

Appendix 2: Updated Scoping Report

Strategic Environmental Assessment of the Southwark Council Flood Risk Management Strategy

Scoping Report

February 2013

Produced for
Southwark Council



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Abbreviations

AEP	Annual Exceedance Probability
ALGG	All London Green Grid
APHO	Association of Public Health Observatories
APZ	Archaeological Priority Zone
AQMA	Air Quality Management Area
BAP	Biodiversity Action Plan
CHP	Combined Heat and Power
CO ₂	Carbon Dioxide
DCLG	Department for Communities and Local Government
FDT	Flood and Drainage Team
FMfSW	Flood Map for Surface Water
HA	Hectare
HRA	Habitats Regulation Assessment
IMD	Index of Multiple Deprivation
LFRMS	Local Flood Risk Management Strategy
LLFA	Lead Local Flood Authority
LNR	Local Nature Reserve
LSOA	Lower Super Output Area
LTDS	London Travel Demand Survey
LVMF	London View Management Framework
NAQS	National Air Quality Strategy
NCA	National Character Area
NE	Natural England
NO	Nitrogen Oxides

NO ₂	Nitrogen Dioxide
ONS	Office of National Statistics
PFRA	Preliminary Flood Risk Assessment
PM ₁₀	Particulate Matter
RBD	River Basin District
SAM	Scheduled Ancient Monument
SEA	Strategic Environmental Assessment
SINC	Site of Importance for Nature Conservation
SPG	Supplementary Planning Guidance
SPZ	Source Protection Zone
SUDS	Sustainable Urban Drainage System
TfL	Transport for London
UK	United Kingdom
WFD	Water Framework Directive

1 Introduction

1.1 The Scoping Report

Mouchel was commissioned by the London Borough of Southwark to undertake a Strategic Environmental Assessment (SEA) on the proposed Southwark Local Flood Risk Management Strategy (LFRMS) in September 2012.

The purpose of this report is to present the scoping stage. The Scoping Report sets the context and provides baseline information; a starting point from which to appraise the effects of implementing the LFRMS.

To provide a sound basis for analysis, the report:

- reviews the relevant plans and programmes which will influence the LFRMS;
- identifies the key environmental and sustainability issues, problems and opportunities; and
- sets out an SEA Framework within which the appraisal can take place.

The main purpose of the Scoping Report is to identify potentially significant impacts that need to be considered in the SEA.

Baseline information is set out to establish the current state of the area covered by the LFRMS and to identify trends in economic, environmental and social parameters. This information is used to assess current environmental and sustainability issues that are evident in the plan area.

A set of SEA objectives have been developed, taking into account the relationship between the LFRMS and the objectives of other plans and programmes, along with the findings of the baseline information review. These objectives will form the basis of the SEA Framework within which the evaluation of the LFRMS options/alternatives will be carried out.

1.2 Consultation

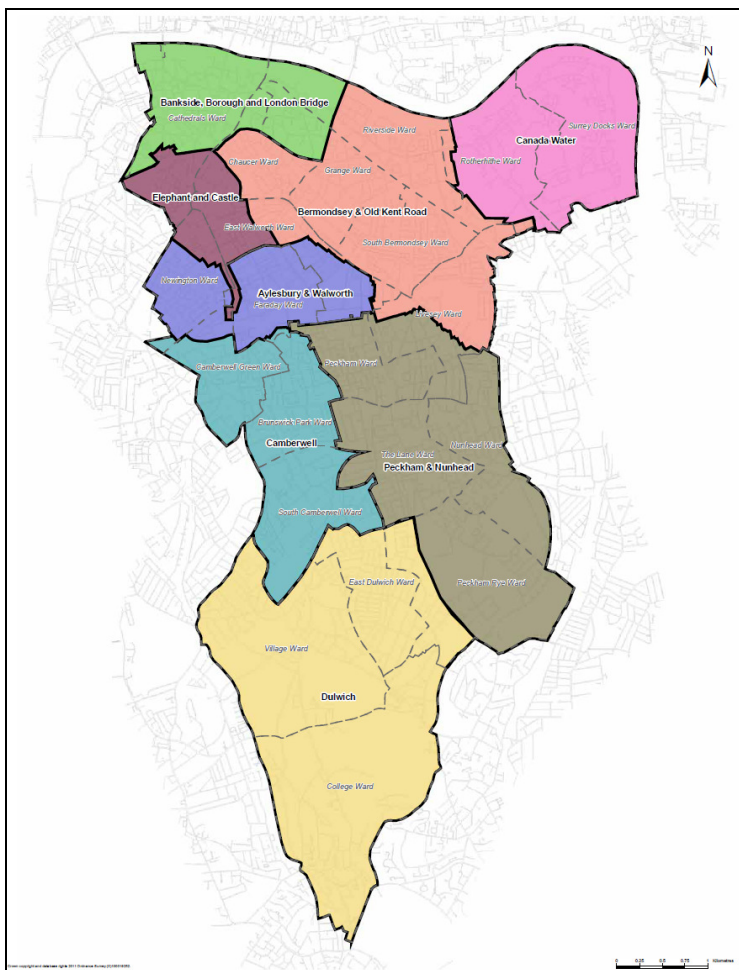
The Scoping Report is being published to seek the views of statutory and other consultees. This SEA Scoping Report will be subject to a five week consultation. In reading the report, consultees are asked to address the following questions:

- Question 1. Have all relevant plans and programmes been considered?
- Question 2. Does the baseline information reflect the current situation in the LFRMS area or are there additional social, environmental or economic factors that should be considered?
- Question 3. Do the issues identified in this report cover all the significant environmental and sustainability issues relevant to the LFRMS area?
- Question 4. Do the SEA objectives reflect the right aspirations for development of more sustainable approaches to surface water management?

1.3 Study Area

The study area is defined by the administrative boundary of the London Borough of Southwark, which is a large inner city borough in London. It is situated directly south and immediately adjacent to the River Thames which forms its northern boundary. It also borders the London Borough of Lambeth to the west, the London Boroughs of Croydon and Bromley to the south and the London Borough of Lewisham to the east. It covers an area of approximately 29km² consisting of eight distinct districts; these are Bermondsey, Borough and Bankside, Camberwell, Dulwich, Nunhead and Peckham Rye, Peckham, Rotherhithe and Walworth (see Figure 1.1).

Figure 1.1- London Borough of Southwark



Source: Southwark Open Space Study, 2012.

The Borough has a long history of occupation having first been settled in the Roman period. Today, it is heavily urbanised and includes major urban centres, residential areas, industry, commerce, and some of London's main transport terminals. Borough landmarks include the Tate Modern (Museum), Shakespeare's Globe Theatre, the Imperial War Museum and the Shard (Europe's tallest building). It is connected to the City of London by Tower Bridge, Blackfriars Bridge, Southwark Bridge and London Bridge.

The population of the borough was 288,300 in provisional results released from the 2011 census, with approximately 117,000 households, of which almost half live in public sector housing.

Strategic road and rail networks, controlled by the Mayor for London via Transport for London (TfL) and rail operators, traverse the Borough. These include thirteen 'red routes' classed as major routes through London which are managed by TfL, nine tube stations connecting to the Jubilee, Northern and Bakerloo lines and London Bridge overland rail station which is the fourth busiest rail terminal in London serving over 54 million people a year and a comprehensive bus network.

1.4 Strategic Environmental Assessment

SEA incorporates environmental considerations into policies, plans and programmes. It ensures that significant environmental effects arising from policies, plans and programmes are identified, assessed, mitigated, communicated to decision-makers, monitored and that opportunities for public involvement are provided.

In the EU an SEA is required for all member states on all plans and programmes by EC Directive (2001/42/EC) 'on the assessment of the effects of certain plans and programmes on the environment', known as the 'SEA Directive'. The Directive is implemented in England through the Environmental Assessment of Plans and Programmes Regulations (SI 1633 2004) and makes SEA mandatory for the following plans and programmes:

- a. Which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use and which set the framework for the future development consent for projects listed in Annexes I and II of the Environmental Impact Assessment Directive (85/337/EEC); or
- b. Which in view of the likely effect on sites, have been determined to require an assessment pursuant to Article 6 or 7 of the Habitats Directive (92/43/EEC).

1.5 Habitats Regulations Assessment

Part II of the Conservation (Natural Habitats, &c) (Amendment) Regulation 2007 outlines the due process for the protection of Natura 2000 sites with respect to development plans. This is transposed in the UK through The Conservation of Habitats and Species Regulations (SI 2010 No.490). Due to the potential for the LFRMS to have significant effects on Natura 2000 sites it is subject to Habitats Regulation Assessment (HRA).

Initial screening identified that the nearest Natura 2000 site is located over 10km from the study area. It is not anticipated that the LFRMS will have any impact on this site. As such, a HRA is deemed unnecessary.

2 Southwark Local Flood Risk Management Strategy

2.1 Background to the Strategy

In the summer of 2007, severe flooding in England, particularly in Yorkshire, Worcestershire, Gloucestershire and Oxfordshire prompted the Government to commission a review of flood risk management in England and Wales. The report published by Sir Michael Pitt 'Learning Lessons from the 2007 Floods' in June 2008 had its recommendations accepted in full by the Government in 2008, and this led to a new Act of Parliament, the Flood and Water Management Act (2010).

Under the requirements of the Flood and Water Management Act (2010), Southwark Council's position as Lead Local Flood Authority (LLFA) means that it must 'develop, maintain, apply and monitor a strategy for local flood risk management in its area'. The council is required by law to develop, maintain, apply and monitor a Local Flood Risk Management Strategy. The strategy should be consistent with the National Strategy but should respond to local needs and circumstances.

In response to its responsibilities under the Act, Southwark Council has set up a Flood and Drainage Team (FDT). The team is in the process of producing the borough's LFRMS to provide strategic direction and proactively manage flood risk in Southwark whilst satisfying the requirements of the Act. The Strategy will be reviewed every six years and ties in with periodic reviews of Southwark Council's Preliminary Flood Risk Assessment (PFRA) as required under the regulations.

2.2 Purpose of the Strategy

The Strategy outlines the purpose and general approach to managing flood risk across the borough. The primary purpose of the strategy is:

'to ensure that, as far is reasonably practical, the risk of flooding to human health and life, the environment (including cultural heritage, economic activity and infrastructure arising from surface water, ground water and ordinary water courses) is minimised.'

The strategy outlines a number of key objectives, listed below:

- a) ensure a clear understanding of local flood risks, so that investment in risk management can be prioritised and implemented most effectively;
- b) develop and maintain a community and partnership based engagement in the management of flood risk, encouraging beneficiaries to invest in the management of risk where possible;
- c) set out clear and consistent plans for risk management so that communities and businesses can make informed decisions about managing residual risks;

- d) encourage innovative management of flood risk, taking account of the needs of communities and the environment;
- e) promote sustainable measures to reduce flood risk and provide multiple benefits to local communities;
- f) develop links between the local flood risk management strategy and local spatial planning;
- g) increase environmental protection and integrate considerations into the preparation and implementation of policies and programmes that promote sustainable development;
- h) ensure that emergency plans and responses to flood incidents are effective and that communities are able to respond properly to flood warnings; and
- i) help communities to recover more quickly and effectively from flooding incidents.

3 Methodology

3.1 SEA Process

This Scoping Report has been developed in accordance with guidance set out in the ‘Practical Guide to Strategic Environmental Assessment Directive’ (Department for Communities and Local Government (DCLG), previously Office of the Deputy Prime Minister; 2005). The DCLG SEA guidance outlines five sequential steps, these main stages and tasks are listed in Table 3.1 SEA Stages. This report presents the findings of Task A1 to A4 of the SEA process.

Table 3.1 - SEA Stages

SEA Stage	What is involved
STAGE A	<p>Setting the context and objectives, establishing the baseline and deciding on the scope.</p> <p>Tasks</p> <ul style="list-style-type: none"> • A1: Identifying other relevant policies, plans and programmes, and SEA objectives. • A2: Collecting baseline information. • A3: Identifying environmental problems. • A4: Developing the SEA objectives. • A5: Consulting on the scope of the SEA.
STAGE B	<p>Developing and refining options/alternatives and assessing effects</p> <p>Tasks</p> <ul style="list-style-type: none"> • B1: Testing the plan or programme objectives against the SEA objectives. • B2: Developing the Strategic alternatives. • B3: Predicting the effects of the Draft plan or programme including alternatives. • B4: Evaluating the effects of the Draft plan or programme including alternatives. • B5: Considering ways of mitigating adverse effects. • B6: Proposing measures to monitor the environmental effects of implementing the plan or programme.
STAGE C	<p>Preparing the Environmental Report</p> <p>Tasks</p> <ul style="list-style-type: none"> • C1: Preparing the Environmental Report.
STAGE D	<p>Consulting</p> <p>Tasks</p> <ul style="list-style-type: none"> • D1: Consulting on the draft plan and the Environmental Report. • D2(i): Assessing significant changes. • D2(ii): Appraising significant changes resulting from representations. • D3: Making decisions and providing information.
STAGE E	<p>Monitoring the significant effects of implementing the plan on the environment</p> <p>Tasks</p> <ul style="list-style-type: none"> • E1: Finalising aims and methods for monitoring. • E2: Responding to adverse effects.

The DCLG SEA guidance states that SEA should:

- Provide a long term view of how the area covered by the plan is expected to develop, taking account of social, environmental and economic effects of the proposed plan;
- Provide a mechanism for ensuring that SEA objectives are translated into sustainable policies;
- Reflect global, national, regional and local concerns
- Provide an audit trail of how the plan has been revised to take account the findings of the SEA;
- Form an integral part of all stages of plan preparation; and,
- Incorporate the requirements of the SEA Directive.

4 Identifying Relevant Policies, Plans and Programmes

The Southwark LFRMS will be set in the context of a wide range of other relevant plans and programmes and environment objectives both within and outside the authorities' jurisdiction.

Appendix A documents all the relevant policies, plans and programmes (PPP) including International, European, National, Regional (Greater London), and Borough plans and programmes relevant to the LFRMS.

The table identifies the Level of the Plan, Programme, or Policy, the SEA Framework Objectives relevant to PPP, the Aims and Objectives of the PPP and the SEA Topic Area(s) which the PPP applies to (as listed in Section 5.1 below).

5 Baseline Information

Baseline information is set out to establish the current state of the area covered by the LFRMS, and to identify trends in economic, environmental and social parameters. This information is then used to assess current environmental and sustainability issues that are evident in the area. The baseline information is intended to provide a basis for predicting and monitoring the effects of implementation of the plan. It also helps to identify the environmental and sustainability issues and alternative ways of dealing with them.

For each set of information collected the DCLG guidance recommends that the data enable the following questions to be answered.

- How good or bad is the current situation?
- Do trends show that the situation is getting better or worse?
- How far is the current situation from any established thresholds or targets?
- Are particularly sensitive or important elements of the economy, physical environment or community affected?
- Are the problems reversible or irreversible, permanent or temporary?
- How difficult would it be to offset or remedy any damage?
- Have there been significant cumulative or synergistic effects over time?
- Are there expected to be such effects in the future?

Identifying the environmental issues and problems is an opportunity to define the key social, environmental and economic issues which need to be taken into account when preparing the Southwark LFRMS. In some cases these are constraints which must be overcome, or impacts which must be avoided; in other cases these may be opportunities (e.g. stimulating the local economy and employment markets) which should be pursued where possible, or supported indirectly by policies in other instances.

There is a wealth of knowledge regarding environmental and sustainability issues within the London sub region as shown in Appendix A. Key environmental issues and opportunities have also been identified through researching the baseline information.

The SEA will be based on a list of objectives against which the options/ alternatives for the LFRMS will be assessed (see Section 6). These objectives have been drawn up taking account of the principal environmental issues and opportunities relevant to the LFRMS study area.

5.1 SEA Topics

The baseline information is set out below. This section includes an overview of the current situation and covers the topics specified in Annex 1 (f) of the SEA Directive:

- Climatic Factors
- Air
- Biodiversity, Flora and Fauna
- Soil
- Water
- Population & Human Health (includes transport, economics, tourism)
- Material Assets (include housing and waste)
- Cultural Heritage
- Landscape

5.2 Climatic Factors

5.2.1 Overview

Analysis has shown that our climate is already changing, with mean global temperatures progressively rising over the last 150 years. These changes are also seen at a local level with all regions of the UK experiencing increased temperatures and heavy rainfall events. Further changes in climate are inevitable and present two key challenges; reducing the emissions that contribute to climate change to limit further climate change; and adapting to the changes that climate change will bring.

5.2.2 Southwark's Current Emission Levels

Heat trapping 'greenhouse' gases; from the burning of fossil fuels, changes in land use, and various industrial processes, are the main drivers of climate change. The most abundant greenhouse gas is carbon dioxide (CO₂) which accounted for about 84% of the total UK greenhouse gas emissions in 2010, the latest year for which final results are available. In 2011, UK net emissions of CO₂ were provisionally estimated to be 456.3 million tonnes. This was 8% lower than the 2010 figure of 495.8 million tonnes. Between 2010 and 2011 there were significant decreases in CO₂ emissions from all of the main sectors, which resulted primarily from a significant fall in energy consumption combined with fuel switching from coal to nuclear for electricity generation.¹

According to their Annual Monitoring Report, Southwark CO₂ emissions were 1,504,000 tonnes between April 2010 and March 2011, which represented a reduction from all sources of 13% over 2005 levels. The emissions released per sector were as follows.²

<http://www.decc.gov.uk/assets/decc/11/stats/climate-change/4817-2011-uk-greenhouse-gas-emissions-provisional-figur.pdf>

² Southwark Council. Annual Monitoring Report 2011.

- Industry/commercial – 789,000 tonnes of CO₂
- Housing – 456,000 tonnes of CO₂
- Transport – 258,000 tonnes of CO₂

The majority of emissions come from the built environment (83% from industrial and commercial workplaces and homes), with the rest of the emissions coming from transport (17%).

5.2.3 *Southwark's Capabilities to reduce emissions*

Southwark Council has set a target to reduce borough emissions by 80% (on 2003 levels) by 2050. An independent modelling exercise concluded that reduction could be achieved by exploiting all cost effective energy efficiency measures and the widespread uptake of renewable and a borough wide heating system served by a number of Combined Heat and Power (CHP) based heat sources.

5.2.4 *Climate Change Projections and Implications for the London Borough of Southwark*

Climate change in the UK is predicted to result in changes in annual/ seasonal averages, such as: warmer, drier summers, springs and autumns; milder, wetter winters and seasonal shifts. There will be a likely increased frequency of extreme weather events, and rises in sea level. It is predicted that climate changes will lead to increased flooding, subsidence and droughts. Changes will be accompanied by economic, social and environmental impacts.

Using the UK Climate Change Projections 2009³ London is projected to experience changes both in temperature and rainfall. Mean temperature is expected to increase by 2.2°C in the winter and by 2.7°C in the summer. Average winter precipitation is projected to increase by 15% and decrease in the summer by 18%.

Climate change will create opportunities and risks for local authorities. For example, warmer summers may lead to increased demand for leisure and tourism related services, whilst wetter winters will increase pressure on drainage systems. Climate change could have an impact on the following council services: emergency planning, building control, land use planning, local flood risk management, provision of local infrastructure and green spaces, provision of schools; environmental services including waste management, pollution control and monitoring and environmental health, transport infrastructure and the local natural and historic environment.

The council's role as estate manager and service provider plays a vital part in ensuring that adaptation is taking place at a local level. The council should require development proposals to take account of the expected changes in local climate conditions, throughout the proposed lifetime of the development, by adaptation or

³ UK Climate Projections. Available at <http://ukclimateprojections.defra.gov.uk/>. Last Accessed 26.09.12 10:30.

flexibility to allow future adaptation. Specifically, the council should require major developments to:

- identify the type of and extent of the main changes expected in the local climate throughout the lifetime of the proposed development;
- identify the potential impacts of these changes on the proposed development and its neighbours; and
- indicate the ways in which the proposed development design overcomes the hazards and exploits the opportunities associated with these impacts whilst meeting other sustainable development criteria, particularly the need to achieve overall reductions in greenhouse gas emissions.

More can be done by addressing potential infrastructure capacity issues associated with climate change and the potential costs of adapting to climate change. This can be reduced by building resilience into major infrastructure, such as new buildings or roads. This is likely to be a staged process, taking effect:

- when infrastructure is upgraded;
- when local development documents or other plans come up for regular review;
- when assessments are undertaken as part of a wider sustainability review; and
- before service providers are forced to act by a sudden event or mounting maintenance cost.

The potential implications of climate change for flooding and water resources within Southwark are discussed in the following sections and will need to be taken into consideration during the development of policies and measures within the LFRMS.

Climate Change and Flooding

Projected increased average winter precipitation along with more intense stormier conditions at certain times of the year could lead to greater pressure on drainage systems. Combined with the predicted rise in sea level there will be an increased risk of tidal, river and surface water flooding. Climate change is a key cause of increased flood risk.

Climate Change and Water Resources

Hotter drier summers and more extreme rainfall patterns could reduce the amount of water available and affect all stages of the water cycle. This could be particularly noticeable in longer drier summers when drought conditions could affect water availability and quality due to extreme low flows.

Higher temperatures could also create a rise in demand for water, increasing the pressure on limited water resources.

5.3 Air

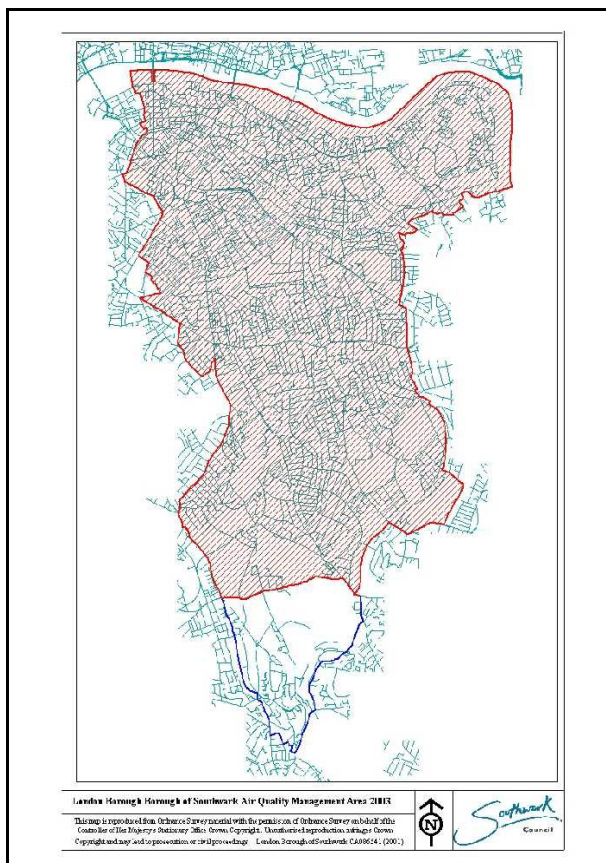
5.3.1 Overview

As part of the National Air Quality Strategy (NAQS), all local authorities are under obligation to establish air quality levels in their area. These air quality levels must meet national air quality objectives which are set by concentrations of airborne pollutants considered to be acceptable for health and the environment. If an area does not meet these objectives Air Quality Management Areas (AQMA) are declared. The authority must then draw up an Air Quality Action Plan to set objectives for improving air quality in problem areas.

5.3.2 Air Quality Management

In 2002, a detailed assessment of local air quality in Southwark identified local exceedances of national objectives and as a result an AQMA was declared in Southwark that covers 90% of the borough (the entire area located between the south circular A205 and the River Thames) ⁴, shown in Figure 5.1 below.

Figure 5.1 - Southwark Air Quality Management Area



Source: Defra. Air Quality Management Areas (www.Defra.com)

⁴ Southwark Council, 2012. Air Quality Improvement Strategy 2012 – 2017 and Action Plan 2012 – 2017.

Today the Southwark AQMA is declared for the pollutants nitrogen dioxide (NO₂) and Particulate Matter (PM₁₀), with the main contributor from vehicle pollutants⁵. Most recent available data from the Southwark Annual Monitoring Report for 2010/11 are shown in Table 5.1, which shows that pollutants measured at the Old Kent Road monitoring station have increased from 2008/ 09 levels.

Table 5.1 - Air Quality Monitored Pollutant Levels

Pollutant	Council Target	2008/09	2010/11
Particulate Matter (PM ₁₀)	23µg/m ³	22µg/m ³	29µg/m ³
Nitrogen oxides (NO)	40µg/m ³	38µg/m ³	45µg/m ³

5.4 Biodiversity, flora and fauna

5.4.1 Overview

The London Borough of Southwark is heavily urbanised; this poses issues in trying to balance the pressures from new development, increasing population, and the need to enhance biodiversity within the borough. Despite this, Southwark has a rich ecological resource with over 130 parks and open spaces. These include designated sites and habitats which host species of national and international importance.

The built environment is now seen as an important urban habitat and an opportunity to enhance biodiversity. Bio-diverse green roofs, Sustainable Urban Drainage and living walls are increasingly being integrated into new developments.

5.4.2 Natural Areas and Green Grid character areas

Natural England (NE) has divided England into 'Natural Areas' based on characteristic wildlife and natural features. There are two Natural Areas within the Borough of Southwark:

- **London Basin** – The London Basin covers some 5000km², of which London covers about a third. It is a trough-like basin which was formed around 50 million years ago. The Natural area is characterised by islands of semi-natural habitats including large areas of woodland. The London Basin is drained by the River Thames and its extensive network of tributaries.
- **Greater Thames Estuary** – This area comprises the tidal Thames, from Tower Bridge downstream to Whitstable in Kent and Southend in Essex, but also includes most of the Essex coast, north to the mouth of the Stour. It is made up of coast and low lying hinterland indented by several estuaries of varying sizes.

⁵ Southwark Borough Council. Southwark Annual Monitoring Report 7 April 2010 – March 2011. Local Development Framework.

The All London Green Grid (ALGG) is a Supplementary Planning Guidance (SPG) document produced by the Mayor of London. It aims to promote a shift from grey to green infrastructure by creating a 'green grid' integrated network of green and open spaces and a Blue Ribbon Network of rivers and waterways to secure environmental, health, social, educational and economic benefits.⁶

Southwark contains two Green Grid character areas:

- **GGA6 South East London Green Chain Plus** – Includes parts of the boroughs of Bexley, Bromley, Croydon, Greenwich, Lewisham. It contains a reasonably well connected network of parks and open spaces which are linked via the Green Chain Walk. The Character of the Green Chain is very varied and includes ancient and semi-natural woodland, historic parkland, heath, horse paddocks, playing fields, cemeteries, and allotments gardens.
- **GGA12 Central London** – Includes Camden, Islington, Hackney, Hammersmith & Fulham, Kensington & Chelsea, Lambeth, Tower Hamlets, Wandsworth, Westminster, and the City of London. The area is the most urbanised part of London, but it is highlighted in the ALGG SPG that *'it is also the place where new and improved green infrastructure could provide significant benefits in relation to surface water flood management'*.

5.4.3 Protected Sites

There are five Local Nature Reserves (LNRs) within Southwark. LNRs are places with wildlife or geological features that are of special interest locally. An LNR is a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949 by principal local authorities.

There are five LNRs within Southwark:

- Sydenham Hill Wood and Fern Bank;
- Nunhead Cemetery;
- Lavender Pond;
- Dulwich Upper Wood; and
- One Tree Hill.

Southwark's LNRs have increased from one LNR in 1993 totalling 29.9 ha to five in 2007 totalling 39.2ha. This has resulted in a decrease of residents per ha of LNR from 7,558 residents per ha in 1993 to 6,246 residents per ha in 2007. This is remains however, a long way off the Town and Country Planning local authority target of 1,000 residents per ha of LNR.

⁶ Greater London Authority, 2012. Green Infrastructure and Open Environments: The All London Green Grid. Supplementary Planning Guidance.

Figure 5.2 - Southwark Local Nature Reserves



Source: Natural England (www.NaturalEngland.com)

Sites of Importance for Nature Conservation

London's important wildlife sites are recognised by the Greater London Authority and London borough councils as Sites of Importance for Nature Conservation (SINCs).

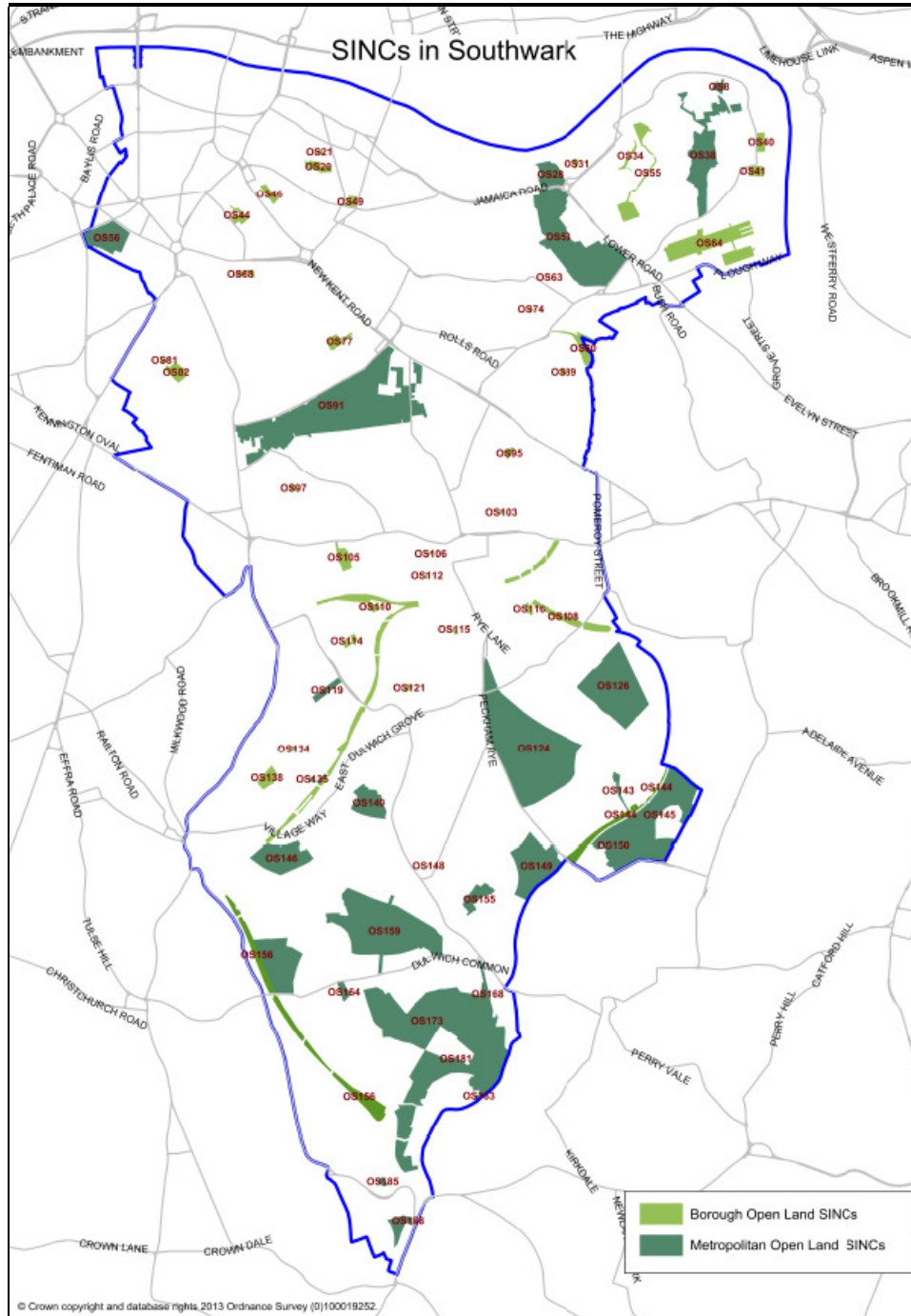
There are three tiers of site importance. The top tier, Sites of Metropolitan Importance, includes the best sites in London. Within Southwark there are five Sites of Metropolitan Importance: River Thames, Nunhead Cemetery (LNR), Dulwich & Sydenham Hill Wood (LNR), Cox's Walk and South Dock. The next tier is Sites of Borough Importance. There are 17 Grade 1 and 23 Grade 2 Sites of Borough Importance. The third tier is Sites of Local Importance of which there are 28 within Southwark.

Southwark's SINCs of Metropolitan and Borough importance are shown in Figure 5.3 below.

In 2010-11 Southwark Council recorded 73% of its 59 SINC sites were being managed so as to conserve their nature interest (i.e. are in 'positive conservation management'). This represents an increase from 66% in 2008-09 and compare

favourably with national figures, where 43% of local sites in 2010-11 were in positive conservation management.⁷

Figure 5.3 - Southwark Sites of Importance for Nature Conservation



Source: Southwark Council, Adopted Policies Map (2012).

⁷ Defra, 2012. Nature Conservation: Local Sites in Positive Conservation Management in England, 2008-09 to 2010-11.

5.4.4 Habitats and Species

Southwark is home to internationally and nationally important habitats and species including ancient woodland, reedbed, stag beetles and bats. These habitats and species are protected by EU Directives that have been transposed into UK legislation. National, regional and local biodiversity action plans contain measures to ensure protection and preservation of biodiversity in line with legislation.

The United Kingdom Biodiversity Action Plan (UK BAP) and London BAP 'Connecting with London's nature' (2002) address threatened species and habitats on a national and regional level. They set targets to maintain, restore or increase priority habitats and increase priority species populations by 2020. The Southwark BAP includes actions for national and regional habitats and species present in the borough. The key habitats of ecological importance identified in the BAP and nationally or regionally important BAP species are listed in Table 5.2.

There is the potential for the borough to contain protected species not identified in the BAPs or within designated sites

The LFRMS measures may include construction, land use change, changes in flood risk, changes in water levels that have the potential to affect protected and unprotected species, as well as those identified as priority by BAP's or at designated sites.

Table 5.2 - Key habitats and nationally/regionally important species

Key habitats of ecological importance for Southwark	Woodland
	Meadows
	Parks and Urban Greenspace, including Churchyards and Cemeteries
	Reedbeds
	Standing Water, including Ponds, Lakes, & Docks
	Rivers & streams
	Built environment
	Brownfield
	Private gardens
	Wildlife corridors
	Scrubland
	Deadwood
	Lowland meadows
National or regional BAP species recorded in Southwark	Bat species (There are eight species of bat recorded in Southwark.)
	Stag beetle
	Common lizard
	Slow-worm
	Hedgehog

	Common frog
	Common toad
	Smooth newt
	Red eyed damselfly
	European eel
	Black poplar
	Mistletoe
	Cornflower
	White letter Hairstreak

5.5 Geology and Soils

5.5.1 Overview

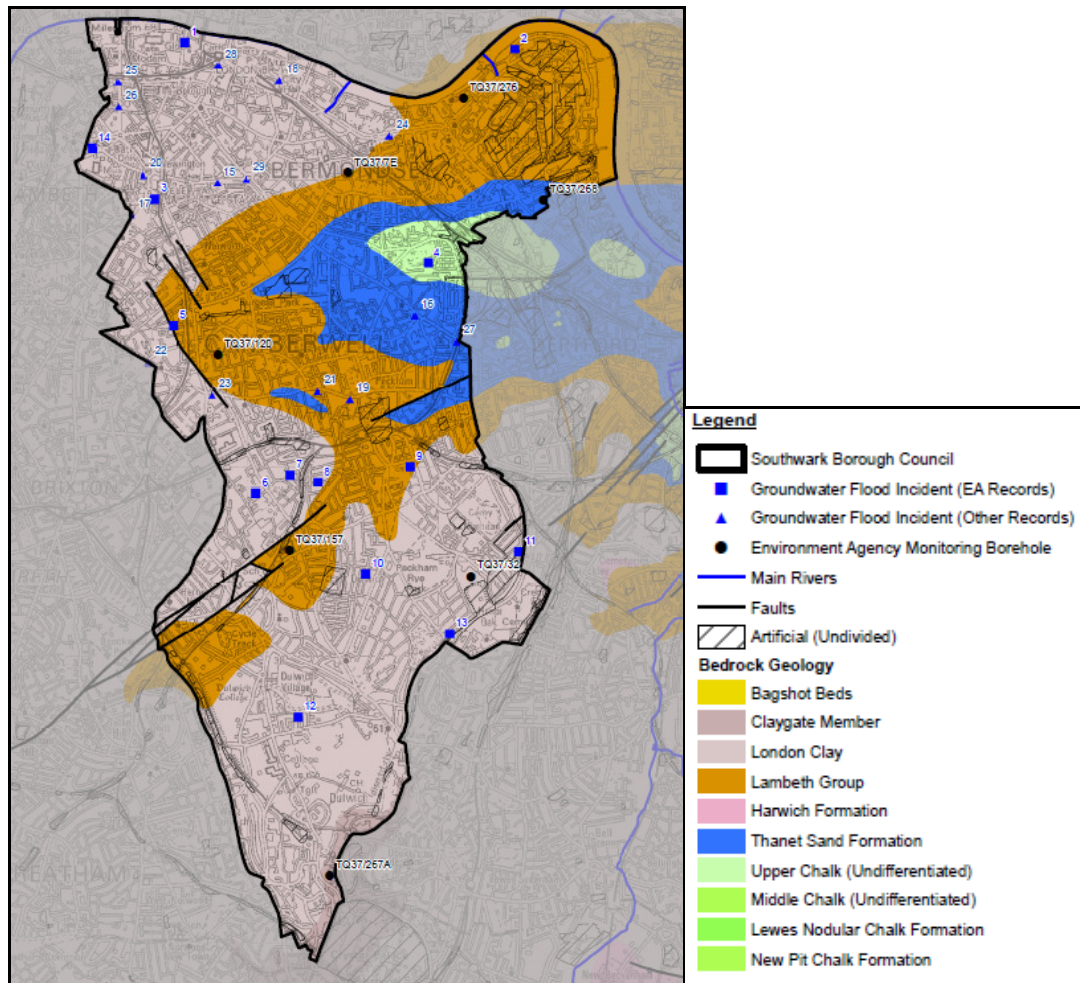
Soils and geology play an important part in determining the environmental character of an area. The nature and alignment of the rocks has a major influence on the landform. Rocks provide the parent material from which the soils are created and, through their constitution and chemistry, they influence the rate at which soils are formed. Soil chemistry and structure strongly influence the type of vegetation which occurs naturally in an area. The type of soil and underlying geology influence the likelihood of surface and groundwater flooding in an area.

Within Southwark, there are no nationally or regionally important geological sites. Dulwich Mill Pond is identified as having potentially local geological importance.

5.5.2 Solid Geology

The underlying geology of the borough is divided, with most of the southern, western and north-western parts of the borough underlain by the London Clay Formation, with a thickness of between 100m – 125m. In the northeast of the borough are the oldest rocks, the Upper Chalk Formation. In Bermondsey and Camberwell the rock formation is outcropped; overlying the Upper Chalk Formation is Thanet Sand Formation, which on average is about 15m thick. The bedrock geology is shown in Figure 5.4.

Figure 5.4 - Bedrock Geology



Source: Southwark Council, Surface Water Management Plan (2011)

5.5.3 Drift Geology

The drift geology present within the borough predominantly occurs in the north of the borough and is essentially made up of river terrace deposits (Thames Gravels) related to former course of the river Thames and its tributaries. These are variable in thickness and are composed of sand and gravel, with variable amounts of silt and occasional clay lenses. Immediately adjoining the River Thames, the deposits of gravel can lead to localised incidents of groundwater flooding. A lens of chalk is evident within the low lying area of Bermondsey, and this too may indicate a slightly higher susceptibility to possible groundwater flooding.

The most recent deposits are those of the River Thames floodplain which occur along the northern margin of the borough. These are of variable thickness, thickening towards the middle of the valley where up to 8m may occur. Dominantly silt and sand, alluvium deposits also contain clay and peat horizons.

5.5.4 Soils

In the north of the borough bordering the River Thames the soils are loamy and clayey soils associated with coastal flats. There is also naturally high groundwater in the area.

The southern half of the borough contains base rich loamy and clayey soils that are slowly permeable and suffer from impeded drainage. The impermeable nature of the soils within the south of the borough can increase the susceptibility of the area to surface water flooding following periods of heavy rainfall.

On a regional level, a large proportion of Southwark falls within Natural England Character Area (NCA) 112: Inner London. Soil and agricultural land within the NCA is classified as entirely urban.⁸

5.6 Water

5.6.1 Overview

The study area is situated in the lower reaches of the Thames catchment with the northern boundary of the borough bounded by the Thames for approximately 7km. There are no other main watercourses within the borough, with all other drainage catchments historically incorporated into the main sewerage system.⁹

The study area falls into the Thames River Basin District (RBD) (defined by the Environment Agency) and is located in the Environment Agency South East Region. The Thames RBD covers an area of 16,133 square kilometres from the source of the River Thames in Gloucestershire through London to the North Sea and is one of the driest in the UK with rainfall levels below the national average. It is an important water source providing two-thirds of London's drinking water.

The water environment in the southeast of England and Thames RBD faces a number of pressures and challenges; a high population density and demand for water coupled with the RBD being one of the driest in country has led to concerns over maintaining the water resources available for people and the environment.

5.6.2 Flood Risk

As outlined in the National Planning Policy Framework 'flood risk' means risk from all sources of flooding - including from rivers and the sea, directly from rainfall on the ground surface and rising groundwater, overwhelmed sewers and drainage systems, and from reservoirs, canals and lakes and other artificial sources.

⁸ Natural England. Available at http://www.naturalengland.org.uk/Images/112_Inner_London_tcm6-32475.pdf. Last Accessed 01.10.12 10:00

⁹ Southwark Council, 2008. Strategic Flood Risk Assessment.

There have been a number of recent flood events that have impacted Southwark. These include surface water flooding events in 2004, 2006 and 2007; associated with heavy periods of rainfall. A tidal flooding event in 2005 occurred when the River Thames Barrier was not shut, causing flooding along the Southwark frontage and into some basements.

The Thames poses a potential risk of flooding to properties within Southwark; currently the borough is provided protection against tidal and fluvial flooding by the Thames Tidal Defences up to a 1 in 1000 year event. Secondary tidal and fluvial protection is offered through flood defences along the Thames frontage.

There is the potential for flooding to occur from other sources including possible sewer surcharging, and surface water flooding as a result of heavy rainfall and/ or blocked gullies.

The northern parts of the borough are particularly vulnerable to flooding because they are low-lying and contain a very large residential and business population. There is also the potential for extensive pluvial (heavy, prolonged rainfall) and urban drainage flooding.

Tidal and Fluvial Flood Risk

The River Thames has been heavily modified over time with the growth of London, including the construction of raised defences along much of its length (within London). As a result, the direct risk to borough from fluvial flooding alone is negligible. There are no other watercourses posing a potential risk of fluvial flooding to the borough.

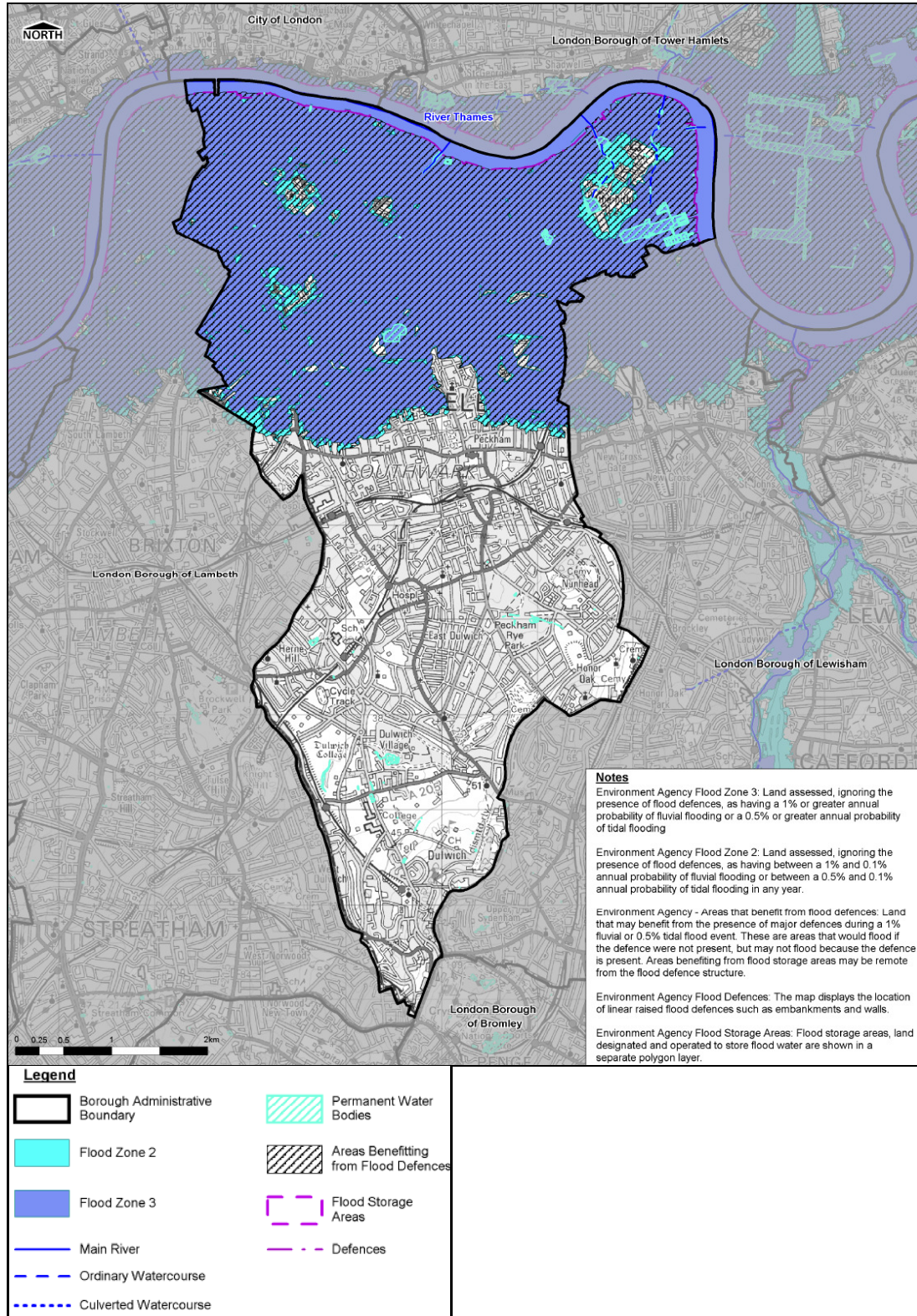
The River Thames is tidally influenced at this location and the primary risk of flooding in London comes as a result of a surge tide. The potential for a surge to coincide with a particularly high tide or fluvial flooding poses a threat to London.

To assess flood risk from fluvial and tidal sources the Environment Agency has produced flood maps. These identify areas on floodplains that would naturally be affected by flooding if a river rises above its banks, or high tides and stormy seas cause flooding in coastal areas. The classification of flood zones is listed below:

- Flood zone 1 – These are areas outside the floodplain where there is a less than 1 in 1000 years (0.1%) chance of flooding from either river sources or from the sea in any one year.
- Flood zone 2 – Covers all land where there is between a 1 in 100 (1%) and 1 in 1000 (0.1%) chance of flooding from rivers in any one year and between a 1 in 200 (0.5%) and 1 in 1000 (0.1%) chance of flooding from the sea in any one year.
- Flood zone 3 – Covers all land where there is a 1 in 100 (1%) or greater of flooding from rivers in any one year or a 1 in 200 (0.5%) or greater chance of flooding from tidal/ coastal sources in any one year.

Flood zones 2 and 3 for Southwark are shown in Figure 5.5, which highlights that only the northern section of the borough is at risk from fluvial and tidal flooding.

Figure 5.5 - Southwark Flood Zones 2 and 3



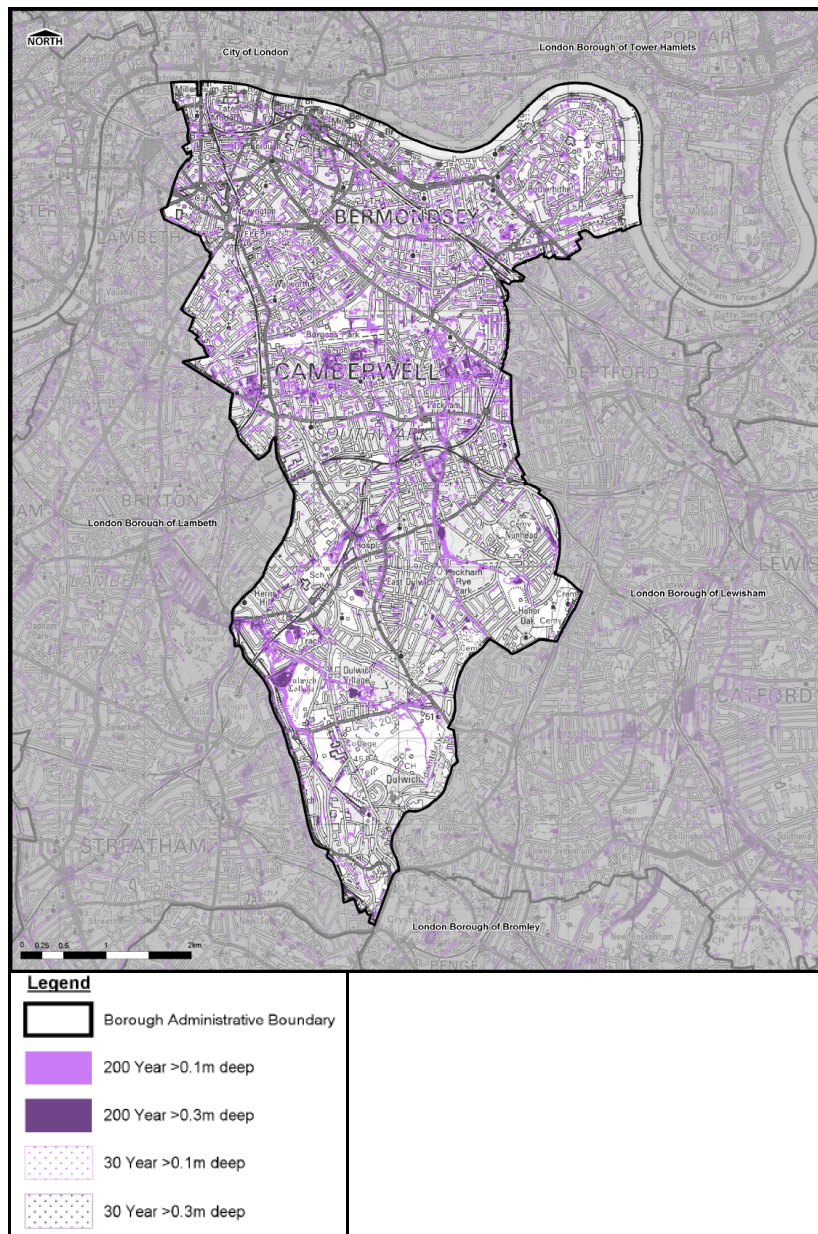
Source: Southwark Council, *Strategic Flood Risk Assessment (2008)*.

Surface Water Flooding

Historically, there have been smaller surface water flood events in 2006 and 2007, leading to the temporary closure of Rotherhithe Station (2006) and Surrey Quays railway station (2007). A larger surface water flood event occurred in 2004, principally in the Dulwich area. It was estimated to cost £1 million in damages, and it took over six months for some residents to return to their homes.

Following the 2007 national floods, the Environment Agency produced their national Flood Map for Surface Water (FMfSW), which are indicative maps that identify broad areas susceptible to surface flooding. The FMfSW map for Southwark is shown in Figure 5.6.

Figure 5.6 - Flood Map for Surface Water



Source: Southwark Council, Surface Water Management Plan (2011)

Ground Water Flooding

Groundwater flows out of the ground at the point where the water table meets the surface. Heavy rainfall can infiltrate the ground causing saturation; surplus water will then flow out to rivers or potentially cause flooding. Groundwater tends to respond slowly to rainfall, so when it occurs it can persist for some time.

The underlying drift geology in the area of Southwark adjoining the River Thames corridor is characterised by 'Thames Gravels'. There is evidence within adjoining boroughs of groundwater flooding occurring some distance from the river as a result of water finding a pathway through the gravels during higher river levels. The Southern section of the borough overlays London Clay; this is an impervious layer, and consequently the risk of groundwater flooding is very low.

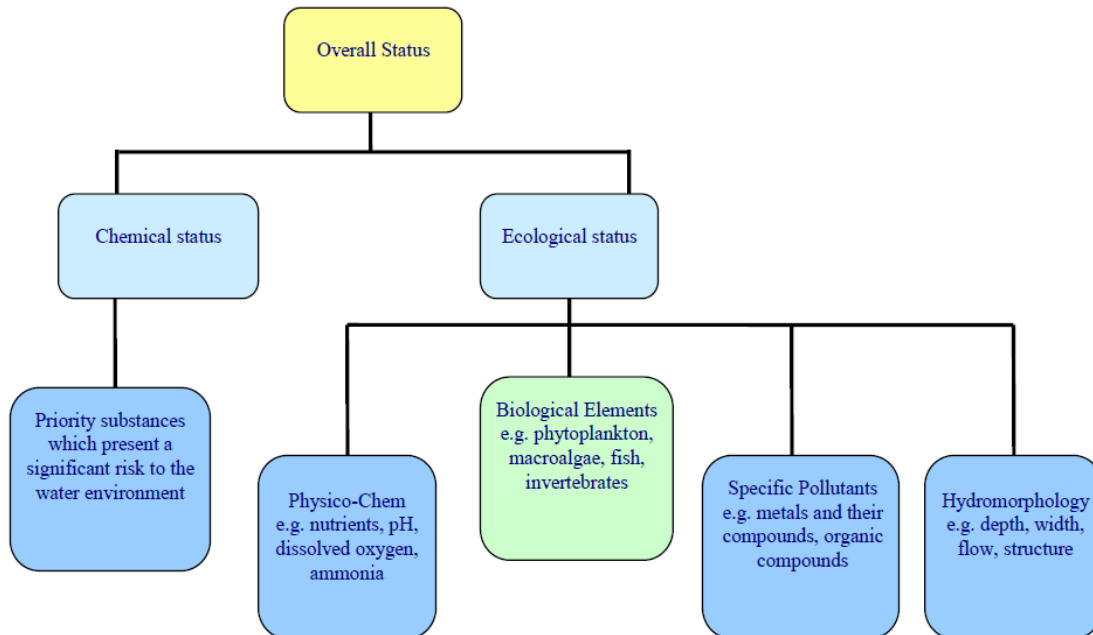
On a regional level, London has had an issue over the past 20 years with rising groundwater due to a steady reduction in industrial activity and associated water abstraction during the second half of the 20th century. Groundwater levels began to recover to their natural levels thereby threatening to inundate the underground infrastructure or de-stabilise the ground surrounding the structures. This problem has been addressed by increased abstraction and groundwater levels are now relatively stable.¹⁰

5.6.3 *Surface Water Quality and Supply*

The Water Framework Directive (WFD) sets an objective of aiming to achieve at least 'good status' in all water bodies by 2015. For surface waters, good status is a statement of 'overall status', and has an ecological and chemical component. It is measured on the scale 'high', 'good', 'moderate', 'poor' and 'bad'. The factors contributing to quality are shown in Figure 5.7.

¹⁰ Mayor of London, 2009. London Regional Flood Risk Appraisal.

Figure 5.7 - The components of overall status of surface water bodies



Source: Environment Agency, 2009; *River Basin Management Plan Thames River Basin District*.

Within the Thames RBD, 23% of surface waters are at good or better ecological status / potential and 28% of assessed surface waters are at good or better biological status now.

5.6.4 Groundwater Quality and Supply

Groundwater comes from rainfall that has filtered down through the ground and is stored in permeable rocks, known as aquifers. This can be abstracted for public supply, industry, farming and small private supplies from springs, wells and boreholes.

Within the Thames RBD groundwater is very important and provides around 40% of public water supplies with chalk forming the predominant aquifer. Current assessments show that groundwater is fully used over much of the Thames River Basin District. Therefore it is essential to maintain and improve the quantity and quality of groundwater.

For groundwater bodies in the Thames RBD, currently 35% are at good quantitative status and 43% are at good chemical status.

On a national scale Groundwater has deteriorated in quality over the last 50 years. Pollution from diffuse sources is the main cause of pollution to groundwater with around 81% of groundwater bodies at risk of failing WFD objectives. Nitrate is one of the most common groundwater pollutants with more than two thirds of the nitrate in groundwater coming from past and present agricultural, mostly chemical fertilisers and organic materials.

The EA has defined Source Protection Zones (SPZs) for 2000 groundwater sources such as wells, boreholes and springs. These zones show the risk of contamination from any activities that might cause pollution in the area. The shape and size of a zone depends on the condition of the ground, how the ground water is removed and other environmental factors.

5.6.5 *Climate Change and Water*

The likely impacts of climate change on flooding, and water quality and water availability are identified in section 5.2.4.

5.7 **Population and Human Health**

5.7.1 *Overview*

Understanding local demographic trends is important in planning for the future of an area as it enables local authorities to predict the changing needs of the population and cater for them. This section covers Population Structure and Statistics, Transport, Access to Services, Public Rights of Way, Health, Economy Tourism and Noise.

5.7.2 *Population Structure and Statistics*

Early data released from the March 2011 census estimates Southwark's population as 288,300; this is an increase of 12.3% from the 2001 adjusted figure of 256,700. This compares with the largest percentage national population increases since 2001 in Tower Hamlets 26.4% and Newham 23.5%, both in London, and was larger than both the regional increase for the South East of 7.6% and London per cent 11.6%. Population growth is dominated by natural increase, with about 2.5 births for every death annually. The population density in Southwark is 9,988 people per km²; making it the ninth most densely populated local authority in England and Wales. The average regional population density figure for London was 5,200 people per km² whilst it was 321 people per km² for the rest of England and Wales.¹¹

Like many London boroughs, Southwark has a predominantly young adult population. The Office of National Statistics (ONS) mid year estimates that there are 48,900 people aged between 0-15 years, 195,700 of working age, and 29,400 older people (65+ for men/60+ for women). The population share for children is around the national average, while there is a higher percentage of adults aged 25-44 years in the area compared to England and Wales as a whole. There are proportionally fewer people of retirement age - 10% in Southwark compared to 18% of the population within England and Wales.

Southwark is an ethnically diverse borough. 63% of residents are White, 3.7% Mixed, 4.1% Asia or Asian British, 25.8% Black or Black British and 3.2% Chinese or other ethnic group. Religiously, 61.6% of residents are Christian, 0.4% are Jewish,

¹¹ ONS, 2012. 2011 Census – Population and Household Estimates for England and Wales, March 2011.

6.9% are Muslim, 1.1% are Hindu, 0.2% are Sikh, 1.1% are Buddhist, 0.4% as Other, 18.5% No religion and 9.9% as religion not stated in the Census.

The ONS predict that Southwark's population will continue to grow over the next two decades to 2031. The ONS population projections show that Southwark's population is projected to grow to 338,600 people in 2031, an increase of 24%. Southwark will continue to remain a young population with the broad population groups remaining relatively unchanged.¹²

Under the 2010 Communities and Local Government Index of Multiple Deprivation (IMD), Southwark improved its overall ranking at both regional and national level. Overall, Southwark ranked as the 41st most deprived borough out of 326 local authorities in England. This is a relative improvement from previous rankings when Southwark was ranked 26th in 2007 and 17th in 2004. Southwark moved from 6th most deprived borough in London in 2004, to 9th in 2007, to 10th in 2010.

Four 'Lower Super Output Areas' (LSOAs) in Southwark fell within the 10% most deprived in England compared with 16 LSOAs in 2007. The remaining areas in the 10% most deprived are in East Walworth, South Bermondsey, Nunhead and the north part of Livesey. Levels of deprivation in the borough vary significantly between areas with Peckham, Walworth and Camberwell being the most deprived areas. The least deprived areas tend to be in the north and south of the borough such as Bankside and Dulwich.¹³

5.7.3 *Transport*

Travel Network in Southwark

There are approximately 415km of roads in Southwark, 23km of which form part of the Transport for London Road Network. These roads are not managed or maintained directly by Southwark Council but fall under the control of TfL. The road network comprises of thirteen 'red routes', which include the A205, A202, A2, A200, A3200, A201 and A100, which are classed as major routes by TfL.

The borough also hosts three different underground lines; the Northern, Bakerloo and Jubilee services. The underground network is concentrated in the north of the borough where there are nine underground stations; London Bridge, Borough, Elephant and Castle, Kennington, Surrey Quays, Rotherhithe, Southwark, Bermondsey and Canada Water.

The Jubilee line carries over 405,000 passengers each weekday and requires 47 trains to meet demand for both AM and PM peaks. The Northern line carries over

¹² Southwark Analytical Hub, 2009. Southwarks Population: Now and the future.

¹³ Southwark Council, 2011. Core Strategy publication/ submission version sustainability appraisal.

660,000 passengers each weekday and requires 91 trains to meet demand for both AM and PM peaks. The Mayor plans to increase the 2006 capacity of the Northern line by 20% by 2012. The Bakerloo line carries 302,869 passengers each weekday and the Mayor plans to increase the 2006 capacity of the Bakerloo line by 38% by 2020.

The borough also supports eleven surface rail stations linking the borough to towns and cities across the South and Southeast of England. The London Bridge railway station is the fourth busiest rail terminal in London, other railway stations of the borough include Elephant and Castle, South Bermondsey, Queens Road Peckham, Peckham Rye, Denmark Hill, Nunhead, East Dulwich, North Dulwich, West Dulwich and Sydenham Hill.

Demand on the transport network continues to grow, and the council seeks major improvements to transport capacity to meet demand and improve services in the borough. A list of Major transport projects that impact on travel in Southwark is given below:

- Bakerloo line extension – This extension would increase travel opportunities to key areas in the borough and free up National Rail capacity at London Bridge for other service improvements.
- Cross River Tram – The tram would be a street running tram through the centre of London providing a core route between Euston and Waterloo with branches to Camden and Kings Cross in the north and Peckham in the south. Funding for further development of the tram was withdrawn.
- Docklands Light Rail extension to bank – The scheme would relieve pressure at London Bridge and on the Jubilee line towards Canary Wharf by providing an alternative for passengers, using the expanded Thameslink service, to reach Docklands.
- London Overground – The line will be further extended to run from Clapham Junction to Dalston Junction via Surrey Quays, providing a quick link between southwest and southeast London.
- Thames Bridge – The proposed bridge would offer a relatively direct route between the residential centre of Rotherhithe with the employment centre of Canary Wharf.
- Brixton High Level – This would involve the development of a new station at Brixton High Level.

Travel Patterns in Southwark

According to the London Travel Demand Survey (LTDS) 513,000 trips are made per day within the borough, with many reasons identified for travel including for work, to school, for shopping or to visit friends and family.

Walking and using the Bus are the most common methods of travel accounting for 30% of journeys each. The percentage of journeys reliant on the bus service is the

joint highest in London. There are 60 bus services and 15 night bus services that run through Southwark, on 42km of bus lanes and serve 650 bus stops.

The LTDS indicates that 38% of households have access to at least one car, which is slightly below the inner London average of 44% and significantly below the Greater London average of 58%. The level of access to a car has increased significantly since the 1981 census.

The overall picture for Southwark is one of gradually falling levels of motor vehicle traffic entering and exiting the borough since the early 1990s, this has further reduced due to the effects of the economic recession. Problems still exist however in many parts of the road network due to congestion with particular problems on the approaches to the Rotherhithe Tunnel and Tower Bridge as well as on Peckham High Street and Old Kent Road.

The coverage and accessibility of public transport varies significantly across the borough. The lower levels of accessibility are centred on Burgess Park and surrounding residential area, the wider area of Rotherhithe and the green spaces in Dulwich.

5.7.4 *Access to Services*

Accessibility is central to the safeguarding of sustainable communities, in particular people's ability to reach services by available, affordable and accessible public and community transport.

The accessibility of public transport varies significantly across the borough, with the lower levels of accessibility centred on Burgess Park and the surrounding residential area, the wider area of Rotherhithe and the green spaces in Dulwich.

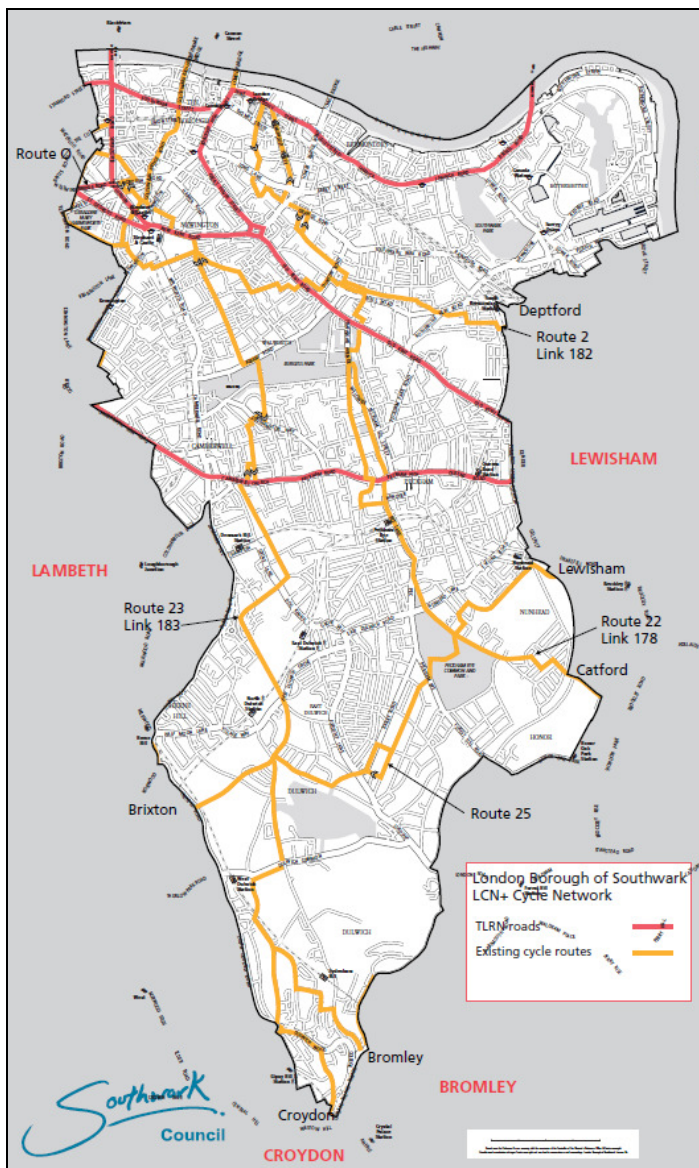
5.7.5 *Public Rights of Way*

The Thames Path National Trail follows the River Thames for 184 miles from its source in the Cotswolds to the Thames Barrier. Within the London Borough of Southwark the Trail follows the River Thames along its southern edge.

There are over 55km of cycle routes within the borough. These cycle tracks are open to pedestrians but not motor traffic. This includes a 'cycle superhighway CS7'; a route that runs from outer London into central London providing a faster and more direct route for cyclists. Southwark's cycle network is shown in

Figure 5.8.

Figure 5.8 - Southwark Cycle Routes



Source: Southwark Council (www.southwark.gov.uk)

5.7.6 Health

Health Determinants include:

- The social and economic environment;
- The physical environment; and
- The person's individual characteristics and behaviours.

Many factors combine together to affect the health of individuals and communities. Whether people are healthy or not, is determined by their circumstances and environment. To a large extent, factors such as where we live, the state of our environment, genetics, our income and education level, and our relationships with friends and family all have considerable impacts on health, whereas the more commonly considered factors such as access and use of health care services often have less of an impact. Figure 5.9 visualises the main determinants of health.

Figure 5.9 - The Main Determinants of Health



Source: Dahlgren and Whitehead, 1993

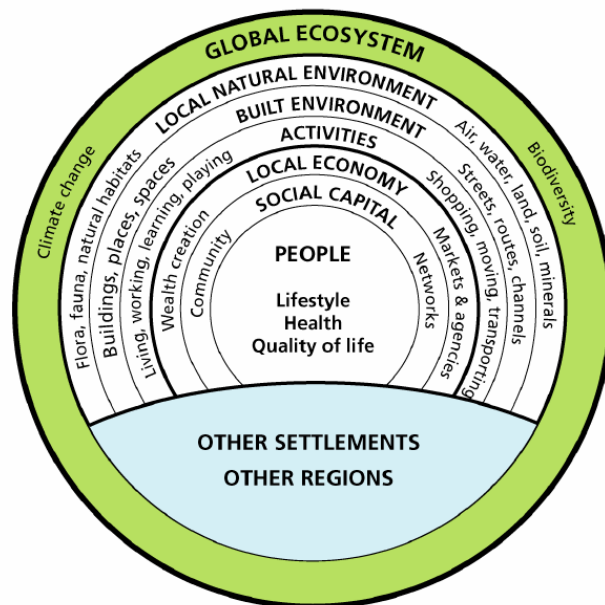
Source: Whitehead 1993

Barton and Grant (2006) have developed the Dahlgren and Whitehead model to produce the health map for the local human habitat Figure 5.9. The map continues to place people at the centre, but sets them within the global ecosystem which includes:

- the natural environment;
- the built environment;
- activities – such as working, shopping, playing and learning;
- the local economy – includes wealth creation and markets;

The health map illustrates why the social determinants are of such relevance to local government. The majority of local government services impact upon or can influence the conditions in which people live and work and, to a certain extent, the life chances of individuals.

Figure 5.10 - Health map for the Local Human Habitat



Source: Department of Health (www.healthprofiles.info)

5.7.7 Southwark Health Profile

The Association of Public Health Observatories (APHO) and Department of Health have produced a 2012 Health Profile for Southwark ¹⁴, see Figure 5.11. It shows how people's health in Southwark compares to the rest of England. The local result for each indicator is shown as a circle, against the range of results for England which is shown as a bar. A green circle may still indicate an important public health problem. A summary of some key health related facts is listed below:

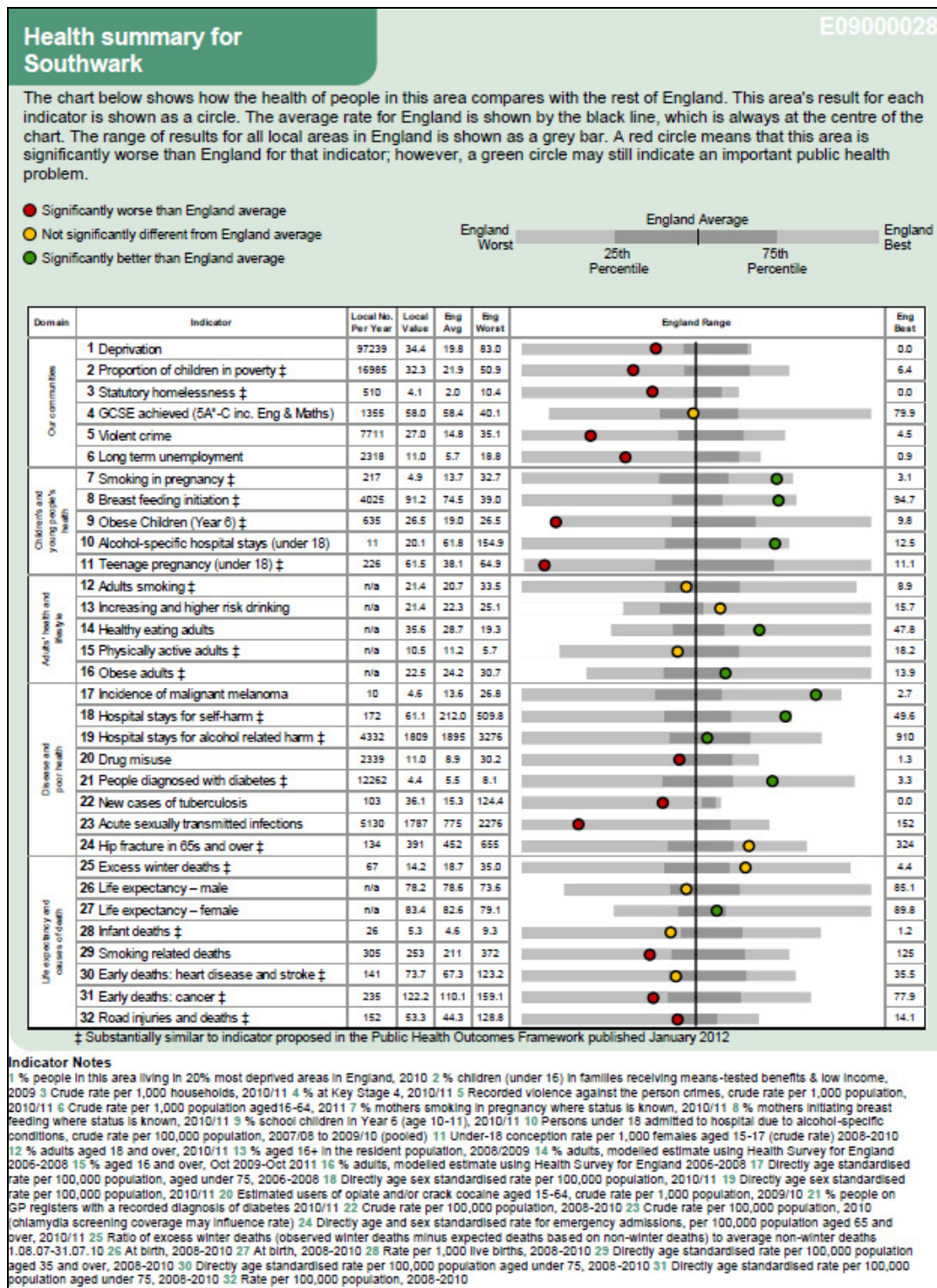
- Deprivation is higher than the England average and about 17,000 children live in poverty

¹⁴ Public Health Observatory, 2012. Health Profile 2012 – Southwark. Available at www.healthprofiles.info last accessed: 18.09.2012 16:00.

- Life expectancy for women is higher than the England average. However, life expectancy is 10.4 years lower for men and 8.6 years lower for women in the most deprived areas of Southwark than in the least deprived areas.
- Over the last 10 years, all cause mortality rates have fallen. Early death rates from cancer and from heart disease and stroke have fallen but the former is worse than the England average.
- Estimated levels of adult 'healthy eating' and obesity are better than the England average.
- About 26.5% of Year 6 children are classified as obese, higher than the average for England.
- Rates of sexually transmitted infections, road injuries and deaths and smoking related deaths are worse than the England average.

The profile identifies that health priorities in Southwark include alcohol, childhood obesity and improving the detection and management of long term health conditions.

Figure 5.11 - Southwark Health Profile



Source: Public Health Observatory, 2012. Health Profile 2012 – Southwark.

5.7.8 Economy

Southwark has changed significantly over the last decade. Its position close to the centre of London has meant that it has been able to benefit from the recent growth of the London economy and has seen rapid expansion in the number of jobs and businesses within its borders. However, despite the large growth in jobs – there was an additional 21,600 jobs created between 1998 and 2007, equivalent to a 15%

increase, compared to 8% for London as a whole – rates of worklessness remain high and unemployment is concentrated among certain groups and in certain localities.

Data from NOMIS on employment figures between April 2011 and March 2012 shows that there are 17,400 people unemployed in Southwark, this is 10.5% of the economically active workforce which is slightly higher than the London (9.3%) and Great Britain (8.1%) averages. However, weekly earnings for full-time residence based (£629.2) and workplace based (£665.5) workers are higher than London and Great Britain averages.

Similar to national averages the service sector accounts for a large majority of the Southwark economy providing 91.2% of jobs, 43.1% of these are within finance, IT, other business activities reflecting the expansion of the business sector increasing from 28.7% in 1998. This is identified as a growth sector along with hotels and restaurants, education and construction.

5.7.9 *Tourism*

Southwark is a fast growing tourist destination within London; it houses tourist attractions including the Tate Modern, Shakespeare's Globe Theatre and over 50 other attractions that form the core strength of the tourism product.

Tourism is an important part of the borough's economy. In particular, the north of the borough has seen an increase in the number of hotel rooms developed due to a higher level of public transport accessibility and proximity to tourist attractions.

5.7.10 *Climate Change and Tourism*

The likely impacts of climate change on tourism are identified in section 5.2.4.

5.7.11 *Noise*

Southwark is covered in the London Agglomeration Noise Action Plan (2010). This document is designed to address the management of noise issues and effects in the London agglomeration under the terms of the Environmental Noise (England) Regulations 20062 as amended (the "Regulations").

Most of the Noise pollution in Southwark comes from Road Traffic. As with air pollution, noise levels are greatest where traffic levels are highest, and where vehicles are halting and accelerating.

5.8 **Material Assets**

5.8.1 *Overview*

For the purpose of this SEA 'material assets' refers to the critical infrastructure and buildings within the borough that could be potentially affected by flooding. Implementation of the LFRMS measures has the potential to impact critical infrastructure, waste management facilities and housing. As land use is

predominantly urban within the borough, there is minimal data on agricultural land and mineral extraction within the borough and as such baseline data has not been included in this report.

5.8.2 *Critical Infrastructure*

Critical infrastructure comprises 'those facilities, systems, sites and networks necessary for the functioning of the country and the delivery of the essential services upon which daily life depends'. The implementation of the LFRMS measures has the potential to disrupt critical infrastructure such as utilities (e.g. clean water, electricity supply, telecoms network), access to community care facilities (hospitals or health centres). The LFRMS will seek to manage flood risk to critical infrastructure and material assets within Southwark. If the LFRMS requires the building of new infrastructure, it will also need to consider access to and use of critical infrastructure.

5.8.3 *Waste*

The London Borough of Southwark is a unitary authority and as such is responsible for the collection, treatment and disposal of all municipal waste within its area. The Southwark Council Waste Management Strategy 2003-2021, sets out the methods by which Southwark Council intends to promote and achieve the diversion of waste from landfill and sets targets for the recycling, composting and recovery of household waste.

Southwark collected 115,192 tonnes of municipal waste in 2010-11, a reduction in the waste generated in 2009-10 (117,473 tonnes) and 2008-09 (188,851 tonnes). Of the waste collected 19.39% was recycled, an increase from 17.36% in 2009/10.

In 2010/11 Southwark produced 1,303 tonnes of residential construction and demolition, of which 100% was recycled.

In January 2012 an Integrated Waste Management Facility was opened within Southwark of the Old Kent Road. It is expected to facilitate a significant improvement in the amount of waste the borough recycles.

5.8.4 *Housing and Homes*

Southwark covers areas of diverse housing types including 'leafy suburbia' as well as fashionable riverside flats and converted Victorian terraces. In general there is a mix of increasingly expensive private sector housing mingled with large estates of social rented accommodation.¹⁵

To meet the growing housing needs in Southwark, the Southwark Core Strategy details the plan for 24,450 homes before 2026, with growth concentrated in the following areas:

- Bankside, Borough and London Bridge Opportunity Area;

¹⁵ Southwark Council, 2011. Southwark Plan.

- Elephant and Castle Opportunity Area;
- Canada Water (and Rotherhithe) Action Area;
- Aylesbury Action Area;
- Peckham and Nunhead Action Area;
- Camberwell Action Area; and
- Old Kent Road Action Area.

5.9 Cultural Heritage

5.9.1 Overview

The term 'cultural heritage' covers buried archaeological remains which allow the study of past societies through the medium of material culture, and built heritage which is buildings and structures of heritage interest.

Southwark has a rich and important archaeological heritage dating from 10,000 years ago; is amongst the richest in London and contains remains of local, regional, national and international importance. Prehistoric evidence has been found in the north of the borough and along Old Kent Road. The Romans set up their provincial capital of Britain at a settlement near London Bridge and Borough High Street, remains of Roman buildings, industry, roads and cemeteries have been discovered over the last 30 years. The area was also important during the medieval period and this is reflected both archaeologically and historically.

5.9.2 Condition of Southwark's Heritage Assets

The Heritage at Risk (HAR) programme was launched in 2008 by English Heritage; it identifies heritage sites that are most at risk of being lost as a result of neglect, decay or inappropriate development. It covers nationally designated sites including grade I and II* listed buildings, listed places of worship, SAMs, registered parks and gardens, registered battlefields and protected wreck sites. Locally designated conservation areas are also featured on the Register.

Within Southwark there are currently 36 heritage sites on the HAR; they include 31 buildings at risk, one place of worship, two SAMs, one registered park and garden, and 1 conservation area.

5.9.3 Internationally Designated Sites

The World Heritage List includes properties forming part of the cultural and natural heritage which the World Heritage Committee considers as having outstanding universal value.

There are no world heritage sites (WHSs) within the London borough of Southwark; however the Tower of London WHS is situated in close proximity on the north bank of the River Thames in the London Borough of Tower Hamlets. The Tower of London was founded by William the Conqueror in 1066, and is a model example of a medieval fortress palace. The outstanding universal value, significance and setting of the Site has an influence on the character of Southwark.

5.9.4 *Nationally Designated Sites*

Heritage Assets are statutorily protected through national designations. Southwark's designated heritage assets are listed below:

- Seven SAMs – Abbey buildings, Bermondsey; remains of Winchester Palace; the Rose and Globe Theatres; a Roman riverboat; a medieval moated manor house; pumping engine house for Brunel's Thames tunnel;
- Approximately 2,200 listed buildings; and
- Five historic Parks and Gardens: Dulwich Park, Belair, Nunhead Cemetery, Peckham Rye Park, Southwark Park.

5.9.5 *Locally Designated Sites*

Conservation Areas

Conservation areas are designated for their special architectural and historic interest. They are normally centred on listed buildings and pleasant groups of other building, open space, or an historic street pattern. Planning legislation requires that special attention shall be paid to the desirability of preserving or enhancing the character or appearance of the Conservation Area. There are 43 designated conservation areas in the borough, outlined in

Figure 5.12.

Archaeological Priority Zones

Southwark Council has identified seven Archaeological Priority Zones (APZs). When development proposals are submitted for these areas an archaeological officer conducts an initial assessment to assess the archaeological implications and ensure that any necessary investigations take place. A brief description of the seven APZs is given below, and their position within Southwark is shown in

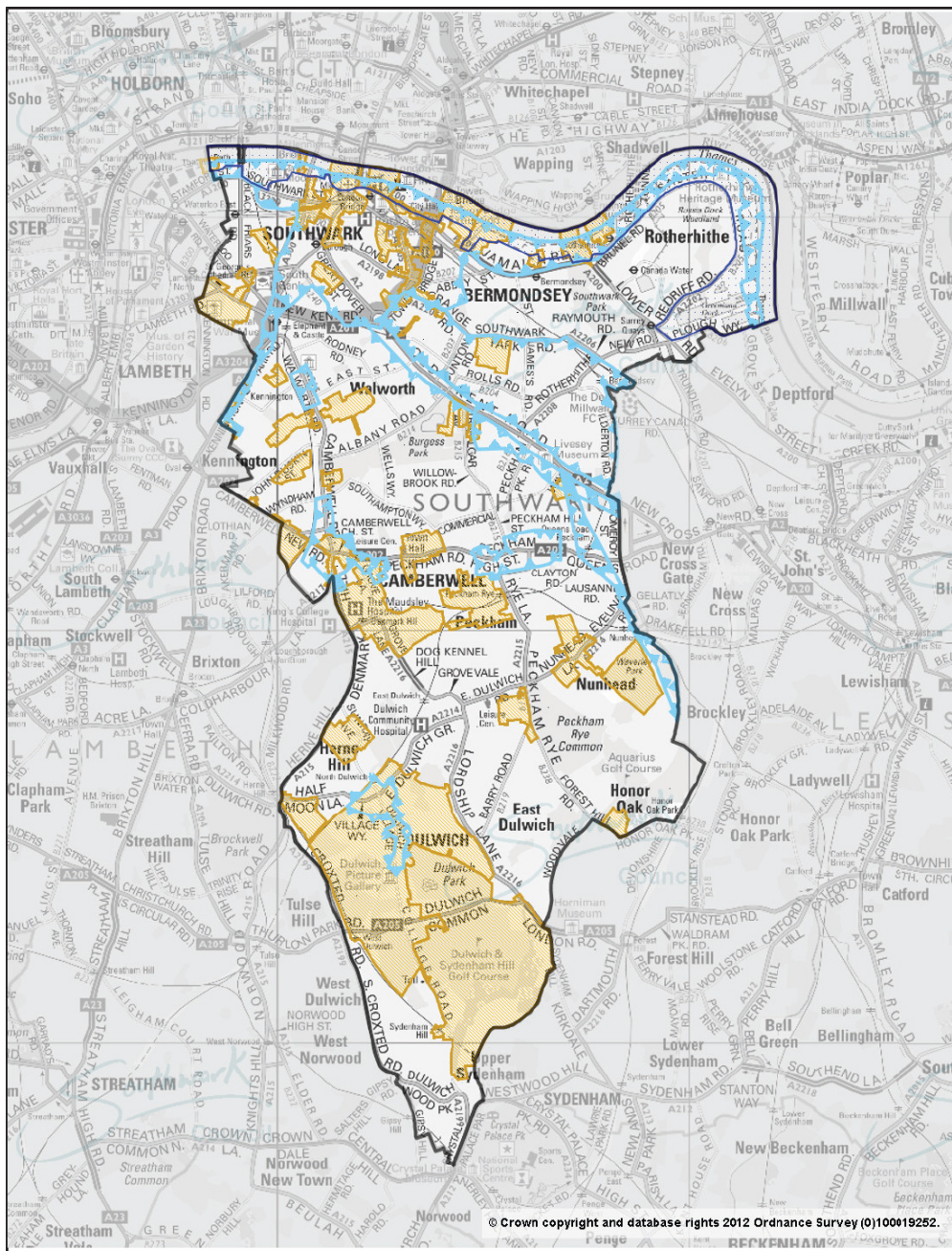
Figure 5.12.

- Borough/ Bermondsey/ Riverside – incorporates the Roman and medieval settlement areas of Bankside, Bermondsey and Rotherhithe.
- Old Kent Road – designated because of the presence of early prehistoric activity adjacent to the Old Kent Road and because the road itself is thought to follow the line of Roman Watling Street, the route from London to Canterbury.
- Elephant and Castle/ Kennington Park Road – follows the line of Roman Stane Street, from London to Chichester. The site of the Saxon and medieval village of Newington Butts lies within the priority zone.
- Walworth – includes the site of the Saxon and medieval village of Walworth.
- Camberwell – incorporates the Saxon and medieval village of Camberwell.
- Peckham – the Saxon, medieval and later village of Peckham lies within this zone.

- Dulwich – the historic village of Dulwich is included in this zone.

It is also important to recognise the importance of undesignated heritage assets and unknown archaeology within Southwark.

Figure 5.12 - Southwark Archaeological Priority zones/ Conservation areas



0 km 1 km 2 km

Design conservation	
	CS Archaeological Priority Zone
	CS Conservation Areas
	CS Thames Policy Area

Source: Southwark Council Adopted Policies Map 2011.

The management of Southwark's historic environment is important to protect the setting in which people live. Cultural Heritage assets can be damaged through flooding; the LFRMS will provide protection measures designed to reduce flood risk. The LFRMS could have an impact on the setting of heritage assets including both the visual impact from permanent structures, and impacts from maintenance and

construction activities such as noise, dust and vibration. As outlined in the National Planning Policy Framework, the more important the asset the greater the weight should be given to the asset's conservation.

5.10 Townscape/ Landscape

5.10.1 Overview

The study area lies within the urban expanse of Inner London, with the majority of the borough a developed townscape, integrated with smaller landscape areas consisting of parks and open spaces.

5.10.2 National Character Areas

Natural England has identified 159 National Character Areas (NCAs) that recognise areas of similar landscape character at the highest tier in the assessment hierarchy in England. They provide a picture of landscape character at the national scale. Southwark is covered by two NCAs. The key characteristics of the two character areas are described below:

- **NCA 112: Inner London** – Lies on the banks of the River Thames. It is a largely level, broad valley landscape which rises to low hills to the north and south. The maximum elevation is 132m; the minimum is -0.2m. This NCA covers the majority of the borough of Southwark.
- **NCA 81: Greater Thames Estuary** – The Estuary lies between the North Sea and the rising ground inland. It is situated on one of the major estuarine embayments of southern England, and it is deeply indented. Elevation ranges from a maximum of 81m to just below sea level (-0.02m). NCA 81 covers a small area in the north east of the borough.

5.10.3 Strategic Views

The Mayor of London has identified a series of public views that are important to all of London. These are iconic views of significant internationally and nationally important landmarks, including World Heritage Sites, which help us to understand and appreciate the city and its relationship with the underlying landform and river setting.

The views are designated in the London Plan, and are classified in four ways. They are panoramas across substantial parts of London ('London Panoramas') views of landmarks framed by objects in the landscape ('Linear Views'); broad prospects along the River Thames ('River Prospects'); or views of the urban townscape ('Townscape Views'). The Mayor's London View Management Framework (LVMF) SPG outlines that any '*new development should make a positive contribution to the characteristics and composition of the Designated views*', and provides a method to understand and protect the views.

The London Borough of Southwark acts as a statutory consultee for a number of protected views:

- **London Panoramas** - Alexandra Palace, Parliament Hill, Kenwood, Primrose Hill; Greenwich Park, Blackheath Point.
- **Linear Views** - Westminster Pier to St Paul's Cathedral, King Henry VIII's Mound, Richmond to St Paul's Cathedral.
- **Townscape Views** - Bridge over the Serpentine to Westminster, The Queen's Walk to Tower of London.

Southwark Council has also identified a number of important local views and panoramas which contribute to the image and built environment of London. Views can encompass historic or notable buildings, vistas or broader or more general views. Important local views are identified through Development Plan Documents and other sources such as Conservation Area Appraisals.

The LFRMS should consider the impact of flood related development on the townscape/ landscape character including identified strategic views within the Borough.

6 Developing the Strategic Environmental Assessment Framework

This Scoping Report has taken into account the wide range of plans and programmes in Appendix A and information collected in section 5 to produce a robust list of SEA objectives covering all topic areas listed in the SEA Directive:

- Climatic Factors
- Biodiversity, Flora and Fauna
- Soil
- Water
- Population & Human Health (includes transport, economics, tourism)
- Material Assets (include housing and waste)
- Cultural Heritage
- Landscape

As outlined in Section 0 above, the Southwark AQMA has been declared for the pollutants NO₂ and PM₁₀ from vehicle exhausts. It is considered that any possible air quality impacts from implementing the LFRMS will be as a result of short term construction dust impacts, and therefore are unlikely to have any significant long term impacts on the Southwark AQMA. As such there are no SEA objectives relating to air quality as no further assessment of this topic is required.

The SEA framework provides a method for describing, analysing and comparing the environmental and sustainability effects of plans and policies. A series of SEA objectives has been developed, taking into account the relationship between the LFRMS and the objectives of other plans and programmes, along with the findings of the baseline information review. These objectives will form the basis for the SEA framework within which the evaluation of different LFRMS options/alternatives will be carried out.

These SEA objectives will be sent out for consultation with the statutory bodies and relevant stakeholders to ensure that all relevant plans and programmes have been considered and incorporated into the SEA objectives.

Following consultation, the SEA objectives will be updated and will undergo compatibility testing. Compatibility testing of the proposed SEA Objectives will indicate if the objectives are compatible with each other; the outcome of the compatibility testing does not invalidate the objectives, but identifies areas which may require particular attention when developing policy options/alternatives in the future.

Potential indicators for each SEA objective are set out in Table 6.1. These indicators relate to SEA Objectives and it is anticipated that these will be reviewed and revised

during the SEA process taking into account comments received during consultation on this scoping report and will reflect the issues arising from the LFRMS options / alternatives assessment.

Table 6.1 - SEA Objectives and Potential Indicators

SEA Objectives	Potential Indicators	Responsible Authority for collecting information
SEA Topic: Climatic Factors		
1. Adapt to and mitigate the impact of climate change	Length of green infrastructure network,	Local Authority
	Number of new flood prevention schemes developed	Lead Local Flood Authority
	Number of flood incidents recorded	Environment Agency
	Proportion of suitable applications granted with sustainable urban drainage system (SUDS)	SUDS Approving Body
2. To ensure that flood management related activities use natural resources more efficiently and sustainably, in particular land, mineral aggregates, water and fuel	Number of flood related developments accredited to CEEQUAL	Planning Authority
	Number of planning applications approved that include aspirations for a Very Good or Excellent BREEAM rating in buildings related to flood management	Planning Authority
SEA Topic: Biodiversity, Flora and Fauna		
3. To ensure protection and enhancement of biodiversity at designated sites	Change in areas designated for their intrinsic environmental value, including sites of international, national, regional, sub-regional or local significance: a) Loss, b) Addition	Natural England
	Area of land designated as a Local Nature Reserve (LNR)	Local Authority
	Area of land designated as Site of Importance for Nature Conservation (SINC)	Local Authority
4. To promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection	% area of land designated as a SINC within the local authority area in 'positive management'	Defra
	Proportion of biodiversity enhancement schemes implemented due to construction of flood management schemes, for example wild-flower planting on roadside verges and	Lead Local Flood Authority

SEA Objectives	Potential Indicators	Responsible Authority for collecting information
and recovery of priority species populations	street trees	
	Number of biodiversity enhancement schemes implemented through flood management related activities to promote priority species/habitats in Biodiversity Action Plans	Lead Local Flood Authority / Southwark Biodiversity Partnership
SEA Topic: Geology and Soil		
5. Promote the conservation and wise use of land, and protect soil quality and quantity	% of Part 2A sites cleared up/ discharged	Planning Authority
	Number of new flood prevention schemes developed to protect land at risk from flooding	Lead Local Flood Authority
	Area of land provided with protection measures to protect from flooding	Lead Local Flood Authority
SEA Topic: Water		
6. Prevent pollution to the water environment and protect resources	Planning permission granted contrary to Environment Agency advice on Source Protection Zones	Planning Authority
	Proportion of suitable applications granted with sustainable urban drainage system (SUDS)	Planning Authority
7. Reduce vulnerability to flooding	Number of planning permissions granted contrary to Environment Agency advice on flooding and water quality grounds	Planning Authority
	Area of urban development provided with flood protection measures	Lead Local Flood Authority
	Properties at risk from water flooding (from a 1 in 200 year event)	Lead Local Flood Authority
SEA Topic: Population & Human Health		
8. To reduce the flood risk to population and properties within Southwark. and contribute to flood risk management.	Number of properties at risk from fluvial and surface water flooding	Environment Agency
	Economic cost of flood damage	Defra/ Environment Agency
9. To safeguard and promote	Length of footpaths	Local Authority

SEA Objectives	Potential Indicators	Responsible Authority for collecting information
existing public access, navigation and recreational resources and to promote education on the environment	New or additional recreational facilities, or increased access to open spaces	Local Authority
10. Increase accessibility to open space and green infrastructure	Major additional open space land provided in association with other development	Local Authority
	Area of open space permitted to be converted to other uses specifically Flood related	Local Authority
	Area (ha) of Local Nature Reserve per 1,000 population	Local Authority
	Total km of new cycle routes during monitoring period	Local Authority
	Length of green infrastructure network, including greenways	Local Authority
	Total km of public Rights of Was (RoW) network	Local Authority
SEA Topic: Cultural Heritage		
11. Protect and enhance the historic environment, heritage assets and their setting (including architectural and archaeological heritage)	% of designated sites, listed buildings and conservations areas provided with flood protection measures	English Heritage/ Lead Local Flood Authority
	The number of flood related schemes that avoid causing harm and contributions are made to the enhancement of heritage assets or their setting	Local Authority
SEA Topic: Townscape/ Landscape		
12. To protect and enhance attractive townscapes/ landscapes in terms of both their visual quality and their character	Number of flood related applications refused because of adverse effects on the designated landscape areas	Natural England
	Number of visual impact assessments undertaken as part of any flood related planning applications	Planning Authority
SEA Topic: Material Assets		
13. Protect and enhance green infrastructure and open space	Number of urban parks	Local Authority
	Total km of public Rights of Way (RoW) network	Local Authority

SEA Objectives	Potential Indicators	Responsible Authority for collecting information
	Total km of new cycle routes during monitoring period	Local Authority
	Major additional open space land provided in association with other development	Planning Authority
	Area of open space permitted to be converted to other uses specifically flood management related	Planning Authority
	Number of Green Spaces with a Green Flag Award	Green Flag Plus Partnership
14. Reduce economic cost of flood damage	Economic cost of flood damage	Defra/ Environment Agency
15. Ensure the potential impact of flooding on existing and future housing and critical infrastructure is minimised	Economic cost of flood damage	Defra/ Environment Agency
	Conflict with existing or proposed key transport routes (recreational and commercial) or infrastructure e.g. closures/ restrictions	Local Authority
16. Encourage Sustainable Tourism	Visitor spend/ numbers	Local Authority
	Positive impact on surrounding land use in terms of the local economy	Local Authority

7 Next Steps

7.1 Consultation

The SEA Regulations require that the following three environmental statutory consultation bodies be consulted with regards to the scope and level of detail of the environmental information contained within the SEA scoping report. The consultation bodies are;

- The Environment Agency;
- Natural England; and
- English Heritage.

It is also considered appropriate for other “bodies” to be consulted. These bodies should reflect a balance of social, economic and environmental interests.

The Scoping Report will be sent to all the Statutory Consultees for a 5 week consultation period; all consultation responses received will be used to inform the SEA Report. The Scoping Report will be made available on the local authority web pages.

7.1.1 *Next Steps*

The aims, objectives and options/alternative for the LFRMS are currently being prepared and during Stage B (See Table 3.1) of the SEA process these will be appraised by the SEA Framework and all the results, recommendations and mitigation will be incorporated into the LFRMS where appropriate.

Appendix A - Task A1: Identifying Relevant Policies, Plans and Programmes

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
International PPPs				
International	The Convention on Biological Diversity. Rio de Janeiro (1992)	3,4	Article 6A requires each Contracting Party to develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity.	<ul style="list-style-type: none"> Biodiversity Flora and Fauna
International	UN Conference on Environment and Development, Rio (1992)	1,2,3,4,5,6,7,8,11,13	Requirement that new development should be sustainable.	<ul style="list-style-type: none"> Biodiversity Flora and Fauna General
International	Ramsar Convention on Wetlands of International Importance 1971	3,4	An agreement ratified by the UK in 1976 to conserve and protect ensure wise use of wetlands. Designation of Ramsar Protected Wetlands.	<ul style="list-style-type: none"> Biodiversity Flora and Fauna
International	Kyoto Protocol to the UN Framework Convention on Climate Change (1997)	1,2	Improved energy efficiency. Lower carbon intensive forms of energy supply (energy and transport). Reduced industrial process emissions. Improved agricultural practices and livestock management. Management of biodegradable waste.	<ul style="list-style-type: none"> Climatic Factors Transport
International	World Heritage Convention in 1972.	10	To ensure, as far as possible, the proper identification, protection, conservation and presentation of the world's heritage, the Member States of UNESCO adopted the World Heritage Convention in 1972. The Convention foresees the establishment of a "World Heritage Committee" and a "World Heritage Fund". Both the Committee and the Fund have been in operation since 1976.	<ul style="list-style-type: none"> Cultural Heritage Townscape /Landscape
International	Report of the World Summit on Sustainable Development. UN Johannesburg (2002)	All	Recognise the needs of everyone. Protection of the environment. The prudent use of natural resources. Climate change and energy. Sustainable communities.	<ul style="list-style-type: none"> General

Level	Plan, Programme, Policy	SEA Objectives relevant to PPP	Aims and Objectives	Topics
European Directives				
European	EU Directive 2009/147/EC is the codified version of EC Directive on the Conservation of Wild Birds 79/409/EEC (1979) 'Birds Directive'.	3,4	Member States have a duty to sustain populations of naturally occurring wild birds by sustaining areas of habitat in order to maintain populations at ecologically and scientifically sound levels. This applies to birds, their eggs, nests and habitats. Gives powers and responsibility to protect habitats for birds designated as SPAs.	<ul style="list-style-type: none"> Biodiversity Flora and Fauna
European	EU Directive on the Conservation of Natural Habitats of Wild Fauna and Flora 92/43/EEC (1992). 'Habitats Directive'	3,4	Member States are required to take legislative and administrative measures to maintain and restore natural habitats and wild species at a favourable conservation status in the community. Gives powers to protect natural habitats and of wild flora and fauna designated as SACs.	<ul style="list-style-type: none"> Biodiversity Flora and Fauna
European	EU Directive 2000/60/EC establishing a framework for the Community action in the field of water policy 'The Water Framework Directive'.	6,7	A framework Directive that requires all Member States to achieve good ecological status of inland water bodies by 2015.	<ul style="list-style-type: none"> Water and Soil
European	EU Directive 2007/60/EC on the Assessment and Management of Flood Risks. 'Floods Directive'	1,2,3,4,5,8,9,10,11,12,13,14	To establish a framework for the assessment and management of flood risks, aiming at the reduction of the adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods. All flood and coastal risk management should comply with this Directive.	<ul style="list-style-type: none"> Water and Soil Population & Human Health Cultural Heritage Townscape /Landscape Economic
European	EU Directive 80/68/EEC Groundwater Directive	6,7	Requires that the entry of 'List I' substances into groundwater be prevented and that there should be no pollution of groundwater by 'List II' substances. It will be repealed by the Water Framework Directive in 2013. Replacement provisions have been provided for in the Groundwater Daughter Directive (2006/118/EC).	<ul style="list-style-type: none"> Water and Soil
European	EU Directive 91/676/EEC 'Nitrates Directive'	3,4,6,7	Prevention of eutrophication and water pollution Human health and ecosystem protection. Nitrate Vulnerable Zones (NVZs) designated in vulnerable sites.	<ul style="list-style-type: none"> Water and Soil Biodiversity Flora and Fauna

Level	Plan, Programme, Policy	SEA Objectives relevant to PPP	Aims and Objectives	Topics
European	EU Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment. 'SEA Directive'.	All	Requires the formal Strategic Environmental Assessment (SEA_ of certain plans and programmes that are likely to have significant effects on the environment. The focus of SEA is environmental effects.	<ul style="list-style-type: none"> • General
Plans, Programmes and Policies				
European	Pan-European Biological and Landscape Diversity Strategy, July 2003	3,4,10,11	The Strategy was adopted at the third Ministerial Conference "Environment for Europe" in 1995 with the objective of providing an innovative and proactive approach to stop and reverse the degradation of biological and landscape diversity values in Europe. The Strategy reinforces implementation of existing measures to ensure conservation and sustainable use of biological and landscape diversity and identifies additional actions that need to be taken over the next two decades.	<ul style="list-style-type: none"> • Biodiversity Flora and Fauna • Cultural Heritage • Townscape /Landscape
European	EU Biodiversity Strategy to 2020	3,4	The Strategic Plan consists of six main targets and 20 actions to help Europe reach its goal. 20 new biodiversity targets for 2020, termed the 'Aichi Biodiversity Targets'. It aims to stop the loss of biodiversity and ecosystem services in the EU by 2020.	<ul style="list-style-type: none"> • Biodiversity Flora and Fauna
European	European Landscape Convention 2000 (ratified by the UK government in 2006)	11	The European Landscape Convention introduced the concept of "landscape quality objectives" into the protection, management and planning of geographical areas. Members of the council noted that the landscape has an important public interest role in the cultural, ecological, environmental and social fields, and constitutes a resource favourable to economic activity and whose protection, management and planning can contribute to job creation. It also noted that developments in agriculture, forestry, industrial, mineral production techniques, in regional planning, town planning, transport, infrastructure, tourism, recreation and, at a more general level, changes in the world economy are in many cases accelerating the transformation of landscapes.	<ul style="list-style-type: none"> • Cultural Heritage • Townscape /Landscape

Level	Plan, Programme, Policy	SEA Objectives relevant to PPP	Aims and Objectives	Topics
European	EU Sustainable Development Strategy Revision (2001) (revised 2006) (reviewed 2009)	All	<p>The overall aim of the EU Sustainable Development Strategy is to identify and develop action to enable the EU to achieve a continuous long-term improvement of quality of life through the creation of sustainable communities able to manage and use resources efficiently, tap the ecological and social innovation potential of the economy and in the end able to ensure prosperity, environmental protection and social cohesion.</p> <ul style="list-style-type: none"> • Combat climate change • Ensure sustainable transport • Address threats to public health • Manage natural resources more responsibly and stop biodiversity decline • Combat poverty and social exclusion • Meet the challenges of an ageing population 	<ul style="list-style-type: none"> • General
European	European Convention on the Protection of the Archaeological Heritage revised 1995	10	<ul style="list-style-type: none"> • The aim of this (revised) Convention is to protect the archaeological heritage as a source of the European collective memory and as an instrument for historical and scientific study. • To this end shall be considered to be elements of the archaeological heritage all remains and objects and any other traces of mankind from past epochs: the preservation and study of which help to retrace the history of mankind and its relation with the natural environment; for which excavations or discoveries and other methods of research into mankind and the related environment are the main sources of information; and which are located in any area within the jurisdiction of the Parties; • The archaeological heritage shall include structures, constructions, groups of buildings, developed sites, moveable objects, monuments of other kinds as well as their context, whether situated on land or under water. 	<ul style="list-style-type: none"> • Cultural Heritage • Townscape /Landscape

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
National Policies				
National	Environmental Assessment of Plans and Programmes Regulations (2004)	All	These Regulations implement Directive 2001/42/EC of the European Parliament and Council on the assessment of the effects of certain plans and programmes on the environment.	<ul style="list-style-type: none"> • General
National	Wildlife and Countryside Act 1981 (as amended)	3,4	Addresses species protection and habitat loss by setting out the protection that is afforded to wild animals and plants in Britain. Provisions of the 'Birds Directive' are implemented through this Act.	<ul style="list-style-type: none"> • Biodiversity, Flora and Fauna
National	Conservation of Habitats and Species Regulations 2010 (SI 2010 No.490) as amended, known as the 'Habitats Regulations'	3,4	The 'Habitats Regulations (2010) consolidate all the various amendments made to the Conservation (Natural Habitats) Regulations (1994). The 1994 Regulations transposed Council Directive 92/43/EEC 'Habitats Directive'. The regulations provide for the designation and protection of 'European sites', the protection of 'European protected species' and the adaption of planning and other controls for the protection of European Sites. Provisions of the 'Birds Directive' are implemented through this Legislation.	<ul style="list-style-type: none"> • Biodiversity, Flora and Fauna
National	Planning (Listed Buildings and Conservation Areas) Act 1990	8,9,10,11	Sets out the legal requirements for the control of development and alterations which affect buildings, including those which are Listed or in Conservation Areas, and the framework by which control is maintained. Conservation of the built heritage. Protection of listed buildings and conservation areas.	<ul style="list-style-type: none"> • Population and Human Health • Cultural Heritage • Townscape /Landscape
National	The Countryside and Rights of Way Act 2000	3,4	The Act places a duty on Government Departments and the National Assembly for Wales to have regard for the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity. Schedule 9 changes the Wildlife and Countryside Act 1981, amending SSSI notification procedures and providing increased powers for the protection and management of SSSIs.	<ul style="list-style-type: none"> • Biodiversity, Flora and Fauna
National	Nitrate Pollution Prevention Regulations 2008 (as amended) *Currently under review	3,4,6,7	Implement the 'Nitrates Directive' in England. Designate nitrate vulnerable zones and establish an appeals procedure against the designation.	<ul style="list-style-type: none"> • Water and Soil • Biodiversity Flora & Fauna

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
National	The Flood Risk Regulations (2009)	1,2,3,4,5,8,9,10,11,12,13,14	Implement the requirements of the European Floods Directive. Impose duties on the Environment Agency to assess, map and manage flood risk from main rivers, the sea and reservoirs and 'Lead Local Flood Authorities' such as the Council, to do the same for all other flood risks. The Environment Agency and relevant local authorities to prepare a flood risk management plan for each area which has been identified as being at significant risk of flooding.	<ul style="list-style-type: none"> Water and Soil
National	The Flood and Water Management Act (2010)	7	Provides for better, more comprehensive management of flood risk for people, homes and businesses, helps safeguard community groups from unaffordable rises in surface water drainage charges and protects water supplies to the consumer. The Bill places responsibilities for managing the risk of flooding on 'lead local authorities'. These authorities are defined in the Bill as the unitary authority for the area, meaning: - the council of a county for which there are no district councils; the council of a district in an area for which there is no county council, the council of a London borough, the Common Council of the City of London, the Council of the Isles of Scilly. Lead local authorities are required to develop, maintain, apply and monitor a strategy for local flood risk management in their areas. Importantly, the Act specifies that the risk of flooding from surface water as well as ordinary watercourses and groundwater flows must be included in these local flood risk strategies.	<ul style="list-style-type: none"> Water
National	The Environmental Permitting (England and Wales) Regulations 2010 SI 675 replacing the 2007 Regulations.	2,3,4,5,6,10	The Regulations provide a consolidated system for environmental permits and exemptions for industrial activities, mobile plant, waste operations, mining waste operations, water discharge activities, groundwater activities and radioactive substances activities. The Environmental Permitting regime aims to protect the environment while simplifying the regulatory system. The Regulations transpose the provisions of 18 European Directives regulating emissions to air, water and soil, waste management and management of specific substances.	<ul style="list-style-type: none"> Climatic Factors Biodiversity, Flora and Fauna Geology and Soil Water Cultural Heritage
National	Ancient Monuments and Archaeological Areas Act (1979)	10	Provides for nationally important archaeological sites to be statutorily protected as Scheduled Ancient Monuments.	<ul style="list-style-type: none"> Cultural Heritage Townscape /Landscape

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
National	Planning and Compulsory Purchase Act (2004)	All	This Act substantially reforms the town planning and compulsory purchase framework in the United Kingdom. It both amended and repealed significant parts of the existing planning and compulsory purchase legislation in force at the time, including the Town and Country Planning Act 1990, and introduced reforms such as the abolition of Local Plans and Structure Plans, and their replacement with Local Development Frameworks. It also sets out provision during the transition period.	<ul style="list-style-type: none"> All
National	The Town and Country Planning (Local Development) (England) Regulations 2004 as amended in 2008 (England)	All	It sets out the specific Local Development Documents which Local Planning Authorities in England are required to prepare and how that should be done. The amendment has an effect on local development schemes to specify that an adopted proposals map will be amended when a development plan document is approved.	<ul style="list-style-type: none"> All
National	Natural Environment and Rural Communities Act (2006).	3,4	An Act to make provision about bodies concerned with the natural environment and rural communities; to make provision in connection with wildlife, sites of special scientific interest, National Parks and the Broads; to amend the law relating to rights of way; to make provision as to the Inland Waterways Amenity Advisory Council; to provide for flexible administrative arrangements in connection with functions relating to the environment and rural affairs and certain other functions; and for connected purposes.	<ul style="list-style-type: none"> Biodiversity, Flora and Fauna
National	Sustainable Communities Act (2007) (Amended)	1,2,14	The Sustainable Communities Act aims to promote the sustainability of local communities. It begins from the principle that local people know best what needs to be done to promote the sustainability of their area, but that sometimes they need central government to act to enable them to do so.	<ul style="list-style-type: none"> All
National	Building Regulations	1, 2, 6.	Part H of the Building Regulations specifically covers drainage. It strongly recommends a more sustainable approach to surface water management with a hierarchy that suggests disposal to watercourses and sewers is the last resort. There is no current advice directly on flood risk in the Building Regulations, with some references to the management of moisture and contamination should there be flooding.	<ul style="list-style-type: none"> Climatic Factors Water

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
National	Planning (Listed Buildings and Conservation Areas) Act (1990)	11, 12	Details when English Heritage should be consulted on planning listed buildings and conservation area consent applications.	<ul style="list-style-type: none"> Cultural Heritage Townscape/ Landscape
National	Planning Policy Statement 5 Planning for the Historic Environment (2010)	11, 12	Sets out the government's planning policies on the conservation of the historic environment. Sets out the considerations of the historic environment in new flood risk developments.	<ul style="list-style-type: none"> Cultural Heritage Townscape/ Landscape
National Strategies and Plans				
National	National Flood and Coastal Erosion Risk Management Strategy (2011)	All	Encourages more effective risk management by enabling people, communities, business, infrastructure operators and the public sector to work together to achieve better understanding of the risks of flooding both, nationally and locally, so that investment in risk management can be prioritised more effectively.	<ul style="list-style-type: none"> All
National	The Historic Environment: A Force for Our Future. DCMS. (2001)	10,11	The historic environment is accessible to everyone and is seen as something with which the whole of society can identify and engage.	<ul style="list-style-type: none"> Cultural Heritage Townscape /Landscape
National	Environmental Quality in Spatial Planning. English Heritage et al (2005)	10,11	Planning authorities should consider more ambitious initiatives for the conservation, enhancement and better management of the environment and rural areas.	<ul style="list-style-type: none"> Cultural Heritage Townscape /Landscape
National	UK Biodiversity Action Plan (1994)	3,4	Conserve and enhance biological diversity within the UK. Contribute to the conservation of biodiversity through all appropriate mechanisms.	<ul style="list-style-type: none"> Biodiversity, Flora and Fauna
National	UK Post-2010 Biodiversity Framework (2012)	3,4	Succeeds the UK BAP (1994) and 'Conserving Biodiversity – the UK Approach'. The Framework is designed to show how the work of the four UK countries joins up with work at a UK level to achieve the 'Aichi targets' and the aims of the EU biodiversity strategy. Covers the period from 2011 – 2020.	<ul style="list-style-type: none"> Biodiversity, Flora and Fauna
National	Biodiversity 2020: A strategy for England's wildlife and ecosystem services.	3,4	Succeeds Working with the grain of nature: A Biodiversity Strategy for England (2002). The strategy aims 'to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people'. Sets out a series of actions that will be taken by the government to achieve this. Proposal for water to adopt a river basin planning approach and promote	<ul style="list-style-type: none"> Biodiversity, Flora and Fauna

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
			approaches to flood and erosion management which conserve the natural environment and improve biodiversity. The potential impacts on biodiversity of the LFRMS should be taken into account in the SEA.	
National	Natural Environment White Paper (2011).	3,4	Outlines the Government's vision for the natural environment over the next 50 years, along with practical action to deliver that ambition. The white paper recognises that the natural environment is sometimes taken for granted and undervalued, but that people cannot flourish without the benefits and services it provides.	<ul style="list-style-type: none"> Biodiversity, Flora and Fauna
National	UK Climate Change Programme DETR (2000)	1,2	Key priority of the programme is to ensure that the UK meets its legally binding target under the Kyoto Protocol to reduce its greenhouse gas emissions to 12.5% below 1990 level by 2008-2012. Programme also designed to move towards the domestic goal of a 20% reduction in carbon dioxide emissions below 1990 levels by 2010.	<ul style="list-style-type: none"> Climatic Factors
National	Saving Lives: Our Healthier Nation White Paper Department of Health (1999)	8,9	Promotion of health and the prevention of ill-health. Four priority areas – Cancer, Coronary Heart Disease & Stroke, Accidents and Mental Health. Address the underlying causes of ill-health, such as poverty, wordlessness, poor educational achievement, poor housing.	<ul style="list-style-type: none"> Population and Human Health
National	DETR (2000). Government Urban White Paper: Our Towns and Cities: the Future – Delivering an Urban Renaissance.	All	<ul style="list-style-type: none"> People shaping the future of their community, supported by strong and truly representative local leaders; People living in attractive, well kept towns and cities which use space and buildings well; Good design and planning which makes it practical to live in a more environmentally sustainable way; Towns and cities able to create and share prosperity; Good quality services – health, education, housing, transport, finance, shopping, leisure and protection from crime. 	<ul style="list-style-type: none"> All
National	Culture at the Heart of Regeneration, DCMS, 2004	All	<ul style="list-style-type: none"> 3 priority areas: Building partnerships across government, the private and voluntary sectors and culture and regeneration practitioners. Supporting delivery by spreading good practice and measuring outcomes. Strengthening evidence to find coherent and robust methods for measuring impacts. 	<ul style="list-style-type: none"> All

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
National	Making space for water Taking forward a new Government strategy for flood and coastal erosion risk management in England. DEFRA (2005)	All	Expanding our flood warning and flood awareness activities; encouraging measures to improve resistance and resilience to flooding, including scoping work on the development and delivery of a pilot on direct aid to individuals; and working to improve the evidence base in the case of coastal erosion, and to investigate the practical implications of a wider portfolio of coastal erosion risk management tools. (This is in response to suggestions made during the consultation on making space for water that new tools were needed to help coastal communities adapt to a changing coastline.)	<ul style="list-style-type: none"> Water All
National	Future Water DEFRA (2008)	6	Our vision for water policy and management is one where, by 2030 at the latest, we have: <ul style="list-style-type: none"> improved the quality of our water environment and the ecology which it supports, and continued to provide high levels of drinking water quality from our taps; sustainably managed risks from flooding and coastal erosion, with greater understanding and more effective management of surface water ensured a sustainable use of water resources, and implemented fair, affordable and cost-reflective water charges cut greenhouse gas emissions embedded continuous adaptation to climate change and other pressures across the water industry and water user. 	<ul style="list-style-type: none"> Water
National	Mainstreaming sustainable development – The government’s vision and what this means in practice. Defra (2011).	All	Builds on the principles that underpinned the UK’s 2005 Sustainable Development Strategy, by recognising the needs of the economy, society and the natural environment, alongside the use of good governance and sound science. It recognises that the three ‘pillars’ of the economy, society and the environmental are interconnected.	<ul style="list-style-type: none"> All

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
National	Sustainable Communities Plan ODPM (2003)	2,9,14	<p>The following are identified as key components of a sustainable community:</p> <ul style="list-style-type: none"> • A flourishing local economy to provide jobs and wealth; • Strong leadership to respond positively to change; • Effective engagement and participation by local people, groups and businesses, especially in the planning, design and long term stewardship of their community, and an active voluntary and community sector; • Sufficient size, scale and density, and the right layout to support basic amenities in the neighbourhood and minimise use of resources (including land); • Good public transport and other transport infrastructure both within the community and linking it to urban, rural and regional centres; • Buildings - both individually and collectively - that can meet different needs over time, and that minimise the use of resources; • A well-integrated mix of decent homes of different types and tenures to support a range of household sizes, ages and incomes; • Good quality local public services, including education and training opportunities, health care and community facilities, especially for leisure; • A diverse, vibrant and creative local culture, encouraging pride in the community and cohesion within it; • A "sense of place"; • The right links with the wider regional, national and international community. 	<ul style="list-style-type: none"> • Climatic Factors • Population and Human Health • Material Assets

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
National	An Environmental Vision Environment Agency (2000)	All	<p>The fundamental goals the Environment Agency want to help achieve are over the next 20 years:</p> <ul style="list-style-type: none"> • A better quality of life - people will have peace of mind knowing that they live in a healthier environment, richer in wildlife and natural diversity – an environment that they will care for and can use, appreciate and enjoy; • An enhanced environment for wildlife; • Habitats will improve in their extent and quality to sustainable levels for the benefit of all species; • Everyone will understand the importance of safeguarding biodiversity; <p>The environmental outcomes for which we are striving:</p> <ul style="list-style-type: none"> • Cleaner air for everyone; • Improved and protected inland and coastal waters; • Restored, protected land with healthier soils. <p>The changes we will seek:</p> <ul style="list-style-type: none"> • A “greener” business world; • Wiser, sustainable uses of natural resources; <p>The risks and problems we will help manage, prevent and overcome:</p> <ul style="list-style-type: none"> • Limiting and adapting to climate change; • Reducing flood risk. 	<ul style="list-style-type: none"> • All
National	Creating a better place 2010 – 2015 Environment Agency (2009)	All	<p>Corporate Strategy that addresses big pressures on the environment. Revises nine themes outlined in an Environmental Vision (2000) to five key areas:</p> <ul style="list-style-type: none"> • Act to reduce climate change and its consequences; • Protect and improve water, land and air; • Work with people and communities to create better places; • Work with businesses and other organisations to use resources wisely; and • Be the best we can. 	<ul style="list-style-type: none"> • All

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
National	National Planning Policy Framework	All	<p>The NPPF sets out the Coalition Government’s agenda for development and places a presumption in favour of development which is sustainable.</p> <p>Core Planning Principles:</p> <p>17. Within the overarching roles that the planning system ought to play, a set of core land-use planning principles should underpin both plan-making and decision-taking. Specific core principles related to flooding include:</p> <ul style="list-style-type: none"> • support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources (for example, by the development of renewable energy); • promote mixed use developments, and encourage multiple benefits from the use of land in urban and rural areas, recognising that some open land can perform many functions (such as for wildlife, recreation, flood risk mitigation, carbon storage, or food production); <p>10. Meeting the challenge of climate change, flooding and coastal change</p> <p>93. Planning plays a key role in helping shape places to secure radical reductions in greenhouse gas emissions, minimising vulnerability and providing resilience to the impacts of climate change, and supporting the delivery of renewable and low carbon energy and associated infrastructure. This is central to the economic, social and environmental dimensions of sustainable development.</p> <p>100. Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere.</p> <p>Local Plans should apply a sequential, risk-based approach to the location of development to avoid where possible flood risk to people and property and manage any residual risk, taking account of the impacts of climate change, by:</p> <ul style="list-style-type: none"> • applying the Sequential Test; 	<ul style="list-style-type: none"> • All

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
			<ul style="list-style-type: none"> • if necessary, applying the Exception Test; • safeguarding land from development that is required for current and future flood management; • using opportunities offered by new development to reduce the causes and impacts of flooding; and • here climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to facilitate the relocation of development, including housing, to more sustainable locations. <p>101. The aim of the Sequential Test is to steer new development to areas with the lowest probability of flooding. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower probability of flooding. The Strategic Flood Risk Assessment will provide the basis for applying this test. A sequential approach should be used in areas known to be at risk from any form of flooding.</p> <p>103. When determining planning applications, local planning authorities should ensure flood risk is not increased elsewhere and only consider development appropriate in areas at risk of flooding where, informed by a site-specific flood risk assessment.</p>	

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
National	Environment Agency Corporate Strategy Evidence	1,2,5,6,7,8,9, 10, 14,16	The Environment Agency collects key evidence on a range of environmental determinants that can be used to influence plans, policies and the implementation local plans e.g water and environment evidence includes national evidence on the ecological status of rivers, lakes and reservoirs; and estuaries and coasts against WFD targets. Evidence should be used to inform the objectives and indicators of the SEA Framework, as well as providing wider context to the state of the environment in Southwark.	<ul style="list-style-type: none"> • Water • Climate • Population and Human Health • Geology and Soil • Material Assets
National	National Flood Emergency Framework	All	Is intended for use by all those involved in planning for and responding to flooding, including from surface water and groundwater. It establishes clear thresholds for emergency response arrangements.	<ul style="list-style-type: none"> • All
National	The Code for Sustainable Homes	1, 2	The code is not mandatory, but under certain circumstances it can be required; where Local Authorities stipulate a requirement in their local plans, or where affordable housing is funded by the Homes and Community Agency, who require homes to be built to Code Level 3. The code is configured into a number of categories and issues, with Category 4: Surface water run-off having two issues: Sur 1 – which deals with the management of surface water run-off from developments, and Sur 2 – which deals with flood risk.	<ul style="list-style-type: none"> • Climatic Factors
National	The voluntary Code of Practice (CoP) (Definition of Waste: Development Industry Code of Practice)	2	Provides a framework for determining whether or not excavated material used in land development is waste. The CoP sets out good practice for the development industry to use when assessing: <ul style="list-style-type: none"> • if materials are classified as waste or not; and • determining when treated waste can cease to be waste for a particular use. It also describes an auditable system to demonstrate that the Code of Practice has been adhered to on a site by site basis.	<ul style="list-style-type: none"> • Climatic Factors

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
Sub National Policies				
Sub National - London	Town and Country Planning (Development Management Procedure) Order (2010).	10,11	English Heritage must be consulted on certain applications in Greater London by Greater London planning authorities when a planning application affects: the setting of a Grade I or II* listed building, the curtilage of a Grade II (unstarred) listed building, the setting of a Grade II (unstarred) listed building and which involves development of a certain size and scale, the demolition, in whole or part, or the material alteration of a listed building, the character or appearance of a conservation area (developments over a certain size or height), a Grade I or II* registered park or garden, the site of a scheduled ancient monument.	<ul style="list-style-type: none"> • Cultural Heritage • Townscape /Landscape
Sub National Strategies or Plans				
Sub National - London	London Biodiversity Action Plan. London Biodiversity Partnership	3,4	<p>The London Biodiversity Action Plan (BAP) identifies priority habitats that are of particular importance for biodiversity in London. Many of these habitats are covered by Habitat Action Plans (HAPs). The London BAP has 11 HAPs, nine of which are for named habitat types, while another two are for land uses.</p> <p>The London BAP contains targets to enhance and to increase the extent of priority habitats found in the capital by 2015 and by 2020. These targets have also been incorporated into the London Plan.</p>	<ul style="list-style-type: none"> • Biodiversity, Flora and Fauna
Sub National - London	Securing London's Water Future: the Mayor's Water Strategy. Mayor of London. October 2011	2,6	<p>The strategy is intended to complement the plans and strategies of other organisations, including the national water strategy, by presenting a London-specific view of water management.</p> <p>The Implementation Plan for the strategy is broken into Chapters with a number of Actions to put into practice the strategy, the chapters are also follows:</p> <ul style="list-style-type: none"> • Managing water use • Paying for water services • Managing rainwater • Disposal of wastewater 	<ul style="list-style-type: none"> • Climatic Factors • Water

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
Sub National - London	Cultural Metropolis. The Mayors Cultural Strategy – 2012 and Beyond.	10,11	The priorities for the culture strategy are: <ul style="list-style-type: none"> • Maintaining London’s position as a world city for culture; • Widening the reach of excellence – working to improve access and participation in high quality arts and cultural activities; • Increasing access to cultural education- strategic approach to coordinate existing activities, build links between cultural institutions, schools and local authorities and raise awareness of the high quality provision on offer; • Infrastructure, environment and the public realm – It is crucial that the planning and development processes in the city continue to encourage culture to flourish in the capitals venues and public spaces. 	<ul style="list-style-type: none"> • Cultural Heritage • Townscape /Landscape
Sub National - London	London’s World Heritage Sites – Guidance on Settings. Supplementary Planning Guidance (2012). Greater London Authority.	10,11	The Supplementary Planning Guidance (SPG) supports the implementation of Policy 7.10 of the London Plan. It states that development should not cause adverse impact on World Heritage Sites or their settings and should not compromise the ability to appreciate the Sites’ Outstanding Universal Value, integrity and authenticity.	<ul style="list-style-type: none"> • Cultural Heritage • Townscape /Landscape
Sub National - London	London View Management Framework. Supplementary Planning Guidance. 2012. Greater London Authority.	10,11	Supports Policies 7.11 and 7.12 of the London Plan which establish the London View Management Framework. The framework seeks to designate, protect and manage twenty- seven views of London and some of its major landmarks. London Boroughs should incorporate the principles of the London Plan and this Supplementary Planning Guidance into development plan documents.	<ul style="list-style-type: none"> • Cultural Heritage • Townscape /Landscape
Sub National - London	Green Infrastructure and Open Environments: Preparing Borough Tree and Woodland Strategies. Draft Supplementary Planning Guidance. Greater London Authority.	3,4,11	Prepared jointly with the Forestry Commission gives guidance on the implementation of the London Plan Policy 7.21 to protect, maintain and enhance trees and woodland in London.	<ul style="list-style-type: none"> • Biodiversity, Flora and Fauna • Townscape /Landscape

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
Sub National - London	The London Plan Spatial Development Strategy for Greater London. Mayor of London. (July 2011)	All	<p>The overall strategic plan for London, setting out an integrated economic, environmental, transport and social framework for the development of London over the next 20–25 years</p> <p>The plan has 6 targeted objectives:</p> <ul style="list-style-type: none"> • A city that meets the challenges of economic and population growth; • An internationally competitive and successful city; • A city of diverse, strong, secure and accessible neighbourhoods; • A city that highlights the senses; • A city that becomes a world leader in improving the senses; • A city that becomes a world leader in improving the environment; and • A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities. <p>The strategy sets out a comprehensive range of policies to underpin London’s response to climate change, including underlying issues of resource management. These policies cover climate change mitigation and adaptation, waste, aggregates, contaminated land and hazardous substances.</p> <p>Policies specific to Flood Risk Management are:</p> <p>Policy 5.12 Flood Risk Management – Development proposals must comply with the flood risk assessment and management requirements set out in PPS25 (now superseded by the National Planning Policy Framework) and have regard to measures proposed in Thames Estuary 2100 and Catchment Flood Management Plans. Development adjacent to flood defences will be required to protect the integrity of existing flood defences.</p>	<ul style="list-style-type: none"> • All
Sub National - London	Climate Change Adaption Strategy for London (2010). Mayor of London. Greater London Authority.	1,2	<p>The mayor’s Climate Change adaption Strategy:</p> <ul style="list-style-type: none"> • identifies who and what is most at risk today • analyses how climate change will change the risk of flood, drought and heatwave through the century • describes what action is needed to manage this and who is responsible for it. • The key actions proposed in the strategy are: • To improve our understanding and management of surface water flood risk • An urban greening programme to increase the quality and quantity of greenspace and vegetation in London – this will buffer us from floods and hot weather 	<ul style="list-style-type: none"> • Climatic Factors

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
Sub National - London	Clearing the Air. The Mayor's Air Quality Strategy (2010). Mayor of London. Greater London Authority.	2	This strategy sets out a framework for delivering improvements to London's air quality and includes measures aimed at reducing emissions from transport, homes, offices and new developments, as well as raising awareness of air quality issues. Over the last few years, a number of innovative measures have been introduced to help improve air quality in London. Nevertheless, air pollution remains a problem in the capital, as is clear from the fact that European Union targets for air quality standards that were intended to be met in 2004 and 2005 have still not been achieved.	<ul style="list-style-type: none"> Air Quality
Sub National - London	Thames Estuary 2100. Managing flood risk through London and the Thames estuary. Environment Agency	1,2,3,4,5,6,7, 8,9,10,11,12, 13	The Environment Agency has produced Thames Estuary 2100 (TE2100), a study of tidal flood risk management up to 2100. This makes clear that current defences, with some raising of river walls, should provide London with a high standard of protection from tidal floods. However, in order to raise river walls in a sustainable and cost effective way, some land will be needed along the Thames through London. If land is not available, the walls will reduce views across the river and they will be much more expensive to build. There also remains a level of risk, equivalent to 0.1 per cent chance per year – a low risk but not one that could never happen. This means it is still vital at the planning and design stage to consider what would happen to buildings if such a flood were to occur. Fluvial flood risk is likely to increase significantly through the century, as a result of climate change. Predictions of increases in peak flows of up to 40 per cent would mean that we would have to expect increased flood risk on all of London's tributary rivers.	<ul style="list-style-type: none"> All
Sub National	Thames Catchment Flood Management Plan. Managing Flood Risk (2009). Environment Agency	All	The Catchment Management Flood Plan considers all types of inland flooding from rivers, ground water, surface water and tidal flooding, but not directly from the sea, which is covered by Shoreline Management Plans. Establishes flood risk management policies which will deliver sustainable flood risk management for the long term.	<ul style="list-style-type: none"> All
Sub National - London	The Mayor's Economic Development Strategy for London (2010). Mayor of London. Greater London Authority.	12,13,14	The Economic Development Strategy sets out this vision with respect to the London economy, and how it can be realised. The Mayor's ambitions are for London to be the World Capital of Business, and to have the most competitive business environment in the world; to be one of the world's leading low carbon capitals.	<ul style="list-style-type: none"> Material Assets

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
Sub National - London	Climate Change Mitigation and Energy Strategy (2011). Mayor of London. Greater London Authority.	1,2	This Strategy has a positive message on targets. It shows that if all the existing policies and programmes that are already in train – whether at national or local level – actually deliver as promised, we will be able to get very close to London’s ambitious CO ² reduction target of 60 per cent against 1990 levels. The Strategy identifies London’s vulnerability to flooding and the need to mitigate climate change.	<ul style="list-style-type: none"> Climate Factors
Sub National - London	The Revised London Housing Strategy (2011) (for consultation). Mayor of London. Greater London Authority.	12,13	Provides a comprehensive overview of housing , encompassing housing across all tenures and meeting London’s housing needs: <ul style="list-style-type: none"> Raise aspirations and promote opportunity: by producing more affordable homes, particularly for families and by increasing opportunities for home ownership through the new First Steps housing programme; Improve homes and transform neighbourhoods: by improving design quality, by greening homes, by promoting successful, strong and mixed communities and by tackling empty homes; Maximise delivery and optimise value for money: by creating a new architecture for delivery, by developing new investment models and by promoting new delivery mechanisms. 	<ul style="list-style-type: none"> Material Assets
Sub National - London	Living Well in London. The Mayor’s Draft Health Inequalities Strategy for London (2008). Greater London Authority. (Draft)	8,9	The Strategy sets out the Mayor’s long-term vision for a healthier London. Sets out the Mayor’s policies to tackle health inequalities under six strategic objectives: <ul style="list-style-type: none"> Income and poverty; employment participation accessible high quality public services; healthy places for all; creating knowledge and learning for health. 	<ul style="list-style-type: none"> Population and Human Health

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
Sub National - London	Way to go! Planning for better transport. Mayor of London. Greater London Authority. 2008.	9,13	The Strategy has six key goals: <ul style="list-style-type: none"> • Support economic development and population grow; • enhance the quality of life for all Londoners; • improve the safety and security of all Londoners; • improve transport opportunities for all Londoners; • reduce transport's contribution to climate change and improve its resilience; • support delivery of the London 2012 Olympic and Paralympic Games and its legacy. 	<ul style="list-style-type: none"> • Population and Human Health • Material Assets
Sub National - London	Connecting with London's nature – The Mayor's Biodiversity Strategy. Mayor of London. 2002.	3,4	Regional biodiversity strategy. Details the Mayor's vision for protecting and conserving London's natural open spaces. Seeks to ensure that there is no overall loss of wildlife habitats in London, and that more open spaces are created and made accessible.	<ul style="list-style-type: none"> • Biodiversity, Flora and Fauna
Sub National - London	Green Infrastructure and Open Environments: The All London Green Grid. Supplementary Planning Guidance. Mayor of London. Greater London Authority.2012.	3,4,9,10,11,14	Creates an All London Green Grid with the aims of valuing and managing green infrastructure as a network spreading across the capital. The structure of the ALGG is built around four key elements: <ul style="list-style-type: none"> • London's existing river and other key landscape corridors; • Established open spaces and identified opportunities for creating new parks; • Existing and proposed green connections and corridors; and • The designated and protected landscapes that are generally located at the boundary of London. 	<ul style="list-style-type: none"> • Biodiversity, Flora and Fauna • Population and Human Health • Cultural Heritage • Townscape /Landscape • Material Assets
Sub National – London	London Regional Flood Risk Appraisal, 2009. Mayor of London.	All	Identifies surface water flood risk as the most likely cause of flooding in London.	<ul style="list-style-type: none"> • All
Sub National – London	Travel in London, Supplementary Report: London Travel Demand Survey. Transport For London (2011).	9,13,14	Continuous household survey of the London area, covering the London area, covering the London boroughs as well as the area outside Greater London but within the M25 motorway. Results relate to residents of the Greater London area, comprising the 32 London boroughs and the City of London. The first year of results covered the financial year 2005/06.	<ul style="list-style-type: none"> • Population and Human Health • Material Assets

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
Sub National – London	Drain London Project	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15	Looks at the most serious challenges that London faces in the near future from surface water. Seeks to improve knowledge of the surface water drainage system and identifying areas at greatest risk of flooding.	<ul style="list-style-type: none"> • Climatic Factors • Biodiversity, Flora and Fauna • Geology and Soils • Water • Population & Human Health • Cultural Heritage • Material Assets
Sub National – London	The London Rivers Action Plan (2009)	1, 2, 3, 4, 5, 6, 10, 13, 16	<p>Provides a deliver mechanism to take forward London’s river restoration strategies.</p> <p>Has Five key aspirations:</p> <ol style="list-style-type: none"> 1) Improve flood management using more natural processes; 2) Reduce the likely negative impacts of climate change; 3) Reconnect people to the natural environment through urban regeneration; 4) Gain better access for recreation and improved well-being; 5) Enhance habitats for wildlife 	<ul style="list-style-type: none"> • Climate Change • Biodiversity • Water • Geology and Soils • Population and Human Health • Material Assets

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
Local PPPs				
Local	Southwark Core Strategy. Southwark Council. (Adopted 2011).	All	<p>Sets out how Southwark will change up to 2026 with sustainable development. It sets out the approach to development and planning across the whole of Southwark and sets out the framework of policies that are used to make decisions on planning applications.</p> <p>All planning documents in the local development framework need to be consistent with the core strategy. The London Plan together with local development framework is the development plan.</p>	<ul style="list-style-type: none"> All
Local	The Southwark Plan. Southwark Council. Adopted (2007). (Saved Policies).	All	<p>The Southwark Plan sets out how Southwark Council, as the Local Planning Authority (LPA) will use its planning powers to influence development, it provides the framework for guiding Southwark's development. The plan aims to make this growth sustainable by ensuring that the environment and quality of life do not suffer but are protected and improved along the way.</p> <p>The plan is in two parts with Part One describing the LPA's overall strategic direction until 2016. Part two expresses the LPA's objectives and strategies in more detail and define the policies that the council will pursue for development control purposes until 2016.</p> <p>Policies that are consistent with the adopted core strategy have been saved, others have been replaced.</p>	<ul style="list-style-type: none"> All
Local	Southwark Council Annual Monitoring Report 2010 to 2011.	All	The Government requires the submission of an Annual Monitoring Report (AMR) every year. The AMR assesses if planning policies achieve their objectives and targets by using a collection of data from local, regional and national sources and a number of indicators that measure performance.	<ul style="list-style-type: none"> All
Local	Southwark 2016: Sustainable Community Strategy. Southwark Council.	1,2,3,4,5,6,9, 14	The Community Strategy is prepared by Southwark Alliance (the local strategic partnership) and sets out a vision and priorities for the Borough from 2006 to 2016. The vision is 'the belief of making Southwark a better place to live, to learn, to work and have fun'. This was developed in consultation with the local community. The strategy seeks to improve life in Southwark by: tackling poverty, making Southwark cleaner and greener; cutting crime and fear of crime; raising standards in our	<ul style="list-style-type: none"> Climatic Factors Biodiversity, Flora and Fauna Geology and Soil Water Population and Human

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
			schools; and improving the health of the borough.	<ul style="list-style-type: none"> Health Material Assets
Local	Southwark Preliminary Flood Risk Assessment. (2011)	3,4,5,7,8,9,10, 11,12,13	Provides a high level summary of significant flood risk. It describes the probability and harmful consequences of past and future flooding. Sets out the level of flood risk in different areas of the borough. This will help plan for new developments and assist in the determination of planning applications.	<ul style="list-style-type: none"> Biodiversity, Flora and Fauna Geology and Soil Water Population and Human Health Townscape/ Landscape Material Assets
Local	Strategic Flood Risk Assessment (2008). Southwark Council	3,4,5,7,8,9,10, 11,12,13	The London Borough of Southwark Strategic Flood Risk Assessment examines flood risk at a strategic level on a local planning authority scale. It delineates Southwark into zones of low, medium and high probability of fluvial and tidal flooding. It also provides a further assessment of flood hazard within defended areas adjoining the River Thames. It acts an important evidence base for the LFRMS.	<ul style="list-style-type: none"> Biodiversity, Flora and Fauna Geology and Soil Water Population and Human Health Townscape/ Landscape Material Assets
Local	Surface Water Management Plan (2011). Southwark Council	3,4,5,7,8,9,10, 11,12,13	Outlines the preferred surface water management strategy for Southwark and includes flooding from sewers, drains, groundwater and runoff from land, small watercourses and ditches.	<ul style="list-style-type: none"> Biodiversity, Flora and Fauna Geology and Soil Water Population and Human Health Townscape/ Landscape Material Assets
Local	Southwark Health Profile (2010)	8,9	This profile gives a picture of health in this area. It is designed to help local government and health services improve people's health and reduce health inequalities. Health Profiles are produced every year by the Association of Public Health Observatories.	<ul style="list-style-type: none"> Population and Health

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
Local	Southwark Housing Strategy. 2009 to 2016. (2009)	12,13	Explains how Southwark Council and its key partners aim to respond to the housing issues facing us over the next seven years	• Material Assets
Local	Peckham and Nunhead Area Action Plan. Preferred Option. (2012).	12,13	The area action plan sets planning policies for Peckham and Nunhead to include: <ul style="list-style-type: none"> • The look and function of Peckham town centre, including the mix of shops and other activities. • The type of development on large sites. • The size and design of new buildings. • The amount and type of new homes built and their location. • The impact of new development on the environment and traffic. • The infrastructure needed to ensure growth in the area can be accommodated sustainably, including improvements to open spaces, schools, health facilities and leisure facilities. 	• Material Assets
Local	Canada Water Area Action Plan. January 2010. Adopted March 2012.	12,13	Sets out the vision for how the Canada Water action area will change over the periods leading up to 2026. Sets out a strategy to achieve this vision through objectives and policies. <ul style="list-style-type: none"> • Shopping: A genuine town centre and neighbourhood hub • Transport: Improved connections • Leisure: A great place to visit, to relax in and have fun • Places: Better and safer streets, squares and parks • Housing: Providing more and better homes • Community: Enhanced social and economic opportunities. 	• Material Assets
Local	Aylesbury Area Action Plan. January 2010.	12,13	Sets out the vision for how the Aylesbury Area will change over the periods leading up to 2026. Sets out a strategy to achieve this vision through objectives and policies. <ul style="list-style-type: none"> • Better homes: A high quality residential neighbourhood; • Public Life: Better and safer streets, squares and parks; • Connections: Improved transport links; • Community: Enhanced social and economic opportunities. 	• Material Assets

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
Local	Southwark adopted Supplementary Planning Documents (SPDs) and Supplementary Planning Guidance (SPGs).	All	Supplementary planning documents (SPDs) and Supplementary Planning Guidance documents (SPGs) are used to provide more information and guidance on the policies in the development plan. They can be based on certain topics such as sustainable transport or sustainability assessments, or they can be specific to certain places such as Canada Water or Camberwell. Southwark has several SPDs and SPGs which provide additional information on the saved policies in the Southwark Plan (UDP) and Core Strategy.	<ul style="list-style-type: none"> All
Local	Open Space Strategy. Draft (2012).	3,4,5,9,11,14	Provides a framework for the provision of open space. Sets out a vision and objectives for the borough and identifies key needs and priorities for the different types of open space.	<ul style="list-style-type: none"> Biodiversity, Flora and Fauna Geology and Soil Population and Health Townscape/ Landscape Material Assets
Local	Transport Plan (2011). Southwark Council	13	The Transport Plan sets out how Southwark Council will improve travel to, within and from the borough. It sets out long term goals and transport objectives for the borough (up to 20 years), a three year programme of investment, and the targets and outcomes we are seeking to achieve. The Plan responds to the revised Mayor's Transport Strategy (MTS), the emerging Sub-Regional Transport Plans (SRTPs), Southwark's Sustainable Community Strategy and other relevant policies.	<ul style="list-style-type: none"> Material Assets
Local	Sustainable Transport Supplementary Planning Document.2010. Southwark Council.	13	The purpose of the SPD is to: <ul style="list-style-type: none"> provide further information and guidance to policies in the Southwark Plan; explain what information you need to provide in an application for development. 	<ul style="list-style-type: none"> Material Assets
Local	Southwark Biodiversity Action Plan (BAP) 2012 – 2018. Southwark Council.	3,4	Southwark's second BAP sets out how Southwark Council and their partners will work to produce tangible results and result in the following benefits for Southwark: <ul style="list-style-type: none"> Improved open space and safer parks Increased educational opportunities through events and training Increased health through promotion of walks and volunteering activities Greening the borough through habitat management and creation Increased cultural and leisure opportunities Improved environmental management 	<ul style="list-style-type: none"> Biodiversity, Flora and Fauna

Level	Plan, Programme, Policy (PPPs)	SEA Framework Objectives relevant to PPP	Aims and Objectives	Topics
			<ul style="list-style-type: none"> Increased awareness of wildlife and conservation Increased populations of endangered species Increased sustainability of the built environment through green roofs and SUDs schemes. 	
Local	Southwark Conservation Area Appraisals	10,11	The government requires all councils to produce appraisals for the conservation areas in their borough. Conservation area appraisals are intended to: Provide an analysis and account of the area; Explain why it is considered to be of special architectural or historic interest; Give a clear indication of the council's approach to its preservation and enhancement. They are also used by the council in assessing the design of development proposals.	<ul style="list-style-type: none"> Cultural Heritage Townscape /Landscape
Local	Southwark Archaeological priority zones.	10,11	Southwark Council has policies to protect the borough's archaeology. The policy identifies seven archaeological priority zones (APZs). When development proposals are submitted for these areas, the archaeology officer conducts initial appraisals to assess the archaeological implications and ensures that any necessary investigations take place.	<ul style="list-style-type: none"> Cultural Heritage Townscape /Landscape
Local	Air Quality Improvement Strategy 2012 – 2017 and Action Plan 2012 – 2017. 2012.	1,2	<p>Strategy has four overall objectives:</p> <ul style="list-style-type: none"> To reduce emissions from vehicular transport; To tackle emissions from existing fixed sources; To reduce emissions from new development; and To protect public health and monitor air quality. 	<ul style="list-style-type: none"> Climatic Factors Air Quality