Ham Close Regeneration

Planning Application:

Environmental Statement
Volume 1: Main Text
and Figures

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Ham Close

Environmental Statement - Volume 1: Main Text & Figures

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1.0 INTRODUCTION AND EIA METHODOLOGY

INTRODUCTION

1.1 This Environmental Statement (ES) accompanies a full detailed planning application for a residential led mixed-use scheme on land at Ham Close, Ham, Richmond upon Thames, TW10 7PG (the 'Site'), within the London Borough of Richmond upon Thames (LBRuT). The ES has been prepared on behalf of Hill Residential (the 'applicant').

1.2 The Site, predominately comprising existing buildings, areas of hardstanding roads/parking and short amenity grassland, occupies approximately 4.69 hectares (ha). A detailed description of the Site can be found in Chapter 2.0: Proposed Development and Site Context of this ES. The location and application boundary are shown in Figure 1.1 below and at Appendix 2.1.

Figure 1.1 Site Location

1.3 In this ES, the application proposal is referred to as '*the proposed development*' and comprises the following:

'*Demolition of existing buildings on-site and phased mixed-use development comprising 452 residential homes (Class C3) up to six storeys; a Community/Leisure Facility (Class*

F2) of up to 3 storeys in height, a "Maker Labs" (sui generis) of up to 2 storeys together with basement car parking and site wide landscaping'

1.4 Further details of the proposed development are provided in Chapter 2.0: Proposed Development and Site Context of this ES.

1.5 The ES presents findings from an Environmental Impact Assessment ('EIA') that has been carried out in accordance with the *Town and Country Planning (Environmental Impact Assessment) Regulations 2017*[1] (EIA Regulations 2017), to assess the impacts of the proposed development. The Regulations were updated in 2020 to introduce changes to publicity requirements in response to the coronavirus (COVID-19) pandemic.

THE EIA REGULATIONS AND NEED FOR EIA

1.6 The EIA is a systematic process during which potential significant environmental impacts from a proposed development project are identified, assessed and the scope for minimising potential impacts are presented to the relevant decision maker (the 'competent authority') within an ES accompanying a planning application.

1.7 The aim of the EIA is to provide the competent authority (in this case LBRuT) with the information necessary to consider potential environmental impacts, to ascertain whether these are acceptable and to secure mitigation measures to minimise these impacts prior to a grant of planning permission.

The EIA Regulations

1.8 The revised EIA Directive (2014/52/EU) adopted by the European Parliament in 2014 was transposed into UK law through the EIA Regulations 2017[1] on 16th May 2017. The EIA Regulations 2017[1] apply to the assessment of environmental impacts that are likely to arise from certain types of public and private projects subject to requirements for statutory consents, referred to in the directives as 'development consents.'

The Need for an EIA

1.9 The proposed development does not fall under the description of a Schedule 1 Development as defined by the EIA Regulations 2017[1] that would automatically require EIA. However, the proposed development, to which this ES relates, does fall within the description of the following sub-category of Schedule 2 and exceeds the corresponding threshold in column 2 of the table in Schedule 2 in that it includes more than 150 dwellings:

'Infrastructure projects' – urban development projects, including the construction of shopping centres and car parks, sports stadiums, leisure centres and multiplex cinemas (category 10(b) of Schedule 2)).

1.10 Due to the scale and nature of the proposals, it was considered that, if subject to a formal screening opinion, the development would be determined as an 'EIA Development', having regard to the factors in Schedule 3. Consequently, the client has committed to undertaking EIA for this application and has not sought an EIA screening opinion. Accordingly, the applicant has carried out an EIA and has provided an ES with this planning application.

1.11 It is the responsibility of the applicant to provide all the necessary information and to compile the ES for the EIA. Once submitted, the competent authority responsible for authorising the relevant development should publicise the availability of the ES (and any related additional information) to potentially interested parties, such as statutory and non-statutory consultees and the public, so as to enable their opinions on the project and ES to be represented in the planning process.

1.12 Greengage Environmental Ltd have been commissioned by the applicant to prepare the ES, in line with the current EIA Regulations 2017[1] and EIA best practice.

THE SCOPE OF THE ENVIRONMENTAL STATEMENT

Scoping Report and Scoping Opinion

1.13 The process of scoping is critical to the development of a comprehensive and balanced ES. The process of scoping determines the topics or areas of potential likely impacts to be addressed and the geographical area and timeframe over which they will be considered. It also sets out the methods to be used to determine the likely significant environmental effects that will arise as a result of the operation of the proposed development. The scoping process also enables certain potential impacts to be scoped out as not being likely to give rise to significant environmental effects. Discussion on how scoping and consultation comments have been addressed are detailed in the relevant Technical Chapters of this ES (Chapters 4.0-11.0).

1.14 In accordance with best practice a formal EIA scoping opinion was sought from and provided by LBRuT. The ES therefore reflects comments received from LBRuT and other consultees, as part of the formal scoping exercise.

1.15 Key consultees during the scoping process included:

- LBRuT (including departments such as Transport, Ecology, Environmental Health, Achieving for Children, Waste Management, Local Lead Flood Authority and Planning);
- Greater London Authority;
- Transport for London;
- Environment Agency;
- Thames Water;

- Natural England;
- GLAAS Historic England;
- Sport England;
- NHS South West London CCG;
- Historic England;
- Important neighbouring occupiers including Community Groups operating within Ham Close and Community Groups within the local neighbourhood, in addition to local businesses, educational and community facilities and residents.

1.16 An EIA Scoping Report was prepared by Greengage Environmental Ltd and submitted to the Council on 9th November 2021. LBRuT formally adopted a Scoping Opinion on 6th January 2022, following the necessary consultation and responses from a number of statutory bodies and stakeholder groups.

1.17 The EIA Scoping Report and formal Scoping Opinion are contained within Appendix 1.1 and 1.2 respectively in Volume 2: Technical Appendices of this ES.

1.18 As is set out in the EIA Scoping report a number of key environmental considerations were identified that required detailed assessment within the ES including:

- Built Heritage, Townscape and Visual;
- Archaeology;
- Air Quality;
- Noise and Vibration;
- Ground Conditions and Contamination;
- Ecology;
- Socio-economic;
- Climate Change; and
- Cumulative Impacts.

1.19 The scope of the technical assessments within the ES has been informed by the EIA Scoping Opinion and consultation with relevant officers at LBRuT and other consultees. A summary of how consultation comments have been addressed in the technical assessments is provided below.

Table 1.1 Summary of how scoping comments have been addressed

Consultee	Consultee Comment(s)	How Addressed in the ES?
Built Heritage, Townscape and Visual		
LBRuT (Main Scoping Report Comments)	See Appendix 1.2 pages 30-36.	Full methodology for the Built Heritage, Townscape and Visual Assessment is provided in Volume 3 of this ES. However, notable clarifications to the LBRuT scoping opinion are provided here: • The consultants' competencies are provided within Table 1.6 of this Chapter. • The relevant policies to this discipline are covered and reflected throughout Volume 3 of this ES. • Natural England's London's Natural Signatures: The London Landscape Framework (2011) , as well as NCA profile 115 (Thames Valley) are referenced in Volume 3 of this ES. • The assessment of all receptors will be based on operational effects (including the AVRs). Effects arising during the demolition and construction phases are usually temporary, short-term and reversible. The methodology used for assessing the effects during demolition and construction is the same as that for the Proposed Development in operation, save for the fact that no AVRs are used to depict the demolition and construction phases and professional judgement is used instead to assess the likely effects.
LBRuT Planning	See Appendix 1.2 pages 40-43.	A level assessment of the Ham House Conservation Area has been included as part of the BHTVIA (Volume 3 of this ES). Further clarifications were provided through subsequent consultation.
Archaeology		
LBRuT (Main Scoping Report Comments)	See Appendix 1.2 pages 27 and 28.	The Archaeological Desk Based Assessment (Appendix 4.1) has been issued to GLAAS for comment.
LBRuT Planning	See Appendix 1.2 page 30.	The Archaeological Desk Based Assessment (Appendix 4.1) has been issued to GLAAS for comment.
GLAAS - Historic England	See Appendix 1.2 pages 28, 29 and 30.	The scope of public outreach will be informed by the archaeological investigations and is therefore recommended to be secured by planning condition.

Air Quality		
LBRuT (Main Scoping Report Comments)	See Appendix 1.2 pages 11, 32-34	To assess the impact of emissions arising from the proposed development concentrations have been predicted at 14 existing sensitive receptors within the vicinity of the Site which represent the location of nearby residential properties and St Paul's C of E Primary School. The modelling assessment also predicted concentrations at four of the facades of the proposed development. The modelling also includes one receptor at Richmond Park SSSI. The location of the receptor is at the worst case location within the ecological site.
LBRuT Environmental Health	See Appendix 1.2 pages 82-83.	To assess the impact of emissions arising from the proposed development concentrations have been predicted at 14 existing sensitive receptors within the vicinity of the Site which represent the location of nearby residential properties and St Paul's C of E Primary School. The modelling assessment also predicted concentrations at four of the facades of the proposed development. The modelling also includes one receptor at Richmond Park SSSI. The location of the receptor is at the worst case location within the ecological site.
LBRuT Planning	See Appendix 1.2 pages 79-80.	Traffic related noise and air quality effects have been assessed with the Air Quality (5.0) and Noise (6.0) ES Chapters. Traffic data has been provided by the project transport consultants (Velocity).
Noise and Vibration		
LBRuT (Main Scoping Report Comments)	See Appendix 1.2 Page 12, 36-37	The assessment focusses residential and school receptors as these are deemed to be most sensitive in accordance with the assessment criteria.
LBRuT Environmental Health	See Appendix 1.2 on page 71.	The assessment within Chapter 6.0 has considered aviation as a potential noise source with any aviation related noise capture in the on site noise monitoring. Reference has also been made to the LBRuT Development Control for Noise Generating and Noise Sensitive Development Supplementary Planning Document.
Ground Conditions and Contamination		
LBRuT (Main Scoping Report Comments)	See Appendix 1.2 pages 61-62 and 66-70.	Ground Conditions and Contamination Chapter (Chapter 7.0) of this ES addressed the following: • Selection criteria for sensitive receptors • The sensitive receptors identified • Methods for establishing the baseline
LBRuT Environmental Health	See Appendix 1.2 page 71.	None required

Environment Agency	See Appendix 1.2 pages 62-66.	General Environment Agency advice has been considered in the Ground Conditions and Contamination Chapter (Chapter 7.0) of this ES. Water Resources and Flood Risk have been scoped out and a Sustainable Drainage Systems (SuDs) strategy is being submitted separately with the planning application.
Ecology		
LBRuT (Main Scoping Report Comments)	See Appendix 1.2 pages 46-52.	Chapter 8.0: Ecology addresses the following receptors and potential effects (including habitat loss/fragmentation, lighting, air quality, noise recreational pressure): • Designated sites • Bats • Badgers • Nesting birds • Invertebrates • Hedgehogs It is supported by the following assessments: • Preliminary Ecological Appraisal (PEA) Report (Appendix 8.1); • Bat Emergence Survey Report (Appendix 8.2); • Arboricultural Impact Assessment (Appendix 8.3); • Biodiversity Net Gain Assessment (Appendix 8.4); and • Ecological Management Plan (Appendix 8.5).
LBRuT Ecology Officer	See Appendix 1.2 page 53.	As above.
Socio-economic		
LBRuT (Main Scoping Report Comments)	See Appendix 1.2 pages 77-90.	In response to the comments received it is confirmed that Chapter 9.0: Socio-economic and the Health Impact Assessment (Appendix 9.1) consider the following: • Housing provision • Health and well-being • Crime • Open space and play space
LBRuT Planning	See Appendix 1.2 pages 91-94.	As above
NHS Southwest London CCG	See Appendix 1.2 page 90.	Further informal consultation has been undertaken via LBRuT Regeneration Team with Richmond Clinical Commissioning Group (CCG) and Hounslow and Richmond Community Healthcare Trust (HRCH) who have sought expert advice from the London Healthy Urban

		Development Unit to carefully consider the impact of an increase to the patient population. Their comments have been used to inform Chapter 9.0: Socio-economic and the Health Impact Assessment (Appendix 9.1).
Climate Change		
LBRuT (Main Scoping Report Comments)	See Appendix 1.2 pages 43-45.	Chapter 10: Climate Change of this ES draws upon the findings of the stand-alone BREEAM Pre-Assessment, Energy Assessment, Sustainability Statement, Circular Economy Statement and Whole Life Carbon Assessment.
LBRuT Planning	See Appendix 1.2 page 46.	Chapter 10: Climate Change of this ES draws upon the findings of the stand-alone BREEAM Pre-Assessment, Energy Assessment, Sustainability Statement, Circular Economy Statement and Whole Life Carbon Assessment.
Natural England	See Appendix 1.2 pages 45-46	The proposed landscaping plans have considered the potential requirements for future climate. The proposals incorporate extensive ground level and roof level landscaping to maintain and enhance ecological connectivity across the Site.

1.20 Within this ES, the likely residual impacts that were identified as a result of the proposed development have been considered in the context of relevant land use and planning policy (e.g. The National Planning Policy Framework[2]). Where appropriate, planning policies relating to specific technical areas are also included within each ES Chapter.

1.21 The ES also takes into consideration the EIA Regulations 2017[1], good practice guidance and expertise from the EIA consultant team (see details of consultant team below).

Matters Scoped out of this Environmental Statement

1.22 The following technical areas are considered as issues where no significant impact will result and are therefore, outside the requirement for any assessment under the EIA Regulations 2017. This approach was put forward in the EIA Scoping Report (Appendix 1.1).

1.23 The technical areas are set out in Table 1.2 are therefore not covered within this ES and as such, it is not proposed to include further assessment within the EIA process.

1.24 Rationale for the exclusion of environmental topics as specific chapters within the ES is set out in the Table 1.2.

Table 1.2 Matters scoped out of ES

Topic	Justification
Transport	Noise and air quality transport effects are considered in Chapter 5.0: Air Quality and Chapter 6.0: Noise and Vibration of this ES. Data from Traffic Assessment (TA) has been used to support these assessments.

Topic	Justification
	The TA completed in support of the application has confirmed that in terms of vehicle traffic, the net change assessment suggests the proposed development will result in an uplift from the existing site of 45 two-way vehicle trips in the AM peak, 97 two-way vehicle trips in the PM peak and 758 two-way vehicle trips across the day. The TA has demonstrated that the proposed development will prioritise active and sustainable travel, will have a negligible impact on the local transport network and will contribute positively to the Site and its surroundings by creating a new piece of public realm that will improve the local highway network for both existing and future users associated with the proposed development.
Water Resources and Flood Risk	The closest 'main river' is the River Thames which is located approximately 0.7 km west of the Site. The Environment Agency's (EA) Flood Map for Planning identifies that the Site is located entirely within Flood Zone 1 (low risk). Land located within Flood Zone 2 are located approximately 0.35 km west and north of the Site (medium risk). Land located within Flood Zone 3 (high risk) and within an area benefitting from flood defences, is located approximately 0.35 km to the north-west. The LBRuT Fluvial and Tidal Flood Risk Web Map within the Strategic Flood Risk Assessment (SFRA), identifies the potential extent of inundation and the maximum extent of the tidal breach extent for the year 2100 for the borough and this identifies that the Site would not be affected by a tidal breach flood event up to the year 2100. The EA's risk of flooding from surface water map shows that the majority of the Site has a very low risk of flooding from this source. However, there are small areas of up to high risk of flooding from surface water associated with existing roads on Site. The SFRA identifies that the Site is in an area of high susceptibility of groundwater flooding (75% or more) as it is an area underlain by the superficial geology of the Kempton Park Gravels Member comprising of sand and gravel, which is classified by the EA as a Secondary A Aquifer. This is defined as "permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers". The SFRA outlines those developments that are at an increased risk of flooding due to groundwater require further analysis of flood risk and therefore this risk has been further assessed within a stand-alone Flood Risk Assessment (FRA). The Site is further underlain by the bedrock geology of the London Clay Formation, comprising of clay and silt. The bedrock geology is classified as Unproductive Strata by the EA, which are defined as "geological strata with low permeability that have negligible significance for water supply or river base flow". Based on a review of the SFRA, the Site is not located within an area at risk of flooding from sewers or reservoirs. The Site is also not identified in the SFRA to be located within a Critical Drainage Area. According to available records there are three records of groundwater abstractions all located 1.4 km north-east of the Site. The Site is not located within a source protection zone of a borehole abstraction point. It is considered unlikely that there are any surface water abstractions located on site given the lack of surface water features on site.

Topic	Justification
	According to the EA's Water Stressed Areas report (2021), London is located in an area which is reported to suffer from 'water stress'. Whilst it is the remit of water companies to ensure that sufficient water supply is provided for new developments, sustainable design measures will be embedded into the design to minimise the water demand of the proposed development. Sustainable Drainage Systems (SuDS) have been incorporated into the design of the development to ensure that surface water runoff is controlled, and that appropriate water quality treatment is applied to any runoff leaving the Site. The design of the buildings has incorporated water efficiency measures and water-saving devices to reduce the water demand of the development. There is the potential that the proposed development would cause an increase in surface water runoff during both the construction and operational phases, due to the increase in impermeable surface areas. However, during the construction phase, the control of surface water runoff will be covered within the Construction Environmental Management Plan (CEMP) that will be submitted as part of the planning application and will specify mitigation measures to ensure that the construction phase of the development will not increase surface water runoff within the Site or elsewhere. During the operational phase, a conceptual surface water drainage strategy will be prepared and included within the FRA that will form part of the application and this will ensure that surface water runoff is discharged appropriately and is compliant with target discharge rates. The London Plan states that development proposals should aim to achieve greenfield run-off rates and that drainage should be designed and implemented in ways that promote multiple benefits including water use efficiency, water quality and enhanced biodiversity, urban greening, amenity and recreation. In addition, Defra's Non-Statutory Technical Standards require major developments to aim to achieve greenfield runoff rates for all new developments. The application is supported by an FRA, conceptual surface water and foul drainage strategy, as well as a CEMP and therefore impacts associated with the flood risk and drainage will be controlled and mitigated through actions set out within these documents. Water Resources and Flood Risk has therefore been scoped out of the EIA. This approach is supported by the Scoping Opinion (Appendix 1.2).
Daylight, Sunlight and Overshadowing	Given the nature of the proposed development and the surrounding land uses, it is proposed to scope Daylight, Sunlight and Overshadowing out of the ES. The proposed buildings will be a maximum of six storeys in height and will be separated from the existing potentially sensitive residential receptors (surrounding residential housing) by Woodville Road, Ashburnham Road and Ham Village Green. Daylight, Sunlight and Overshadowing has therefore been scoped out of the EIA. This approach is supported by the Scoping Opinion (Appendix 1.2). A standalone Daylight & Sunlight Report has been prepared based on the BRE Guidelines. The report concludes that daylight and sunlight reductions to the surrounding residential properties are generally within BRE guidelines, with 96% Vertical Sky Component compliance, 95% No-Sky Line compliance, and 100% Annual Probable Sunlight Hour compliance. Both Ham Village Green and the play space surrounding The Woodville Centre should continue to enjoy good levels of direct sunlight, in accordance with BRE guidelines. Additionally, across all proposed

Topic	Justification
	blocks, 85% of habitable residential rooms will experience levels of daylight which accord with the BRE guidelines. The proposed development is therefore considered to be entirely acceptable in terms of daylight, sunlight and overshadowing, despite a very small number of exceedences, which are not uncommon when increasing development levels on a site such as this.
Wind Microclimate	Given the height and scale of the proposed development, the landscaping proposed and the existing surrounding land uses, no significant wind effects are anticipated. A stand-alone Wind Micro-climate Assessment has been prepared (Appendix 1.3). The analysis within this report indicates that the development is likely to be safe in wind terms. However, there are several measures (screens for a number of terraces/corner balconies) that could be explored at further detailed design stage to improve overall wind comfort. No potential significant effects have been identified and therefore this topic has been scoped out of the ES.
Human Health	Human health was introduced as a consideration in EIA through the 2017 update to the EIA regulations. Whilst a specific human health chapter has not been included within the ES potential health impacts associated with the development have been assessed through the proposed Socio-economic, Air Quality, Noise and Vibration, Ground Conditions and Contamination and Climate Change ES Chapters and the stand-alone Health Impact Assessment (provided as an Appendix to the Socio-economic ES Chapter). Where relevant, mitigation measures outlined within those technical chapters have been embedded into the design of the proposed development or are incorporated into the CEMP.
Risk	Risk Assessments are used to determine the vulnerability of the proposed development to major accidents and/or disasters. The requirement for risk assessments was first introduced in England in the 2017 version of the EIA Regulations due to the broad range of development types included within the EIA Regulations such as power stations where the need to assess vulnerability is far greater. Based on a site review, risk assessment has been scoped out as the relevant risks will be covered in areas such as the FRA report, Ground Conditions and Contamination ES Chapter and through application of the CDM Regulations to the design process. Mitigation measures designed to avoid potential risks are incorporated into a CEMP for the application.
Waste	It is inevitable that waste would be generated from the construction works. Once operational, a quantity of green, domestic and commercial waste would also arise from the proposed development. However, this would be the case for any development project and the critical aspect is how this waste is managed. Best practice measures for managing materials and waste sustainably and to the highest value have been set out in the Circular Economy Statement, Whole Life Carbon Assessment and Sustainability Statement which will be submitted with the planning application. The applicant has prepared a Site Waste Management Plan (SWMP) for demolition and construction in accordance with best practice. The implementation of a SWMP ensures that good site management practice

Topic	Justification
	would lead to a minimisation of waste creation and enable the re-use or recycling of waste materials that arise from the construction works, where practicable. In addition to the SWMP, a CEMP has also been produced, setting out how waste arisings should be managed in line with the waste hierarchy. Designing the proposed development to optimise good waste management practices, such as facilitating segregation of waste, would minimise the effects associated with operational waste disposal. An Operational Waste Management Strategy has been prepared to ensure that once the proposed development is complete and operational, waste is handled in an appropriate manner. Further to the above, likely waste effects are considered to be insignificant in accordance with the IEMA Guidance on Materials and Waste when considered in light of the sustainable waste management measures to be implemented. An overview of construction measures to reduce waste is provided in Chapter 3.0: Construction.

Approach to EIA

1.25 The ES forms part of a set of reports that support the planning application for the proposed development. In addition to the ES and the necessary forms, plans and drawings, the planning application will also be accompanied by a number of stand-alone documents. A full list of the documents provided as part of the planning application may be found within the Planning Statement, including details regarding how those documents have been submitted (for example, as stand-alone reports or as Technical Appendices in Volume 2 to the ES). The main documents that form the planning application and are not within the ES as either Technical Chapters or Appendices include:

- Design and Access Statement;
- Planning Statement;
- Daylight/Sunlight Assessment (Internal and Surrounding);
- Wind Microclimate Assessment;
- Transport Assessment;
- Travel Plan;
- Parking Design and Management Plan;
- Tree Survey Report, Arboricultural Impact Assessment and Arboricultural Method Statement;
- Open Space Assessment;
- Playing Fields Assessment;
- Play and Child Occupancy Assessment;
- Energy Statement;

- Sustainability Statement;
- BREEAM Pre-assessment;
- Whole Life Carbon Assessment;
- Circular Economy Statement;
- Energy Monitoring Statement;
- Site Waste Management Plan;
- Flood Risk Assessment;
- Foul Drainage;
- Utilities Assessment;
- Operational Waste Management Strategy;
- Geotechnical Reports; and
- Fire Statement / Strategy.

Guidance Documents

1.26 In addition to the EIA Regulations 2017[1], the ES has been prepared with reference to currently available good practice, where appropriate, including:

- The Government's Online Planning Practice Guidance[3];
- Guidelines for Environmental Impact Assessment by IEMA[4];
- The Note on Environmental Impact Assessment Directive for Local Planning Authorities by ODPM[5]; and
- Topic specific guidance referred to in each Technical Chapter of this ES where appropriate.

The Structure of the ES

1.27 The ES comprises:

- Volume 1: Main Text and Figures;
- Volume 2: Technical Appendices;
- Volume 3: Built Heritage, Townscape and Visual Impact Assessment; and
- Volume 4: Non-Technical Summary.

1.28 With the exception of the Built Heritage, Townscape and Visual Impact Assessment (Volume 3), the main findings of the assessment are reported in the topic specific chapters of this document as set out below:

- Archaeology (Chapter 4.0);

- Air Quality (Chapter 5.0);
- Noise and Vibration (Chapter 6.0);
- Ground Conditions and Contamination (Chapter 7.0);
- Ecology (Chapter 8.0);
- Socio-economic (Chapter 9.0);
- Climate Change (Chapter 10.0); and
- Cumulative Impacts (Chapter 11.0).

1.29 To assist the reader the Built Heritage, Townscape and Visual Assessment has been included in A3 and landscape format in Volume 3 of the ES.

1.30 The legal minimum requirements for the content of an ES are set out in Regulation 18 (3) and Schedule 4 (where relevant) of the EIA Regulations 2017[1]. The location of information in this ES specified in Regulation 18 (3) and Schedule 4 is identified in Table 1.1 below.

Table 1.3 Location of Information within the ES

Requirement of Regulations 18(3) and Schedule 4 of the 2017 EIA Regulations for the inclusion in Environmental Statements		Location of Information in this ES
Regulation 18 (3)		
(a)	A description of the proposed development comprising information on the site, design, size and other relevant features of the development.	Volume 1: Chapter 2.0: Proposed Development and Site Context
(b)	A description of the likely significant effects of the proposed development on the environment.	Volume 1: Chapters 4.0-11.0; Volume 3: TVIA
(c)	A description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment.	Volume 1: Chapters 4.0-11.0; Volume 3: TVIA
(d)	A description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the options chosen, taking into account the effects of the development on the environment.	Volume 1: Chapter 2.0 Proposed Development and Site Context
(e)	A non-technical summary of the information referred to in sub-paragraphs (a) to (d).	Volume 4: Non-Technical Summary

Requirement of Regulations 18(3) and Schedule 4 of the 2017 EIA Regulations for the inclusion in Environmental Statements		Location of Information in this ES
(f)	Any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected.	Volume 1: Chapters 4.0-11.0; Volume 3: TVIA
Schedule 4		
1	A description of the development, including in particular: (a)a description of the location of the development; (b)a description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases; (c)a description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used; (d)an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases.	Volume 1: Chapters 2.0-3.0, 5.0-10.0
2	A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.	Volume 1: Chapter 2.0 Proposed Development and Site Context
3	A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.	Volume 1: Chapter 2.0 Proposed Development and Site Context, Technical Chapters 4.0-11.0 and Volume 3: TVIA.
4	A description of the factors specified in regulation 4(2) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.	Volume 1: Chapters 4.0-11.0; Volume 3: TVIA
5	A description of the likely significant effects of the development on the environment resulting from, inter alia: (a)the construction and existence of the development, including, where relevant, demolition works;	Volume 1: Chapters 4.0-11.0; Volume 3: TVIA

Requirement of Regulations 18(3) and Schedule 4 of the 2017 EIA Regulations for the inclusion in Environmental Statements		Location of Information in this ES
	(b)the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources; (c)the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste; (d)the risks to human health, cultural heritage or the environment (for example due to accidents or disasters); (e)the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources; (f)the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change; (g)the technologies and the substances used. The description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project, including in particular those established under Council Directive 92/43/EEC(1) and Directive 2009/147/EC(2).	
6	A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.	Volume 1: Chapters 4.0-11.0; Volume 3: TVIA
7	A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.	Volume 1: Chapters 4.0-11.0; Volume 3: TVIA
8	A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to EU legislation such as Directive 2012/18/EU(3) of the European Parliament and of the Council or Council Directive 2009/71/Euratom(4) or UK environmental assessments may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.	On the basis of a site review, risk assessment has been scoped out.

Requirement of Regulations 18(3) and Schedule 4 of the 2017 EIA Regulations for the inclusion in Environmental Statements		Location of Information in this ES
9	A non-technical summary of the information provided under paragraphs 1 to 8.	Volume 4: Non-Technical Summary
10	A reference list detailing the sources used for the descriptions and assessments included in the environmental statement.	Volume 1: Chapters 4.0-11.0; Volume 3: TVIA

1.31 All relevant abbreviations are presented in the relevant Chapters of the ES.

1.32 Where referenced, supporting material is appended within Volume 2: Technical Appendices.

1.33 A Non-Technical Summary of this ES is contained in Volume 4: Non-Technical Summary.

Means of Assessment

1.34 The current baseline conditions, including the sensitivity and importance of those environmental aspects likely to be significantly affected by the proposed development, has been ascertained to provide a context for the analysis. The baseline conditions were measured in quarter four (Q4) 2021 / quarter 1 (Q1) 2022 unless specifically stated within the Technical Chapters. The baseline conditions establish a benchmark for impact prediction. Any changes from the baseline inform the magnitude of the potential impact and its significance.

1.35 The phasing strategy for the development is set out in Chapters 2.0 and 3.0 of this ES. The technical assessments within this ES (Chapters 4.0-11.0) have considered the effects associated with phasing where relevant.

1.36 For the environmental elements considered within this ES, the baseline conditions have been established using a combination of desk-top studies (drawing on: published databases, maps, and reports); survey techniques; and monitoring. The specific methods employed to record the baseline conditions are detailed within the corresponding Chapters of this ES.

Impact Prediction and Significance Criteria

1.37 Schedule 4 of the EIA Regulations 2017[1] requires an ES to include:

'A description of the likely significant effects on all factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development.'

1.38 A number of criteria have been used to determine whether or not the potential environmental impacts from the proposed development are significant. These are outlined with reference to specific environmental issues in the relevant Technical Chapters of this ES, unless minor variations are explicitly stated within the 'Assessment Methodology' section within specific Technical Chapters. So far as appropriate, the impacts are assessed quantitatively using definitive standards and legislation. Where quantitative assessment is not possible, qualitative evaluation of significance based on professional judgement, with assumptions or uncertainties clearly highlighted, has been applied.

1.39 The significance of impacts has been assessed, taking into consideration a range of criteria:

- Performance against environmental quality standards;
- Relationships with international, national and local planning policy;
- Sensitivity of the receptor;
- Reversibility and duration (short, medium, long-term) of the impact;
- Nature of the impact (direct/indirect, positive/negative);
- Extent of influence and magnitude of the impact; and
- Inter-relationship between impacts.

1.40 Any additional impacts that were considered to be significant prior to and following mitigation have been identified within this ES. The significance of residual impacts following mitigation reflects judgements as to the importance or sensitivity of the identified receptor(s) and the nature and magnitude of the predicted changes. For example, a large adverse impact on a feature or site of low importance will be of lesser significance than the same impact on a feature or site of high importance.

1.41 Unless otherwise stated, the following terms have been used to define the significance of impacts, where they are predicted to occur:

- **Major Positive** or **Negative** Impact - where the development is likely to have a significant effect on the environment;
- **Moderate Positive** or **Negative** Impact - where the development would cause a moderate effect;
- **Minor Positive** or **Negative** Impact - where the development would cause a minor effect; and
- **Neutral** – where there is no discernible effect on the environment.

1.42 Mitigation has been considered on minor, moderate and major negative impacts, not just where the effects are significant. Mitigation has included measures to avoid,

prevent, reduce, or offset any effects, and proposed monitoring arrangements as appropriate.

1.43 A distinction between direct and indirect; short and long-term; permanent and temporary; primary and secondary; positive and negative; and cumulative impacts; has been made, where applicable.

1.44 The duration of effects resulting from the construction or operation of the proposed development is one of the factors to be considered in determining their significance. The classification of these is given in Table 1.4 below.

1.45 In order to distinguish between permanent and temporary effects, permanent effects are defined as those that result from irreversible change to the environmental baseline or persist for the foreseeable future. Impacts that are considered significant prior to and following mitigation have been identified in the ES.

Table 1.4 Classification of Duration of Impacts

Significance	Definition
Temporary	The impact lasts for 0-2 years
Short-term	2-5 years
Medium-term	5-10 years
Long-term	The impact remains for a substantial time, for the duration of the operation of the development
Permanent	Impacts that are experienced without reduction or removal over time, such as those that will extend beyond the operational lifetime of the development

1.46 The following terms have been used to define the nature of impacts (note that specific definitions of the following terms have been provided in the detailed assessment methodologies for each ES chapter):

- **Direct** – effects as a result of the development construction or operation activities;
- **Indirect** - Impacts on the environment, which are not a direct result of the project, often produced away from or as a result of a complex pathway. Sometimes referred to as second or third level impacts, or secondary impacts;
- **Cumulative** - Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project;
- **Primary** – Impacts that result upon a receptor as a direct environmental change or disturbance to a specific element; and
- **Secondary** – The result of primary impacts on the first receptor having a knock-on impact upon secondary receptors.

1.47 Where the above criteria are not used, the criteria that have been used are stated within the methodology section of the technical chapters, giving reasons for their use.

1.48 Unless otherwise stated in the technical chapters (4.0-11.0), 'major' and 'moderate' impacts are classed as 'significant' and 'minor' and 'negligible' impacts as well as 'no change' are classed as 'not significant'.

1.49 The ES also distinguishes the geographical extent of impacts; the definitions shown in the following table have been adopted.

Table 1.5 Classification of Different Geographical Extents

Significance	Definition
Local	The site and its immediate surroundings
Borough	The wider area of LB Richmond upon Thames
Sub-regional	The impact upon LB Richmond upon Thames and surrounding Boroughs
Regional	The region (i.e. London)
National	United Kingdom
International	Europe and beyond

1.50 Where the above criteria have not been used, the methodology section of the Technical Chapter states the alternate criteria that have been applied and the rationale for their use.

Cumulative Impacts

1.51 Impacts arising from interactions extant, permitted and other proposed developments that are subject to undetermined planning applications within 2.5km of the Site or that have planning permission and are under construction, are considered within individual Technical Chapters and summarised in Chapter 11.0: Cumulative Impacts.

1.52 A review of those applications where cumulative impacts have the potential to occur has been carried out and screened against the significance criteria identified above. The following schemes have been identified for consideration within the ES based on searches of the online planning registers (completed March 2022) for the London Borough of Richmond upon Thames and the Royal Borough of Kingston upon Thames:

- 1-1C King Street, 2-4 Water Lane, The Embankment and River Wall (21/2758/FUL);
- Old Station Forecourt Railway Approach, Twickenham (19/3616/FUL);
- St Johns And Amyand House, Strafford Road, Twickenham (18/4266/FUL);

- Ryde House 391 Richmond Road, Twickenham (16/2777/FUL);
- Lockcorp House, 75 Norcutt Road, Twickenham (17/1033/FUL); and
- Land At Junction Of A316 And Langhorn Drive And Richmond College Site (Including Craneford Way East Playing Fields And Marsh Farm Lane), Egerton Road, Twickenham (15/3038/OUT).

1.53 The above developments are either committed or pending consideration.

1.54 In addition, site allocations within 2.5km within the adopted Local Plan (2018)[6] and Ham and Petersham Neighbourhood Plan (2019)[7] have been considered qualitatively within the Technical Chapters and Chapter 11.0: Cumulative Impacts where the likely quantum of development is uncertain. These sites include:

- SA 17, St Michaels Convent, 56 Ham Common, Ham, Richmond, TW10 7JH (16/3553/LBC), Policy O6 in Ham and Petersham Neighbourhood Plan;
- SA 16, Cassel Hospital, Ham Common, Ham (no planning application submitted), Policy O5 in Ham and Petersham Neighbourhood Plan;
- SA 8, St Mary's University, Strawberry Hill (no planning application submitted);
- SA 5, Telephone Exchange, Teddington (no planning application submitted);
- SA 6, Teddington Delivery Office, Teddington (no planning application submitted); and
- SA 7, Strathmore Centre, Strathmore Road, Teddington (20/0539/FUL).

1.55 Where a proposal is only at scoping stage, these have not been assessed as cumulative developments in the ES because there is not considered to be sufficient environmental information to determine the likely significant impacts and these developments should consider the proposed development as cumulative as part of any ES.

1.56 For a number of the technical assessments (e.g. air quality, noise and vibration) cumulative developments have been included as a part of the baseline in accordance with relevant assessment methodology.

Assumptions and Limitations

1.57 Certain assumptions have been made during the EIA, which are set out below. Assumptions specific to individual environmental aspects are discussed in the relevant Chapters of the ES. It is assumed that information provided by third parties, including publicly available information and databases, is correct at the time of receipt.

1.58 The EIA has been subject to the following assumptions/limitations:

- Baseline conditions are accurate at the time of the physical surveys but due to the dynamic nature of the environment, conditions may change during the construction and operational phases;
- The assessment of any cumulative impacts has been based upon the information available at the time of writing (March 2022) and currently available assessment techniques; and
- It is anticipated that construction on the proposed development would commence in March 2023 and that it would be operational by March 2030.

PROFESSIONAL TEAM

1.59 Table 1.6 sets out a summary of the team of 'competent experts' who have contributed to the preparation of the ES. The table also summarises their relevant qualifications and experience. The ES has been written and co-ordinated by Greengage Environmental Ltd with contributions from the following specialist consultants.

Table 1.6 ES Competent Experts' Relevant Qualifications and Experience

Name & Company Name	Technical Area	Qualifications	Relevant Experience
Mitch Cooke Greengage Environmental	EIA Coordination, Socio-Economic, Climate Change & Ecology	BSc MSc	Over 30 years' experience in the environment sector. Leads a multidisciplinary team and is expert in managing complex development projects. EIA schemes include Brentford Community Stadium, Clapham Park, and Stratford Central.
James Bumphrey Greengage Environmental	EIA Coordination & Ecology	BSc (Hons) MSc	Over 9 years' experience, managing EIA projects. Developments include Clapham Park, Goldsworth Road and North London Business Park.
Nina Cooper Greengage Environmental	EIA Coordination, Socio-Economic & Climate Change	BA (Hons) MSc	2 years' experience preparing Socio-economic and Climate Change ES Chapters and supporting the management of EIA projects. Projects include Goldsworth Road, Woking; North London Business Park and Estate Way.
Henry Ryde Savills	Built Heritage, Townscape & Visual Impact	BA (Hons) MSc	10 years' experience within the sector, including the preparation of ES chapters and HTVIA that set out the impact of proposed schemes which have the potential to impact associated receptors.

			Developments include: Eight Gardens, Watford Junction (Watford BC), Church Street (Westminster CC) and The Perfume Factory (LB Ealing).
Sylvia Synodinou Savills	Built Heritage, Townscape & Visual Impact	BA(Hons), DipArch, MA UD	Sylvia has more than 6 years' experience in producing ES chapters in the technical area of townscape, visual impact and heritage. Developments include: Colosseum retail park, Clockhouse and Murphy Site.
Rob Bourn Orion	Archaeology	BA MA MCIfA	Over 30 years of professional experience, with 24 years of experience in planning and development sectors which has involved leading various projects relating to heritage issues.
Nick Davey Entran	Air Quality	BSc PhD	PhD in air quality impact assessment and 23 years' experience of carrying out such assessments for a range of developments and leading technical air quality teams. Nick has worked on many high-profile projects across London, the UK and internationally.
Stuart Berry Entran	Noise and Vibration	BSc (Hons) MSc IOA Member	11 years' experience in providing noise and acoustics services for planning applications including the preparation of Noise and Vibration ES Chapters.
Catherine Cooke Tetratech	Ground Conditions & Contamination	BSc MSc CEnv	Chartered with over 20 years' experience assessing, managing and mitigating contaminated land to bring brownfield land back into beneficial use.

ES AVAILABILITY AND COMMENTS

1.60 The Town and Country Planning (Development Management Procedure, Listed Buildings and Environmental Impact Assessment) (England) (Coronavirus) (Amendment) Regulations 2020[8] came into force on 14th May 2020 and make temporary provisions for ESs to be made available in digital format on a website instead of physical copies at a named address, if it is not reasonably practicable to make physical copies available at a named address for reasons connected to the effects of coronavirus, including restrictions on movement. A digital copy of the ES is available through the Richmond Upon Thames Council website (https://www.richmond.gov.uk/[9]). In addition, electronic copies (CD or USB flash drive) of the full ES are available free of charge from:

Greengage Environmental Ltd.

Telephone: 020 3544 4000

Email: info@greengage-env.com

1.61 Comments on the planning application should be forwarded to the Council at the address below:

Civic Centre,

44 York Street,

Twickenham,

TW1 3BZ

REFERENCES

1 Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended 2020)
2 Ministry of Housing, Communities and Local Government (2021) The National Planning Policy Framework.
3 Ministry of Housing, Communities & Local Government (2020) Guidance Environmental Impact Assessment
4 The Institute of Environmental Management and Assessment (IEMA), (2004); Guidelines for Environmental Impact Assessment. IEMA.
5 ODPM, (2002); Note on Environmental Impact Assessment Directive for Local Planning Authorities. CLG.
6 London Borough of Richmond upon Thames (2018) Local Plan..
7
Ham and Petersham Neighbourhood Forum (2019) Ham and Petersham Neighbourhood Plan 2018 - 2033.
8 Town and Country Planning (Development Management Procedure, Listed Buildings and Environmental Impact Assessment) (England) (Coronavirus) (Amendment) Regulations 2020
9 Richmond Upon Thames Council (2021) https://www.richmond.gov.uk/