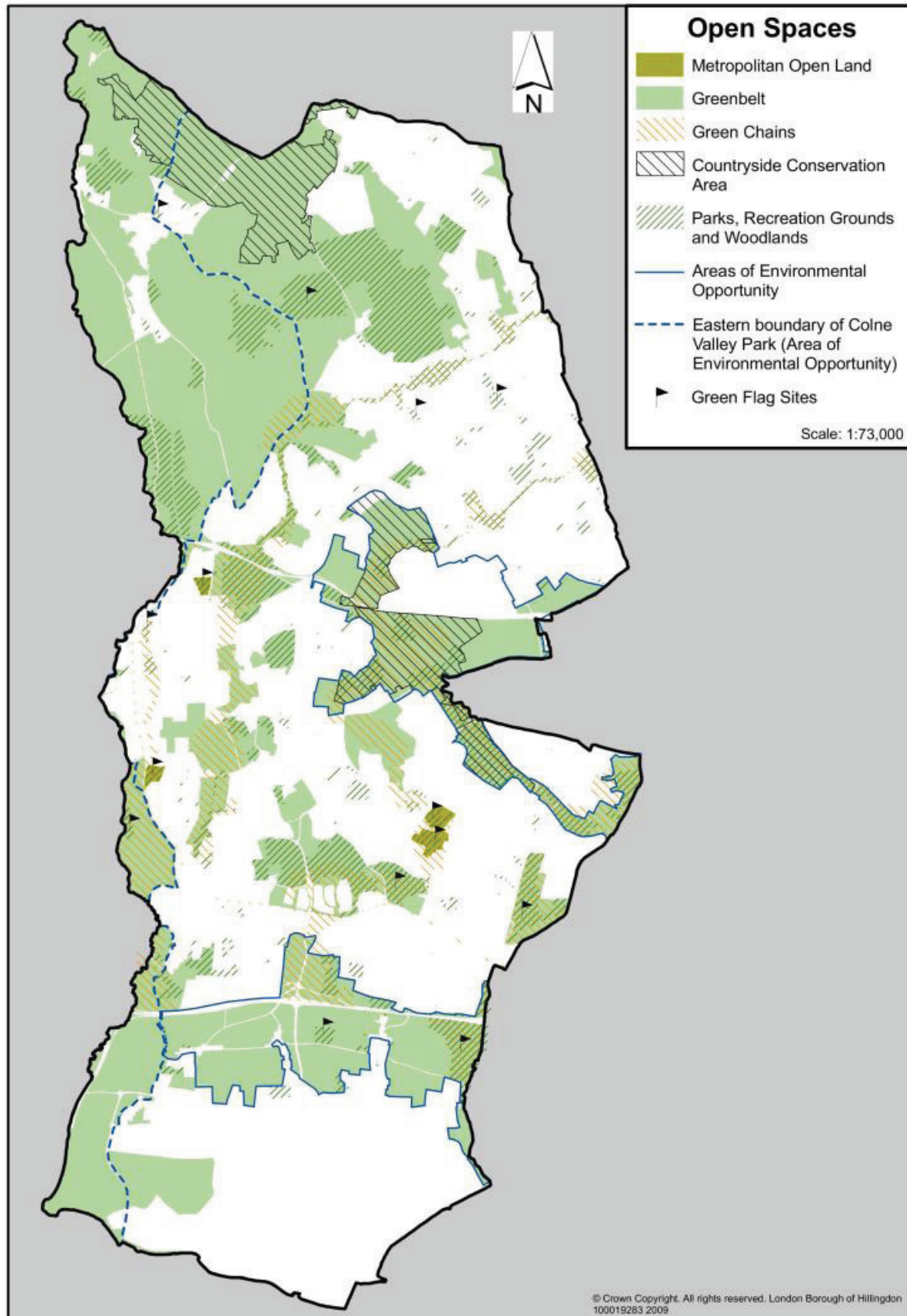
8.25 Table 3.1 in Chapter 3 identifies one main challenge relating to Green Belt, Metropolitan Open Land and Green Chains:

- Pressure on the retention of Green Belt, Metropolitan Open Land and Green Chains for other uses

8.26 The largest Green Belt in the United Kingdom is around London ⁽⁴³⁾. As Hillingdon is the western wedge of London, and experiences significant development pressures, it is committed to protect the character of these open areas from urban sprawl.

43 Source: <http://www.21stcenturychallenges.org/60-seconds/the-green-belt/>

Map 8.1 Open Spaces



8.27 The main challenge is to protect the borough's Green Belt, Metropolitan Open Land and Green Chains, whilst supporting the balance of continued growth without spreading into these open areas, keeping land permanently open and free from development. In very special circumstances and subject to the tests set out in the National Planning Policy Framework, the Council will consider the release of Green Belt sites for schools, where demand for new forms of entry cannot be met by the expansion of existing schools or new development on suitable brownfield land. The London Plan (2011) encourages farming and land based sectors in the Green Belt to allow enough land for food production. A policy on food production will be addressed in the Hillingdon Local Plan: Part 2- Development Management Policies LDD. The Council will also consider whether to bring forward specific policies regarding major developed sites in the Green Belt in the light of national planning policy statements when it produces the Hillingdon Local Plan: Part 2 - Development Management Policies LDD.

Policy EM2: Green Belt, Metropolitan Open Land and Green Chains

The Council will seek to maintain the current extent, hierarchy and strategic functions of the Green Belt, Metropolitan Open Land and Green Chains. Notwithstanding this, Green chains will be reviewed for designation as Metropolitan Open Land in the Hillingdon Local Plan: Part 2- Site Specific Allocations LDD and in accordance with the London Plan policies.

Minor adjustments to Green Belt and Metropolitan Open Land will be undertaken in the Hillingdon Local Plan: Part 2- Site Specific Allocations LDD.

Any proposals for development in Green Belt and Metropolitan Open Land will be assessed against national and London Plan policies, including the very special circumstances test.

Any proposals for development in Green Chains will be firmly resisted unless they maintain the positive contribution of the Green Chain in providing a visual and physical break in the built-up area; conserve and enhance the visual amenity and nature conservation value of the landscape; encourage appropriate public access and recreational facilities where they are compatible with the conservation value of the area, and retain the openness of the green chain.

Implementation of Policy EM2- how we will achieve this

The Council will implement Policy EM2:

- Through the development management process, in accordance with national policy for Green Belts and Metropolitan Open Land. Anomalies in local boundaries will be rectified through Local Development Documents in accordance with the National Planning Policy Framework (NPPF).
- Green Chains will be reviewed for designation as Metropolitan Open Land and designated through Local Development Documents as appropriate, in accordance with the London Plan policies.

Monitoring of Policy EM2- how we will measure success

- Number of planning applications refused on Green Belt, Metropolitan Open Land or Green Chains grounds.
- Number of appropriate developments approved on Green Belt and Metropolitan Open Land.
- Net change in hectares of Green Belt, Metropolitan Open Land or Green Chains lost to development.

Blue Ribbon Network

8.28 The waterways of Hillingdon and the associated hinterlands form an important green infrastructure feature and flood mitigation zone within the borough. Hillingdon has seven rivers and about 20 kms of the Grand Union Canal including the Main Line, Paddington and Slough Arms. The main rivers, the Canals along with the tributaries and smaller streams all form the Blue Ribbon Network.

8.29 Rivers, streams, canals, lakes and their banks, provide habitat for a wide range of flora and fauna. They are often significant in the context of settings and provide a sense of tranquillity. They also have the benefit of being a good source of education from a historic and wildlife perspective as well as providing the opportunity for transport and water based leisure and recreation.

8.30 The aim of the Hillingdon Local Plan: Part 1- Strategic Policies is to promote the river and canal corridors as a key part of Hillingdon's strategic green infrastructure network. The network will link and connect smaller, more local open spaces with larger and more strategic ones, including the Colne Valley Regional Park and key nationally and locally important habitats.

8.31 For the purpose of the Hillingdon Local Plan: Part 1- Strategic Policies, Hillingdon's waterways consist of six strategic river and canal corridors. They can be given a hierarchy of importance as follows:

- Regional importance - The Grand Union Canal Corridor crosses several local authority boundaries and includes many multi-functional sites
- Sub regional importance - The River Colne Corridor crosses more than 2 local authority boundaries and includes a significant number of multi-functional sites
- District importance - The River Pinn Corridor, Yeading Brook Corridor and the River Crane Corridor. These three corridors are mostly contained within Hillingdon but have potential connections with other local authority areas and contain a number of multi-functional sites with the potential for further additions.
- Local Importance – Tributaries and smaller watercourses that provide a distinct role in a local setting.

Main Challenges

8.32 Table 3.1 in Chapter 3 identifies three main challenges relating to rivers and canal corridors:

- The need to improve the quality of and access to open spaces, rivers and canals for all groups of people in the community;
- Pressure to balance the demands of growth and the impacts of flood risk with minimal harm on the blue ribbon environment;
- The need to maintain and improve the current water resources and quality.

8.33 Consideration must also be given to the impact of development on flood risk both within and downstream of the plan area (see Policy EM6).

8.34 The Blue Ribbon Network also plays important roles in transport, recreation and education. It can provide a much needed respite from the built-up nature of the towns, and also provides important linear walking and cycling routes. They are also important for providing habitat and wildlife corridors and fulfil other environmental functions such as drainage.

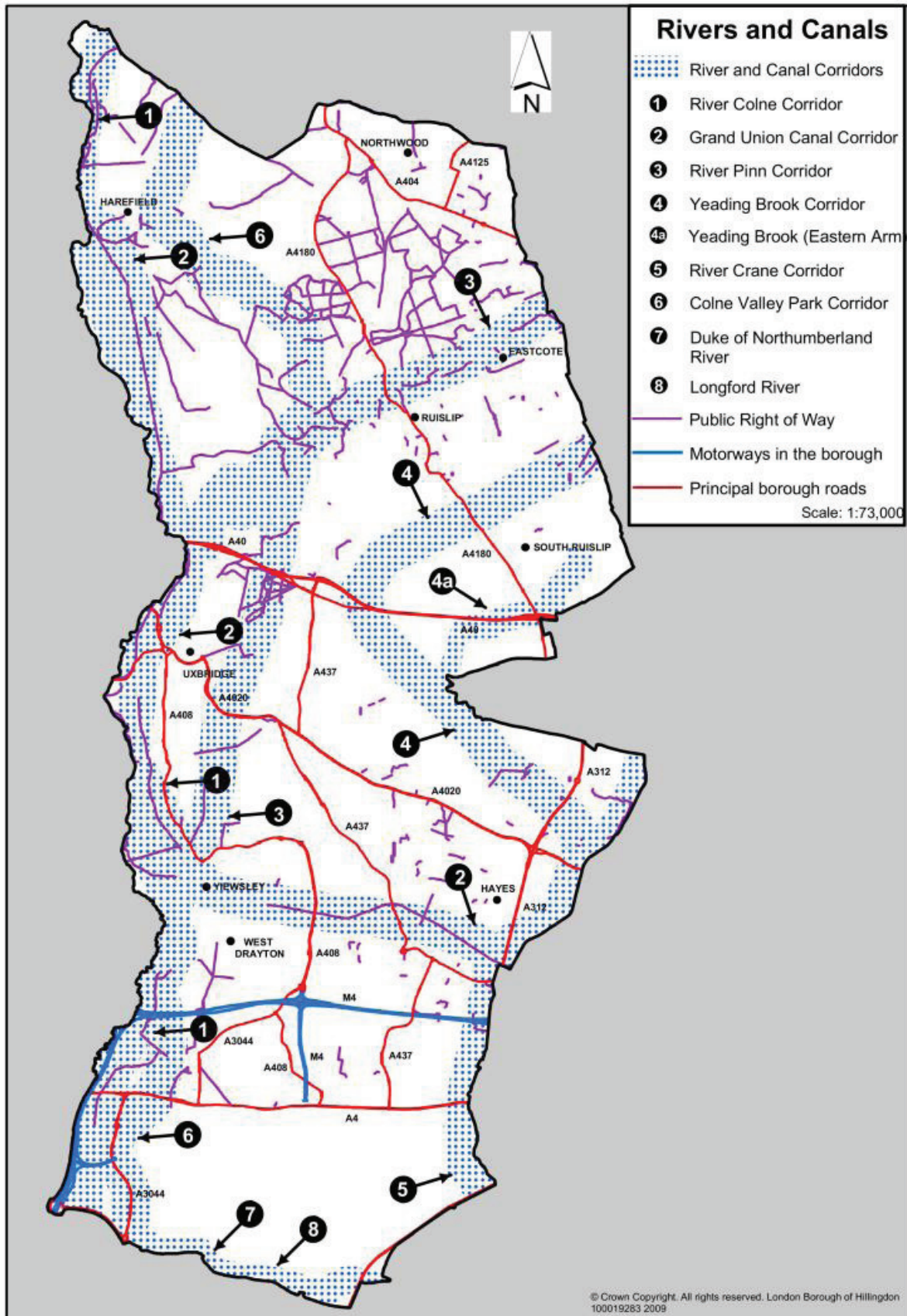
8.35 It is recognised that there are conflicts between the different roles and uses of the Blue Ribbon Network. For example, there may be instances where the provision of greater access and more activity would conflict with the aim to safeguard flood mitigation, ecological value or water quality. Development proposals adjacent to these routes would need to take account of these issues.

8.36 The multi-functional nature of strategic river and canal corridors means that a number of local plan policies can support its implementation (e.g. landscape policy, flood risk policy, open space policy, sport and leisure policy and sustainable transport policy). This overarching Policy EM3 will ensure these corridors are prioritised in planning decisions, and features are identified on Map 8.2.

8.37 There are also opportunities to enhance the water quality and environmental performance of the river and canal corridors. The Environment Agency have published the Thames River Basin Management Plan which covers the pressures facing all water bodies within London and the actions that will address them.

8.38 Waterfront development remains a popular interest for developers. The Council is keen to ensure the river or canal benefits from any proposed development. The Council will therefore set criteria within the subsequent Hillingdon Local Plan: Part 2- Development Management Policies LDD to require developers to make a positive contribution to the river or canal.

Map 8.2 River and Canal Corridors



Policy EM3: Blue Ribbon Network

The Council will continue to promote and contribute to the positive enhancement of the strategic river and canal corridors and the associated wildlife and habitats through the Biodiversity Action Plan and the Thames River Basin Management Plan, and developer contributions where appropriate.

The Council will work with the Environment Agency and other interested bodies to continue to enhance the local character, visual amenity, ecology, transportation, leisure opportunities and sustainable access to rivers and canals.

The Council will collaborate with adjacent local authorities to ensure that Hillingdon's river and canal corridors complement and link with cross boundary corridors.

Implementation of Policy EM3- how we will achieve this

The Council will implement Policy EM3 by:

- Working with the Environment Agency, British Waterways, Natural England, English Heritage and other partners to develop a strategy for the Grand Union Canal and other blue ribbon networks where they are not currently in place.
- Working with partners to achieve environmental and habitat improvements in the Colne Valley Regional Park.
- Work with community partnership groups and Canal and River Trust (formerly British Waterways) to improve facilities and enhance nature along the Grand Union Canal.
- Conserving and enhancing biodiversity, paying particular regard to priority species and habitats identified in Hillingdon's Biodiversity Action Plan.
- Improving access to and the quality of Hillingdon's river and canal corridors, thereby providing a healthier lifestyle accessible to all.

Monitoring of Policy EM3- how we will measure success

- Monitoring of the above Policy EM3 will be through the Annual Monitoring Report with a specific link to:
 - E2 (Core) Change in areas of biodiversity importance - i) Preserve the area of wildlife habitats; and ii) Minimise loss of designated areas to development (or any other targets set by Government).
- NI 189 - Flood risk management indicator.
- Number of new and improved access points to the river and canal network.
- Promote biodiversity benchmarking.

Open Spaces, Sport and Leisure

8.39 As Hillingdon is one of the least densely populated of all the London boroughs, it contains large areas of public open space comprising of the following:

- Green Belt land
- Metropolitan Open Land (MOL)
- Countryside Conservation Areas
- trees and woodlands
- nature conservation
- amenity green spaces
- outdoor sports facilities
- natural and semi-natural areas
- parks and gardens
- green corridors
- blue ribbon network
- allotments

8.40 These all contribute towards an image of an outer London Borough that is relatively well endowed with open spaces, green network and biodiversity.

8.41 Public open space: For the purpose of the Hillingdon Local Plan: Part 1- Strategic Policies, public open space is defined as all open spaces of public value, including not just land, but also areas of water such as rivers and canals which offer important opportunities for sport and recreation and can also act as a visual amenity. The definition covers a broad range of types of open spaces within the borough, whether in public or private ownership and whether public access is unrestricted, limited or restricted.

8.42 Private open space: Private open space such as front and back gardens and trees, green roofs and living walls add value in terms of visual amenity and can play a significant role in reducing surface water run off rates thereby reducing the risk and effects of flooding as well as supporting biodiversity.

8.43 Trees and woodlands: Hillingdon's trees and woodlands are one of the borough's key assets. They support local ecosystems and help to tackle climate change by reducing carbon dioxide levels and providing shade in the hotter summers. They are a key component to the character of Hillingdon's neighbourhoods and are a significant contributor to helping to define a sense of place for many communities. It is for these reasons that Hillingdon has over 600 Tree Preservation Orders and has nationally protected woodlands.

8.44 The Council is preparing a Tree and Landscape Strategy to identify such areas for future protection and enhancement and ensure sustainable management of tree and landscape features for the benefit of the community as a whole. All the street trees in the borough have been mapped and are part of a regular maintenance programme including replacement planting where necessary.

8.45 Informal recreation: Open space more generally, whether part of a strategic open space network or not, can serve as a vital focal point for community activities, bringing together members of communities and providing opportunities for informal recreation and social

interaction, thereby contributing to the quality of life and and wellbeing of the community. It plays a vital role in promoting healthy living and in the social development of children through play, sporting activities and interaction with others.

8.46 Public Rights of Way Network: The borough contains a Public Rights of Way Network that is approximately 112km long and encompasses both urban and rural routes. Urban paths are mainly used for convenient short cuts to schools, shops, public transport and other local amenities. Other public footpaths follow and cut through farmland, parks and open spaces, woodland, nature reserves, golf courses, river banks and canal towpaths.

Main Challenges

8.47 Table 3.1 in Chapter 3 identifies three main challenges relating to open spaces:

- The need to improve the quality of and access to open spaces, rivers and canals for all groups of people in the community
- Pressure to balance the demands of growth and the impacts of flood risk with minimal harm on the blue ribbon environment
- The need to mitigate noise and air quality impacts, especially around Heathrow and the road network

8.48 Open spaces for active recreation - Developing the potential for open spaces to provide and accommodate an expanding range of outdoor pursuits that will increase the appeal and draw of using green spaces. This will enable green spaces to have a wider draw by recognising changing and developing trends in demand for alternative opportunities in active recreation. There is opportunity for Hillingdon's green spaces to provide a unique offer in West London for both developing formal and informal opportunities to be physically active to increase use while also recognising potential conflict with the need to adequately protect the local environment.

8.49 Visual amenity: The ways in which parks, open spaces, trees and woodlands contribute to the visual amenity of Hillingdon are influenced by the amount of open space in the area and the contribution it makes to the street scene and the wider landscape. Hillingdon has over 200 open spaces that contribute towards creating a visually attractive area and providing a break in the built up townscape.

8.50 Countryside Conservation Areas: The traditional agricultural landscape is made up of small fields, hedges, copses, woods and farm ponds, all of which contribute to the visual amenity of the borough. As agricultural practises change, the elements that make up the character of such a landscape often comes under threat. There are three Countryside Conservation Areas in the borough (see Map 8.1). The Hillingdon Local Plan: Part 1- Strategic Policies will need to ensure protection of the borough's open spaces and landscape.

8.51 Quiet areas: The Borough is situated within close proximity of two motorways and one major international airport. These pressures can have a detrimental impact on the tranquillity of open space and reduce the enjoyment of those using it. The Environmental

Noise (England) Regulations 2006 ⁽⁴⁴⁾ requires quiet or 'tranquil' areas to be identified and protected from increases in environment noise. The Council will work with the Department of Environment, Food and Rural Affairs (DEFRA) to address this. In addition, consideration will be given to 'relative tranquillity' to accord with the the Mayor's London's Ambient Noise Strategy and intentions in the London Plan.

8.52 Population growth: The population is expected to increase by approximately 14% over the period of the Hillingdon Local Plan: Part 1- Strategic Policies ⁽⁴⁵⁾, which will present more pressure on open space provision. In reality, these pressures will affect some areas more than others as provision levels vary across the Borough, with the south being far more built up than the north.

8.53 According to Hillingdon's Green Space Survey (2010), 60 - 78% of Hillingdon residents are very or fairly satisfied with the borough's parks and green spaces. This is 9% higher than the London average ⁽⁴⁶⁾. The Hillingdon Local Plan: Part 1- Strategic Policies will need to ensure public satisfaction of the borough's parks and green spaces improves over the plan period.

8.54 Public Rights of Way Network: The Council has prepared a Rights of Way and Permissive Routes Improvement Plan (2009-2019), which proposes improvements to public access routes, including connecting open spaces in the borough. The improvements will be secured through Policy T1 of the transport chapter (chapter 9), the Local Implementation Plan proposals or through other funding opportunities. The Local Implementation Plan is addressed in paragraph 9.1 of chapter 9.

8.55 Areas of Environmental Opportunity: The former Greater London Development Plan identified four strategic linear features of the borough as areas for environmental opportunity:

- the Colne Valley
- the M4/Brent Wedge Corridor (the "A4/M4 Linear Park")
- the area around Heathrow, and
- the Western Avenue, A40

These are identified on Map 8.1.

8.56 A large part of the authority lies within the Colne Valley, a regional park located to the immediate west of Greater London. The Park, which was established in 1967, includes parts of Surrey, Berkshire, Buckinghamshire, Hertfordshire and the London Borough of Hillingdon. Former gravel workings are a specific characteristic of the area and this has provided a reason for the creation of recreational lakes. It also has other areas of landscape and nature conservation value, and provides countryside recreation for adjacent urban populations. An association of local authorities known as the Colne Valley Partnership

44 Source: <http://www.opsi.gov.uk/si/si2006/20062238.htm>

45 Source: Hillingdon Profile 2008

46 Source: CABI Space Urban Green Nation - <http://www.cabi.org.uk/files/urban-green-nation-summary.pdf>

co-ordinates the overall management of the Park. This is achieved primarily through a Vision and Action Plan ⁽⁴⁷⁾ agreed by the partnership. The implementation of the Plan is undertaken by a wide range of partners, with Groundwork Thames Valley playing a major role.

8.57 The Council considers that strong development pressures on Areas of Environmental Opportunity and the risk that land may be allowed to deteriorate in the hope of securing development could undermine these important strategic concepts. The protection and enhancement of these areas will be secured through policy EM4 with a more detailed policy in the Hillingdon Local Plan: Part 2- Development Management Policies LDD.

8.58 The Hillingdon Local Plan: Part 1- Strategic Policies will bring about improvements in this figure by setting out a requirement for open spaces, both old and new, to be of high quality, attractive to users, accessible, well maintained and managed as part of the wider open space network.

Open space provision

8.59 The borough's Open Space Strategy was published in 2011 to provide a qualitative and quantitative audit of publicly accessible open space and an assessment of current and future needs in the borough. The content of the Strategy will form the basis of more detailed policies and allocations in the Hillingdon Local Plan: Part 2- Development Management Policies and Site Specific Allocations documents.

8.60 The Strategy sets quantity standards to provide a guideline as to how much open space, sport and recreation provision per 1,000 people is needed to strategically serve the borough over the plan period. Standards for each type of provision are created in relation to demand, access and future population growth.

8.61 A quality standard is provided based on the audit and assessment of sites against criteria such as for green flag status.

8.62 An accessibility standard is also provided based on catchment areas and how far people should be expected to travel to visit each type of provision. The recommendations will be adopted in the Hillingdon Local Plan: Part 1- Strategic Policies with more detailed policies in the Hillingdon Local Plan: Part 2- Development Management Policies LDD.

8.63 Hillingdon has sixteen Green Flag sites. namely Barra Hall Park, Churchfield Gardens, Cowley Recreation Ground, Cranford Park, Countryside Park, Fassnidge Park, Harefield Village Green, Lake Farm Country Park, Little Britain Lake, Little Harlington Playing Fields, Minet Country Park, Norman Leddy Memorial Gardens, Ruislip Woods, Uxbridge Common, Warrender Park, Hillingdon Court Park and Yiewsley Recreation Ground. The Council reviews the status of the borough's parks annually and aspires to achieve Green flag status on all of the borough's parks over the plan period.

8.64 The London Plan (2011) sets a hierarchy of public open spaces which have been applied to the Open Space Strategy. The areas that currently have little or no access to local parks or open spaces within 400m (or 5 minutes walking time) will be identified as priority areas for the creation of new public open space.

47 Colne Valley Regional Park Action Plan 2009-2012 - <http://www.colnevalleypark.org.uk/upload/documents/document55.pdf>

8.65 The creation of new open space is to be encouraged wherever practical, although it is recognised that creation of new open spaces may be limited due to densely populated areas and financial constraints.

Policy EM4: Open Space and Informal Recreation

The Council will safeguard, enhance and extend the network of open spaces, informal recreational and environmental opportunities that operate as carbon sinks and that meet local community needs and facilitate active lifestyles by providing spaces within walking distance of homes. Provision should be made as close as possible to the community it will serve. There will be a presumption against any net loss of open space in the Borough.

The Council will identify new opportunities for open space through an open space strategy. Major developments will be expected to make appropriate contributions to the delivery of new opportunities, or to the improvement and enhancements of existing facilities.

The Council will seek to protect existing tree and landscape features and enhance open spaces with new areas of vegetation cover (including the linking of existing fragmented areas) including front and back gardens for the benefit of wildlife and a healthier lifestyle, mitigating climate change.

The Council will work with DEFRA to identify and protect open spaces that provide quiet areas and will also consider whether other areas merit protection of relative tranquillity.

The Council will work with other local authorities and agencies to pursue the key aims of the Colne Valley Park.

Implementation of Policy EM4 - how we will achieve this:

The Council will implement Policy EM4 by:

- Improving the quality of accessible open space and provision of new open space through developer contributions.
- Protecting informal recreational spaces including allotments and promoting participation in food growing opportunities.
- Protecting and improving habitats and ecosystems throughout the Borough and to areas beyond, by maintaining existing trees and native vegetation (adaptable to climate change) and open spaces and creating new areas of tree and woodland cover (including the linking of existing fragmented areas) for the benefit of wildlife and in accordance with the local Biodiversity Action Plan.
- Managing development to resist the loss of open spaces, trees and woodlands.
- Implementing Policy T4.

- Improving the Public Rights of Way network secured through the Public Rights of Way Improvement Plan and Local Implementation Plan proposals or through other funding opportunities.
- Developing a policy for Areas of Environmental Opportunity in the Hillingdon Local Plan: Part 2- Development Management Policies LDD.
- Joint working with other local authorities and agencies in the implementation of the Colne Valley Vision and Action Plan 2009-2012.
- Environmental improvement schemes undertaken or funded by the Council.

Monitoring of Policy EM4 - how we will measure success:

- Monitoring of the policy EM4 will be through the Annual Monitoring Report with a specific link to:
 - **LO18 Indicator:** Amount of open spaces with Green Flag Awards. **Target:** Increase the number of parks gaining Green Flag Status.
- Improve public satisfaction with the quality, accessibility and number of open spaces in the borough.
- Review the quality of information in the Open Space Assessment submitted with planning applications.
- Increase the area of land of new open space, including informal recreation space, in areas identified as deficient in the Open Space Strategy.
- Number of applications refused on open space grounds.
- Increase the length of the Public Rights of Way network.
- BV178 - Hillingdon's Public Rights of Way performance indicator.
- Implementation of the Colne Valley Vision and Action Plan.
- Amount of inappropriate development permitted in the Colne Valley Park.

Sport and Leisure

Strategic Objective

- SO18: Improve access to local services and facilities, including health, education, employment and training, local shopping, community, cultural, sport and leisure facilities, especially for those without a car and for those in more remote parts of the borough through well planned routes and integrated public transport.

Related policy: EM5

Main Challenges

8.66 Table 3.1 in Chapter 3 identifies three main challenges relating to sport and leisure:

- Pressure for release of green belt land, Metropolitan Open Land and Green Chains for other uses
- The need to improve the quality of and access to open spaces, rivers and canals for all groups of people in the community

8.67 Sport and physical activity give people opportunities to learn skills, to express their identities, and to share experiences. It gives them a sense of community and a stake in the places where they live, contributing to a feeling of civic pride.

8.68 As part of the assessment of playing pitch provision, this should include both grass pitches and artificial surfaces that can cater for year round participation of outdoor facilities. In addition, there is an aspiration to undertake a similar appraisal of indoor facilities, identifying opportunities to improve access through schools and other facilities including specialist facilities for specific sports that will support higher level participation to excellence standard.

8.69 Through local forums such as the Community Sport & Physical Activity Network (CSPAN), local Sports Partnership and Cricket Alliance, sports clubs have expressed the need to develop certain facilities that are particular to the development of their sport as current provision is either at capacity or not at the standard needed to fulfil local needs. This presently includes velodrome facilities to sustain talent development in cycling, indoor tennis courts and cricket facilities to complement outdoor facilities and ensure year round provision is available.

8.70 Developing the sporting and the health benefits of an active lifestyle is a priority for the Council. Sport and leisure is a high profile service area to ensure that "Hillingdon is a more active, healthy, successful sporting Borough". The Council with its very clear commitment to sport and physical activity has matched its aspiration to provide high quality sports facilities with increasing programmes of community based sports development, as well as supporting athletes to achieve their full potential as elite performers.

8.71 The Mayor of London has recently published 'A Sporting Future for London' ⁽⁴⁸⁾ that is about increasing participation in sport and physical activity to encourage more people to play sport in London in the run up to the 2012 Olympic Games. The plan, which aligns with Sport England's strategy to create sporting opportunities in every community, is designed to capitalise on the once in a lifetime opportunity for the host city to create a lasting sporting legacy.

8.72 The Council is committed to providing excellent opportunities for sport and leisure through its 'Active Hillingdon'- A Sport and Physical Activity Strategy, 2007-2012 (revised July 2009). This includes enhancing the borough's cultural offer (including sport and leisure) as well as making further improvements to sports provision, increasing the participation of residents in active recreation and using the 2012 Olympics as a springboard to encourage the uptake of healthy lifestyles. Local facilities include the new Hillingdon Sport and Leisure Complex with the first new 50m pool in London for 40 years and the Sports and Leisure Centre at Botwell Green.

8.73 Attendance at leisure facilities in the borough has shown an upward trend over the last 10 years with 802,595 in 2008/09. With the construction of Botwell Green Leisure Centre in Hayes to replace other ageing facilities in the area and new additional facilities at Hillingdon Sports & Leisure Complex, this figure is expected to continue to increase during the next few years. The Mori residents satisfaction survey in 2009/10 shows a significant increase with sports/leisure facilities. At 59%, around six in ten surveyed were satisfied which is a 14% increase on the previous survey.

8.74 The National Active People 3 Survey results (October 2008 - October 2009) show that 18.9% of the adult population took part in regular sport and active recreation which although statistically insignificant is slightly down on the previous year (20.7%). The average for London in 2008/9 was 21.2%. However, the number of people that took part in organised sport has increased from 34.6% in 2007/8 to 39.5% which is slightly above the London average of 38%.

8.75 This Hillingdon Local Plan: Part 1- Strategic Policies will meet future demand by improving access to sport and leisure facilities, encouraging more people to take part in sport and active recreation and providing new facilities to address local deficiencies.

Policy EM5: Sport and Leisure

The Council will:

- Safeguard, enhance and extend the network of sport and leisure spaces that meet local community needs and facilitate active lifestyles by providing active sport and leisure spaces within walking distance of home.
- Ensure that the overall Borough-wide target, identified in the Open Space Strategy, of active sport and leisure facilities with unrestricted access is maintained. There will be a presumption against any net loss of active sport and leisure facilities in the Borough.

48 Source: A Sporting Future for London, Greater London Authority, April 2009

- Ensure that future development includes features that designs activity into areas, providing opportunities for improved cycle ways, formal and/or informal local sports facilities, to encourage participation in a more active lifestyle.
- Adopt a flexible approach to the provision of facilities that recognises changing demographics in the population and trends in sports participation.
- Ensure that sufficient children's play space is provided to support proposals for new residential development, in accordance with national and local guidance.
- Promote Hillingdon's sport and leisure facilities to achieve more integrated public accessibility and active lifestyles.
- Identify where appropriate new opportunities for sport and leisure and measures to deliver them. Major development may be required to make contributions in order to minimise the impacts and pressures on the existing resource.

Implementation of Policy EM5 - how we will achieve this

The Council will implement Policy EM5 by:

- Identifying areas deficient of sport, recreation and leisure space, where new developments will be expected to make contributions towards new or improved facilities, or to secure public access to private facilities within the locality of the development.
- Protecting playing fields and recreational spaces and promoting opportunities for participation in outdoor sport and leisure.
- Protecting and improving habitats and ecosystems throughout the Borough and to areas beyond, by maintaining existing trees and native vegetation (adaptable to climate change) and open spaces and providing new areas of tree and woodland cover (including the linking of existing fragmented areas) for the benefit of wildlife in accordance with the local Biodiversity Action Plan.
- Managing development to resist the loss of sport and leisure facilities.

Monitoring of Policy EM5 - how we will measure success

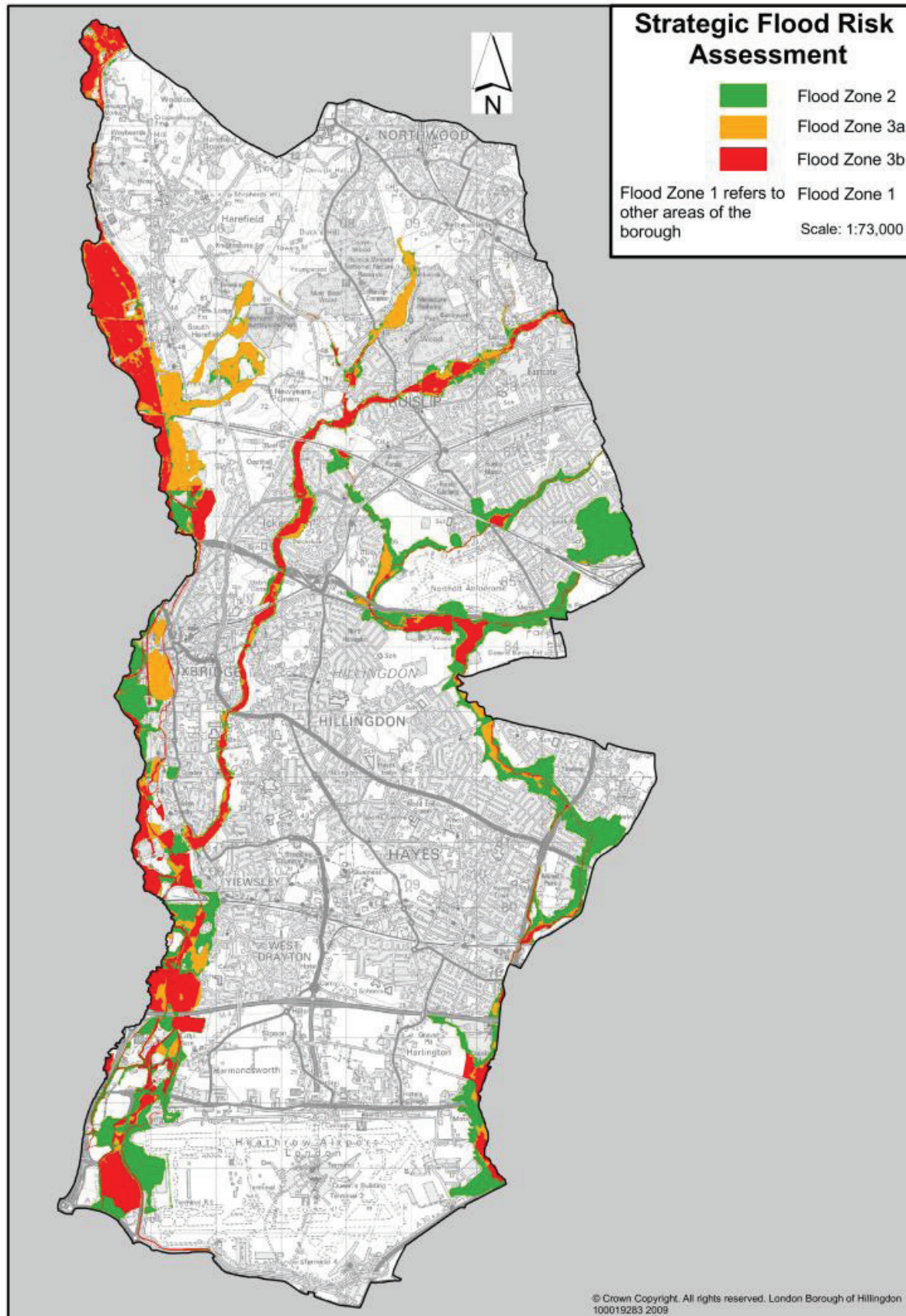
- Increase in the area of land open for sport and leisure.
- Increase in the area of new sport and leisure space, in areas identified in the Open Space Strategy as deficient.
- Review quality and accessibility of sport and leisure facilities borough-wide.
- Review the quality of sport and leisure information in the Open Space Assessment submitted with planning applications.
- Number of applications refused on play, sport or leisure grounds.
- Active People KPI 1 (NI8) - At least 3 days a week x 30 minutes moderate participation (all adults).
- Active People KPI 2 - At least 1 hour a week volunteering to support sport (all adults).
- NI6 Participation in regular volunteering.
- NI57 Participation in School PE & Sport and the take up and range of opportunities developed that contribute to the 5 hour offer.

Flood Risk Management

8.76 There are approximately 7000 properties (6%) at risk of flooding within Hillingdon⁽⁴⁹⁾. However, this is just a broad statistic; what this does not describe is the cost of flood defences, the possible impacts on businesses due to flooding, or the required responses on emergency services.

49 Source: Environment Agency Hillingdon Borough: Environment summary:
http://www.ea-transactions.net/static/documents/Research/HILLINGDON_factsheet.pdf

Map 8.3 Flood Risk Assessment



8.77 Due to the extensive network of waterways in Hillingdon, flooding is a significant consideration in local planning matters. The Council has produced a Strategic Flood Risk Assessment (SFRA)(2008)⁽⁵⁰⁾ incorporating the floodplain maps produced by the Environment Agency.

8.78 Map 8.3 illustrates Hillingdon's flood zone areas. These are separated into:

- Flood Zone 1 – Low probability of flooding
- Flood Zone 2 – Medium probability of flooding
- Flood Zone 3a – High probability of flooding
- Flood Zone 3b - Functional Floodplain

New development and Flood Risk

8.79 The Hillingdon Local Plan has a role to play in reducing future levels of flood risk. Detailed policies to address the location of new development, design and layout will be developed through the Hillingdon Local Plan: Part 2- Development Management Policies LDD.

Main Challenges

8.80 Table 3.1 in Chapter 3 identifies one main challenge relating to flood risk management:

- Pressure to balance the demands of growth and the impacts of flood risk with minimal harm on the blue ribbon environment

8.81 The key challenge is to balance the demands on growth with the impacts of flood risk. These impacts will become greater in a changing climate with more extreme weather events. In particular rainfall intensity is expected to increase resulting in a greater likelihood of flooding. Furthermore, waterfront development continues to attract developers. These types of development can provide a diverse setting, allowing access to some of the Borough's most attractive natural assets. However, it is also likely to increase the conflict between new development and increasing flood risk.

8.82 The Hillingdon Local Plan: Part 1- Strategic Policies will need to have regard to the approach of the London Plan to flooding. It will be necessary to ensure that new development takes into account the increased risks of flooding as a result of changes to the climate, and how this affects Hillingdon and to protect vulnerable areas from river flooding. When assessing development sites and allocations, flood risk should also be considered alongside other spatial planning issues such as transport, economic growth, natural resources, regeneration, biodiversity and the historic environment.

8.83 The Council will aim to avoid development in areas of flood risk in the first instance and only seek to manage the risk once it can be demonstrated that there is no alternative option.

50 Source: <http://www.hillingdon.gov.uk/index.jsp?articleid=16232>

8.84 Development proposed in flood zones 2 or 3 (medium and high probability) will need to provide evidence of the Sequential Test outlined in the NPPF. The Sequential Test will need to be applied to the subsequent Hillingdon Local Plan: Part 2 -Site Specific Allocations LDD. Development that is proposed in accordance with the Site Specific Allocations LDD and the Sequential Test will not be required to submit further evidence justifying why it is proposed in flood zone 2 or 3. Where development is not in line with the Site Specific Allocations LDD, it will need to submit clear evidence and justification that there are no other reasonably available sites in a lower risk flood zone.

8.85 All development proposals in flood zones 2, 3a and 3b (medium and high probability) should be accompanied by a Flood Risk assessment (FRA) in accordance with the NPPF. Development of over 1 hectare or identified as being within a problem surface water area should also be accompanied by a FRA. The flood risk assessment should also provide evidence of the Exception Test where appropriate as outlined in the NPPF; however, the Sequential Test should be undertaken prior to the Exception Test for all new development proposed in flood zones 2 and 3, and areas identified as having surface water management problems.

8.86 The probability of flooding can be reduced through the management of land, river systems and flood defences, and the impact reduced through influencing the type of development in flood risk areas, flood warning and emergency responses. New development should be designed and located with flood risk in mind and more space provided for water through better management of land for water storage and flood protection. The Council will oppose the increase in impermeable areas where these will have an impact on surface water run-off. The loss of urban greenspaces and gardens can contribute significantly to the reduction of attenuation areas which increases the risk of flooding. The Council will require developers to utilise permeable areas, either through natural filtration or through modern methods of pavement construction.

Surface and Foul Water Drainage

8.87 The mismanagement of surface water flooding can also result in the increased risk of flooding. Sewage and drainage systems struggle to keep pace with the rate of development. The unchecked loss of natural drainage areas through increased hardstanding puts significant pressure on drainage systems, particularly in times of heavy rain. As development progresses and/or urban areas expand these systems become inadequate for the volumes and rates of storm water they receive, resulting in increased flood risk and/or pollution of watercourses. Allied to this are the implications of climate change on rainfall intensities, leading to flashier catchment/ site responses and surcharging of piped systems.

8.88 The impacts of climate change will add to the pressure on the drainage systems and it is therefore essential that all new development is managed to minimise the problems.

8.89 The management of surface water drainage for new development comes in the form of Sustainable Urban Drainage Systems (SUDS). These seek to manage storm water as close to its source as possible, mimicking storm water flows arising from the site, prior to the proposed development. Typically this approach involves a move away from piped systems to softer engineering solutions inspired by natural drainage processes.

8.90 SUDS should be designed to take into account the surface run-off quantity, rates and also water quality ensuring their effective operation up to and including the 1 in 100 year design standard flood including an increase in peak rainfall of up to 30% to account for climate change.

8.91 SUDS come in a variety of different types, from infiltration techniques through to water harvesting. Wherever possible, a SUDS technique should seek to contribute to each of the three goals identified below with the favoured system contributing significantly to each objective. Where possible SUDS solutions for a site should seek to:

- Reduce flood risk (to the site and neighbouring areas);
- Reduce pollution; and
- Provide landscape and wildlife benefits.

8.92 Foul water flooding is also a problem that occurs where there is a lack of capacity or blockages within the receiving system. The Council will continue to work with the water authorities to identify problem drainage areas, particularly where new development could worsen the impacts.

8.93 Further surface and foul water studies will complement the existing strategic flood risk assessment and will be a material consideration in formulating planning decisions.

Policy EM6: Flood Risk Management

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 or 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.

Implementation of Policy EM6 - how we will achieve this

The Council will implement Policy EM6 by:

- Working with the Environment Agency, British Waterways, Natural England and other partners to develop a management plan for the Grand Union Canal and other blue ribbon networks where they are not currently in place.
- Developing flood risk policies including SUDS in the Hillingdon Local Plan: Part 2- Development Management Policies LDD.

Monitoring of Policy EM6 - how we will measure success

- Monitoring of Policy EM6 will be through the Annual Monitoring Report with a specific link to:
 - **E1 (Core) Indicator:** Number of planning permissions granted contrary to the advice of the Environment Agency on either flood defence grounds or water quality. **Target:** No planning permission will be granted contrary to the advice of the Environment Agency on either flood defence grounds or water quality.
- NI 189 - Flood risk management indicator.
- Number of planning permissions granted contrary to the advice of the Environment Agency.
- Number of new homes built in medium and high flood risk areas.

Biodiversity and Geological Conservation**Strategic Objectives**

SO5: Safeguard and promote areas of geological importance and make a proportionate contribution to West London's target to extract 0.5 million tonnes of minerals.

SO8: Protect and enhance biodiversity to support the necessary changes to adapt to climate change. Where possible, encourage the development of wildlife corridors.

Related policies: EM1, EM7

8.94 Biodiversity: Hillingdon is one of the most biodiverse boroughs in London. It has a rich mixture of habitats including trees and woodlands, scrubs, grasslands, wetlands, rivers, gardens and parklands, which are home to a vast range of species, both common and protected.

8.95 Hillingdon has a number of designated nature conservation sites to aid the protection of the most important areas. These are as follows:

- 6 Sites of Special Scientific Interest (SSSI) – National designation
- 1 is a Site of National Nature Reserve (NNR) (Ruislip Woods, the largest block of ancient, semi-natural woodland in Greater London)
- 4 Sites of Local Nature Reserve - Local designation
- 12 Sites of other Nature Reserves - Local designation
- 12 Sites of Metropolitan Grade Importance – London wide designation
- 15 Sites of Borough Grade 1 Importance – Hillingdon borough designation
- 25 Sites of Borough Grade II Importance – Hillingdon borough designation
- 7 Sites of Local Importance - Local designation
- 3 Sites of Countryside Conservation Area - Local designation

8.96 Geodiversity: Although there are no natural outcrops of rocks in Hillingdon, there are exposures from human activity and one site has been recognised as a Regionally Important Geological and Geomorphological Site (RIGS) - the Gravel Pits, Harefield. RIGS are selected on a regional basis using four nationally agreed criteria and are considered the most important places for geology and geomorphology outside statutorily protected land such as Sites of Special Scientific Interest.

Main Challenges

8.97 Table 3.1 in Chapter 3 identifies one main challenge relating to biodiversity and geological conservation:

- Threat to biological and geological interests of the borough from development pressures and climate change.

8.98 Hillingdon's biodiversity and geological interest is under threat from extensive economic and social activity. The biggest threat comes from the direct competition for land between wildlife habitats and the need to provide new development to deliver economic and social growth. Even if spatial policies could protect areas of wildlife importance from development pressures, there would be a residual threat from human interaction, air quality impacts and pollution. A key challenge for this Strategy is to maintain and strengthen our networks of natural habitats and green and open spaces.

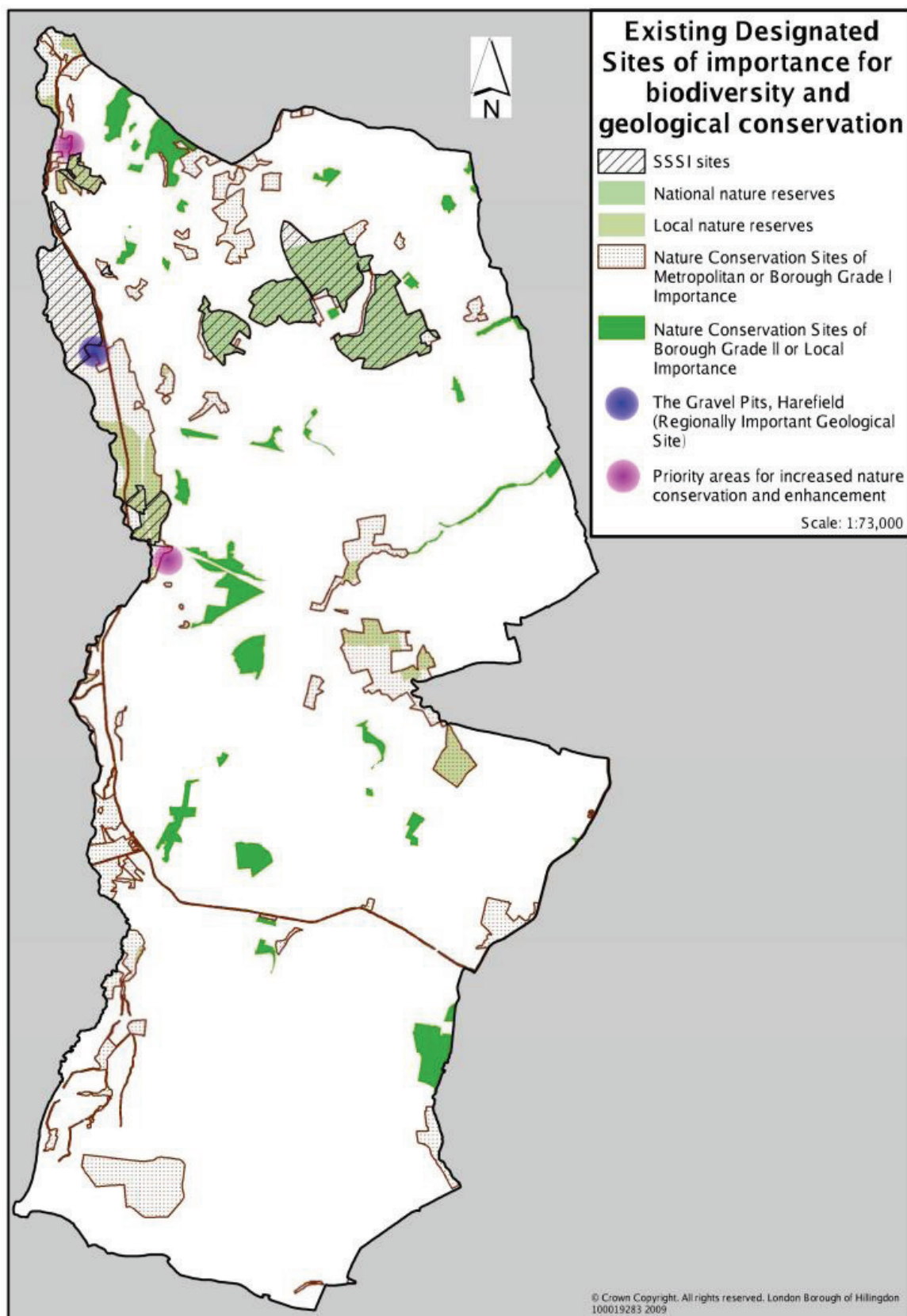
8.99 Policies in the London Plan go some way to ensure that biodiversity and geological conservation are taken into account in decision making and provide a commitment to protect important habitat, species and sites of geological interest. The Borough's NNR and SSSI's are the most important areas of nature conservation, and the Gravel Pits, the only RIGS in the borough, are generally in good condition. However, two of the SSSI's, the Fray's Farm Meadows and Harefield Pit are considered to be declining (see map 8.4)⁽⁵¹⁾.

51 Source: Environment Agency Hillingdon Borough: Environment Summary:
http://www.ea-transactions.net/static/documents/Research/HILLINGDON_factsheet.pdf

8.100 However, the areas with least important or no designations are not eligible to receive the level of protection to ensure they remain vital to the borough. Furthermore, there is no requirement to reduce the indirect effects of development, such as increased access. As a result, active management is required within nature conservation areas to maintain appropriate standards.

8.101 The Hillingdon Local Plan: Part 1- Strategic Policies will encourage greater access to some of these biodiversity and geological conservation areas, where greater pressures on them can be accommodated. The challenge is to balance continued growth, with a need to protect and more importantly enhance the conservation and geological interests of the borough.

8.102 The Hillingdon Local Plan: Part 1- Strategic Policies will also ensure that biodiversity measures will be integrated into either the boundary of a development or the fabric of a building. Living roofs and walls can provide valuable natural habitat in an urban environment and can also help with the improvement of air quality. They will also act as natural carbon sinks that will help to tackle climate change.

Map 8.4 Existing Designated Sites of Importance for Biodiversity & Geological Conservation

Policy EM7: Biodiversity and Geological Conservation

The Council will review all the Borough grade Sites of Important Nature Conservation. Deletions, amendments and new designations will be made where appropriate within the Hillingdon Local Plan: Part 2- Site Specific Allocations Local Development Document. These designations will be based on previous recommendations made in discussions with the Greater London Authority.

Hillingdon's biodiversity and geological conservation will be preserved and enhanced with particular attention given to:

1. The conservation and enhancement of the natural state of:
 - Harefield Gravel Pits
 - Colne Valley Regional Park
 - Fray's Farm Meadows
 - Harefield Pit
2. The protection and enhancement of all Sites of Importance for Nature Conservation. Sites with Metropolitan and Borough Grade 1 importance will be protected from any adverse impacts and loss. Borough Grade 2 and Sites of Local Importance will be protected from loss with harmful impacts mitigated through appropriate compensation.
3. The protection and enhancement of populations of protected species as well as priority species and habitats identified within the UK, London and the Hillingdon Biodiversity Action Plans.
4. Appropriate contributions from developers to help enhance Sites of Importance for Nature Conservation (SINCs) in close proximity to development and to deliver/ assist in the delivery of actions within the Biodiversity Action Plan.
5. The provision of biodiversity improvements from all development, where feasible.
6. The provision of green roofs and living walls which contribute to biodiversity and help tackle climate change.
7. The use of sustainable drainage systems that promote ecological connectivity and natural habitats.

Implementation of Policy EM7 - how we will achieve this

The Council will implement policy EM7 by:

- Raising the profile of the biodiversity and geological interests both locally, regionally and nationally.
- Supporting, improving and managing biodiversity interests and local geological sites through the planning process.
- Protecting and where feasible extend habitat and improve ecosystems throughout the Borough and to areas beyond, by maintaining existing trees, native vegetation (adaptable to climate change) and open space and provide new areas of such

vegetation (including the linking of existing fragmented areas) for the benefit of wildlife in accordance with the local Biodiversity Action Plan.

- Seeking and pooling contributions in accordance with the Planning Obligations Supplementary Planning Document towards the implementation of actions contained within Hillingdon's Biodiversity Action Plan.
- Working with partners, private landowners and other utility providers to achieve multi-functional use of land use that promotes and enhances biodiversity, adds to the green grid or achieves other open space outcomes, including improved accessibility.
- Working with local community groups/ partners when reviewing the Biodiversity Action Plan.

Monitoring of Policy EM7 - how we will measure success

- Monitoring of policy EM7 will be through the Annual Monitoring Report with a specific link to:
 - E2 (Core) Indicator: Change in areas of biodiversity importance including; change in areas designated for their intrinsic environmental value including sites of international, national, regional, sub-regional or local significance. Target: i) Preserve the area of wildlife habitats ii) Minimise loss of designated areas to development (or any other target set by Government).
- Number of biodiversity and geological conservation sites lost to development.
- Number of applications refused on biodiversity or geological interest grounds.
- Number of local sites actively managed.
- Number of additional nature conservation sites designated.
- Implementation of Hillingdon's Biodiversity Action Plan.

Land, Water, Air and Noise

Strategic Objectives

- SO10: Improve and protect air and water quality, reduce noise levels, reduce the impacts of contaminated land and safeguard quiet areas from noise pollution.
- SO11: Address the impacts of climate change, and minimise emissions of carbon and local air quality pollutants from new development and transport.

Related policies: EM1, EM8

8.103 Water quality: Water quality does not directly impact on human health in the same way as air quality. Nonetheless, water quality is integral to a healthy environment. Good quality water in rivers and streams feed the wider surroundings and plays a part in ensuring there is a diverse variety of wildlife within the borough.

8.104 Industrial processes and human interference have a negative impact on the quality of water. Illegal dumping, the proliferation of poor quality discharges and urban diffuse pollution all undermine the quality of water, and in turn have impacts on wildlife and the natural setting. Diffuse water pollution can arise from many sources, which may be small individually, but their collective impact can be damaging. Diffuse pollution can be caused by current and past land use in agricultural and urban environments.⁽⁵²⁾

8.105 The Grand Union Canal has good overall ecological (biological and chemical) potential in the Thames River Basin Management Plan. The River Colne, River Pinn and Yeading Brook (West and East arm) have all been classified as having moderate overall ecological (biological and chemical) potential. The River Crane has been classified as having poor overall ecological (biological and chemical) potential⁽⁵³⁾. All these water-bodies currently at moderate or poor should reach good overall ecological (biological and chemical) potential by 2027 under the Water Framework Directive. These are indicated on Map 8.5.

8.106 Groundwater provides a third of our drinking water in England and Wales, and it also maintains the flow in many of our rivers. Groundwater quality is also important in food production and agricultural processes. It is crucial that these sources are protected and that potable water is completely safe to drink and to use in the production of food and that surface water features are fed by clean, uncontaminated water.

8.107 There are also a number of water abstraction points in the Borough which are fed from the underlying aquifers. These points are licensed by the Environment Agency and are responsible for providing potable water amongst other uses. The Environment Agency has established zones around these important abstraction points which are separated into three levels:

- Source Protection Zone 1: Inner Zone with a 50 day travel time to source
- Source Protection Zone 2: Outer Zone with a 400 day travel time to source
- Source Protection Zone 3: Whole catchment area.

8.108 All development within Source Protection Zones must be able to demonstrate there will a minimal impact on the abstraction point. Development proposed in Zones 1 and 2 will need to be of a use that is appropriate to the level of protection required.

8.109 Large parts of the Borough are situated on Principal Aquifers which are particularly sensitive to pollutants. The water quality of aquifers must be guaranteed and development that could result in significant harm will be opposed; development will only be able to proceed once a developer can demonstrate the quality of the aquifer will not be harmed.

52 <http://www.environment-agency.gov.uk/business/topics/pollution/32220.aspx>

53 <http://wfdconsultation.environment-agency.gov.uk/wfdcms/en/thames/Intro.aspx>

8.110 The Hillingdon Local Plan: Part 2- Development Management Policies LDD will include policies that reflect the importance of maintaining and improving groundwater quality. The Hillingdon Local Plan: Part 2- Site Specific Allocations LDD will be assessed in accordance with the Source Protection Zones and Principal Aquifers.

8.111 Water Resources: The Environment Agency states that London has been classified as under serious water stress. Population density is high and water is scarcer than anywhere else in England and Wales. London has a comparatively high water consumption rate of 161 litres per person per day.

8.112 Climate change is acknowledged as having a significant threat to existing water resources, with the draft London Water Strategy suggesting an 18% decrease in summer rainfall. London is already one of the driest parts of the Country and this further reduction in rainfall will only exacerbate the risk of droughts.

8.113 Declining water resources are cross boundary problems. Impacts on Principal Aquifers in Hillingdon could have far reaching impacts. However, Hillingdon needs to be take a lead in ensuring the increasing population will not further increase the risks from a diminishing water supply.

8.114 Air Quality: North of the A40 the borough is largely rural, with an abundance of green areas and open space. There are fewer major road routes, and industrial activity is relatively light. Overall, this has a positive impact on air quality where people can reap the benefits of good clean air. Nonetheless it is important to ensure that air quality impacts are still carefully considered in the north of the borough as they are in the south, particularly in the urban areas around Ruislip and Northwood.

8.115 The situation is considerably different in the south of the borough, with more industry, commercial activity and the main gateways into and out of London impacting adversely on air quality. In addition, the presence of Heathrow, the world's busiest international airport, adds to the poor air quality burden in this area and contributes to levels in air quality exceeding European standards.

8.116 The southern two-thirds of the borough was designated an Air Quality Management Area (AQMA) in September 2003 ⁽⁵⁴⁾. The boundary of the AQMA is shown in Map 8.5. It is clear that the road network in the AQMA carries a very high volume of traffic and congestion which are major contributors to poor air quality in the area. In addition, the operation of the diesel trains on the Great Western Mainline adds a source of emissions in the southern part of the borough. Along with the operation of Heathrow Airport, all these different activities result in areas in the south of the borough subject to levels of pollution worse than many other UK towns and cities.

8.117 Poor air quality leads to adverse impacts on health and can undermine incentives to increase sustainable modes of travel, such as walking and cycling. The borough needs to continue to promote sustainable forms of transportation which also consider the impacts of poor air quality.

54 Source: London borough of Hillingdon Environment Act 1995 Part IV Section 83 (1)
London borough of Hillingdon Air Quality Management Area Order 2003

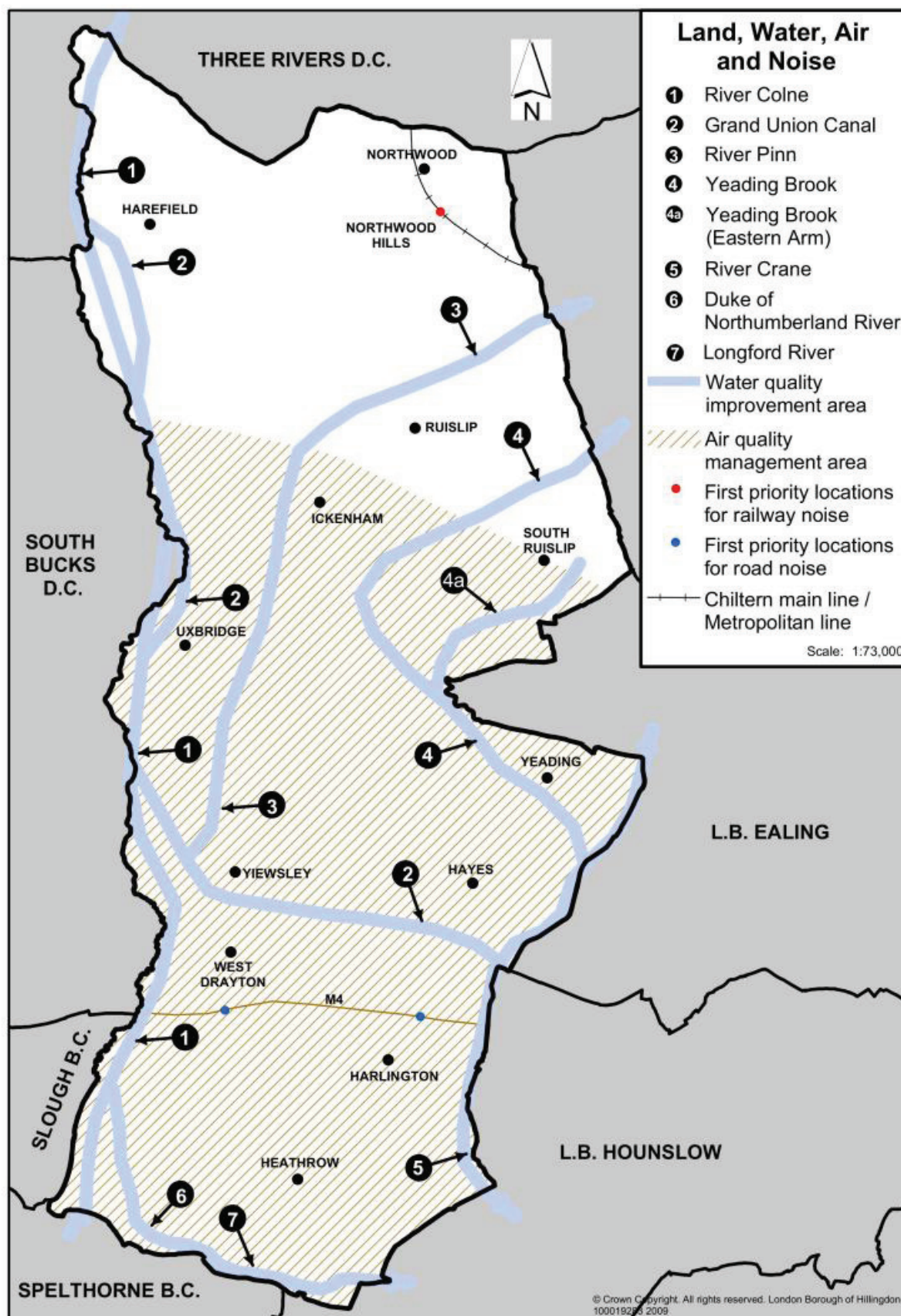
8.118 The London Plan (2011) Policy 2.13 (a) encourages Hillingdon to work with key partners to prepare and implement an opportunity planning framework for the Heathrow Opportunity Area and at Policy 2.13 (b) to develop their own more detailed policies and proposals for their part of this area. This will take the form of a Hillingdon Local Plan: Part 2 Local Development Document (LDD). This will include a Low Emissions Strategy for the area to help tackle the current air quality problems. Specific policies to mitigate negative effects of airport operations such as air pollution have been addressed in Policy E3 and will be delivered through a Heathrow Area Policies LDD.

8.119 The production of the Local Implementation Plan will further address some of the causes of air pollution, particularly in the Air Quality Management Area. This will set out the strategy for reducing traffic, and will be completed in partnership with surrounding boroughs and the GLA to provide a collective approach to managing transportation from outside of the Borough. Furthermore, the use of planning conditions and agreements will be used to realise air quality benefits, either on site or in the immediate surrounding area.

8.120 Noise: For the purpose of the Hillingdon Local Plan: Part 1- Strategic Policies, noise (including vibration) means:

- "environmental noise" which includes noise from transportation sources;
- "neighbour noise" which includes noise from inside and outside peoples homes; and
- "neighbourhood noise" which includes noise arising from within the community such as industrial and entertainment premises, trade and business premises, construction sites and noise in the street.

Map 8.5 Land, Water, Air and Noise



8.121 Noise can have a significant effect on the environment and on the quality of life enjoyed by individuals and communities. In Hillingdon, environmental noise arises from a variety of different sources, in particular aircraft (Heathrow Airport & RAF Northolt), major roads (M4, A4 and A40) and railways (London Underground, the Paddington, Marylebone and Heathrow Express lines).

8.122 The GLA forecasts Hillingdon to be the largest outer London growth borough ⁽⁵⁵⁾ and estimates that a large proportion of new jobs will be accommodated within the Heathrow Opportunity Area. These uses play a vital role in promoting a successful and vibrant economy in the borough, creating jobs and attracting business, though it is also important to note that such uses can create neighbourhood noise impacts.

8.123 As such, noise remains a main challenge in the borough. The impact of existing noise and the possible impact of future noise remains a challenge to be considered as part of the Hillingdon Local Plan: Part 1- Strategic Policies.

8.124 Land Contamination: Land affected by contamination due to the presence of metals, liquid chemicals, gases and/or vapours, that remains untreated can present a risk to users of the land, cause damage to building and infrastructure and restrict development potential in the developed area of the Borough or prevent the introduction of uses involving public access, where it is left untreated. Contaminants may also migrate to and affect nearby land by polluting ground and surface water or areas of ecological value.

8.125 The Borough has a number of former industrial sites and landfill sites that are potentially contaminated. Land can also become contaminated as a result of accidental spills and leaks, unauthorised disposal of contaminated wastes and offsite migration and atmospheric deposition of contaminants.

8.126 The prevention of further contamination of land and remediation of land affected by contamination plays a key role in sustainable development by reducing damage to land and by bringing damaged land back into beneficial use. This contributes towards improving land and environmental quality and the quality of life in general the borough.

Main Challenges

8.127 Table 3.1 in Chapter 3 identifies four main challenges relating to land, water, air and noise management:

- National and European Union (EU) requirements to meet climate change and carbon dioxide emission targets
- The need to maintain and improve the current water resources and quality
- The need to control, reduce and mitigate noise, especially around Heathrow and the major road network
- The need to mitigate air quality impacts especially around the strategic road network and Heathrow Airport, in order to work towards achievement of both national and European Union standards at relevant locations and improve the local air quality for communities.

8.128 Water quality: New development near to watercourses is likely to have an adverse impact on water quality unless proper measures are put in place to mitigate this. The rivers outlined above that are not meeting good ecological potential under the Water Framework Directive⁽⁵⁶⁾ are particularly vulnerable from uncontrolled new development. New development near these rivers will need to be delivered so as not to harm these important water features, and should actively contribute to their revival.

8.129 Water Resources: Accommodating a growing population and new development will be a major challenge for safeguarding water resources. Developments must be designed to be water efficient to reduce demand on potable water supplies. The Council will require that all new residential proposals can demonstrate water consumption levels of 105 litres or less per person per day. All development will be expected demonstrate proposals to capture, store and reuse grey water and rainwater run-off in accordance with London Plan (2011) Policy 5.15 Water use and supplies.

8.130 In addition, the Council will work with the Environment Agency and water authorities to help manage and plan for future uses.

8.131 Air quality: Maintaining, promoting, and distributing growth is a primary goal of the Hillingdon Local Plan: Part 1- Strategic Policies. A growing population and the need to deliver more jobs puts pressure on areas already badly affected by poor air quality. Adverse impacts on air quality come from a range of sources. Some of these are outside the direct influence of the Council, such as the strategic highway networks or on Heathrow Airport. Policy EM8 will assist the Council in developing the controls to minimise future increases through new development. However, it will be necessary to work closely with partners such as the GLA, the Highways Agency and Heathrow Airport to provide a strategic approach for improving areas with existing poor air quality, particularly regarding the areas outside the direct influence of the Council. Air quality impacts will be a major topic within the Hillingdon Local Plan: Part 2- Heathrow Area Policies LDD.

8.132 Heathrow Airport remains an economic hub and cannot be ignored in the continued growth of the borough. The Heathrow Opportunity Area is a strategic growth point within the borough. It is also home to the main road corridors where air quality impacts generate from. These corridors are used by those entering London from the west of England, and some of the emissions will derive from vehicles that will not even stop within the borough.

8.133 Increasing development and commercial activity around Heathrow is required to sustain the economic competitiveness of the borough; however, this will invariably lead to greater impacts on air quality through increased traffic and usage of existing services. This poses a significant challenge for the borough. The borough has limited control over vehicles using the strategic road network to travel throughout the borough. The Council can set higher standards for buildings but cannot control the type and number of vehicles that utilise them. The airport has its own emission targets, but there is no easy solution to redressing the existing air quality problems, nor is there a solution to delivering growth without adding to the impacts.

56 Source: Environment Agency River Basin Management Plan, Thames River Basin District Annex A Current state of waters December 2009

8.134 Airports are a major source of emissions that can have a damaging impact on local air quality as well as contributing to climate change. These impacts can be generated directly by aircraft, as well as the associated activities that occur on the ground. Heathrow is the busiest international airport and attracts a significant amount of visitors each year. It also attracts significant amounts of associated office and commercial uses. All development exploiting the benefits of Heathrow contribute to the poor air quality in the area. Further growth will exacerbate the problem. All new development associated with Heathrow should be challenged to minimise its impacts on air quality as far as possible.

8.135 Air quality issues in the borough are clearly linked to transportation, including Heathrow Airport, so an integrated approach is proposed to mitigate these issues. Air quality issues caused by transportation are also dealt with in the Transport chapter through policy T3. The planning process presents an opportunity to reduce air quality impacts through section 106 agreements and/or Community Infrastructure Levy (CIL) funding. These opportunities will be specifically investigated within the Heathrow Area Policies LDD.

8.136 The use of certain renewable technologies also poses a threat to local air quality. In particular biomass units that operate by burning fuel may be considered to be a more sustainable form of energy generation, but the emissions can have an adverse impact on local air quality. The use of biomass cannot easily be constrained by planning policy as new technology and fuel types may result in improved systems that do not have the same level of air quality impacts. Accordingly, the Council will continue to promote the use of all renewable energy technologies providing it can be demonstrated they can show a neutral impact on air quality. The subsequent Hillingdon Local Plan: Part- Development Management Policies LDD will include policies on the use of biomass, particularly in areas designated as an air quality management area.

8.137 Climate Change: Water and air quality in Hillingdon is likely to decline with climate change as a result of increased temperatures and extreme weather events including flooding as predicted in the borough's Climate Change Strategy. The Hillingdon Local Plan: Part 1- Strategic Policies will need to include measures to protect and improve the quality of the borough's water and air.

8.138 Noise: Guidance has already been set out at the national level by the NPPF. This guidance sets out a clear rationale as to where sensitive development should be located in relation to existing noise/pollution sources, and also provides guidance on where potentially noise polluting development should be located.

8.139 The Secretary of State for Environment, Food and Rural Affairs formally adopted Noise Action Plans for 23 agglomerations (large urban areas), major roads, and major railways in England on 15 March 2010⁽⁵⁷⁾. The Plans identify several target areas in Hillingdon including 'First Priority Areas' through a series of noise maps for noise reduction measures. Hillingdon will investigate these areas to see what further noise mitigation can be carried out. The 'First Priority Areas' for road and rail noise are shown on Map 8.5.

57 Source: Noise Action Plan London Agglomeration Environmental Noise (England) Regulations 2006, as amended March 2010

8.140 The Environmental Noise (England) Regulations 2006 require identification of Quiet Areas, which Noise Action Plans should aim to protect. The London Plan (2011) also requires borough's to identify and protect Quiet Areas. The Mayor's Ambient Noise Strategy contains a number of policies for minimising the adverse impacts of noise on people living and working in, and visiting London and will be reflected in the Hillingdon Local Plan: Part 2- Development Management LDD.

8.141 Operators of civil airports are required to produce their own Action Plans under the terms of the Environmental Noise (England) Regulations 2006. A draft Noise Action Plan was prepared in 2009 for Heathrow. In Heathrow, policy for issues such as noise levels and flight paths are set by the Department for Transport.

8.142 The Council will prepare a strategy for the Heathrow Opportunity Area that will mitigate negative effects of airport operations such as air and noise pollution (see Policy E3 and transport Policy T4).

8.143 Land contamination: New development is normally directed to Brownfield land in the first instance. This removes pressure on the Greenbelt, and minimises the impacts on natural habitats. However, it does increase the chance of developing land that is in a contaminated state. New development can mobilise dormant pollutants and provide a pathway to sensitive receptors such as people using the site or the water environment.

8.144 New development also provides the opportunity to clean up land that is contaminated from historic uses which helps to improve environmental quality significantly.

8.145 The NPPF sets the framework for assessing land contamination in new development and the requirements for mitigation, although developers should be seeking more innovative ways to treat contamination. Historically, contaminated land may be sent to landfill sites but this may not be the most sustainable solution. Developers will be required to assess contamination to a level where a planning application can be determined with all the impacts known. Major development proposals will also be required to demonstrate sustainable forms of managing contaminated land which reduces the need to landfill, and minimises the impacts on climate change.

Policy EM8: Land, Water, Air and Noise

Water Quality

The Council will seek to safeguard and improve all water quality, both ground and surface. Principal Aquifers, and Source Protection Zones will be given priority along with the:

- River Colne
- Grand Union Canal
- River Pinn
- Yeading Brook
- Porter Land Brook
- River Crane
- Ruislip Lido

Air Quality

All development should not cause deterioration in the local air quality levels and should ensure the protection of both existing and new sensitive receptors.

All major development within the Air Quality Management Area (AQMA) should demonstrate air quality neutrality (no worsening of impacts) where appropriate; actively contribute to the promotion of sustainable transport measures such as vehicle charging points and the increased provision for vehicles with cleaner transport fuels; deliver increased planting through soft landscaping and living walls and roofs; and provide a management plan for ensuring air quality impacts can be kept to a minimum.

The Council seeks to reduce the levels of pollutants referred to in the Government's National Air Quality Strategy and will have regard to the Mayor's Air Quality Strategy. London Boroughs should also take account of the findings of the Air Quality Review and Assessments and Actions plans, in particular where Air Quality Management Areas have been designated.

The Council has a network of Air Quality Monitoring stations but recognises that this can be widened to improve understanding of air quality impacts. The Council may therefore require new major development in an AQMA to fund additional air quality monitoring stations to assist in managing air quality improvements.

Noise

The Council will investigate Hillingdon's target areas identified in the Defra Noise Action Plans, promote the maximum possible reduction in noise levels and will minimise the number of people potentially affected.

The Council will seek to identify and protect Quiet Areas in accordance with Government Policy on sustainable development and other Local Plan policies.

The Council will seek to ensure that noise sensitive development and noise generating development are only permitted if noise impacts can be adequately controlled and mitigated.

Land Contamination

The Council will expect proposals for development on contaminated land to provide mitigation strategies that reduce the impacts on surrounding land uses. Major development proposals will be expected to demonstrate a sustainable approach to remediation that includes techniques to reduce the need to landfill.

Water Resources

The Council will require that all new development demonstrates the incorporation of water efficiency measures within new development to reduce the rising demand on potable water. All new development must incorporate water recycling and collection facilities unless it can be demonstrated it is not appropriate. For residential developments, the Council will require applicants to demonstrate that water consumption will not surpass 105 litres per person per day.

Implementation of Policy EM8 - how we will achieve this

The Council will implement Policy EM8 by:

- Setting high standards for reducing land, water, air and noise pollution and resisting amenity and environmental impacts that affect how we enjoy the environment in which we live and work. This includes making sure developments are designed to cope with climate conditions as they change during the development's lifetime.
- Preparing a Local Development Document for the Heathrow area set out in Policy E3 and paragraph 5.32 of Chapter 5.
- Requiring developments to minimise water use and use local sources of water where possible.
- Revising the existing Air Quality SPG into an updated Air Quality SPD.
- Review the current Air Quality SPG to take into account the Mayor of London's guidance on achieving air quality neutral development;
- Review the Air Quality Action Plan to ensure new developments in areas of poor air quality are prioritised for low emission strategies aimed at working towards securing compliance with the national and EU air quality limits and standards.
- Using planning conditions and Section 106 agreements to improve air quality and where appropriate, apply a Community Infrastructure Levy (CIL) on new developments.
- Implementing the Climate Change Strategy to secure reductions in local air pollutants and mitigate climate change.
- Implementing the borough Transport Strategy to ensure reductions in emissions from transport within the borough.

Flexibility

Figures for reducing CO2 emissions in Hillingdon take account of national targets and regional targets in the London Plan (2011).

Monitoring of Policy EM8 - how we will measure success

- Monitoring of policy EM8 will be through Annual Monitoring Report with a specific link to:
 - E1 (Core) Indicator:** Number of planning permissions granted contrary to the advice of the Environment Agency on either flood defence grounds or water quality. **Target:** No planning permission will be granted contrary to the advice of the Environment Agency on either flood defence grounds or water quality (or any other target set by Government).
- Number of planning applications refused on noise grounds.
- Number of Section 106 agreements for improvements to air quality.
- Submission of annual progress reports in regards to measures implemented with the objective of working towards compliance with the national and EU air quality limits and standards.
- Number of electric vehicle charging points established in the borough.
- On-going air quality monitoring throughout the borough to identify trends in the air quality concentrations.
- On-going traffic count monitoring to identify trends in flow volumes and vehicle types.
- Number of new developments with sustainable forms of transport.

Minerals and Waste**Minerals****Strategic Objective**

SO5: Safeguard and promote areas of geological importance and make a proportionate contribution to West London's target to extract 0.5 million tonnes of minerals.

Related policies: EM9, EM10

Main Challenges

8.146 Table 3.1 in Chapter 3 identifies one main challenge relating to minerals:

- The need to meet the London Plan mineral apportionment figures of 250 000 tonnes per annum up to 2031.

8.147 The Hillingdon Local Plan: Part 1- Strategic Policies sets in place a framework to contribute to the apportionment figure for west London of 0.5 million tonnes of land won aggregates per year, whilst ensuring that any mineral extraction in Hillingdon does not have an unacceptable impact on the environment or human health.

8.148 It is important that there is an adequate supply of raw materials to provide the infrastructure, buildings and goods that society, industry and the economy needs and, therefore, it is a key component in sustaining economic prosperity. Aggregates come from a variety of sources, including recycling of construction waste. However, an important source of supply will remain from mineral deposits. Provision for the production and supply of recycled and secondary aggregates will be made through the Hillingdon Local Plan: Part 2- Site Specific Allocations LDD whereby permanent and long term temporary recycling facilities across the Borough which will make a significant contribution to the production of recycled and secondary aggregates will be identified. Railheads and ancillary facilities will be identified, encouraged and safeguarded to provide for the sustainable transport of minerals.

Safeguarding mineral resources

8.149 It is clear that Hillingdon could not make a significant contribution to meeting future aggregates demand without using sites in the Green Belt and sites in relative close proximity to housing. Extraction in such locations has already taken place in the Borough in the past, and continues to do so.

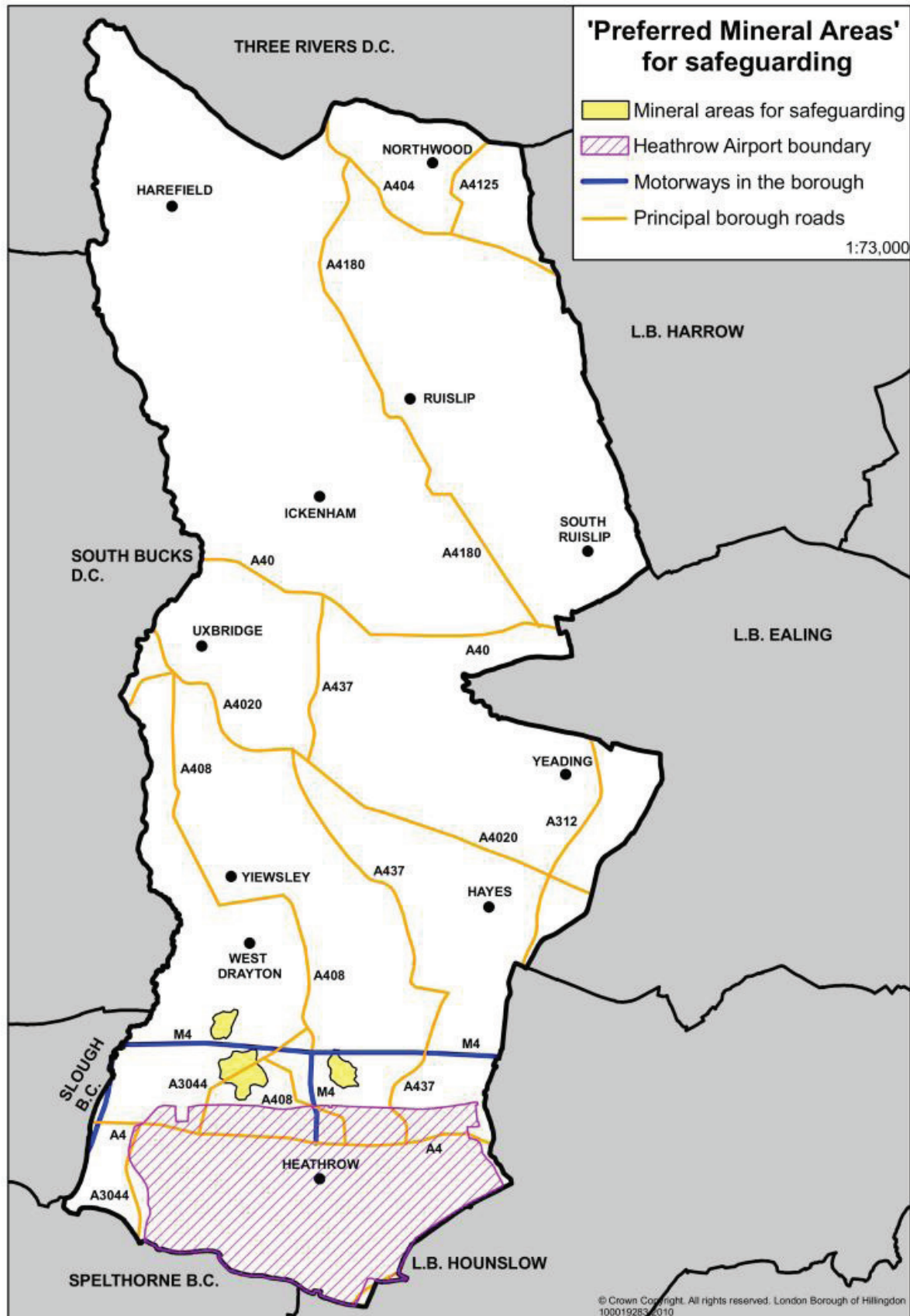
8.150 The NPPF states that mineral extraction need not be inappropriate in the Green Belt provided that the openness of the Green Belt is preserved and that it does not conflict with the purposes of including land in Green Belt. Judgements about the acceptability of extraction in the vicinity of houses have to be taken case-by-case, based on the likely specific impacts of individual schemes.

8.151 The Minerals Technical Background Report (2008) ⁽⁵⁸⁾ concludes there are three sites able to provide the defined aggregates requirement for the borough over the Plan period:

- Land west of the present Harmondsworth Quarry;
- Land north of the village of Harmondsworth; and
- Land at Sipson Lane, east of the M4 spur.

58 Source: <http://www.hillingdon.gov.uk/index.jsp?articleid=15283>

Map 8.6 Mineral Areas for Safeguarding



8.152 The above three sites are defined as 'Preferred Mineral Safeguarding Area', indicated on Map 8.6.

8.153 To safeguard the mineral resource in its entirety, and to account for the inexact nature of mapped geological boundaries, it may be necessary to extend the Preferred Mineral Safeguarding Area beyond the resource boundary. This approach is intended to safeguard the resource from the impact of 'proximal development'.

Policy EM9: Safeguarding Mineral Resources

The Council will safeguard mineral resources in Hillingdon from other forms of development that would prejudice future mineral extraction. The Council will define the 'Mineral Safeguarding Area' in the Hillingdon Local Plan: Part 2- Site Specific Allocations LDD based on the geologically mapped sand and gravel resource that is considered to be of current and future economic importance. Major developments in the Area will only be permitted where it has been demonstrated that:

- a. the mineral concerned is no longer of any value or potential value, or
- b. the mineral can be extracted prior to the development taking place, or
- c. the development will not inhibit extraction if required in the future, or
- d. there is an overriding need for the development and prior extraction cannot be reasonably undertaken, or
- e. the development is allocated in a local development document, or
- f. the development is not incompatible.

The Council will also safeguard areas within 250m of the Preferred Mineral Safeguarding Area as a buffer for the future extraction of the sand and gravel reserve, to safeguard the resource from the impact of 'proximal development'.

Mineral extraction

8.154 Over the years the main concentrations of sand and gravel working have been in the area between the A40 and the northern boundary of Heathrow, and in the Colne Valley west of Harefield. Currently the main area of activity is between the M4 and the A4 north of Heathrow.

8.155 Hillingdon is required to meet the Borough's apportionment figure 0.25 million tonnes per year of sand and gravel extraction. To meet these requirements a comparative assessment of all potential sand and gravel-bearing sites in the Borough has been undertaken in order to identify those where mineral extraction is likely to have the least adverse impact.

Policy EM10: Mineral Extraction

The Council will make an appropriate contribution towards the West London apportionment figure in the London Plan in the form of mineral working at the principal Broad Locations and will aim to maintain a minimum land bank equivalent to seven years production for the West London area at a rate of 0.25 million tonnes per annum. The principal Broad Locations for mineral development are land west of the present Harmondsworth Quarry, land north of the village of Harmondsworth, and land at Sipson Lane, east of the M4 spur. Outside the allocated areas identified in this Plan mineral extraction will not be permitted except where:

- It is demonstrated that the proposal is sustainable, essential to maintain the West London land bank in accordance with national policy, and necessary to maintain apportioned provision for West London as set out in the London Plan.
- Suitable measures and controls can be put in place to ensure there is not an unacceptable adverse impact on the environment or human health.
- Restoration and aftercare proposals will outweigh the negative impacts caused by extraction. The restoration proposals will result in an overall positive impact on the environment, considering the quality of soils, water, biodiversity and future land uses.

Implementation of Policies EM9 and EM10 - how we will achieve this

The Council will implement Policies EM9 and EM10 by:

- Reviewing the Hillingdon Local Plan: Part 2- Site Specific Allocations LDD.
- Determining individual planning applications. This will include the use of conditions and Section 106 legal agreements as appropriate.
- Monitoring the west London land bank of at least 7 years in the Annual Monitoring Report (AMR) and, if necessary maintaining it.
- Promoting the restoration of the site to the highest standards.

Flexibility

Figures for mineral apportionment in Hillingdon take account of targets set in the London Plan (2011).

Monitoring of Policies EM9 and EM10 - how we will measure success

Monitoring of Policies EM9 and EM10 will be through Annual Monitoring Report with specific links to:

- The number of preferred sites for mineral working being brought forward.
- The volume of sand and gravel being worked.
- The number of planning applications approved for mineral workings.

Waste Management**Strategic Objective**

SO13: Support the objectives of sustainable waste management.

Related policy: EM11

Main Challenges

8.156 Table 3.1 in Chapter 3 identifies one main challenge relating to waste management:

- The need to minimise waste.

8.157 The Council supports the objectives of sustainable waste management set out in Planning Policy Statement 10 (PPS10), the London Plan and through the implementation of the 'Waste Hierarchy'. The London Plan sets out targets for recycling and composting for waste from households, businesses and industry. The London Plan requires that the majority of waste generated in London is managed in London to enable the capital to move towards self-sufficiency. Overall, the target states that 85% of London's waste must be managed within London by 2020.

8.158 In response to the need to address the future management of waste arisings, the West London Waste Plan (WLWP) is being prepared jointly by the six west London borough's of Harrow, Brent, Ealing, Hillingdon, Hounslow and Richmond upon Thames. The WLWP is being prepared in accordance with the national planning policy in PPS10, and will take account of the London Plan waste apportionment figures and targets for self-sufficiency and recycling up to 2026. This will identify locations suitable for waste management facilities to meet the London Plan apportionment and land use policies to support these.

8.159 With regard to the location of sites, the Council will be guided by the locational criteria provided in PPS10 and the broad locations of Strategic Employment Locations, Local Employment Areas provided within the London Plan and existing waste management sites. To support this, the Council will safeguard existing waste sites unless compensatory provision is made and it will support the redevelopment of existing sites to maximise their throughput.

Policy EM11: Sustainable Waste Management

The Council will aim to reduce the amount of waste produced in the Borough and work in conjunction with its partners in West London, to identify and allocate suitable new sites for waste management facilities within the West London Waste Plan to provide sufficient capacity to meet the apportionment requirements of the London Plan which is 382 thousand tonnes per annum for Hillingdon by 2026.

The Council will require all new development to address waste management at all stages of a development's life from design and construction through to the end use and activity on site, ensuring that all waste is managed towards the upper end of the waste hierarchy.

The Council will follow the waste hierarchy by promoting the reduction of waste generation through measures such as bioremediation of soils and best practice in building construction. The Council will promote using waste as a resource and encouraging the re-use of materials and recycling. The Council will also support opportunities for energy recovery from waste and composting where appropriate. The Council will safeguard existing waste sites unless compensatory provision can be made.

The Council will seek to maximise the use of existing waste management sites through intensification or co-location of facilities.

Implementation of Policy EM11 - how we will achieve this

The Council will implement Policy EM11 by:

- Coordinating with the other Borough members of the West London Waste Authority and the Council's Waste Minimisation Strategy.
- Working with west London Boroughs to produce the Waste LDD, and this will reflect the provisions of The London Plan (2011) and Mayor's Municipal Waste Management Strategy.
- Developing detailed development control policies in the Hillingdon Local Plan: Part 2- Development Management Policies LDD to ensure that new development makes sufficient provision for waste management facilities on sites that promote increased recycling.

Flexibility

Figures for waste apportionment in Hillingdon take account of targets set in the London Plan (2011) and the Mayor's Municipal Waste Management Strategy.

Monitoring of Policy EM11 - how we will measure success

Monitoring of Policy EM11 will be through the Annual Monitoring Report with specific links to:

- **W1 (Core) Indicator:** Capacity of new waste management facilities by waste planning authority. **Target:** Specific monitoring details will be included in the Joint West London Waste Plan that will cover the monitoring of changes in the stock of waste management facilities, waste arisings, and the amount of waste recycled, recovered and going for disposal. It is premature at this stage to include these in the Hillingdon Local Plan: Part 1- Strategic Policies, however, the timing for preparing both documents will allow for this at a later stage.
- **W2 (Core) Indicator:** Amount of municipal waste arising, and managed by management type by waste planning authority. **Target:** BV82a & BV82b.