STRATEGIC ENVIRONMENTAL ASSESSMENT FOR THE LOCAL FLOOD RISK MANAGEMENT STRATEGY

FOR

LONDON BOROUGH OF TOWER HAMLETS

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0. Executive Summary

0.1 Strategic Environmental Assessments

The London Borough of Tower Hamlets ('Tower Hamlets'), as the Lead Local Flood Authority for its area, must develop, maintain, apply and monitor a strategy for local flood risk management in its area ('the Strategy'). A Strategic Environmental Assessment (SEA) must be produced to assess the potential environmental impact of the Strategy. In addition, the EU Habitats Directive (1992) requires any plan or project which is likely to have a significant effect upon, but is not directly connected to or necessary to the management of, any Natura 2000 site to undergo a Habitats Regulations Assessment (HRA). The HRA Screening Assessment can be found in Appendix A of this document.

A SEA reviews the objectives of plans, programmes and strategies to identify the potential impacts that they could have upon the environment and local surroundings. The European SEA Directive 2001 requires a SEA to include the evaluation of existing statistics through the identification of key environmental issues and other documents which relate to the plan, programme or strategy being assessed.

The SEA process includes several stages, each made up of a number of tasks. The main stages include the screening phase, the Scoping Report, the Environmental Report, a consultation exercise and future monitoring of the Strategy in line with the SEA. This document is the SEA Scoping Report and includes an initial assessment of existing environmental issues within the borough. It highlights any possible future issues that may occur and/or may be exacerbated by implementing the Strategy. The assessment is performed through a comparison exercise of the Strategy's objectives against SEA objectives proposed within this SEA Scoping Report, from which conclusions have been made.

Three statutory agencies (the Environment Agency, Historic England and Natural England) will be consulted on the SEA scoping report. The feedback received will be incorporated into the final version of this document.

0.2 Key Environmental Issues and SEA Objectives

The review and analysis of the borough's Core Strategy and its associated evidence base documents identified key economic, environmental and social issues of the borough. These issues are:

- Population growth
- Increased need for new development
- Increase in landuse change of already developed to residential due to a lack of un-developed land
- Air quality: Tower Hamlets is the third worst London borough for carbon dioxide emissions
- Poor ecological status of water bodies
- Unemployment
- Heritage Assets

The following SEA objectives have been proposed to enable comparison with the Strategy's objectives and to assess the impact of the Strategy itself.

- **SEA1:** Promote sustainable development in order to improve flood resilience, reduce the impact of climate change on properties and the natural and historical environment, and reduce domestic carbon emissions.
- **SEA2:** Improve the WFD status of the relevant water bodies and protect the water resources within the borough.
- **SEA3:** Boost local economic growth and development to aid the growth of local population.
- **SEA4:** Maintain and promote amenity and recreational benefits.
- **SEA5:** Protect and enhance biodiversity and natural habitats within the borough.

0.3 Scoping Assessment and Conclusions

The objectives of the SEA and the objectives of the Strategy are compared using the matrix in Table 0.1. The matrix highlights the positive, negative or neutral impact a Strategy objective may have on a SEA objective. The Strategy is a borough-wide document and not related to any site-specific schemes. Prior to the commencement of any work related to the Strategy, a screening of the SEA might be required, depending on the type and scale of the proposed work.

Table 0.1: Matrix used to compare the SEA's and the Strategy's objectives

Local Flood Risk Management Strategy Objectives		SEA Objective Number				
		SEA1	SEA2	SEA3	SEA4	SEA5
1	Improve knowledge and understanding of flood risk within the borough	+	+	+	0	+
2	Maintain flood risk management and drainage assets	0	+	0	+	+
3	Deliver sustainable drainage systems	+	+	0	+	+
4	Ensure new developments reduce the risk of flooding	+	+	+	+	+
5	Work with risk management authorities and partners to manage flood risk	0	+	0	0	+
6	Respond effectively to flooding emergencies	+	0	0	0	0

Key:

+	Positive effect on SEA objective
-	Negative effect on SEA objective
0	Neutral effect on SEA objective and/or dependent on implementation

1. Introduction

1.1 Why produce a Strategic Environmental Assessment?

A Strategic Environmental Assessment (SEA) reviews plans, programmes and strategies which are likely to cause significant environmental effects to a specified area. The European SEA Directive 2001, which promotes sustainable development and large scale protection of the environment, requires a SEA to include the evaluation of any potential environmental issues which may occur due to the implementation of proposed policies. If initial policies are deemed to significantly impact upon the local and wider environment, including economic, environmental and social factors, the policies should be reviewed. For this reason, the SEA provides the evidence base for the choice of options and the mitigation of environmental concerns as far as is possible. In addition, the EU Habitats Directive (1992) requires a Habitats Regulations Assessment (HRA) for any project which is likely to have an impact on but it is not directly connected to the management a Natura 2000 site. The HRA Screening Assessment can be found in Appendix A of this document.

1.2 Methodology

Table 1.1: Summary of the Stages and Tasks involved in a SEA

SEA Stages	SEA Tasks
Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope	**A1:** Identifying other relevant policies, plans and programmes, and environmental protection objectives
	A2: Collecting baseline information
	A3: Identifying environmental issues and problems
	A4: Developing the SEA objectives and framework
	A5: Consulting on the scope of the SEA
Stage B: Developing and refining options and assessing affects	**B1:** Testing the plan objectives against the SEA objectives
	B2: Developing strategic alternatives
	B3: Predicting the effects of the plan, including alternatives
	B4: Evaluating the effects of the plan, including alternatives
	B5: Mitigating adverse effects
	B6: Proposing measures to monitor the environmental effects of implementing the plan
Stage C: Preparing the Environmental Report	**C1:** Preparing the Environmental Report
Stage D: Consulting on the draft Strategy and the SEA Report	**D1:** Consulting on the draft Strategy and Environmental Report with the public and consultation bodies
	D2: Assessing significant changes
	D3: Making decisions and providing information
Stage E: Monitoring the significant effects of implementing the Strategy	**E1:** Developing aims and methods for monitoring
	E2: Responding to adverse effects

1.3 Local Flood Risk Management Strategy

1.3.1 Introduction to the Local Flood Risk Management Strategy

The London Borough of Tower Hamlets ('Tower Hamlets'), as the Lead Local Flood Authority for its area, must develop, maintain, apply and monitor a strategy for local flood risk management in its area. The Local Flood Risk Management Strategy ('the Strategy') must follow the Flood and Water Management Act (2010) ('the Act') guidelines. The Strategy reports upon the duties of Tower Hamlets as the Lead Local Flood Authority, lists the Risk Management Authorities in the area and their roles and responsibilities. The Strategy defines what Tower Hamlets has done and intends to do to mitigate local flood risk in the form of six objectives, each entailing a series of measures.

1.3.2 Strategy objectives

The six objectives of the Strategy are:

1. Improve knowledge and understanding of flood risk within the borough
2. Maintain flood risk management and drainage assets
3. Deliver sustainable drainage systems
4. Ensure new developments reduce the risk of flooding
5. Work with risk management authorities and partners to manage flood risk
6. Respond effectively to flooding emergencies

To aid the achievement of each objective, a number of related measures will be implemented. There are 24 measures and these are detailed in the Strategy (see Chapter 5 of the Strategy).

1.4 Screening Phase

Article 3 of the SEA Directive 2001 states that SEAs are mandatory for any local plan, programme or strategy relating to, amongst other topics, water management. For this reason, Tower Hamlets' Strategy, as a statutory plan, requires this SEA. In addition, undertaking this SEA fulfils a requirement of the Act that the Strategy must specify how it contributes to the achievement of wider environmental objectives.

1.5 Consultation Process

This SEA Scoping Report will be reviewed by the three statutory agencies with environmental responsibilities in England - the Environment Agency, English Heritage and Natural England ('the consultation bodies'). The questions that the consultation bodies will be requested to answer are included in Chapter 6. Feedback from the consultations will shape the final version of the document and the Strategy.

2. A1: Identification of Relevant Policies

2.1 What is included in Task A1

Task A1 includes the list of all policies, documents and legislation that impact upon the Strategy. It is important that these include those at a variety of levels, including international, national, regional and local.

2.2 Relevant Policies, Documents and Legislation

Table 2.1: Relevant policies, documents and legislation

Title of Document	Year Published / Updated	Author
International		
EU Biodiversity Strategy	2011 Mid-term review 2015	EC
EU Birds Directive	2009	EC
EU Convention for the Protection of the Architectural Heritage of Europe	1987	CoE
EU European Convention on the Protection of Archaeological Heritage	1992	CoE
EU Floods Directive	2007	EC
EU Habitats Directive	1992	EC
EU Water Framework Directive	2000	EC
UNESCO World Heritage Convention	1972	UNESCO
National		
Biodiversity 2020: A strategy for England's wildlife and ecosystem services	2011	Defra
Ancient Monuments and Archaeological Areas Act 1979	1979	UK Government
Flood and Water Management Act	2010	UK Government
Flood Risk Regulations	2009	UK Government
National Flood and Coastal Erosion Risk Management Strategy for England	2011	Defra & EA
National Planning Policy Framework	2012	DCLG
National Planning Policy Guidance	2016	DCLG
National Standards for Sustainable Drainage Systems	2011	Defra
Planning (Listed Buildings & Conservation Areas) Act 1990	1990	UK Government
Sustainable Drainage Systems Written Ministerial Statement (HCWS161)	2014	DCLG
The SuDS Manual	2007	CIRIA

Title of Document	Year Published / Updated	Author
Town and Country Planning (Development Management Procedure) (England) Order	2015	UK Government
Regional		
London Regional Flood Risk Appraisal	First Review: 2014	GLA
London Strategic Flood Response Framework	2015	LRP
Managing risks and increasing resilience: the Mayor's climate change adaptation strategy	2011	GLA
Thames Catchment Flood Management Plan	2009	EA
Thames Estuary 2100 Flood Risk Management Plan	2017	EA
Thames River Basin Management Plan	2016	Defra and EA
The London Plan	2016	GLA
Local		
Assessment of the Core Strategy under the Habitats Regulations – Screening Report	2009	LBTH
Borough Major Emergency Plan	2010	LBTH
Carbon Management Plan	2016	LBTH
Carbon Policy Evidence Base	2016	LBTH
Conservation Strategy 2016-2026	2016	LBTH
Environmental Strategy	2007	LBTH
Environmental Strategy Action Plan	2007	LBTH
Local Biodiversity Action Plan	2014	LBTH
Local Flood Risk Management Strategy	2017	LBTH
Local Plan (Core Strategy)	2011 New Local Plan currently under consultation	LBTH
Preliminary Flood Risk Assessment	2011 (updated in 2017)	LBTH
Strategic Flood Risk Assessment (SFRA)	2016	LBTH
Strategic Housing Market Assessment	2014	LBTH
SuDS Guidance	2014	LBTH
Surface Water Management Plan	2011	LBTH
Tower of London World Heritage Site Management Plan	2007	HRP
Town Centre Spatial Strategy to 2025	2009	LBTH
Transport Planning Strategy	2011	LBTH
Urban Structure and Characterisation Study	2009	LBTH

Glossary	
CIRIA	Construction Industry Research and Information Association
CoE	Council of Europe
DCLG	Department for Communities and Local Government
DEFRA	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EC	European Commission
EU	European Union
GLA	Greater London Authority
HRP	Historic Royal Palaces
LBTH	London Borough of Tower Hamlets
LRP	London Resilience Partnership
UNESCO	United Nations Educational, Scientific and Cultural Organization

3. A2: Baseline Information

3.1 What is included in Task A2

Baseline information is used as the evidence base for determining any key environmental issues that may exist in Tower Hamlets. Although this SEA is focused mainly upon environmental issues and potential effects, some social and economic baseline indicators have been included. These provide a wider viewpoint of potential effects that the implementation of the Strategy could cause.

The SEA should be proportional to the length of the Strategy. As a result, only baseline information that directly affects flood risk and/or those likely to influence the environmental issues highlighted within this SEA have been included.

3.2 Borough Characteristics

The London Borough of Tower Hamlets is located in east side of London. The borough covers an area of 1,977 hectares and it is heavily urbanised. The total population was 304,900 as of the Office for National Statistics (ONS) mid-year 2016 estimates and projected to increase to 312,000 in 2017.

The River Thames and the River Lee define the southern and eastern borough boundaries respectively. Two main rivers connected to the River Lee, the Limehouse Cut and the Lee Navigation, flow within the borough. The Regent's Canal and the Hertford Union Canal also flow through Tower Hamlets.

There are 41 Sites of Importance for Nature Conservation within the borough, six of metropolitan importance, 18 of borough importance and 17 of local importance. Some of these are the principal parks within the borough, including Victoria Park, Mile End Park, Mudchute Park and part of the Queen Elizabeth Olympic Park.

The borough is well connected to the rest of Greater London with numerous transport links. There are two tunnels under the Thames, the Rotherhithe Tunnel to Southwark and the Blackwall Tunnel to Greenwich. The A13 starts at Aldgate and passes through the Blackwall Tunnel to Newham and south-east Essex. The A12 also begins at Aldgate and crosses the River Lee at Bow, ultimately leading to Colchester and Lowestoft.

The borough is served by four London Underground lines - the Central Line, District Line, Hammersmith and City Line, and Jubilee Line. The Docklands Light Railway serves the dockland area of the borough and connects it to Bank, Stratford, London City Airport and Lewisham. Principal rail services pass through Bethnal Green, Limehouse and Cambridge Heath, providing connections to Liverpool Street station. The majority of the redeveloped Docklands lies within Tower Hamlets. Canary Wharf is located in the south of the borough on the Isle of Dogs. It is one of the most important economic centres in the country and it is home to some of the tallest buildings in Europe.

3.3 Chosen Baseline Information

According to the ONS 2014 projections, Tower Hamlets is the local authority with the highest estimated **population** increase in England between 2014 and 2024 at 25.1%, estimated to rise from 284,000 to 355,400. Figure 3.1 shows the predicted population growth curve up until 2039 and also shows the split between male and female residents.

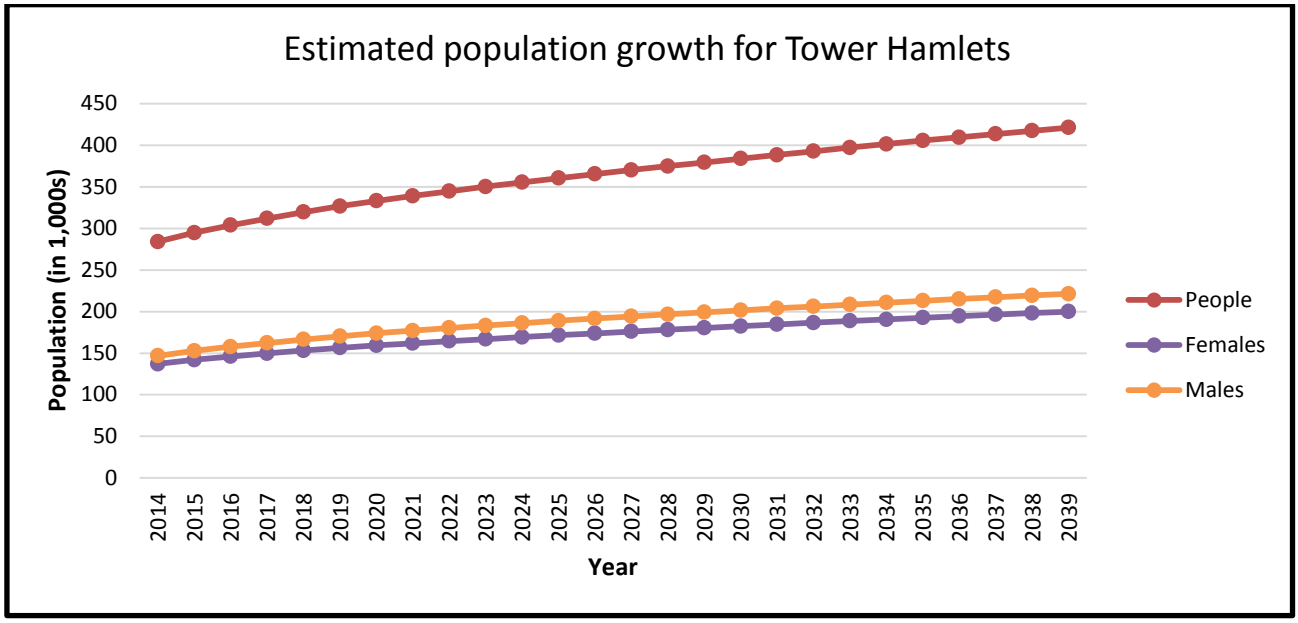

Figure 3.1: Estimated population growth for Tower Hamlets. Data source: Office for National Statistics (www.statistics.gov.uk)

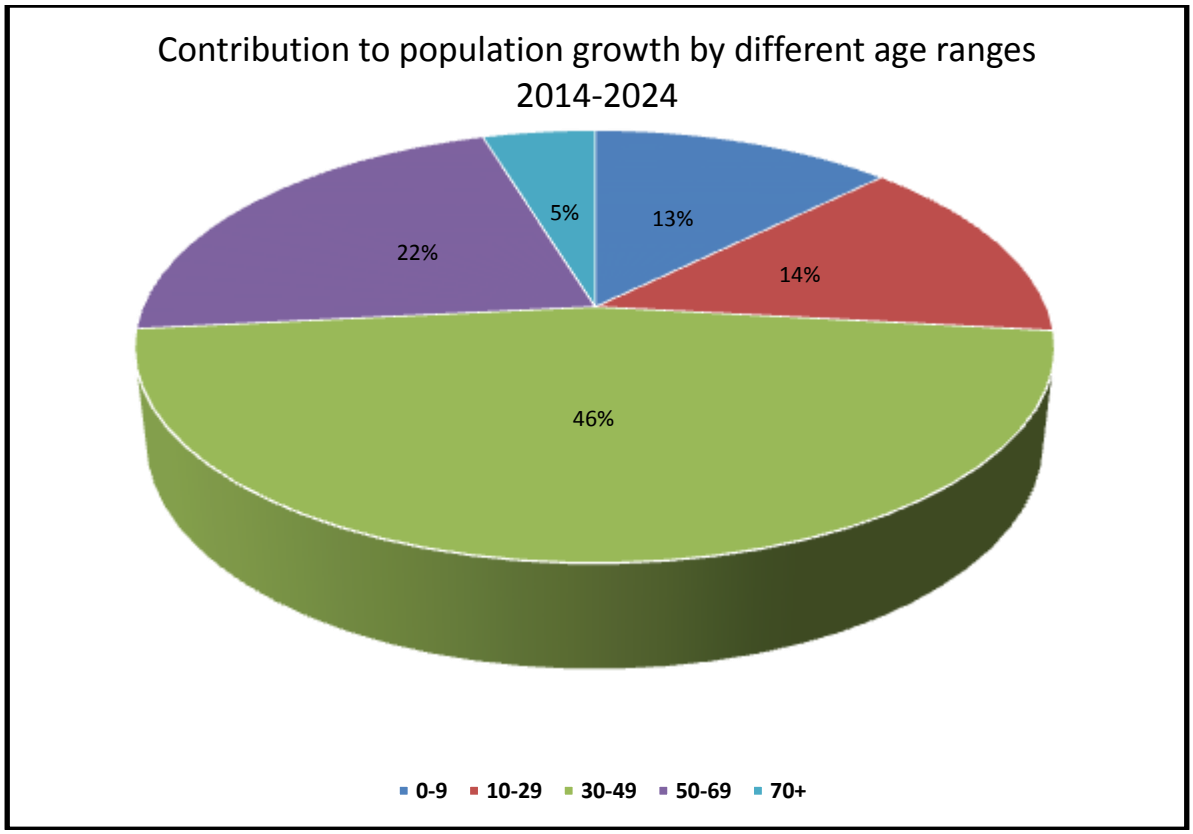

Figure 3.2: Contribution to population growth by different age ranges. Data source: Office for National Statistics (www.statistics.gov.uk)

The biggest contributors to population growth are residents within the 30-49 years old age range (Figure 3.2), which accounts for almost half of the increase. It is worth noting that the ONS projections are based on the population trends measured in 2014 and did not take into consideration the capacity of the areas to accommodate extra residents.

Table 3.1 Tower Hamlets population increase between 1991 and 2016. Data source: Office for National Statistics (www.statistics.gov.uk)

Year	Population	% Increase
1991	166300	n/a
2001	201100	+21%
2011	256100	+27.3%
2016	304900	+19%

According to the ONS 2016 mid-year estimates, 2016 was the first year that the population surpassed 300,000 since the Second World War (Table 3.1). Tower Hamlets is the second most densely populated local authority in the country, after Islington.

Population growth signifies the increase in number of households and the need for **new development**. The 2016 Strategic Housing Market Assessment (SHMA) for Tower Hamlets calculated an annual Objectively Assessed Housing Need of 2,428 following the methodology from the 2013 Greater London Authority SHMA. The 2011/2012 and the 2012/2013 net housing completions figures were 903 and 997 respectively, neither reaching half of the borough's need for new development.

New development in a densely built borough such as Tower Hamlets raises issues of **landuse change**. The low availability of non-previously developed area means that a higher proportion of already developed landuse is turned into new residential property. This is 87% in Tower Hamlets as opposed to the London average (81%) and England's average (59%) (see Table 3.2).

According to 2015 **carbon dioxide (CO_2) emission** estimates, Tower Hamlets is the third worst Greater London local authority for total emissions, only surpassed by Westminster and Hillingdon. The trend over 10 years, between 2005 and 2015, shows that while the overall total has decreased, it is mostly due to the industry and commercial reduction in emissions as the domestic decrease is minimal.

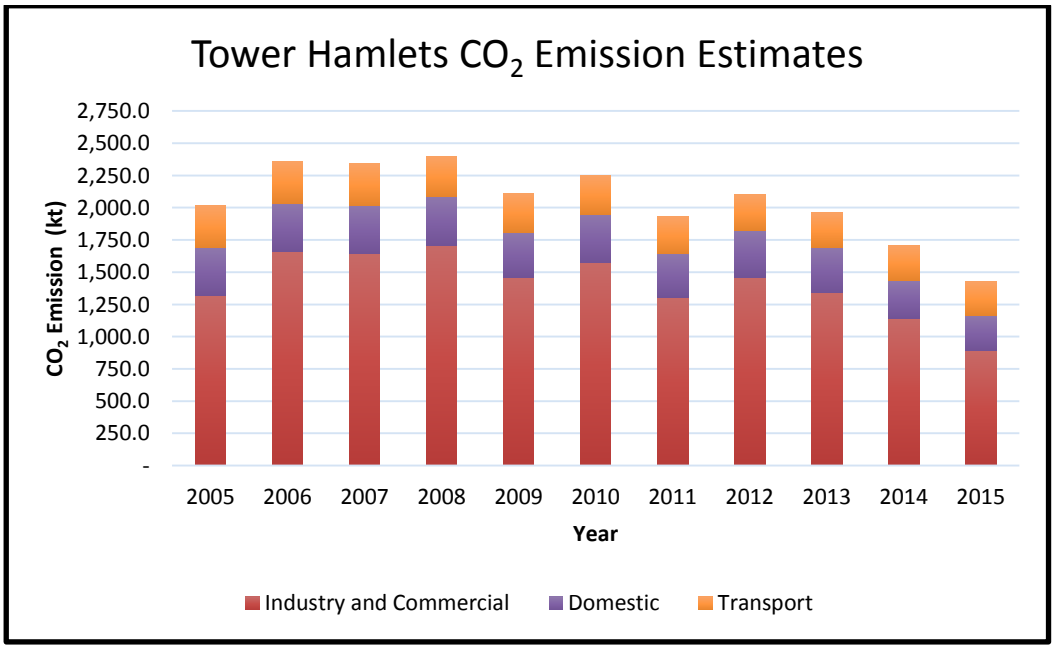

Figure 3.3: Tower Hamlets CO_2 emission estimates 2005-2015

Table 3.2: Proportion of new residential addresses created by previous land usage category 2013-2016. Data source: Office for National Statistics (www.statistics.gov.uk)

Proportion of new residential addresses created by previous land usage category 2013-2016							
Previously developed land use				Non-previously developed land use			
Category	Tower Hamlets	London	England	Category	Tower Hamlets	London	England
Community Service	1%	2%	2%	Agriculture	0%	1%	8%
Defence	0%	0%	0%	Forest, open land and water	0%	1%	1%
Industry and Commerce	4%	13%	8%	Outdoor recreation	0%	1%	1%
Minerals and Landfill	0%	0%	0%	Residential garden	2%	5%	6%
Residential	20%	30%	20%	Undeveloped land	7%	5%	13%
Transport and utilities	3%	3%	3%	Vacant - not previously developed	4%	7%	11%
Other developed use	21%	15%	16%				
Vacant - previously developed	39%	18%	10%				
All previously developed uses	87%	81%	59%	All non-previously developed uses	13%	19%	41%

The River Lee chemical and ecological statuses were first classified under the Water Framework Directive (WFD) in 2009. The aim of this classification is to protect and enhance the quality of water bodies. Table 3.3 compares the 2009 and the 2016 ecological, chemical and overall WFD statuses for the section of the River Lee from Tottenham Locks to Bow Locks and Three Mills Locks. While the objective to improve the chemical status was achieved, the ecological status went from 'Moderate' to 'Bad' in these seven years and the aim is to improve it back to 'Moderate' status by 2027.

Table 3.3: Water Framework Directive classification status for the River Lee

River Lee (Tottenham Locks to Bow Locks/Three Mills Locks)	Classification Status		
	2009	2016	Objectives
Overall	Moderate	Bad	Moderate by 2027
Ecological	Moderate	Bad	Moderate by 2027
Chemical	Fail	Good	Good by 2015

In 2014, Tower Hamlets had the second highest **unemployment** rate amongst London boroughs at 8.8%. It was an improvement from the 9.4% rate in 2011. Tower Hamlets also had the highest inequality pay ratio between the 20 and 80 percentiles in London, at 3.3. However, it had the lowest rate of low paid jobs, at 8% versus the 14% London rate (source: www.londonspovertyprofile.org.uk). It is worth noting, however, that economic indicators in Tower Hamlets may be skewed because of the influence of Canary Wharf and therefore might not be reflective of the entire borough.

A wide range of **heritage assets** can be found within Tower Hamlets (Table 3.4). The assets can be either classified as:

- Designated heritage assets: World Heritage Sites, Scheduled Monuments, Listed Buildings, Registered Parks and Gardens, Conservation Areas or London Squares designated under the relevant legislation.
- Undesignated heritage assets: non-statutory designation and local lists identified by the Council (Locally Listed Buildings) or the Mayor of London and any other heritage assets that may be identified from time to time (Source: Tower Hamlets Conservation Strategy).

Table 3.4: Heritage Assets types within Tower Hamlets

Heritage Assets type	Number of assets
World Heritage Sites	1
Scheduled Monuments	7
Conservation Areas	60
Parks and Gardens of Historic Interest	5
Statutory Listed Buildings	888
Locally Listed Buildings	184

Statutory Listed buildings are classified with a grade, given according to their level of interest (Table 3.5):

- Grade I: “exceptional, often international interest.”
- Grade II*: “particularly important buildings of more than special interest”
- Grade II: “nationally important and of special interest”

Table 3.5: Statutory Listed buildings numbers and classification (Source: Tower Hamlets Conservation Strategy)

Statutory Grade	Number of Buildings
Grade I	21
Grade II*	39
Grade II	828

Any intervention derived by the strategy that could potentially affect a heritage asset will have its own impact assessment that will take into consideration the current condition of the asset. This information can be extracted by the Heritage at Risk register from Historic England. (https://historicengland.org.uk/advice/heritage-at-risk/search-register/)

4. A3: Identification of Environmental Issues

4.1 What is included in Task A3

The purpose of Task A3 is to identify any existing or possible future environmental issues across the borough which could affect, or be affected by, the implementation of the Strategy. The issues included in paragraph 4.2 have been determined from the review of documents in Task A1 and the analysis of the baseline information in Task A2.

4.2 Local Environmental Issues

Table 4.1: Identified key environmental issues

Key Issues	Potential Associated Problems
Rising local population	- Increased number of residents at risk of flooding - Greater need for more development to accommodate population growth
Change of landuse and increased density of new developments	- Increase of impermeable areas within the borough and less space for green/permeable areas. Impermeable areas generate more runoff volume and increase the risk of flooding - Continued loss of vegetated land and potential recreational space for increasing population
Air quality	- Future flood risk management mitigation works could positively impact upon air quality
Bad ecological status of main waterbodies in the borough	- Risk of not achieving the WFD aims within the set deadline - No improvement of the ecological status which impacts upon the quality of biological organisms
Impact of climate change	- Extreme weather conditions can cause more frequent and intense storm events - More residents and more properties are potentially at risk of flooding due to the higher frequency and intensity of storm events - Increased risk of heat-induced problems due to development intensification and reduction of green space
Condition of the local historic environment	- Flooding events can cause permanent damage to the significant heritage assets. - Flood defence work and associated infrastructure development could have adverse impact on the significance of heritage assets and/or their settings.

5. A4: SEA Objectives

5.1 What is included in Task A4

The performance of the Strategy will be judged against the SEA objectives. These objectives are based upon the potential environmental issues identified in Task A3 as well as local knowledge and understanding relating to flood risk management.

5.2 SEA Objectives

The following SEA objectives are proposed to enable comparisons with the Strategy's objectives. They also can be used as an analysis tool for future reviews of the Strategy.

- **SEA1**: Promote sustainable development in order to improve flood resilience, reduce the impact of climate change on properties and the natural and historical environment, and reduce domestic carbon emissions.
- **SEA2**: Improve the WFD status of the relevant water bodies and protect the water resources within the borough.
- **SEA3**: Boost local economic growth and development to aid the growth of local population.
- **SEA4**: Maintain and promote amenity and recreational benefits.
- **SEA5**: Protect and enhance biodiversity and natural habitats within the borough.

6. Next Steps and Conclusions

6.1 Assessment of SEA and Strategy Objectives

The matrix scoring system in Table 6.1 has been developed to enable the objectives comparison exercise. It assesses whether the Strategy could potentially have a negative impact on the SEA objectives.

Table 6.1: Matrix used to compare the SEA's and the Strategy's objectives

Local Flood Risk Management Strategy Objectives		SEA Objective Number				
		SEA1	SEA2	SEA3	SEA4	SEA5
1	Improve knowledge and understanding of flood risk within the borough	+	+	+	0	+
2	Maintain flood risk management and drainage assets	0	+	0	+	+
3	Deliver sustainable drainage systems	+	+	0	+	+
4	Ensure new developments reduce the risk of flooding	+	+	+	+	+
5	Work with risk management authorities and partners to manage flood risk	0	+	0	0	+
6	Respond effectively to flooding emergencies	+	0	0	0	0

Key:

+	Positive effect on SEA objective
-	Negative effect on SEA objective
0	Neutral effect on SEA objective and/or dependent on implementation

Improving the knowledge and understanding of flood risk within Tower Hamlets (**Objective 1**) will help improve flood resilience (SEA1), protect water resources and natural habitats (SEA2 and SEA5). Understanding flood risk can help boost growth and development (SEA3) by enabling them to occur in a safe way with regard to flood risk. It will have no direct impact on SEA4. The schemes resulting from an improved knowledge of flooding mechanisms could be more effective and potentially have amenity benefits as well as positively impacting upon the protection and improvement of water bodies.

Maintaining the existing assets (**Objective 2**) will help protect water resources and biodiversity (SEA2 and SEA5) and maintain amenity and recreational benefits (SEA4), since some of these assets are sustainable drainage systems (SuDS). Maintenance of assets is key in ensuring their efficiency and not making the identified environmental issues worse.

The delivery of additional SuDS (**Objective 3**) will help promote sustainable development, promote amenity and enhance biodiversity (SEA1, SEA4 and SEA5). It will contribute positively to improving

the WFD status of waterbodies where the SuDS have water quality benefits specifically incorporated (SEA2). The nature of the sustainable scheme implemented could also have a positive impact on economic growth, but as a general objective the effect on SEA3 is considered neutral.

Ensuring new developments reduce the risk of flooding (**Objective 4**) is compatible with SEA1 and will have a positive effect on protecting water resources, maintaining amenity and protecting natural habitats (SEA2, SEA4 and SEA5). The delivery of new development with reduced risk of flooding can help improve local economic growth by reducing the risk of people, properties and businesses being impacted by flooding (SEA3).

Working with other risk management authorities (**Objective 5**) will help protect natural habitats and water resources they have responsibility for, and the improvement of their WFD status (SEA2 and SEA5). Working with other authorities would not have any negative impact on sustainable development, recreational benefits or economic growth. The schemes derived from this collaboration could also come with additional benefits through the continuous promotion of SuDS benefits.

Responding effectively to flooding emergencies (**Objective 6**) will help flood resilience by ensuring residents, properties and heritage assets are protected (SEA1). Emergency response is essential and it is not predicted to significantly relate to the other environmental objectives, as emergency responders will also act to protect the natural and historical environment.

None of the Strategy's objectives are deemed to have a detrimental effect on the SEA objectives. All the Strategy's objectives have a potential positive effect on at least one of the SEA objectives. It is predicted that the Strategy will have no negative impact on any of the environmental issues identified in Paragraph 4.2. If an Environmental Report is deemed necessary in the future a similar matrix is recommended to be used to compare the objectives further. This may be required when further detail is included in the Strategy's measures, depending upon the scale of the revisions and work schemes proposed.

6.2 Conclusions

The Strategy is a borough-wide document. Its objectives and measures are currently broad and therefore have a low level of detail. The potential effects cannot be scrutinised thoroughly at this stage, largely because no site-specific schemes are being proposed. Despite this, it is not believed that any of the Strategy's objectives or measures will cause any threat or damage to the environment, nor reduce the protection that Tower Hamlets provides to the environment.

The promotion and incorporation of SuDS within new development will reduce the risk of flooding. This will also deliver some of the environmental benefits included in the SEA objectives, such as the protection and enhancement of biodiversity and habitats and the betterment of the WFD status of the watercourses within the borough. Improving the quality of surface water runoff from impermeable areas to water bodies should contribute to the rise of their ecological status.

When the Strategy is reviewed, proposed to be on an annual basis internally and every 6 years publicly, a further SEA review will be undertaken in accordance with the SEA Directive. Likewise, once firm details are available regarding proposed flood mitigation work schemes, an updated SEA review

will be possible as further evidence will be available to demonstrate whether there would be any significant effects upon the environment. If there were any potential negative environmental impacts that could be caused through the updated Strategy or proposals, then the future SEA will introduce alternative actions which would aim to mitigate any such environmental issues from occurring.

6.3 Consultation on the SEA

The following consultation questions were sent to the three statutory agencies with environmental responsibilities in England - the Environment Agency, Historic England and Natural England. This ensured that the consultation bodies agreed that this SEA Scoping Report is representative of the environmental issues within the borough. It also confirmed that there is independent approval that the Strategy will not have a detrimental impact on the local environment as required by Task A5 of the SEA process.

1. Do you feel the SEA includes all the relevant policies, documents, plans and legislation that relate to or could affect the Strategy? If not, please give details.

2. Do you agree that the baseline data included herein is appropriate to the Strategy that is being developed?

3. Do you have, or know of, any additional baseline indicators or data that should be incorporated into this SEA?

4. Do you agree that the SEA has identified the key environmental issues relating to the Strategy affecting the London Borough of Tower Hamlets? If not, please give details.

5. Do you agree that these proposed SEA objectives are the most suitable for Tower Hamlets? If not, please explain as to why.

6. Do you have any comments on the proposed method for the assessment of the SEA objectives with the Strategy objectives?

7. Do you have any additional comments or suggestions for this SEA Scoping Report?

The feedback received from these questions has been incorporated in this final version of the SEA and HRA document and has helped shape the final version of the Strategy.

The Environment Agency's feedback was focused on the Strategy and no comment was made on the SEA and the HRA. The comments were addressed in the Strategy document accordingly.

Historic England was concerned that the original SEA scoping report did not take into account the historic environment and the potential impact derived from the Strategy. The Strategy has broad objectives and measures, therefore the potential effect on any historic asset cannot be assessed at this stage. Any scheme derived from the Strategy will assess the need for its own SEA and HRA that will address any impacts of the scheme on the associated natural and historic environment. Nonetheless, the amendments suggested by Historic England have been considered and incorporated into the SEA. This included the addition of:

- relevant heritage policies to Table 2.1

- data on Tower Hamlets' historic assets to the baseline information
- a key issue to Table 4.2 that addresses the potential associated problems that a flood defence scheme could have on a historic asset
- a reference to the historic environment into objective SEA1

Natural England's response was that they do not consider that the Strategy and the associated SEA and HRA pose any likely risk or opportunity in relation to their statutory purpose and did not wish to comment on the consultation.

Appendix

A. HRA Screening Assessment

A.1 Habitats Regulations Assessment

The EU Habitats Directive was adopted in 1992 and, together with the EU Birds Directive, aims to protect habitats and species of European significance. The network of sites which have been designated as rare, endangered or vulnerable are known as Natura 2000 sites. Natura 2000 sites include Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites (wetlands of international importance). The Habitats Directive requires any plan or project which is likely to have a significant effect upon, but is not directly connected to or necessary to the management of, any Natura 2000 site to undergo a Habitats Regulations Assessment (HRA). The HRA will determine whether the plan or project is likely to have a significant impact upon such a site's conservation objectives.

A HRA is split into two main stages - the Screening stage and the Appropriate Assessment stage. This document will focus on the Screening stage in relation to the Local Flood Risk Management Strategy ('the Strategy') of the London Borough of Tower Hamlets ('Tower Hamlets'). This fulfils the requirement of the Screening Assessment to determine whether the adoption of the Strategy will have a significant effect on any Natura 2000 site. If the Screening Report concludes that there is likely to be an effect on such a site then an Appropriate Assessment Report will be produced to propose alternative options to reduce the effect as best as possible.

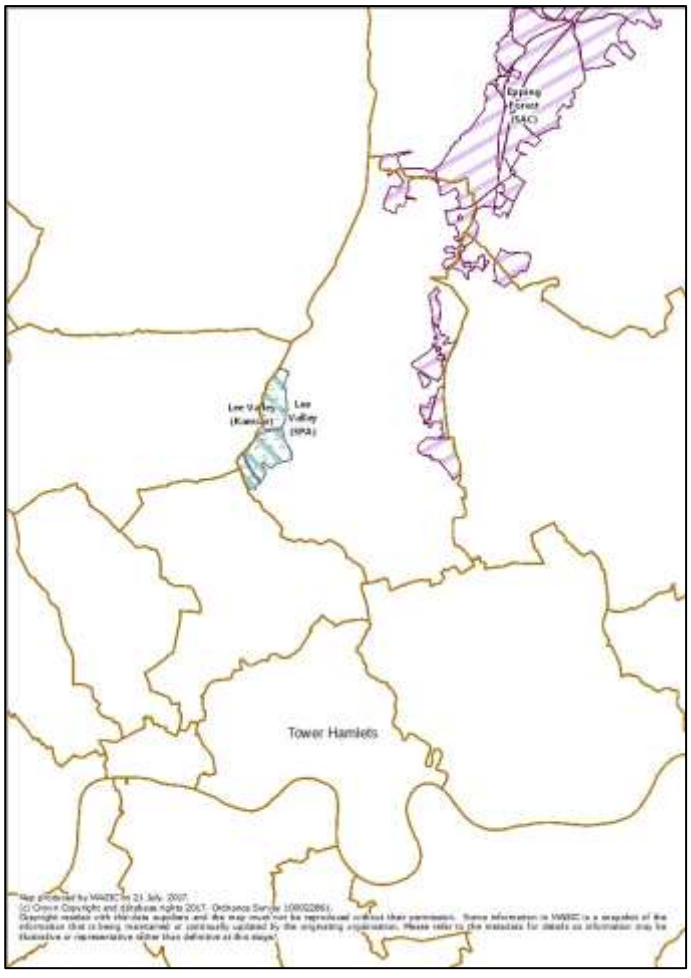

Figure A.1 Natura 2000 sites near Tower Hamlets

A.2 HRA - Relevant Sites

There are no Natura 2000 sites within the borough, the nearest ones being 3.6 km (Lee Valley Ramsar & SPA) and 4.1 km (Epping Forest SAC) away from the borough boundary. Both sites are to the north of Tower Hamlets, as can be seen from the map in Figure A.1.

Lee Valley is a park of approximately 450 hectares in the north-east of Greater London, stretching for 41 km along the River Lee. The park is comprised of water supply reservoirs, sewage treatment lagoons, gravel pits and wetlands. It is designated as a SPA according to the Birds Directive for internationally important numbers of breeding and wintering wildfowl, and it is a Ramsar site for its wetlands.

Epping Forest is an ancient forest which is

designated as a SAC and as a Site of Special Scientific Interest (SSSI). It covers an area of approximately 1,630 hectares and it extends for 19 km north to south and 4 km east to west between Greater London and Essex.

A.3 Screening Analysis

The Lee Valley and Epping Forest are potentially vulnerable to habitat destruction by new nearby development, air and water pollution, water abstraction and climate change that could cause droughts. Epping Forest is not connected hydraulically to Tower Hamlets because they do not share any watercourses. The River Lee runs through the Lee Valley southwards and flows at the eastern border of Tower Hamlets into the River Thames. The section of the River Lee flowing through the Lee Valley is upstream of Tower Hamlets and the Lower River Lee is only tidal up to Lea Bridge Road, downstream of the Lee Valley. Both sites can therefore be considered as unconnected to Tower Hamlets.

A.4 Conclusion

The above screening analysis shows that the Strategy is not deemed to have any detrimental impact on any Natura 2000 sites. This is because there are none within the borough and the only two sites within 10 km distance are not hydraulically connected to Tower Hamlets, and would not be affected by any flood alleviation scheme derived from the Strategy. A further review of the HRA will be undertaken when the Strategy is reviewed, every year internally and every six years publicly.

A.5 Consultation Questions

The following consultation questions have been provided to the two statutory agencies with environmental responsibilities in England - the Environment Agency and Natural England. This ensured that the consultation bodies approved the HRA screening process and confirmed that there has been independent approval that the Strategy will not have a detrimental impact on any Natura 2000 sites.

1. Do you agree that every relevant Natura 2000 site which may be affected by the implementation of the Local Flood Risk Management Strategy has been identified? If not, please state other sites which you believe have been missed.

2. Do you feel that all the relevant information for these sites has been included?

3. Do you have any comments on the conclusions of this HRA Screening Assessment of the Strategy?

4. Do you have any additional comments or suggestions for this HRA Screening Assessment?

The feedback received from these questions has been incorporated into this final version of the SEA and HRA document and has helped shape the final version of the Strategy. Neither of the consultation bodies provided any feedback that necessitated amendments to the HRA.