

- 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

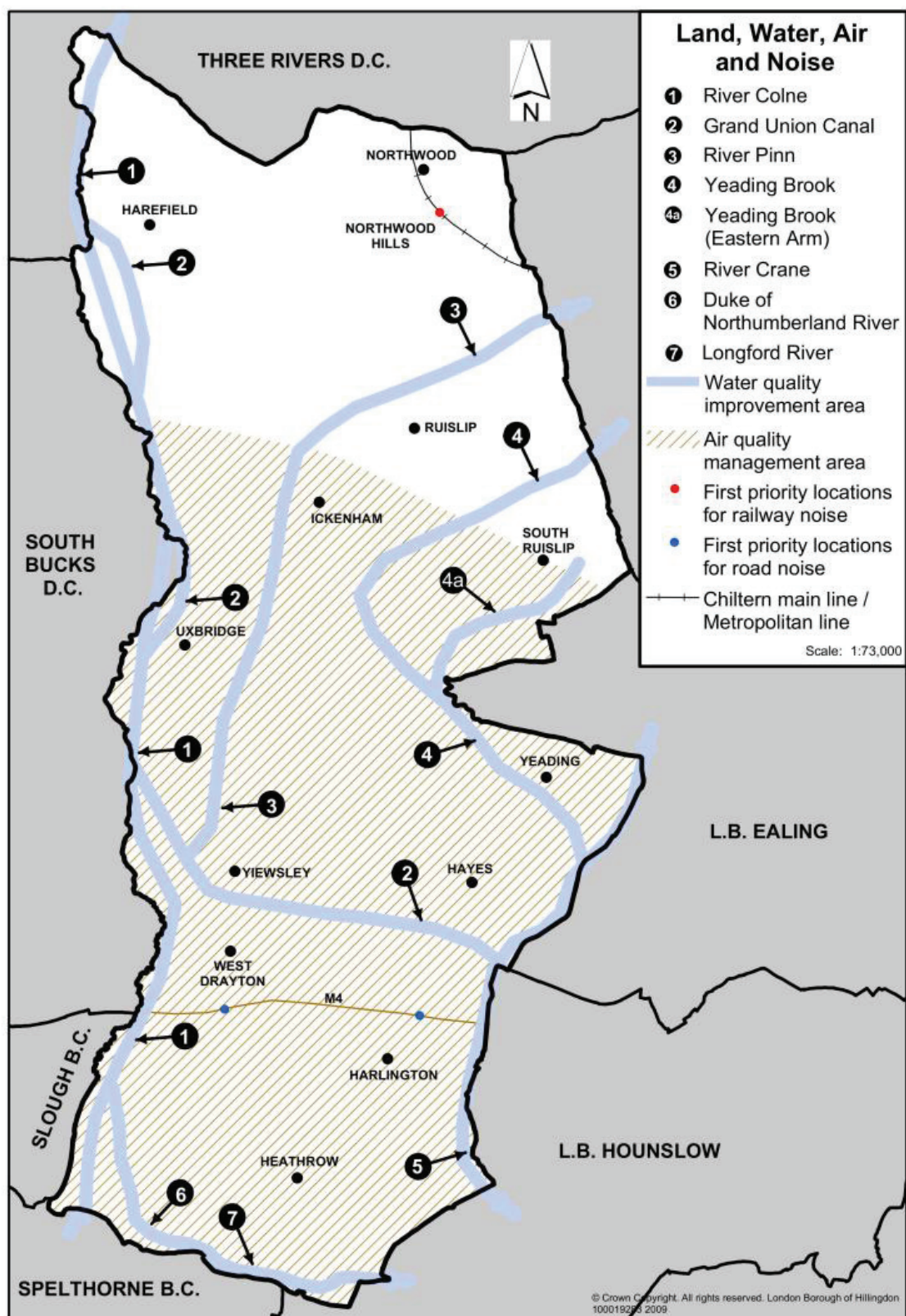
8.118 The London Plan (2011) Policy 2.13 (a) encourages Hillingdon to work with key partners to prepare and implement an opportunity planning framework for the Heathrow Opportunity Area and at Policy 2.13 (b) to develop their own more detailed policies and proposals for their part of this area. This 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.

55 Source: London Office Policy Review 2009 Greater London Authority, November 2009

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.