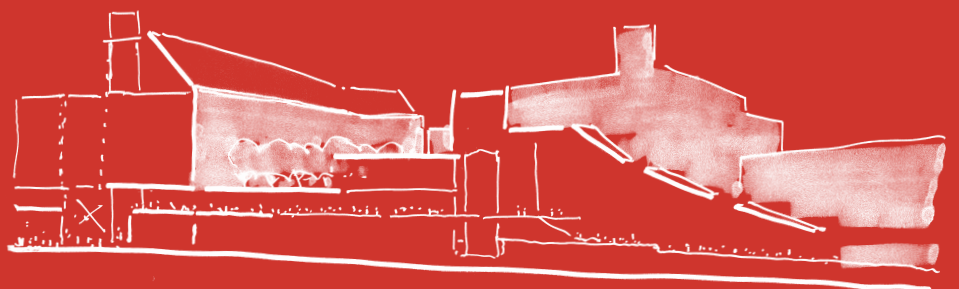


The British Library Extension

January 2022

Environmental Statement – Volume 1



The British Library and SML
Developments Ltd
The British Library Extension
Environmental Statement Volume 1

BL-ARUP-ZZ-XX-RP-YE-000001

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This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 249622-90

Ove Arup & Partners Ltd
8 Fitzroy Street
London
W1T 4BJ
United Kingdom
www.arup.com

ARUP

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Glossary and abbreviations

3D – Three dimensional

AADT - Annual Average Daily Traffic

AOD – Above ordnance datum

APA – Archaeological Priority Area -a defined area where there is significant known archaeological interest or particular potential for new archaeological discoveries.

APSH - Annual Probable Sunlight Hours

AQMA - Air Quality Management Area

AQP - Air Quality Positive

ASR - Annual Status Reports

BEBs -Building Emission Benchmarks

BLCC – **British Library Centre for Conservation**

BREEAM - Building Research Establishment's Environmental Assessment Method

BS – British Standards

CMP – Construction Management Plan

CO_{2e} – Carbon dioxide equivalent

CoCP – Code of Construction Practice

Conservation area – An area of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance; designated by local authorities

dB – Decibel

DD – Daylight Distribution

Defra - Department for Environment, Food and Rural Affairs

DM – Do-minimum

DS – Do-something

EA – Environment Agency

Early medieval – AD 410-1066; also referred to as the Saxon period

EHO - Environmental health officer

EIA – Environmental Impact Assessment

EIA Regulations – The Town and Country Planning (**Environmental Impact Assessment**) Regulations 2017, as amended

EPUK - Environmental Protect UK

ES – Environmental Statement

Evaluation (archaeological) – A limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area

Excavation (archaeological) – A programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological remains, retrieves artefacts, ecofacts and other remains within a specified area; the records made, and objects gathered are studied and the results published in detail appropriate to the project design

Flood Zone 1 – An area assessed as having a 1 in 1000 or less annual probability of river or sea flooding (<0.1%)

GIA – Gross internal area

GLA - Greater London Authority

GLAAS - Greater London Archaeology Advisory Service

Greater London Historic Environment Record (HER) – archaeological and built heritage database covering Greater London held and maintained by Historic England. Previously known as the Greater London Sites and Monuments Record

GHG – Greenhouse gas

GWP – Global-warming potential

IAQM – Institute of Air Quality Management

HDV – Heavy-Duty Vehicle

Heritage asset – A building, monument, site, place, area or landscape positively identified as having a degree of significance meriting consideration in planning decisions; heritage assets are the valued components of the historic environment and include designated heritage assets, assets identified by the local planning authority (including local listing) and undesignated assets

IEMA – Institute of Environmental Management & Assessment

Kg – Kilogram

LBC – London Borough of Camden

LCA – Life cycle assessment

LDV - Light Duty Vehicle

Listed building – A structure of architectural and/or historical interest; these are included on the Secretary of State for Digital, Culture, Media and Sport’s list which affords statutory protection; listed buildings are subdivided into Grades I, II* and II (in descending importance)

LOAEL - Lowest observed adverse effect level

m AOD – Metres above Ordnance Datum (m OD is also used where levels are below the Ordnance Datum)

m – Metre

m² – Square metre (sometimes also abbreviated as sqm)

NO₂ – Nitrogen dioxide

NO_x – Nitrogen oxides

NPPF – National Planning Policy Framework

NSL – No Sky Line

NTS – Non-Technical Summary

PM₁₀ - Fine particulate matter

PPC - Pollution Prevention and Control

Proposed Development – Alterations to existing British Library building including demolition of the existing British Library Centre for Conservation and construction of a new building of up to 12 above-ground storeys and one basement level for use as library, galleries, learning, business and events spaces (Class F1) and retail and commercial spaces (Class E); provision of internal and external public spaces, landscaping and a community garden; improvement works adjacent to Dangoor Walk; provision of cycle and car parking and servicing facilities; provision of Crossrail 2 infrastructure; means of access; and all associated works and infrastructure.

RIBA – Royal Institute of British Architects. (The RIBA Plan of Work is a stage-by-stage, 0 to 7, design and process management tool for the UK construction industry)

Scheduled monument – A monument or archaeological deposits designated by the Secretary of State for Digital, Culture, Media and Sport as a ‘Scheduled Monument’ and protected under the Ancient Monuments and Archaeological Areas Act of 1979

SOAEL - Significant observed adverse effect level

SPG - Supplementary Planning Guidance

SuDS – Sustainable Drainage Systems

TEBs - Transport Emission Benchmarks

ULEZ – Ultra Low Emission Zone

UN SDGs – United Nation Sustainable Development Goals

VSC – Vertical Sky Component

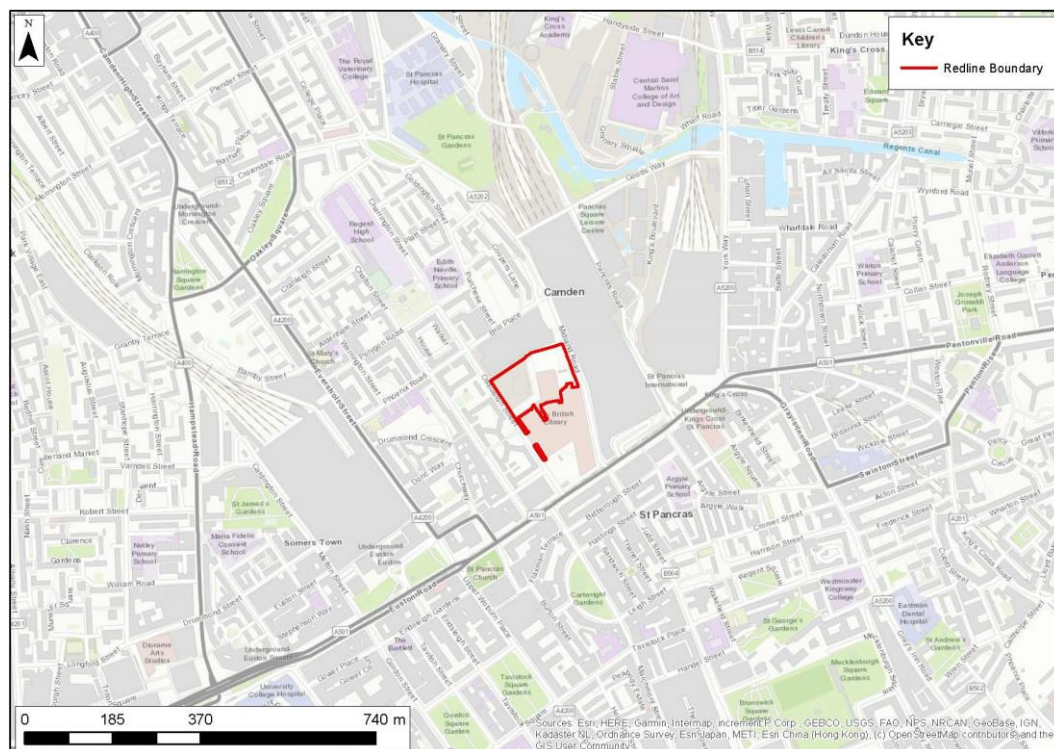
WSI - Written Scheme of Investigation

1 Introduction

1.1.1 This Environmental Statement (ES) has been prepared on behalf of the British Library and SMBL Developments Ltd (the ‘Applicant’). It reports on the Environmental Impact Assessment (EIA) of works comprising alterations to existing British Library building including demolition of the existing British Library Centre for Conservation (BLCC) and construction of a new building of up to 12 above-ground storeys and one basement level. The development would be used as library, galleries, learning, business and events spaces (Class F1) and retail and commercial spaces (Class E). It includes the provision of internal and external public spaces, landscaping and a community garden, improvement works to Dangoor Walk, cycle and car parking and servicing facilities. There would also be the construction of a ventilation shaft and pedestrian subway for Crossrail 2.

1.1.2 The Site location is shown in Figure 1.

Figure 1: Site location.



1.1.3 An application for full planning permission for the Proposed Development is being submitted by the Applicant. A listed building consent application is also being submitted in association with the planning application. This ES accompanies the planning application. It has been prepared pursuant to the Town and Country Planning

(Environmental Impact Assessment) Regulations 2017, as amended (the ‘EIA Regulations’)¹, and in accordance with relevant guidance².

- 1.1.4** According to the EIA Regulations, an EIA is required for every project type that is listed in Schedule 1 of the Regulations. An EIA is also required when a Proposed Development falls under the types of development listed in Column 1 of Schedule 2 and meets or exceeds thresholds within Column 2 and is likely to have a significant effect on the environment.
- 1.1.5** The Proposed Development is considered to be an urban development project under Schedule 2, paragraph 10(b) of the EIA Regulations. The area of the Site is approximately 1.7ha, it abuts the Grade I Listed British Library and it is located close to other sensitive receptors such as the Francis Crick Institute (FCI) and residential properties on Ossulston Street. The Proposed Development has the potential to result in likely significant environmental effects as a result of its construction, existence and operation. An EIA has therefore been undertaken, and this ES has been prepared to accompany the planning application.
- 1.1.6** The ES comprises 3 volumes:
- Volume 1, this volume, containing introductory material and the environmental assessments
 - Volume 2, presenting the townscape, visual and built heritage (off-site) assessments
 - Volume 3, containing appendices to Volume 1
 - a separately bound Non-Technical Summary (NTS) of the ES.
- 1.1.7** Section 1 of this volume provides an introduction to the ES and describes its content. Section 2 of this volume describes the existing Site and surrounding areas including environmental designations.
- 1.1.8** A description of the Proposed Development and its construction is given in Section 3. This section also includes the consideration of reasonable alternatives as required by the EIA Regulations. Section 4 describes the approach and different stages making up the EIA. Finally, Sections 5 to 13 of this volume and ES Volume 2 present each topic assessment following the approach described in Section 4.
- 1.1.9** This ES has been prepared by a team of competent experts. The team comprises technical specialists who have extensive experience in the field of EIA, the details of which are presented in Appendix A1. The individual experts can demonstrate their competence through

¹ The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended). Available at: <http://www.legislation.gov.uk/uksi/2017/571/made>

² UK Government UK (2017). Guidance – Environmental Impact Assessment. Available at: <https://www.gov.uk/guidance/environmental-impact-assessment>

academic qualifications, membership of relevant professional institutions and practical experience in undertaking EIAs.

1.1.10 Arup has led the preparation of this ES and has undertaken the majority of the topic assessments. The assessment of effects on on-site built heritage assets was undertaken by Cordula Zeidler Heritage. GIA Surveyors undertook the assessment of daylight, sunlight, overshadowing, solar glare and obtrusive light. Finally, the townscape, visual and built heritage (off-site) assessment was undertaken by Tavernor Consultancy and the visual impact verified images produced by Miller Hare.

1.1.11 Arup is a registrant of the Institute of Environmental Management and Assessment's EIA Quality Mark scheme. Arup is committed to excellence in EIA activities and has agreed to have this commitment independently reviewed through review of ESs prepared by the company.

1.1.12 Outwith this ES, the Planning Application includes a number of environment-related reports, specifically:

- Arboricultural Report
- Contaminated Land Assessment
- Design and Access Statement
- Delivery and Servicing Management Plan
- Draft Construction Management Plan
- Draft Travel Plan
- Economic Value and Knowledge Quarter Uses Statement
- Energy Report
- Health Impact Assessment
- Heritage Statement
- Landscaping and Public Realm Strategy
- Planning Statement
- Preliminary Ecological Appraisal
- Public Open Space Strategy
- Social Value Framework
- Sustainability Statement
- Statement of Community Involvement
- Structural Report, including a Basement Impact Assessment
- Transport Assessment
- Utilities Report.

1.1.13 Schedule 4 of the EIA Regulations sets out the information required for inclusion in this ES. This has been reproduced in Appendix A2, which details where Schedule 4 information can be found in this ES.

1.2 Summary of effects

1.2.1 This section presents a summary of the likely environmental effects of the Proposed Development and their significance. Table 1 represents a summary of the residual effects on receptors of each topic assessed after account has been taken of any relevant mitigation measures. This allows the aggregation of these ‘interactive effects’ to be understood.

Table 1: Effects of the Proposed Development grouped by receptor.

Receptor	Topic	Effect	Further Information
British Library	Air quality	There would be no significant effects related to air quality from the construction or operation of the Proposed Development for users of the existing and extended British Library.	ES Volume 1, Section 5
	Built heritage on-site	Construction activities would have no significant effects on the listed British Library. The completed Proposed Development would enhance the existing largely vacant site and thereby the British Library's setting, resulting in a significant beneficial effect. Localised small scale works necessary to connect the listed building to the proposed extension, generally enable the construction of the extension, and re-provide facilities for the BLCC. These effects are adverse but not significant. Relocation of sensitive localised fabric would give rise to an effect that is not significant.	ES Volume 1, Section 7
British Library Centre for Conservation	Built heritage on-site	Demolition of the BLCC to enable construction of the Proposed Development would result in an effect that is adverse but not significant.	ES Volume 1, Section 7
Residential receptors surrounding the Site	Air quality	There would be no significant effects related to air quality from the construction or operation of the Proposed Development at any residential receptor.	ES Volume 1, Section 5
	Daylight, sunlight, overshadowing, solar glare and obtrusive lighting	Effects to daylight levels would be not significant at Chamberlain House. At Hadstock House and Levita House effect would be largely not significant. However, there would be a significant adverse effect on daylight levels at some units in both buildings.	ES Volume 1, Section 9

Receptor	Topic	Effect	Further Information
	Daylight, sunlight, overshadowing, solar glare and obtrusive lighting	Effects to sunlight levels would be not significant at all properties.	ES Volume 1, Section 9
	Daylight, sunlight, overshadowing, solar glare and obtrusive lighting	Light pollution effects at all properties would be not significant.	ES Volume 1, Section 9
	Noise and vibration	There would be significant adverse noise effects from construction activities to residential receptors on Ossulston Street. Noise effects from construction and operational traffic would be not significant.	ES Volume 1, Section 12
	Noise and vibration	There would be no significant effects at residential receptors related to vibration.	ES Volume 1, Section 12
	Socio-economics	Wider socio-economic effects arising from the use of the Proposed Development for residents within St Pancras and Somers Town ward, London Borough Camden and London, and institutions and companies within London's Knowledge Quarter are considered to be not significant.	ES Volume 1, Section 13
Commercial properties close to the Site, including the Francis Crick Institute	Noise and vibration	There would be significant adverse noise effects from construction activities to St Pancras Hotel. Effects from construction noise would be not significant at all other commercial receptors. Noise effects from construction and operational traffic would be not significant.	ES Volume 1, Section 12
	Noise and vibration	There would be no significant effects at commercial receptors related to vibration.	ES Volume 1, Section 12

Receptor	Topic	Effect	Further Information
St Pancras Hospital	Air quality	There would be no significant effects related to air quality from the construction or operation of the Proposed Development at St Pancras Hospital.	ES Volume 1, Section 5
Educational receptors close to the Site	Air quality	There would be no significant effects related to air quality from the construction or operation of the Proposed Development at any educational receptor (assessed sites comprised Edith Neville Primary School, Regent High School and Blossom Lower School).	ES Volume 1, Section 5
Outdoor amenity space in the vicinity of the Site	Daylight, sunlight, overshadowing, solar glare and obtrusive lighting	Overshadowing effects would be not significant at all amenity areas.	ES Volume 1, Section 9
Pedestrian level wind environment	Environmental wind	No significant wind effects would occur as a result of the Proposed Development.	ES Volume 1, Section 11
Road users close to the Site	Daylight, sunlight, overshadowing, solar glare and obtrusive lighting	No significant solar glare effects would occur.	ES Volume 1, Section 9
Rail lines to St Pancras Station	Daylight, sunlight, overshadowing, solar glare and obtrusive lighting	No significant solar glare effects would occur.	ES Volume 1, Section 9
Townscape character	Townscape, built heritage (off-site) and visual assessment	<p>During the construction phase of the Proposed Development, there would be significant adverse effects on townscape close to the Site. At a greater distance, the effects would be not significant.</p> <p>As a result of the high quality design of the Proposed Development and the associated public realm, there would be a permanent significant beneficial effect on townscape close to the Site. At a greater distance, the effects would be not significant.</p>	ES Volume 2

Receptor	Topic	Effect	Further Information
Visual receptors (views)	Townscape, built heritage (off-site) and visual assessment	<p>During the construction phase of the Proposed Development, there would be significant adverse effects on views close to the Site. Views from further afield would be not significant.</p> <p>As a result of the high quality design of the Proposed Development and the associated public realm, there would be a permanent significant beneficial effect on the following views:</p> <ul style="list-style-type: none"> • London View Management Framework views to St Paul's Cathedral from Parliament Hill, Kenwood, Primrose Hill and Blackheath • Ossulston Street, outside Levita House • Ossulston Street, junction with Phoenix Road • Midland Road, opposite junction with Brill Place • Midland Road, east of the British Library • Eversholt Street, junction with Doric Way • Chalton Street. <p>Effects on views from other locations would be not significant.</p>	ES Volume 2
Off-site listed buildings	Townscape, built heritage (off-site) and visual assessment	<p>There would be no significant effects on off-site listed buildings related to the construction activities and equipment associated with the Proposed Development.</p> <p>There would be no significant effects on off-site listed buildings resulting from the completed Proposed Development.</p>	ES Volume 2

Receptor	Topic	Effect	Further Information
Conservation areas	Townscape, built heritage (off-site) and visual assessment	There would be no significant effects on conservation areas related to the construction activities and equipment associated with the Proposed Development. There would be no significant effects on conservation areas resulting from the completed Proposed Development.	ES Volume 2
Below ground archaeology	Archaeology	Effects on below ground archaeological remains from all periods would be not significant.	ES Volume 1, Section 6
Employment generation	Socio-economics	Should the ultimate end users of the proposed commercial space be all conventional office, the effect of employment generation would be not significant. If the ultimate end users include lab-enabled and incubator space, the employment generation would be a significant beneficial effect.	ES Volume 1, Section 13
Telecommunication links	Electronic interference	No significant effects in relation to electronic interference would occur as a result of the Proposed Development.	ES Volume 1, Section 10
Global climate	Climate change	The Proposed Development would result in a significant adverse effect in relation to emissions of greenhouse gases to the atmosphere.	ES Volume 1, Section 8

2 Site and surroundings

2.1.1 The Site, covering an area of approximately 1.7ha, is located in the LBC centred at Grid Reference 529926 (easting), 182986 (northing). The Site is bound to the north by the FCI along Dangoor Walk, to the east by St Pancras International Railway Station on Midland Road, to the south by the existing British Library complex and to the west by residential buildings in Somers Town fronting onto Ossulston Street. Beyond these, Regent High School and St Pancras Old Church lie to the north, Kings Cross Station to the east, and Euston Station to the west. The closest entrance to the Kings Cross St. Pancras London Underground Station is 180m to the east of the Site, and Euston London Underground Station is 400m to the south-west of the Site.

2.1.2 Euston Road (the A501) is the major road connection to the Site. Cycle Superhighway 6 passes along Midland Road, directly adjacent to the Site. Dangoor Walk bounds the Site to the North, connecting Midland Road and Ossulston Street.

2.2 The Site

2.2.1 The existing British Library is solely a library (Class F1) use, with open land, car and cycle parking provisions. The Site is currently occupied by the following buildings:

- Parts of the existing British Library
- The BLCC, which opened in 2007, is an unlisted heritage asset of some limited local significance and located within the Site. The BLCC provides a number of services related to the conservation and preservation of collections, including preventative conservation, conservation treatment, conservation science, internships and placements, and advice for the public and preservation guides. The BLCC also accommodates the British Library Sound Archives.
- The Story Garden, run by the educational charity Global Generation, is located within the western extent of the Site and provides a temporary urban garden space.

2.2.2 The majority of the existing British Library complex sits outside the Site, directly to the south. The British Library, piazza, boundary wall and railings are Grade I listed. The BLCC, a separate structure which forms part of the operations of the British Library, is excluded from the Grade 1 listing. The entire British Library site was cleared in the 1970s for the construction of the British Library, having previously been a rail goods yard.

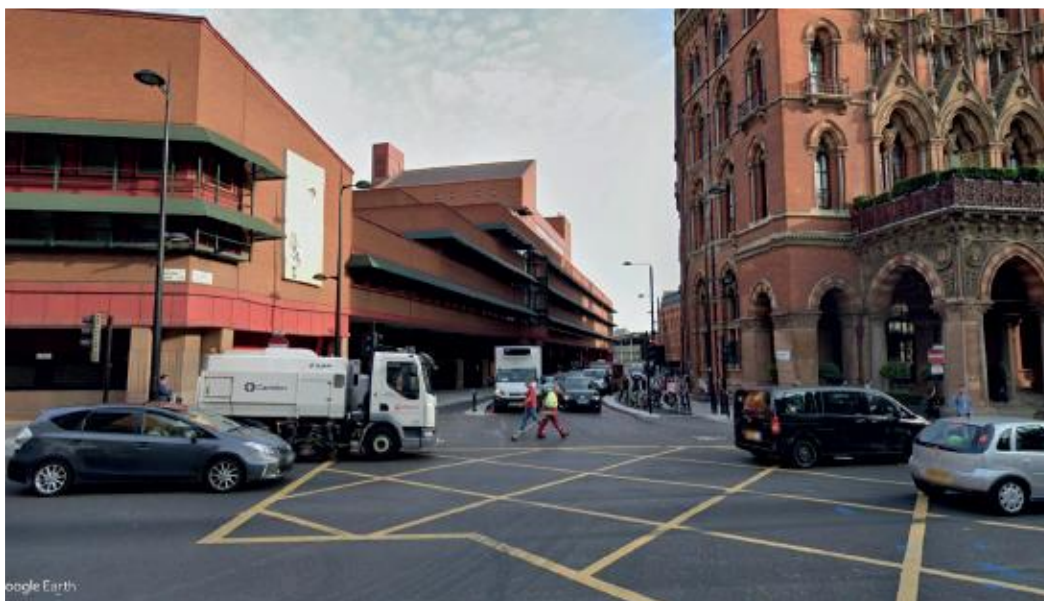
2.2.3 There are no residences on the Site.

- 2.2.4** The Site incorporates a total of 26 existing car parking spaces, of which 23 spaces are for standard car parking and three are dedicated spaces for blue badge holders.
- 2.2.5** There are currently provisions for 110 long-stay cycle spaces on Site. In the wider British Library area, there are a further 78 short-stay cycle spaces located next to Ossulston Street and 48 short-stay spaces located in the ‘bike sheds’ on the piazza adjacent to the Ossulston Street gate. Nearby the Site, there are 50 short-stay spaces on Midland Road, 14 short-stay spaces on Euston road, and a further 12 short-stay spaces on Ossulston Street.
- 2.2.6** Photographs of the Site are provided in Figure 2.

Figure 2: Photographs of the Site.



View of existing British Library from Ossulston Road looking south



View of existing British Library from Euston Road looking north



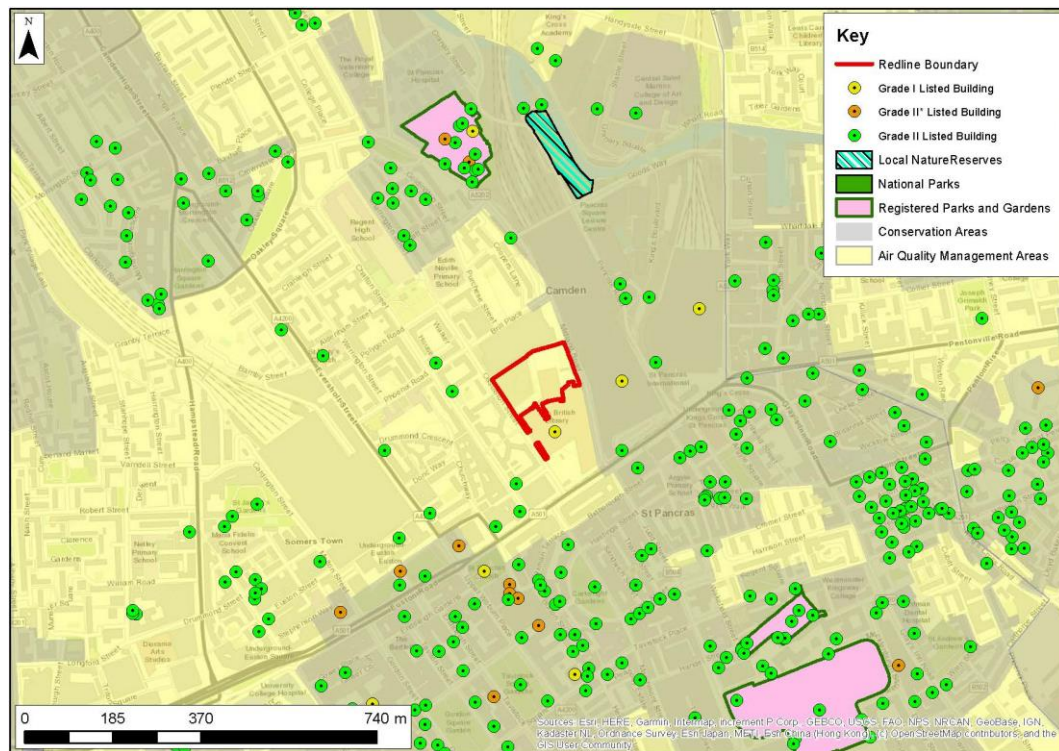
View of existing British Library from Midland Rd looking north



View of existing British Library from Ossulston Street looking east

2.3 The surroundings

- 2.3.1** The Site is in an area of mainly residential, commercial and retail use and falls in between two major national institutions: the existing British Library and FCI. There are transport hubs, schools and hotels in the area.
- 2.3.2** A map showing nationally designated environmental sites is included as Figure 3. There are no international designated environmental sites on or close to the Site.

Figure 3: Environmental designations map.

2.3.3 In addition to the Grade I listed British Library, piazza, boundary wall and railings there are eight listed structures within 150m of the Site including the St Pancras Station and Former Midland Grand Hotel and Kings Cross Station (Grade I). The remaining six structures are Grade II.

2.3.4 There are no Scheduled Monuments within 500m of the Site.

2.3.5 Kings Cross Conservation Area is immediately adjacent to the Site to the east and the Bloomsbury Conservation Area is approximately 250m south of the Site. However, the Site itself is not within a conservation area.

2.3.6 The Site is located within an Air Quality Management Area (AQMA), designated for the whole of the LBC due to exceedances of air quality objectives for fine particulate matter (PM10) and nitrogen dioxide (NO₂). The London Borough of Islington, 300m to the east, has also designated an AQMA for PM10 and NO₂. The Site is located within the expanded London Ultra-Low Emission Zone (ULEZ) which came into effect on 25 October 2021³.

2.3.7 The GOV.UK flood map shows that the Site is located in Flood Zone 1⁴. This equates to a low probability of flooding.

³ Transport for London. *ULEX: Where and when*. Available at: <https://tfl.gov.uk/modes/driving/ultra-low-emission-zone/ulez-where-and-when#on-this-page-5>

⁴ UK Government. (2019). *Flood map for planning*. Available at: <https://flood-map-for-planning.service.gov.uk/>

- 2.3.8** There are no nationally or internationally designated ecological sites within 1km of the Site. The closest statutory ecological designated site is the Camley Street Nature Park Local Nature Reserve which is located approximately 350m north of the Site. Local open green spaces in the area include the British Library piazza, 100m to the south of the Site, Brill Place, which is 130m north of the Site and St Pancras Gardens which is 400m north of the Site.
- 2.3.9** There are three schools located within 250m of the Site. Edith Neville Primary School is approximately 200m north of the Site, and Maria Fidelis Catholic School and Blossom Lower School are approximately 200m and 100m west of the Site respectively. Regent High School is located approximately 390m to the north. Somers Town Community Centre is located 300m to the north.
- 2.3.10** Nearby transport hubs include St Pancras International Station, London King's Cross Station and King's Cross St Pancras Underground Station, all of which are located approximately 200m to the east. Additionally, London Euston Station is located approximately 400m to the west and Euston Square Underground Station is located approximately 650m to the southwest.

3 Proposed Development

3.1 Introduction

3.1.1 This section describes the Proposed Development for which planning permission is sought and which forms the basis of the EIA. This is set out in Section 3.2. Section 3.4 then describes the reasonable alternatives considered by the Applicant and the evolution of the design of the Proposed Development, noting the main reasons for selecting the chosen option and including a comparison of the environmental effects.

3.2 The Proposed Development

Overview

3.2.1 The works involve extending the northern aspect of the existing British Library to provide library accommodation, commercial and lab-enabled office space, retail space; and the Crossrail 2 works at basement level, totalling to a gross internal area (GIA) of 100,358m², of which:

- 77,046m² (GIA) would be commercial space (Class E); this would comprise office space, including commercial amenity, designed to cater for knowledge quarter uses (including life sciences, cultural, scientific and heritage collections and data sciences)
- 15,015m² (GIA) for British Library uses, including foyer, public circulation, new library accommodation including the replaced BLCC and British Library Sound Archive, and the Alan Turing Institute
- 558m² (GIA) for retail
- 7,739m² (GIA) would be sui generis use related to basement level infrastructure for Crossrail 2.

3.2.2 The Proposed Development would be split across 12 floors with a roof height of 67.6m AOD (top of the structure will be 71.81m AOD).

3.2.3 There will be a part single-storey below ground level basement and part seven-storey basement for the Crossrail 2 ventilation shaft. At its deepest point, the basement would be constructed to approximately 9.2m AOD whilst the Crossrail 2 infrastructure would be constructed to approximately -19.5m AOD.

3.2.4 The Proposed Development would be 'car lite'. Five wheelchair-accessible car parking spaces would be provided, three located in a private off-street car park accessed from Ossulston Street and two from Midland Road. Electric car charging would be provided in accordance with policy requirements. There would be one space for an

operational minibus accessed from Midland Road and four spaces for maintenance vehicles.

- 3.2.5** Existing cycle parking spaces would be retained, and an additional 1,112 long-stay (basement) and 172 short-stay cycle parking spaces would be provided, in accordance with the London Plan. The proposed Development would provide 122 short-stay cycle parking spaces for short term visitors/public on-site, and the remaining 50 additional off-site cycle parking spaces would be provided in the local area, such as along the island on Midland Road, with a financial contribution agreed as part of the S106 agreement. There are several spaces on the local public highway, including 11 Sheffield stands (22 short-stay cycle parking spaces) on the footway on Midland Road, which would need to be relocated on the public highway. These spaces are not part of the on-site policy requirement.
- 3.2.6** Plans detailing the design of the Proposed Development are included with the planning application.
- 3.2.7** The following sections describe first the design of the Proposed Development, and subsequently the construction activities anticipated.

Elements of the Proposed Development

- 3.2.8** New library, retail and commercial, including lab-enabled, accommodation would be constructed within the Site. The new building would provide for the relocated BLCC, galleries, learning, business and events spaces (Class F1), new retail, commercial space designed to be enabled to cater for knowledge quarter uses (including life sciences, cultural, scientific and heritage collections and data sciences), the Alan Turing Institute, and a learning open reading room (Class E).
- 3.2.9** To summarise, the layout of the Proposed Development would comprise of:
- Lower ground floor: would comprise elements of the British Library and commercial foyers, terrace, BLCC, library, retail, shared space and Crossrail 2 space
 - Upper ground floor: amenity (including commercial reception), BLCC, Crossrail 2 space, library and shared space
 - Level 1: extension of existing terrace, Alan Turing Institute, BLCC, library, commercial, including lab-enabled, and shared space
 - Upper levels: commercial, including lab-enabled space
 - Basement: BLCC, Crossrail 2, tank farm, library and commercial spaces.
- 3.2.10** The BLCC functions are integral to the operations of the British Library and would be temporarily accommodated within the existing

Library until the relocated BLCC facility is completed as part of the Proposed Development.

Net zero carbon

3.2.11 The United Nations Sustainable Development Goals have been used as a framework to identify the areas where the Proposed Development could contribute towards sustainable outcomes, both in terms of impact of the intervention, and in terms of the level of influence that the project team could potentially have on the outcome. The targets were structured through a project workstream comprising representatives from the applicant, architect, engineers, and quantity surveyors. Six key clusters emerged, defining the main areas of intervention:

- partnerships to magnify the positive outcomes of the British Library project across wider communities
- creating an inclusive place that adds social value to the local area and community
- pathway towards net zero carbon and future resilience through integrated design
- creating a hub that supports innovation and delivers sustainable employment
- using the available space to focus on high quality biodiverse habitats, which engage users
- using the Proposed Development to support the needs of the local community.

3.2.12 The entire building has been designed to enable net zero carbon operations. It would be an all-electric building with low operational energy, long life adaptability and disassembly and sustainable water systems. Low carbon materials have been incorporated into the design. To reduce heat gains caused by solar loads into the Proposed Development, some of the façade would be openable and capable of minimising solar gains. Further details of these measures are referred to in the Design and Access Statement submitted with this planning application.

Public realm

3.2.13 The Proposed Development includes enhancements to the public realm at ground level, including improvements to Dangoor Walk, Ossulston Street and Midland Road. An enclosed Courtyard within the Proposed Development and a publicly accessible foyer would also be provided.

3.2.14 The landscape and public realm proposals include new a Community Garden on the west side of the site, close to the Ossulston Street

entrance to the new extension building. The detailed design will be undertaken in collaboration with the local community and is intended to replace the existing Story Garden. It would act as a hub for community-led (developer funded) satellite greening and growing projects in Somers Town.

3.2.15 There would be a delay between the closure of the Story Garden and the completion of the new Community Garden space. Discussions are ongoing so as to provide a continuation of the community service during this time, by identifying projects within the local area that could be undertaken during the construction period.

3.2.16 The Proposed Development will have landscaping which has been developed to compliment the Site's microclimatic conditions and enhances the biodiversity of the British Library Site as a whole, comprising of a mixture of soft and hard landscaping⁵.

Crossrail 2

3.2.17 Basement, Lower Ground and Upper Ground level infrastructure would be provided for Crossrail 2 as part of the Proposed Development. This includes the main civils and structural elements of the anticipated Euston St Pancras Station under the Site: the eastern shaft, basement and passenger subway tunnel connecting the new Station with St Pancras.

Heritage buildings

3.2.18 As stated in paragraph 2.2.2, the British Library building (including piazza, boundary wall and railings) is a Grade I listed designated heritage asset. A detailed description of the works proposed in relation to the listed structures is included in Section 7.

Demolition and construction

3.2.19 Construction of the Proposed Development is expected to take approximately six years, with completion expected in 2029. It would require the following activities:

- enabling works, including any necessary protection measures for the retained structures on-site
- demolition of existing BLCC and fire escape structure
- excavation and construction of foundations and basements, and construction of Crossrail 2 access and vent shaft (the structural shell only)
- construction of superstructures
- installation of external envelopes

⁵ The British Library Extension Landscape Statement is provided with this planning application.

- external and internal alterations to retained buildings
 - external works and landscaping/highways works.
- 3.2.20** Construction waste would be managed via the implementation of a Site Waste Management Plan. It is expected that the provision of this would be conditioned as part of the planning consent.
- 3.2.21** Normal site working hours are anticipated to be:
- 8.00am to 6.00pm on Monday to Friday
 - 8.00am to 1.00pm on Saturdays
 - No working on Sundays or Public Holidays.
- 3.2.22** For some elements of the work, extended working hours may be required. In these instances, prior communication with reasonable notice in the circumstances, including if necessary application for the extension of working hours would be provided to local stakeholders and LBC.
- 3.2.23** A secure Site perimeter would be maintained using fencing, hoardings and site gates. At each Site entry / exit point, secure gates would be installed, which would be supervised.
- 3.2.24** The main route for access to the Site is expected to be via Midland Road southbound carriageway.
- 3.2.25** A draft Construction Management Plan (CMP) has been prepared for the Proposed Development. This document codifies the environmental controls to be implemented for the demolition and construction phases and will be a contractual obligation. The draft CMP aligns with the requirements set out by LBC in their Camden Planning Guidance⁶.
- 3.2.26** A summary of the main programme phases is presented in Table 2.

Table 2: Summary of the main programme phases.

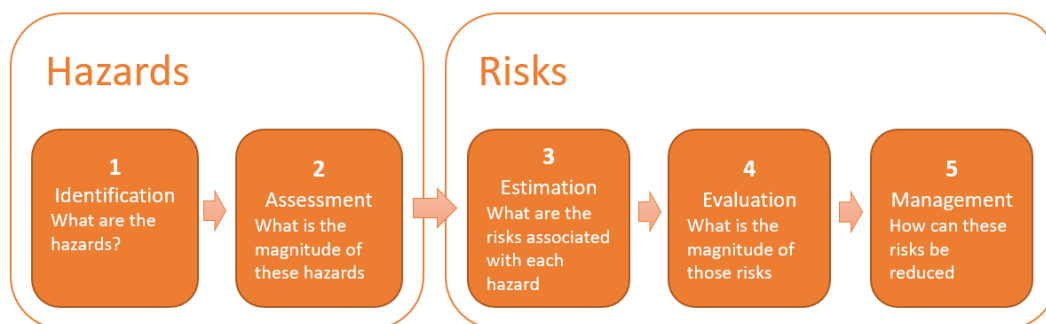
Element	Start date	End date	Duration
Construct New Tank Room	April 2024	September 2025	17 months
Fit-out BLCC and British Library Sound Archive	March 2024	April 2026	25 months
Enabling works and deep shaft works for Crossrail 2	April 2024	June 2029	62 months
Construction of the eastern component of the building	April 2026	June 2029	38 months
Construction of western component of the building	January 2027	November 2029	34 months
Construction of the new BLCC component of the building	January 2027	June 2029	29 months

⁶ LBC. *Camden Planning Guidance*. Available at: <https://www.camden.gov.uk/planning-policy-documents>

3.3 Climate change resilience

- 3.3.1** The combined effects of the Proposed Development and potential climate change on the receiving environment, resources, and community have been considered as a core part of the assessment for all topics included in this ES. Climate change projections including winter and summer temperature and precipitation using the UK Climate Projections 2018⁷ are embedded into the future baseline of the technical assessments, consistent with the IEMA Environmental Impact Assessment Guide to Climate Change Resilience and Adaptation⁸. To address potential climate hazards, appropriate adaptation measures have been embedded within the design of the Proposed Development.
- 3.3.2** To support the project sustainability goals and the BREEAM assessment, the impacts of projected future climate change on the installation of building services and renewable systems, and on structural and fabric resilience have been considered.
- 3.3.3** The aim of the BREEAM Wst 05 Adaptation to Climate Change issue is to “Minimise the future need of carrying out works to adapt the building to take account of more extreme weather changes resulting from climate change.”
- 3.3.4** The identification and design of climate change adaptation measures requires two main steps: the analysis of climate change hazards, and the analysis of the risks these hazards cause. These two main steps are illustrated in Figure 4.

Figure 4: Climate change and appraisal methodology.



- 3.3.5** The findings of the hazard identification and assessment process is presented in Table 3.

⁷ Met Office. *About UKCP18*. Available at:

<https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/about>

⁸ IEMA (2020). *Environmental Impact Assessment Guide to Climate Change Resilience and Adaptation*. Available at: <https://www.iema.net/resources/reading-room/2020/06/26/iema-eia-guide-to-climate-change-resilience-and-adaptation-2020>

Table 3: Climate change hazard identification and assessment using London specific data.

Hazard	Indicator	Most likely scenario for 2050s	Most likely scenario for 2080s	Hazard relevance to the development
Flooding	Changes in sea level	Relative rise of 90cm by 2100. Likely increase in Thames of around +0.4m. Worst case (highly unlikely) max sea level increase prediction around +2.7m.		Medium
	Changes in groundwater level	Projections are not readily available.		
Storms	Changes in wind speed	Range of change: -0.2m/s to +0.2m/s. No data on gale speeds.		Low
Precipitation & wetter winters	Wettest day in winter	+13.1%	+17.3%	High
	Winter mean daily precipitation	+14%	+20%	
	Number of days with snow in winter	No data for 2050s	Reduction of 40-70%	
	Heavy snow events in winter (90 th percentile snow fall rate)	No data for 2050s	Reduction of 40-100%	
Drought	Wettest day in summer	-6.7%	-8.3%	Medium
	Summer mean daily precipitation	-16%	-20%	
	Change in annual mean relative humidity	-2.9%	-3.7%	
Heat waves	Annual number of hot days (a hot day for London is >32°C day and >18°C night)		Four times as many hot days annually (45 to 60 days versus 15)	High
Warmer summers	Summer mean temperature	+ 2.8°C	+ 3.9°C	High
	Daily maximum temperature in summer	+ 3.5°C	+ 4.9°C	
Milder winter	Winter mean temperature	+ 2.2°C	+ 3.0°C	Low
	Daily minimum temperature in winter	+ 2.3°C	+ 3.3°C	

Hazard	Indicator	Most likely scenario for 2050s	Most likely scenario for 2080s	Hazard relevance to the development
Subsidence or ground movement	Potential for changes in response to changing ground water level, precipitation and thermal changes	Refer to projected scenarios for mean temperature, precipitation and changes on ground water level	Refer to projected scenarios for mean temperature, precipitation and changes on ground water level	High
Cold events	Projections are not readily available	No data for number of cold events. See snow fall projection data above.		Low
Temperature variation	Projections are not readily available	No data		Low
Increase in solar radiation	Projections are not readily available	No data		Low

3.3.6 The climate change hazards that are deemed to pose the highest risk to the function and resilience of the building are warmer summers, and heat waves. Measures have been included in the design to reduce the risks these hazards pose, including efficient equipment and lighting to minimise internal heat gains, high performance glazing to reduce solar gains and both passive and active cooling measures.

3.3.7 A significant risk identified is the impact of subsidence or ground movement, most likely to be caused by prolonged changes to the moisture content of the ground that the Proposed Development is founded upon. This risk will be managed by conducting ground investigations to understand the possible impacts on building settlement of dramatically varying moisture content, and to design accordingly.

3.3.8 Further climate change adaptation and impact mitigation measures, are as follows:

- optimising the building envelope to enhance energy performance
- conducting a thermal comfort study based on future climate change projections scenario
- considering areas of structure that may need to be designed for additional plant loading
- planting on terraces and in the public realm
- using light coloured materials/finishes for horizontal and south-facing surfaces
- shading in the form of deep reveals and high performance solar control glazing (to optimise heating, cooling and lighting energy

demand) will be selected to reduce glare for the North and South Blocks

- rainwater harvesting for toilet flushing/water
- using water-efficient fittings in WCs and throughout the rest of the building
- implementing sustainable drainage systems (SuDS) measures
- implementing a maintenance regime for the façade to prolong its lifetime
- facilitating the easy replacement of façade elements through designing for deconstruction
- avoiding creating slippery surfaces in the public realm and in reception areas
- selecting wall build-ups and insulation to prevent condensation occurring in future climate scenarios.

3.3.9 These measures have been included in the design of the Proposed Development as appropriate at the current stage of design. The BREEAM assessment guided the development of these measures. Work to develop the details of these measures will continue during the detailed design stage.

Surface water flooding

3.3.10 The London Borough of Camden Strategic Flood Risk Assessment indicates the Site to be partly within a Critical Drainage Area. This is defined as a discrete geographic area where multiple and interlinked sources of flood risk can cause flooding during severe weather. As a result, careful consideration has been given to the peak discharge rates off-site as it is expected that the existing sewers may be surcharged regularly.

3.3.11 The proposed drainage infrastructure would attenuate surface water to reduce peak surface water flows and therefore minimise the risk of flooding both within the Site and downstream. The proposed surface water drainage network has been designed to the following standards:

- no flooding on site due to the 1 in 100-year return period storm, plus 40% allowance for climate change. This level of resilience was aimed due to the fact that the building floor level is lower than the adjacent footpaths on Ossulston Street and Midland Road which creates a higher risk of flooding to the building.

3.3.12 The proposed drainage strategy's aim is to reduce the surface water runoff from site to the greenfield runoff rate for all storm durations up to and including 1 in 100-year event (with 40% allowance for climate change). This will be done by introducing the following SUDS systems:

- green/blue roof systems for the main BL building
- rainwater harvesting system
- attenuation in the basement for the runoff collected from the roof which cannot be attenuated in a blue roof
- podium attenuation, using a Permavoid geocellular tank system above the basement slab and on the terrace at Level 1.

Drainage design in the context of projected increases in winter rainfall

3.3.13 The Proposed Development would have gravity rainwater drainage pipes to drain the roof and terrace areas. Rainwater from the roof will be partly attenuated on the roof in a blue/green roof tank and partly will be attenuated in a tank at basement level. The tank in the basement is also capable of harvesting rainwater from the roof for non-domestic use. A dedicated pump set would supply the harvested rainwater through the building for toilet flushing.

3.3.14 In the case of a storm event when the rainwater harvesting tank is full, diverter valves at high level basement would divert the rainwater drainage to the attenuation tank above the basement slab (podium attenuation). All landscape rainwater runoff would be drained into the podium attenuation tank and then discharged at a controlled rate to the external sewer. Attenuation tanks have been preliminarily sized to satisfy current London Plan requirements, which accounts for future climatic conditions. A detailed analysis would be undertaken at the detailed design stage to confirm attenuation volumes.

3.4 Alternatives

Introduction

3.4.1 This section describes the reasonable alternatives studied by the Applicant which are relevant to the proposed project, including the evolution of the design of the Proposed Development. Multiple options were explored during the initial design that considered the Site setting and the inherent constraints generated by environmental features such as the existing British Library and the need for its continuous operation, neighbouring buildings and communities, heritage assets and public realm. This section also indicates the main reasons for selecting the chosen option of the Proposed Development and, where relevant, compares the respective environmental effects with the other options studied.

Alternative locations

3.4.2 The Site was historically identified for development by the British Library and remains the only site onto which the British Library can

extend and expand its existing facilities. For that reason, alternative locations for the Proposed Development have not been considered.

Design development of existing British Library masterplan

3.4.3 The site of the extension building which is now proposed was originally a part of the masterplan for the new British Library designed in the 1970s by Colin St John Wilson and Partners. The original design had two long wings of reading rooms stretching northwards from Euston Road, embracing a central building for the King's Library and staff café with an adjoining terrace to the north. The Site of the Proposed Development was part of the original masterplan for the British Library. Cost constraints resulted in the phasing of the project. The wider masterplan was therefore split into three individual phases, each designed so that the building could operate as a discrete entity after the completion of each phase. The northern extent of the original masterplan (i.e. the Site) was left vacant as Phase 1 of construction began in 1982.

3.4.4 In 1987 it was decided that the design for Phase I would be completed to create a self-sufficient library without future extensions and the original masterplan was altered to achieve this. As a result, Phase I of the three-phase masterplan opened in 1997 on a reduced footprint leaving the northern extent of the original masterplan (the land that is now the Site) empty. Despite that, and according to the original plans, the Site has always been destined for use for the extension of the British Library.

3.4.5 Since the original masterplan, a move to open public access to the Library has led to a huge increase in visitor numbers, with 1.6 million on-site visits each year. As a result, the existing British Library building has experienced increasing pressure for new elements of commercial space and for facilities to meet the changing requirements of engaging a wider public audience with the Library (this is particularly noticeable in areas of public circulation which demonstrate an urgent need for additional open areas for seating, cafes, toilets and vertical circulation).

Initial design development: Invitation to Submit Final Tender scheme

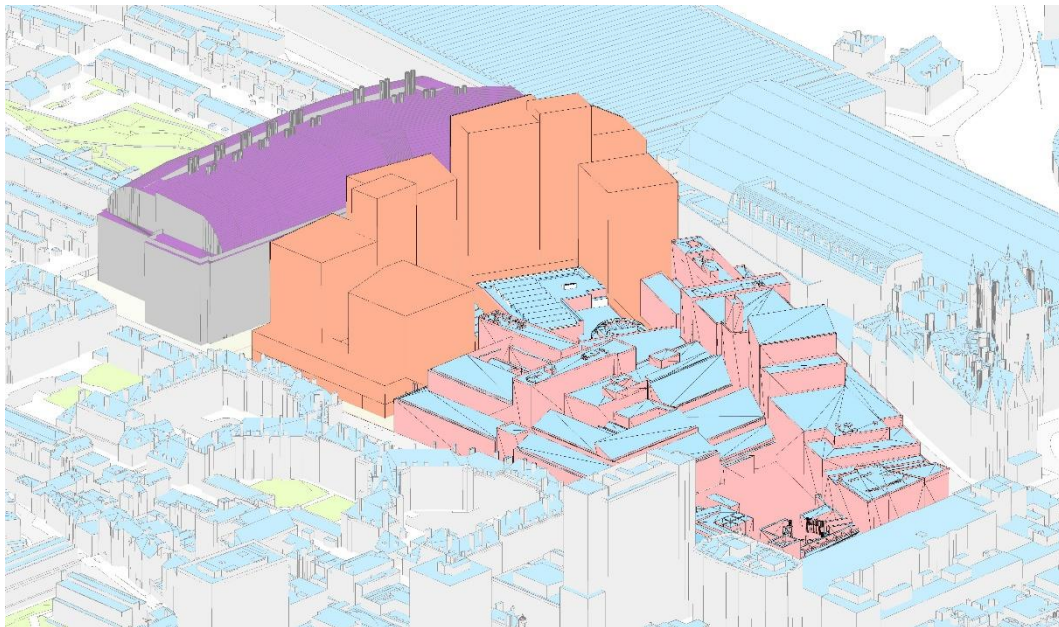
3.4.6 Discussions with Camden Council began during the Invitation to Submit Final Tender (ISFT) (competition) period in 2016 when the British Library invited proposals from the private sector to secure a development partner to assist in the redevelopment of the Site.

3.4.7 The brief for the new British Library accommodation anticipated a series of new activities and spaces that would enhance the uses and spaces that the original building was unable to anticipate. These

include flexible learning areas, cafés, shops, events and exhibition spaces which complement and enhance the British Library and its evolving communication with a wider society.

3.4.8 As part of the ISFT competition, the design team considered the possibility of the retention of the BLCC building. However, the BLCC building's relatively small scale and location within the Site created a series of challenges in achieving many of the British Library's main aims. As depicted in Figure 5, a feasibility study for retaining the BLCC building in-situ indicated that the commercial aspects of the development would be dispersed to the perimeter of the Site, resulting in an increased perception of the scale of development for the residents on Ossulston Street, harm to the critical heritage views across the Barlow Shed and the original British Library, as well as compromising the residual lighting levels for the BLCC itself.

Figure 5: Illustration depicting the impact of retaining the BLCC.



3.4.9 Subsequently it became clear that retention of the BLCC would also preclude the construction of the Crossrail 2 infrastructure running across the site at basement level. As a result, at the ISFT stage it was decided that the BLCC would be removed and relocated at the top of the eastern building adjacent to Midland Road.

3.4.10 The new British Library accommodation was placed at lower levels in a plinth within which accommodation rose in stepped tiers over the existing loading bay forming a link with the primary public datum at Level 1. Above this, the commercial accommodation took the form of three independent buildings, shown in Figure 6 and Figure 7, located above a structural transfer deck placed at level 2. The western buildings followed the alignment of Ossulston Street, the east building adopting the alignment of Midland Road.

Figure 6: ISFT competition concept design.

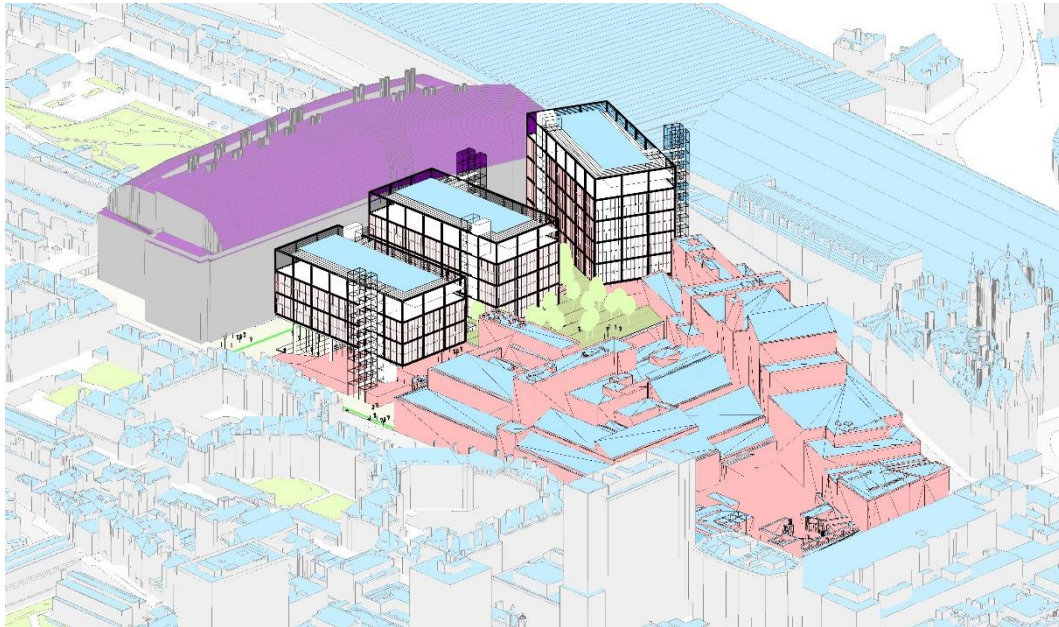


Figure 7: ISFT Competition concept design - rendered aerial view.



Initial design development: Development agreement

3.4.11 A comprehensively revised proposal, the Development Agreement (DA) design, was considered for the Site which could appeal equally to the British Library and to both office and life science occupiers,

providing ‘lab-enabled office space’. This would generate additional value that could be applied towards the cost of the Crossrail 2 infrastructure.

- 3.4.12** At the lower British Library levels, the plan arrangement had many consistencies with the ISFT scheme with the main entry foyer accessing large double height volumes of the gallery spaces, placed adjacent to loading bays to assist in the setting up of exhibitions. The foyer also provided access to public areas of vertical circulation linking the Lower Ground Floor to Level 1.
- 3.4.13** However, unlike the ISFT scheme, the upper commercial levels were coordinated around a pair of linked linear buildings arranged east to west. They were separated by a glazed atrium which provides daylight to, and forms the roof of, the main entry/foyer space of the Library space below, whilst the lobby would be visible from the commercial levels above.
- 3.4.14** As with the ISFT scheme, the linear buildings follow the geometries of the main street frontages. However, the DA scheme provided more fragmented gable ends to the public street frontages, which presented a reduced mass to neighbouring buildings, with corresponding environmental improvements, in particular in relation to daylight and sunlight to residential receptors on Ossulston Street. This creates opportunities for greater public open space and the incorporation of various routes and desire lines across the Site.
- 3.4.15** At DA stage, the development was anticipated to be phased, with demolition of the existing BLCC and British Library Sound Archive and construction of the new facility preceding construction of the main building in order to release the remainder of the Site for subsequent two-phase development of the Site. This necessitated that the new BLCC be a stand-alone entity which, at DA stage, was shown physically attached to the northern elevation of the existing British Library building at Lower Ground, Upper Ground and Level 1. However, the phasing strategy was unacceptable to Transport for London, as it did not provide for certainty in the delivery of the infrastructure for Crossrail 2 infrastructure, and a single phase approach was subsequently adopted.
- 3.4.16** The foyer and circulation space was subject to further design and discussions with Camden Council, who saw the space as an opportunity to engage the local residential and business community and an opportunity to create an active public interface with equal weighting to both east and west entrances.

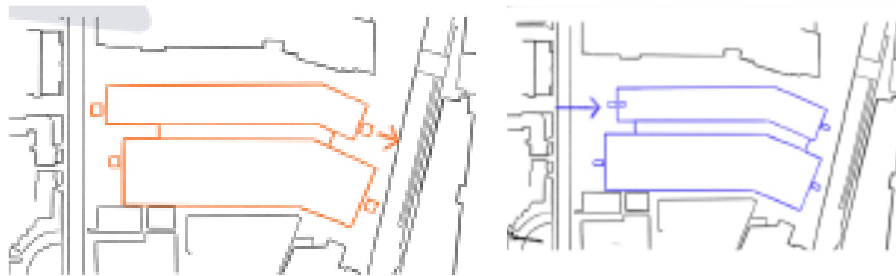
Shifting east

- 3.4.17** Throughout the pre-application consultation with Camden Council in 2020, planning, design and conservation officers expressed a desire to maximise landscaped open space at the western end of the Site where

a more open aspect would be supported by the massing of the existing British Library building and its proximity to the residences on Ossulston Street. This would step back from the Ossulston Street frontage and directly benefit the neighbouring residential community of Somers Town. Officers also felt that the eastern frontage would benefit from a closer relationship to Midland Road to create a more imposing civic presence on this busy thoroughfare opposite St Pancras Station. This would maintain the location of the southern wing of the building and move the northern wing of the building towards the east. This move resulted in the new Ossulston Street frontage being 18m to further to the east from its former position, while the Midland Road frontage would be 9m further east. Additionally, revised proposals lifted the level of Lower Ground floor by +500mm, creating level access from Midland Road and reduced vertical height difference with Ossulston Street. Again, this shift brought improvements in terms of daylight and sunlight impacts for residences on Ossulston Street.

- 3.4.18** These proposals were a recent development of the DA Scheme and focussed on the community and public benefits which are seen as crucial to the Proposed Development.

Figure 8: Diagrams depicting the massing shift before (orange) and after (blue).



Reducing impacts on views

- 3.4.19** Following consultation on the design, Camden Council officers requested additional support information from the design team to explain which parts of the design are visible in views from key locations. Concern was primarily focussed on the south-east corner where the escape stairs and elements of roof-mounted plant screen appear above the proposed roof profile.
- 3.4.20** Following this, the design was amended so that where visible, the impact of the views on the setting of significant heritage assets has been reduced. For instance, changes to the design concerning roof impacts and visibility of the Proposed Development led to a reduction in the height of the stair cores for the perimeter stairs and the tops of stairs which are used by maintenance for roof access. For the southern component of the building, revised proposals included a reduction in the height of the stair enclosure to avoid visibility in from Grays Inn Road. The reduction in height also serves to mitigate impacts to a

large extent, where the glazed capping to the top of the staircase is visible above the Barlow Shed roof of St Pancras International Station. Impacts have been further reduced by substantially pulling back the plant enclosure at roof level to closely align with the profile of the roof itself.

Public realm: landscape proposals and the emergence of cellular retail

- 3.4.21** Recent consultation with Camden Council focused on the lower levels of the Proposed Development, the relationship to both the British Library and commercial building and surrounding external areas. Discussions were focussed on the public realm benefits offered by these levels – both the publicly accessible facilities of the Proposed Development itself and its landscaped areas.
- 3.4.22** The potential for landscaping to accommodate a range of possible community garden and learning facilities, public artworks, and spaces to meet and greet, led to a landscape proposal defined by a series of ‘cells’. These are interspersed by pathway and routes reflecting desire lines of pedestrian movement through the Site. The ‘cells’ provide an internal area loosely enclosed by a landscape buffer providing a means by which views across the Site can be maintained while also allowing the possibility to provide secure safe spaces for use by the local community.
- 3.4.23** A desire to see greater continuity between inside and outside areas was raised in comments by Camden Council, who highlighted that the lower levels of the Proposed Development should have their own expression, distinct from the commercial floors above, thereby appearing to be corporate and potentially private. As a result, the form of the lower levels was reconsidered; retail units developed into a more permeable ‘cellular’ form that resonates with those found in the landscape proposals and separated in plan by gaps providing direct routes into the foyer.

4 Approach to assessment

4.1 EIA process

- 4.1.1** The assessment of the Proposed Development has been undertaken in accordance with the EIA Regulations and relevant guidance². EIA is a staged, iterative process. Each stage builds upon the preceding stages with the aim of having a positive influence on the Proposed Development. Each of the stages is described in the following sections.

4.2 The need for EIA

- 4.2.1** The EIA Regulations define an EIA development as that which is either within Schedule 1 or 2 of the EIA Regulations and, in the case of Schedule 2 developments, is likely to have significant effects on the environment by virtue of factors such as its nature, size or location.
- 4.2.2** The Proposed Development is considered to be an urban development project under Schedule 2, paragraph 10(b) of the EIA Regulations and therefore, an EIA is required. The threshold for screening this type of project is 1 hectare, and the area of the Site is approximately 1.7ha. It abuts the Grade I Listed British Library and it is located close to other sensitive receptors such as the FCI and residential properties on Ossulston Street.
- 4.2.3** Therefore, it is considered that the Proposed Development has the potential for significant environmental effects during its construction, existence and operation, and it is therefore proposed to undertake an EIA.

4.3 Scoping

- 4.3.1** Scoping is the process of identifying the people and environmental resources (otherwise referred to as ‘receptors’) with the potential to be significantly affected by the Proposed Development. It has been carried out in accordance with relevant guidance⁹. Collaboration with the designers and the wider project team has allowed measures to prevent and reduce adverse environmental effects and to introduce beneficial effects to be embedded into the Proposed Development. The scope of the EIA has therefore been determined proportionately to allows the process to focus only on those effects with genuine potential to be significant.

⁹ Environmental Impact Assessment of Projects, Guidance on Scoping (Directive 2011/92/EU as amended by 2014/52/EU)

https://ec.europa.eu/environment/eia/pdf/EIA_guidance_Scoping_final.pdf and

Delivering Proportionate EIA, A Collaborative Strategy for Enhancing UK Environmental Impact Assessment Practice <https://www.iema.net/policy/ia/proportionate-eia-guidance-2017.pdf>

4.3.2 An EIA Scoping Report¹⁰ was prepared and submitted to the LBC on 29 April 2021. This set out the potentially significant effects on identified receptors and a proposed scope of work for the EIA as well as the methodologies proposed to be used for the assessment. The LBC provided a Scoping Opinion¹¹ on 28 June 2021.

4.3.3 Appendix D1 sets out how the EIA has responded to and complies with the Scoping Opinion, as required under Regulation 18, paragraph 4(a) of the EIA Regulations.

4.4 Stakeholder engagement

4.4.1 In addition to the scoping process, consultation was undertaken with certain bodies having responsibilities or an interest in environmental issues relevant to the Site and the Proposed Development. The topic sections of this ES each contain a description of the stakeholder engagement undertaken for the environmental topic being considered.

4.5 Baseline data gathering

4.5.1 Baseline data on the existing environmental conditions within and around the Site has been obtained. It includes:

- survey information as defined within each topic section
- aerial photographs and maps of the Site and surroundings
- published documentary information on environmental conditions in the vicinity of the Site
- environmental data provided by consultees.

4.5.2 The baseline data used in the assessment takes account of a changing climate. Where future conditions are expected to differ from current conditions as a result of climate change, this has been duly considered.

4.5.3 The baseline data used in the assessment is detailed in each of the topic sections of this ES.

4.6 Assessment, mitigation and residual effects

4.6.1 The EIA has been undertaken as an iterative process with environmental specialists providing feedback to the construction, design and operation of the Proposed Development. The Planning Application for the Proposed Development reflects the final design, incorporating measures to avoid, prevent and reduce adverse

¹⁰ EIA Scoping Report (2021). Land to the North of the British Library 96 Euston Road London NW1 2DB (2021/2164/P), Available at:

<http://camdocs.camden.gov.uk/HPRMWebDrawer/Record/8962369/file/document?inline>

¹¹ London Borough of Camden (2021). Request for EIA Scoping Opinion (2021/2164/P).

Available at:

<http://camdocs.camden.gov.uk/HPRMWebDrawer/Record/9195385/file/document?inline>

environmental effects and, where practicable, to introduce environmental benefits.

4.6.2 For each topic included in the assessment, the likelihood of significant effects arising has been considered in terms of:

- demolition and construction effects, i.e. temporary effects likely to arise from construction activities
- existence effects, i.e. those which arise from the physical presence of the development
- operational effects, i.e. effects from operational activities.

4.6.3 The assessments take account of the impact of the Proposed Development on the receiving environment and community in the presence of climate change, known as In-combination Climate Change Impacts (ICCI).

4.6.4 Effects have been described as significant or not significant, and beneficial or adverse, consistent with the EIA Regulations. The effects arising directly from the Proposed Development as well as indirect and secondary effects are encompassed by the assessment.

4.6.5 Each assessment is based on the project description given in Section 3. The format for presenting the assessment is the same for each topic throughout the ES; for each one the following sections are included:

- introduction – an introduction to the topic
- scope of assessment – describing the considerations taken when determining the scope of the assessment, including aspects that have been scoped-out
- stakeholder engagement – a summary of consultation undertaken with stakeholders to inform the assessment, separate to that undertaken for the scoping exercise already described
- methodology – the methods used for the prediction and assessment of likely significant effects on identified receptors is outlined along with the assumptions and limitations applicable to the assessment, with the full methodology appended
- baseline – this describes existing environmental conditions within the defined assessment area for each topic
- embedded and good practice measures relevant to each topic, as defined in paragraph 4.6.7
- assessment of effects – this describes the likely significant environmental effects that could arise as a result of the Proposed Development
- additional mitigation beyond the embedded and good practice measures relevant to each topic, as defined in paragraph 4.6.10
- residual effects – taking account of additional mitigation, the residual effects have been assessed and reported

- cumulative effects – in this section, effects which may be elevated due to the combined effects of the Proposed Development with other developments have been identified
- assessment summary matrix – this tabulates the effects, additional mitigation and residual effects for each topic.

4.6.6 The topic-specific assessment methodologies are outlined in each topic section with the full methodologies appended. These refer to relevant legislation and guidance and set out the significance criteria applied to the assessment. Where the methodology varies between construction, existence and operational effects, this is explained. The approach to gathering baseline information is described along with how this is used in the assessment.

4.6.7 In line with guidance from the Institute of Environmental Management & Assessment (IEMA)¹² and professional best practice, consideration has been given to three key types of mitigation:

- embedded mitigation
- good practice mitigation
- additional mitigation.

4.6.8 Defined as “*an intrinsic part of the project design*”, embedded measures are a fundamental component of the design of the Proposed Development described in Section 3. They comprise measures to avoid, prevent or reduce adverse environmental effects by altering the design and have arisen through the design evolution process described in Section 3.4. Measures to introduce or enhance beneficial effects are also included in this category. As they form part of the Proposed Development, these measures will inherently be delivered and are therefore taken into consideration in the assessment of effects.

4.6.9 Good practice measures are defined as actions “*required regardless of any EIA assessment*” and are assumed as a result of standard good practice and/or legislative requirements. For example, these would include practices to manage contractor activities and minimise nuisance effects. The Applicant commits to implementing such good practice measures, and experience indicates that they can reasonably be delivered. Therefore, they have been considered to form part of the Proposed Development and are taken into account in the initial assessment of effects.

4.6.10 The third category is where an adverse effect requires additional mitigation to reduce significant effects. This follows the initial assessment which takes into account both embedded and good practice measures.

¹² Institute of Environmental Management & Assessment (2015) IEMA Environmental Impact Assessment Guide to: Shaping Quality Development. Available at: <http://www.iaia.org/pdf/wab/IEMA%20Guidance%20Documents%20EIA%20Guide%20to%20Shaping%20Quality%20Development%20V6.pdf>

4.6.11 Additional mitigation measures have been taken into account when evaluating residual effects i.e. those effects remaining after all measures/mitigation has been taken into account. These measures are expected to be secured through the application of appropriate planning conditions.

4.6.12 A schedule has been prepared documenting all measures committed to for the Proposed Development, comprising all three types of mitigation described above. This is included as Appendix D2, and includes the mechanism by which the measures will be secured.

4.7 Cumulative effects

4.7.1 Cumulative effects arise from the combination of the Proposed Development and other developments not yet constructed or currently under construction in the vicinity, acting together to generate elevated or altered levels of effects. Each topic chapter explains the approach to cumulative effects as relevant to that topic.

4.7.2 A draft methodology for identifying relevant developments and the list of developments identified were submitted to Camden Council as part of the EIA Scoping Report (Appendix B)¹⁰. The Scoping Opinion noted that the approach proposed was acceptable¹¹.

4.7.3 A review of consented and planned developments (that is to say, development with planning permission or where planning applications have been submitted) within a radius of 1km from the Site was undertaken in January 2022. The list of developments assessed is presented as Appendix D3. Each topic has reviewed the list of developments and has undertaken an assessment of cumulative effects accordingly.

4.8 Interactive effects

4.8.1 Schedule 4 of the EIA Regulations requires an ES to include an assessment of interactive effects. This is an assessment of multiple effects on a single receptor, i.e. bringing the outcomes of the individual topic assessments together. Where it is technically feasible to combine effects into a single assessment this has been done, with the effects reported in the topic sections of this ES.

4.8.2 Where it is not technically feasible to combine effects on a receptor, the individual effects are reported on a receptor-by-receptor basis in Section 1.2. This allows the aggregation of effects on each receptor to be appreciated.

5 Air quality

5.1 Introduction

5.1.1 This section describes the likely significant effects of the Proposed Development on air quality. It outlines the relevant air quality legislation and policy and presents the methodology and significance criteria used in the assessment. It describes the existing and predicted air quality conditions at the Proposed Development, the potential air quality effects associated with its construction and operation and outlines any mitigation required.

5.2 Scope of the assessment

5.2.1 The EIA Scoping Report¹⁰ set out the proposed scope for the assessment of air quality. In summary, the impacts of construction and operational traffic have been assessed, as changes in traffic during these phases would be above the criteria detailed in the Institute of Air Quality Management (IAQM) and Environmental Protect UK (EPUK) Land-Use Planning & Development Control: Planning for Air Quality guidance¹³.

5.2.2 For construction dust, it is anticipated the work associated with the Proposed Development would be high-risk (due to the scale of work being carried out) based on the IAQM's Guidance on the Assessment from Demolition and Construction¹⁴ and Greater London Authority (GLA) guidance¹⁵. As such, mitigation measures for high-risk sites have been recommended and applied through a draft CMP which is being submitted with the application. With the application of mitigation suitable for a high-risk site significant effects would therefore not occur and an assessment of construction dust has been scoped out.

5.2.3 An Air Quality Neutral (AQN) assessment has been undertaken in accordance with the GLA's Sustainable Design and Construction Supplementary Planning Guidance (SPG)¹⁶.

5.2.4 Consideration has also been given to the Draft Air Quality Positive (AQP) guidance¹⁷, and an AQP statement has been produced.

5.2.5 The assessment of the impacts of proposed combustion plant were considered. No combustion plant for space or water heating is proposed. There would be three units of backup generators which

¹³ EPUK/IAQM (2017). Land-Use Planning & Development Control: Planning for Air Quality (Version 1.2)

¹⁴ IAQM (2016). Guidance on the Assessment of Dust from Demolition and Construction (Version 1.1)

¹⁵ Greater London Authority (2014). The Control of Dust and Emissions during Construction and Demolition, Supplementary Planning Guidance

¹⁶ GLA (2014). Sustainable Design and Construction Supplementary Planning Guidance

¹⁷ Greater London Authority (2021) London Plan Guidance Air Quality Positive – Pre-consultation draft.

would operate for less than 18 hours per year. This is below the number of hourly exceedances of the short term NO₂ limit value allowed per year¹⁸. Therefore, effects from combustion plant emissions would not be significant and this was scoped out of the assessment.

5.2.6 A Scoping Opinion¹¹ was received from Camden Council on 28 June 2021. This included three comments relating to air quality. Responses to these comments are detailed in Appendix D1. In summary, Camden Council comments the London and associated guidance requires an air quality positive assessment / statement to be submitted with the planning application where an EIA is required.

5.2.7 The FCI comments the development proposals should consider whether the life science uses will include contaminant facilities, including the flue location and heights. The FCI comments that during development of their proposals, it was necessary to review the height of the flues owing to dispersion of materials.

5.2.8 Network Rail comments the Proposed Development should consider the generation of airborne dust from the operation of the railway.

5.3 Stakeholder engagement

5.3.1 The environmental health officer (EHO) at LBC was contacted via email setting out the method proposed for this assessment. No response was provided and therefore a conservative approach has been followed in line with that previously accepted for the assessment of developments in the London Borough of Camden. This conservative approach primarily takes into account a worst case with regards to no improvement in future year emission factors and background concentrations; in which base year values have been applied. This is considered pessimistic as some level of improvement in vehicle emissions and background concentrations would be expected, therefore the approach taken is considered to be robust.

5.4 Methodology

Overview

5.4.1 This section outlines the methodology for assessing the likely significant effects on air quality from the construction and operation of the Proposed Development. Full details of methodology and assumptions and limitations can be found in Appendix D4.

¹⁸ Directive 1999/30/EC relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31999L0030&from=EN>

- 5.4.2** The relevant air quality legislation, planning policy, and guidance applicable to this assessment can be found in Appendix E1.

Baseline methodology

- 5.4.3** Existing or baseline air quality refers to the concentrations of relevant substances that are already present in the environment. These are present from various sources, such as industrial processes, commercial and domestic activities, traffic, and natural sources.

- 5.4.4** A desk-based review of the following data sources has been undertaken to determine baseline conditions of air quality in this assessment:

- Environment Agency (EA) register on industrial installations¹⁹
- the Department for Environment, Food and Rural Affairs (Defra) Local Air Quality Management website²⁰
- the UK Air Information Resource website²¹
- the Air Quality England website²²
- London Atmospheric Emissions Inventory 2016²³
- Local authorities' air quality Annual Status Reports (ASR)^{24,25}.

- 5.4.5** The review identified the main sources of air pollution within the vicinity of the Proposed Development. Local air quality monitoring data for recent years and local background pollutant concentrations were reviewed to determine the current baseline air quality and predicted future baseline air quality at the Site. Details are provided in Appendix D4.

Assessment extent

- 5.4.6** The study area for the construction and operational traffic assessment was determined using the EPUK/IAQM land-use guidance screening criteria¹³. The Proposed Development is located within an air quality management area (AQMA), and the following criteria have been used:

- a change of Light Duty Vehicle²⁶ (LDV) flows of more than 100 Annual Average Daily Traffic (AADT) movements

¹⁹ EA. Defra data services platform. Available at: <https://environment.data.gov.uk/public-register/view/search-industrial-installations>

²⁰ Defra. Air Quality Management Areas. Available at: <https://laqm.defra.gov.uk/>

²¹ Defra. UK Air Information Resource. Available at: <https://uk-air.defra.gov.uk/interactive-map>

²² Air Quality England. Air Quality in England. Available at: <http://www.airqualityengland.co.uk/>

²³ London Atmospheric Emissions Inventory (2016). Available at:

<https://data.london.gov.uk/dataset/london-atmospheric-emissions-inventory--laei--2016>

²⁴ London Borough of Camden (2020). London Borough of Camden Air Quality Annual Status Report for 2019.

²⁵ London Borough of Islington (2020). Islington Air Quality Annual Status Report 2019

²⁶ Cars and small vans <3.5 tonne gross vehicle weight

- a change of Heavy-Duty Vehicle (HDV) flows of more than 25 AADT movements.

5.4.7 Meeting either of these criteria indicates that detailed dispersion modelling of the road traffic emissions is necessary. Roads which exceeded the criteria and where relevant, surrounding roads within 200m have been included to create the study area.

5.4.8 Traffic flows exceeded the screening criteria for both construction and operational phases. Therefore, detailed dispersion modelling has been carried out. Details of the modelled road networks and traffic data are provided in Appendix D4.

Sensitive receptors

5.4.9 A desk-top study was undertaken to identify the sensitive receptors at and around the Site. Receptors were chosen at locations where they are likely to experience the greatest potential effect from the construction and operation of the Proposed Development.

5.4.10 A full list of the receptors used in the construction traffic and operational assessments and a map showing their locations are provided in Appendix D4.

Construction effects

Construction traffic

5.4.11 A detailed construction traffic assessment has been carried out using dispersion modelling. The assessment scenarios are as follows:

- 2019 baseline and verification
- Do-minimum (DM – con) (2025 future baseline)
- Do-something (DS – con) (2025 future baseline traffic plus construction traffic).

5.4.12 2025 represents the anticipated peak construction year for the Proposed Development.

5.4.13 The impacts resulting from the Proposed Development during construction has been determined following the EPUK/IAQM land-use guidance¹³. The methodology for the assessment of construction traffic effects is given in Appendix D4.

Operational effects

Operational traffic

5.4.14 A detailed operational traffic assessment has been carried out using dispersion modelling. The assessment scenarios are as follows:

- Do-minimum (DM – op) (2029 future baseline)

- Do-something (DS – op) (2029 future baseline traffic plus development traffic).

5.4.15 2029 represents the opening year for the Proposed Development.

5.4.16 The impacts resulting from the Proposed Development during operation has been determined following the EPUK/IAQM land-use guidance¹³. The methodology for the assessment of operational traffic effects is given in Appendix D4 including how significance within the assessment was determined.

5.4.17 The impacts at the new receptor locations have been compared with the air quality objectives presented in Table 1, Appendix E. The air quality impact would be deemed to be significant should the predicted concentration be above the relevant objectives.

Air quality neutral

5.4.18 An AQN assessment has been undertaken as required by the GLA Sustainable Design and Construction Supplementary Planning Guidance¹⁶. NO_x and PM₁₀ emissions (kg/annum) for each land-use class associated with the Proposed Development have been calculated and summed to give the total transport and building emissions which are subsequently compared with the Transport Emission Benchmarks (TEBs) and Building Emission Benchmarks (BEBs) to determine the air quality neutrality. The methodology for the AQN assessment and calculated Transport Emission Benchmarks and Building Emission Benchmarks is provided in Appendix D4.

Air quality positive statement

5.4.19 An AQP statement has been produced following the GLA's Air Quality Positive London Plan Guidance¹⁷. The methodology is provided in Appendix D4.

Cumulative effects

5.4.20 Traffic growth in the vicinity of the Site is expected to be limited and therefore increased traffic flows associated with surrounding committed developments are not expected, this has been confirmed by the project transport consultant. Committed developments can therefore be assumed to form part of the traffic flows used in the construction and operational traffic assessments, and a separate cumulative assessment is not necessary.

5.4.21 Emissions from Part A processes, as well as from existing combustion plant from nearby buildings, have been assumed to be included in the Defra background concentrations used in the assessment. A separate cumulative assessment is therefore not necessary.

5.5 Baseline

Industrial processes

- 5.5.1** Industrial air pollution sources are regulated through a system of operating permits or authorisations, requiring stringent emission limits to be met, and ensuring that any releases to the environment are minimised or rendered harmless. Regulated (or prescribed) industrial processes are classified as Part A or Part B processes and are regulated through the Pollution Prevention and Control (PPC) system²⁷. The larger more polluting processes are regulated by the EA, and the smaller, less polluting ones by the local authorities. Local authorities focus on regulation for emissions to air, whereas the EA regulates emissions to air, water, and land.
- 5.5.2** There is one industrial Part A(1) processes listed on the EA²⁸ website within 1km of the Site. This is the Francis Crick Institute Limited, which is permitted for combustion of any fuel =>50MW.
- 5.5.3** The contribution of the Part A process is assumed to be included in the background concentrations used in this assessment, and therefore has been taken into account in the assessment.

Road traffic

- 5.5.4** In recent decades, atmospheric emissions from transport on a national basis have grown to match or exceed other sources in respect of many pollutants, particularly in urban areas. The local air quality of the Site is mainly influenced by vehicle emissions associated with the heavily trafficked Euston Road which is less than 200m to the south.

Railway

- 5.5.5** The Site is located less than 100m from St Pancras International Railway Station and less than 300m from Kings Cross Railway Station. Defra's LAQM Guidance (TG16)²⁹ does not highlight these routes as being subject to heavy use of diesel trains. As such, rail emissions are not a key pollution source for the area and do not have a significant impact on air quality at the Site.

²⁷ The Environmental Permitting (England and Wales) (Amendment) Regulations 2016

²⁸ Environment Agency. Environmental Permitting Regulations – Installations. Available at: <https://environment.data.gov.uk/public-register/view/search-industrial-installations>

²⁹ Defra (2018). Local Air Quality Management Technical Guidance. Available at: <https://laqm.defra.gov.uk/documents/LAQM-TG16-February-18-v1.pdf>

Local air quality

Air Quality Management Areas

- 5.5.6** A review of the Defra website²⁰ showed that the whole of the LBC was declared a borough-wide AQMA in 2002. This was due to exceedances of 1-hour and annual mean NO₂ objectives and 24-hour mean fine particulate (PM₁₀) objectives. This is known as the Camden AQMA. The Camden AQMA is shown in Appendix E2.

Local monitoring

- 5.5.7** LBC and London Borough of Islington (LBI) operate three automatic monitoring stations and eight diffusion tubes within 1km of the Site. The details of the monitoring locations and their locations are presented in Appendix E2.
- 5.5.8** Full details of the monitoring results between 2015 and 2019 are presented in Appendix E2.
- 5.5.9** Monitoring results indicate that NO₂ annual mean concentrations exceeded the annual mean objective at the majority of the roadside and kerbside locations in the last five years. For the urban background locations, annual mean NO₂ concentrations were mostly below the objective between 2015 and 2019, other than BO – London Bloomsbury and CA10 – Tavistock Gardens, where concentrations were above the objective in 2015 – 2017.
- 5.5.10** There were no exceedances of the relevant PM₁₀ and PM_{2.5} objectives between 2015 and 2019.
- 5.5.11** The closest monitoring site to the Site is CA20A – Brill Place, a roadside site located less than 100m to the north. Annual mean NO₂ concentrations were above the objective between 2015 and 2018.
- 5.5.12** It is considered likely that the annual mean NO₂ concentrations at the Site would exceed or be close to the annual mean NO₂ objective. For short term NO₂ and PM₁₀ and PM_{2.5}, exceedances of the relevant objectives are considered unlikely due to no measured exceedances of these objectives at the local monitoring sites.

Background concentrations

- 5.5.13** Background concentrations refer to the existing levels of pollution in the atmosphere, produced by a variety of stationary and non-stationary sources, such as roads and industrial processes. The Defra website²⁰ includes estimated background pollutant concentrations for NO_x, NO₂, PM₁₀ and PM_{2.5} for each 1km by 1km OS grid square.
- 5.5.14** Background pollutant concentrations for the existing baseline year of 2019 and the future assessment year of 2029 have been obtained for the grid squares surrounding the Site and are shown in Appendix E2.

It can be observed that the annual mean background concentrations are all below the relevant air quality standards for all relevant pollutants (NO₂, PM₁₀ and PM_{2.5}).

- 5.5.15** The estimated Defra background concentrations for the OS grid squares containing the Site have been analysed regarding their suitability for this assessment, a comparison with monitored urban background concentration is presented in Appendix E2.

5.6 Embedded and good practice measures

- 5.6.1** It has been assumed that the Proposed Development would be a high-risk site in terms of construction dust risk to human health and dust soiling. In light of this assumption, the best practice mitigation measures described in the IAQM construction dust guidance¹⁴ and GLA guidance¹⁵ for high risk sites are essential to avoid significant effects occurring, and are set out in the draft CMP submitted with the planning application.
- 5.6.2** The Proposed Development would be ‘car-lite’ with five wheelchair-accessible car parking spaces, four operational spaces for maintenance vehicles and a single minibay. 20% of these parking spaces will be fitted with active charging facilities and 80% with passive provision to conform with the Camden Planning Guidance: Transport (2021) requirements. Cycle parking would be available onsite for the future users, there will be 1,112 long stay cycle parking spaces and 172 for short-stay.
- 5.6.3** The above measures would contribute to the ‘air quality positive’ requirement detailed in the London Plan 2021¹⁷ and London Environment Strategy³⁰.

5.7 Assessment

Model verification

- 5.7.1** Model verification involves the comparison of modelled pollutant concentrations with measured concentrations at the same points to assess the performance of the model and determine an adjustment factor, if one is required. Defra’s LAQM.TG(16)²⁹ guidance provides advice on model verification, which is summarised in Appendix E3.
- 5.7.2** Air quality monitoring locations CA4A, CA27 and CD9 have been used to inform the model verification process, presented in Appendix E3. An adjustment factor of 1.8 has been determined, and it has been used to adjust the predicted concentrations for NO₂ in the construction and operational traffic assessments. No adjustment of PM₁₀ or PM_{2.5} concentrations has been necessary.

³⁰ GLA (2018). The London Environment Strategy, Available at: <https://www.london.gov.uk/what-we-do/environment/london-environment-strategy>

Construction effects

- 5.7.3** The predicted concentrations (NO₂, PM₁₀ and PM_{2.5}) from the assessment of construction traffic are presented in Appendix E4.

NO₂ concentrations

- 5.7.4** The Proposed Development is predicted to have a negligible impact on annual mean NO₂ concentrations at all sensitive receptors during the construction phase.
- 5.7.5** The predicted NO₂ concentrations exceed the annual mean objective (40µg/m³) at almost all sensitive receptors. However, this is the case for both the baseline and construction traffic scenarios and is attributable to the existing traffic emissions in the area.
- 5.7.6** The maximum predicted increase in annual mean NO₂ concentrations is 0.2µg/m³ (receptor R10 a residential property on Crowndale Road). The maximum concentration predicted was at receptor R14 (a location on the façade of the British Library on the Euston Road). At this location a concentration of 64.2µg/m³ was predicted in the baseline and 64.3µg/m³ in the construction traffic scenario.
- 5.7.7** It should also be noted that the assessment has assumed that Defra background concentrations and vehicle emissions would remain at 2019 levels for the construction traffic assessment, while construction of the Proposed Development is not expected to start until 2025. Estimated background concentrations and emissions are expected to improve in future years.

PM₁₀ and PM_{2.5} concentrations

- 5.7.8** The Proposed Development is predicted to have a negligible impact on annual mean PM₁₀ and PM_{2.5} concentrations at all sensitive receptors during the construction phase.
- 5.7.9** The predicted PM₁₀ and PM_{2.5} concentrations are well below the annual mean objectives at all sensitive receptors for the construction traffic assessment and the maximum increase in annual mean PM₁₀ and PM_{2.5} concentration is less than 0.1µg/m³.
- 5.7.10** The maximum concentration of PM₁₀ and PM_{2.5} in the construction traffic assessment was predicted at receptor R14. At this location a concentration of 22.4µg/m³ and 14.2µg/m³ for PM₁₀ and PM_{2.5} respectively was predicted in the baseline and construction traffic scenarios.

Overall effect

- 5.7.11** The assessment considers the impacts and significance of effects that the Proposed Development would have on all receptors following the EPUK/IAQM guidance¹³. Based on the above, the effect of the

Proposed Development during construction is considered to be not significant.

Operational effects

- 5.7.12** The predicted concentrations (NO₂, PM₁₀ and PM_{2.5}) from the assessment of operational traffic are presented in Appendix E5.

NO₂ concentrations

- 5.7.13** The Proposed Development is predicted to have a negligible impact on annual mean NO₂ concentrations at all sensitive receptors during the operational phase, except for receptors R1 (a residential receptor on Pancras Road) and R12 where moderate adverse impacts were predicted.
- 5.7.14** For the opening year of the Proposed Development, the predicted NO₂ concentrations exceed the annual mean objective (40µg/m³) at almost all sensitive receptors. However, this is the case for both the baseline and operational traffic scenarios and is attributable to the existing traffic emissions in the area.
- 5.7.15** The maximum predicted increase in annual mean NO₂ concentrations is 0.2µg/m³ at receptor R1. The maximum concentration predicted was at receptor R14. At this location a concentration of 64.2µg/m³ was predicted in the baseline and 64.4µg/m³ in the operational traffic scenario.
- 5.7.16** The operational traffic assessment has assumed that Defra background concentrations and vehicle emissions would remain at 2019 levels, while the opening year of the Proposed Development is 2029.
- 5.7.17** A sensitivity test (with the use of 2029 Defra background concentrations and vehicle emissions) has been undertaken for the operational phase of the Proposed Development, which is to account for the air quality improvements resulting by the use of cleaner vehicles and the fleet compositions in future years. The predicted annual mean NO₂ concentrations are lower than the conservative assessment where 2019 Defra background concentration and vehicle emissions were used. Negligible impacts for annual mean NO₂ concentrations were predicted at all sensitive receptors during the operational phase.
- 5.7.18** Based on the above, NO₂ concentrations for the opening year of the Proposed Development are likely to be in between the conservative approach and sensitivity test. The moderate adverse impacts determined in the conservative assessment are due to the high NO₂ background concentrations applied, which were assumed to remain at 2019 levels. Therefore, with the expected improvement in NO₂ background concentrations in future years and the uptake of cleaner vehicles, the impact for annual mean NO₂ for the Proposed Development is deemed to be negligible.

PM₁₀ and PM_{2.5} concentrations

- 5.7.19** The Proposed Development is predicted to have a negligible impact on annual mean PM₁₀ and PM_{2.5} concentrations at all sensitive receptors during the operational phase.
- 5.7.20** The predicted PM₁₀ and PM_{2.5} concentrations are well below the annual mean objectives at all sensitive receptors for the operational traffic assessment and the maximum increase in annual mean PM₁₀ and PM_{2.5} concentration is less than 0.1µg/m³.
- 5.7.21** The maximum concentration of PM₁₀ and PM_{2.5} in the operational traffic assessment was predicted at receptor R14. At this location a concentration of 22.4µg/m³ and 14.2µg/m³ for PM₁₀ and PM_{2.5} respectively was predicted in the baseline and operational traffic scenarios.

Overall effect

- 5.7.22** The assessment considers the impacts and significance of effects that the Proposed Development would have on all receptors following the EPUK/IAQM guidance¹³. Based on the above, the effect of the Proposed Development is considered to be not significant.

Air Quality Neutral

- 5.7.23** The AQN benchmarks for the Proposed Development have been calculated and compared with the predicted emissions detailed in the GLA's Sustainable Design and Construction SPG¹⁶. The results are described in detail in Appendix E6.
- 5.7.24** The Proposed Development is below the relevant AQN building benchmarks for all land-use classes.
- 5.7.25** The transport emissions for all land use class are within the relevant benchmarks, except for class D1. However, the exceedance in trips for class D1 is marginal and this is outweighed by the benchmark surpluses in classes A1-A5 and B1. Therefore, an exceedance in transport emissions for the Proposed Development is not expected.
- 5.7.26** Overall, the AQN assessment complies with the AQN policy and indicates that no further mitigation is required.

Air Quality Positive Statement

- 5.7.27** The AQP statement has been prepared following the Air Quality Positive Draft Guidance¹⁷, which details the air quality constraints, opportunities and measures adopted and how the measures will be implemented for the Proposed Development. The full AQP Statement is provided in Appendix E7.

Air Quality Planning Checklist

- 5.7.28** The Air Quality Planning checklist is completed as per Camden Council's requirement; this is presented in Appendix E8.

5.8 Additional mitigation

- 5.8.1** No additional mitigation is required in relation to air quality effects from the Proposed Development.

5.9 Residual effects

Construction effects

- 5.9.1** No mitigation is required with respect to construction air quality effects. As such the effects would be as reported in Section 5.7.

Operational effects

- 5.9.2** No mitigation is required with respect to operational air quality effects. As such the effects would be as reported in Section 5.7.

5.10 Cumulative effects

- 5.10.1** As the air quality assessment is inherently cumulative, the assessment results presented in Sections 5.7 to 5.9 include consideration of emissions related to other planned and consented developments identified in Appendix D3. No further cumulative assessment is therefore required in relation to air quality.

5.11 Assessment summary

Construction effects

Table 4: Air quality assessment summary – construction effects.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Traffic emissions	Not significant due to the negligible impacts predicted.	None required	Effect unchanged

Operational effects

Table 5: Air quality assessment summary – operational effects.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Traffic emissions	Not significant due to the negligible impacts predicted.	None required	Effect unchanged
Air quality neutral assessment	Proposed Development complies with the Air Quality Neutral policy.	None required	Effect unchanged

6 Archaeology

6.1 Introduction

6.1.1 This section describes the likely significant effects of the Proposed Development on archaeology. The archaeology assessment is concerned with effects on any designated or non-designated archaeological assets within the Site or study area, including both currently known archaeology and the potential to encounter previously unknown archaeology at the Site.

6.1.2 Effects on built heritage, including listed buildings and locally listed buildings, are discussed in ES Volume 1, Section 7 (Built heritage on-site) and ES Volume 2 (Townscape, visual and built heritage off-site).

6.2 Scope of the assessment

6.2.1 The EIA Scoping Report¹⁰ set out the proposed scope for the assessment of archaeology. In summary, effects from construction and existence of the Proposed Development have been scoped in and effects from operation have been scoped out of the assessment:

- Construction and existence effects: Archaeology may experience effects due to the disturbance or removal of below ground deposits for the construction of basements, piling, installation of services and access roads which would remove known or potential below ground archaeological deposits. Archaeological assets would not experience any significant temporary effects arising during the construction process, such as impacts related to increased noise or dust. Therefore, construction and existence effects are scoped into the assessment.
- Operation effects: Archaeology would not experience any significant effects arising from the operation of the Proposed Development. Therefore, operational effects are scoped out of the assessment.

6.2.2 A Scoping Opinion¹¹ was received from Camden Council on 28 June 2021. This included one comment relating to archaeology. Responses to these comments are detailed in Appendix D1. In summary, the following comments were noted:

- construction effects should be scoped in for the archaeology assessment
- scoping out operational effects is considered reasonable.

6.3 Stakeholder engagement

6.3.1 No consultation has been undertaken with regards to the approach for the archaeology assessment used within this section.

6.4 Methodology

Overview

- 6.4.1** This section outlines the methodology for assessing the likely significant effects on archaeology from the construction and existence of the Proposed Development. Full details of the methodology, including relevant assumptions and limitations, can be found in Appendix D4.

Baseline methodology

- 6.4.2** A study area of 250m from the Site boundary has been used for this assessment. Within the study area all heritage assets, designated and non-designated, as listed by Historic England or identified by the Greater London Historic Environment Record (HER)³¹, have been mapped and included in a gazetteer (Appendix F1, F2, F3, F4 and F5, Figures 1, 2 and 3).
- 6.4.3** Baseline data was collected from a range of sources, including the Greater London HER, Historic England's datasets of designated heritage assets, historic maps and online archival and documentary sources.

Construction and existence effects

- 6.4.4** The assessment methodology uses a significance-based approach following guidance, industry best practice and professional judgement to measure the hierarchy of significance against the magnitude of impact to reach conclusions regarding the likelihood of effects on any designated or non-designated archaeological assets.
- 6.4.5** Using the archaeology baseline data, designated and non-designated archaeological assets within the Site or study area have been identified along with their sensitivity to change, including both currently known archaeology and the potential to encounter previously unknown archaeology at the Site.
- 6.4.6** The significance of the identified archaeology and archaeological potential of the Site, including any contributions made by their settings, is described in accordance with The National Planning Policy Framework (NPPF)³² and best practice guidance, using a scale which ranges from negligible to high.

³¹ Historic England. *Greater London Historic Environment Record*. Available at <https://historicengland.org.uk/services-skills/our-planning-services/greater-london-archaeology-advisory-service/greater-london-historic-environment-record/>

³² Ministry of Housing, Communities and Local Government (MHCLG), (2021). The National Planning Policy Framework (NPPF). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1004408/NPPF_JULY_2021.pdf

- 6.4.7** The potential impacts arising from the construction and existence of the Proposed Development are described and assigned a value using a scale which ranges from negligible to major. For example, archaeology may experience effects due to the disturbance or removal of below ground deposits for the construction of basements, piling, installation of services and access roads which would remove known or potential below ground archaeological deposits.
- 6.4.8** The effects have been established using a matrix of archaeological significance against magnitude of impacts. Effects classed as moderate or major are considered significant effects.
- 6.4.9** Mitigation and enhancement opportunities have been considered. It may be possible to avoid effects on potential below ground archaeological deposits through responsive design and sensitive landscaping, i.e. avoidance of below ground works in areas of significant archaeological deposits.
- 6.4.10** Residual effects after mitigation are presented in Section 6.9.

Cumulative effects

- 6.4.11** Cumulative effects on archaeology are defined as those effects which arise from the combination of the Proposed Development and other developments not yet constructed or currently under construction in the vicinity acting together to generate elevated or altered levels of effects, such as significant changes to the setting of a heritage asset or the complete removal of a significant archaeological deposit extending beyond the Site. The baseline has not identified any archaeological assets with settings that contribute to their significance. Therefore, cumulative effects are scoped out of this assessment.

6.5 Baseline

- 6.5.1** The archaeological baseline of the Site and study area is presented below using the chronological periods in Table 6.

Table 6: Definition of archaeological time periods³³.

Archaeological time period	Date range
Palaeolithic	750,000 BC to 10,000 BC (from the earliest appearance of humans in the British Isles to the end of the last Ice Age)
Mesolithic	10,000 to 4,000 BC
Neolithic	4,000 to 2,500 BC
Bronze Age	2,500 to 700 BC
Iron Age	800 BC to AD 43

³³ Forum on Information Standards in Heritage chronology (FISH). Available at: <http://www.heritage-standards.org.uk/chronology/>

Archaeological time period	Date range
Roman	AD 43 to 410
Early medieval	AD 410 to 1066
Medieval	AD 1066 to 1540
Post-medieval	AD 1540 to 1901
Modern	AD 1900 to present

Geology and topography

- 6.5.2** The geology and topography of a site can be a useful indicator of past land use and archaeological potential.
- 6.5.3** The Site is underlain by the London Clay Formation of the Thames Group. London Clay deposits consist of clay with beds of silt and sand in places. The London Clay is underlain by the Lambeth Group, Thanet Sand and the Chalk Group.
- 6.5.4** There are no superficial deposits recorded at the Site. Alluvium and River Terrace Deposits of the Lynch Hill Member are located to the south and east of King's Cross Station at the edge of the study area. These deposits may yield lower palaeolithic artefacts and faunal remains, although none have been recovered within the study area.
- 6.5.5** The subterranean River Fleet runs to the east of the Site beyond King's Cross Station, just beyond the study area. The Fleet rose at Hampstead and runs approximately down the centre of Pancras Road, continuing south to join the Thames at Blackfriars Bridge. Before becoming enclosed as sewers, minor tributary streams including the Brill crossed the St Pancras and King's Cross area to join the Fleet. The Brill may have run to the south of the Site before crossing the area currently occupied by St Pancras Station, and the name Brill is commemorated in several locations within the study area such as Brill Place.
- 6.5.6** Limited geotechnical information shows that ground conditions at the Site itself are anticipated to comprise a variable thickness of Made Ground, ranging from approximately 1.5m in the west of the Site and up to approximately 7.5m in the east. This is underlain by London Clay which is expected to be at least 12m thick and present at higher elevations in the west of the Site³⁴.
- 6.5.7** The Site is currently occupied by the BLCC, a car park, access road and The Story Garden, a temporary urban garden space. An electrical substation is present along the western border of the Site and an underground British Library tank farm is located under a portion of the Site.

³⁴ Arup (2021). Geotechnical desk study and contamination risk assessment. [this report will be submitted with the application]

Prehistoric

- 6.5.8** Archaeological evidence from the prehistoric periods is intermittent in Greater London. While there have been important discoveries, the density of later settlement is likely to have removed much of the potential evidence.
- 6.5.9** There are no known heritage assets from the prehistoric period within the Site or study area.
- 6.5.10** The nearest prehistoric find to the Site is a middle palaeolithic mammalian fossil of a red deer antler which was discovered in the vicinity of Endsleigh Gardens, approximately 500m south-west of the Site and outside the study area, at some point before 1892 (MLO103258).

Roman

- 6.5.11** The Site is located to the north of the Roman settlement of *Londinium*. The walled settlement occupied roughly the area of the present-day City of London. The area surrounding *Londinium* was used for agriculture, industry and burial, with burial grounds typically found along the major roads outside of the settlement.
- 6.5.12** Antiquarian finds of a Roman coin hoard and pottery are recorded within the wider King's Cross area near Battle Bridge, however there are no known heritage assets from the Roman period within the Site or study area.

Early medieval

- 6.5.13** Early medieval settlement in London was focused in two locations, both to the south of the Site and study area, within the walls of the former Roman settlement and around the area of Covent Garden known as *Lundenwic*. However, the surrounding hinterlands of *Lundenwic* including the study area are likely to have been in some agricultural and industrial use during this period, and early hamlets from the surrounding area such as Tottenham Court (Tothele) and Pancras would have been settled by the end of the early medieval period.
- 6.5.14** There are no known heritage assets from the early medieval period within the Site or study area.

Medieval

- 6.5.15** At the time of the Norman Conquest the Site would have lain in the hinterland of the growing city of London, located to the north of the city walls and to the north-east of the royal palace and minster which had been established at Westminster. The study area appears to have

been mainly in agricultural use at this time, interspersed with settlement at small hamlets.

- 6.5.16** The manor of Tottenham Court, or Totten Hall, was located to the west of the study area. Totten Hall is recorded as Tothele in the Domesday Survey, and belonged to the prebendary until the 14th century when it was leased to John de Caleton and then to the Crown before passing to the family of Fitzroy, later becoming developed as Fitzrovia.
- 6.5.17** The settlement of Pancras was centred on the St Pancras Old Church, located approximately 500m to the north of the Site beyond the study area. Pancras is first mentioned in the Domesday Survey where it is stated that *“the land of this manor is of one caracute and employs one plough. On the estate are twenty-four men, who pay a rent of thirty shillings per annum.”*³⁵ However, the village was deserted by the close of the medieval period in favour of Kentish Town.
- 6.5.18** There are no known heritage assets from the medieval period within the Site or study area.

Post-medieval

- 6.5.19** After the dissolution of the monasteries, Pancras and surrounding areas came into the possession of Lord Somers, whose name is given to the triangular space between the Hampstead, Pancras and Euston Roads known as Somers Town.
- 6.5.20** The medieval village of Pancras was deserted by the close of the medieval period in favour of Kentish Town, with St Pancras Old Church described in 1560 as being *“all alone, utterly forsaken, sad & weatherbeaten...yet about this structure have been many buildings, now decayed...”*³⁶. After this, the study area was almost entirely used as common pastureland for livestock and there was no other known settlement in the study area until the 18th century.
- 6.5.21** The Site is shown on Rocque’s 1746 map as undeveloped pastureland within large field boundaries, but by the time of the Bowen map of 1770 the New Road (present day Marylebone Road and Euston Road) linking Paddington to Islington has been constructed. London was expanding rapidly in the 18th century and the New Road opened the area for development.
- 6.5.22** Somers Town was a planned development which was underway by the time of the 1799 Horwood map. The streets were laid out in rectangular form, with the main feature being the Polygon in Clarendon Square, a fifteen-sided figure comprising thirty-two houses,

³⁵ Edward Walford, 'St Pancras', in *Old and New London: Volume 5* (London, 1878), pp. 324-340. British History Online. Available at: <http://www.british-history.ac.uk/old-new-london/vol5/pp324-340> [accessed 7 March 2021].

³⁶ *Ibid.*

located 250m north west of the Site³⁷. The clay for the bricks for the development of Somers Town was sourced on-site as houses were being built, so the study area is likely to have been extensively disturbed by quarrying and pits for clay known as brick works.

- 6.5.23** The initial development at Somers Town was planned to be grand; however, by 1813 the development was apparently no longer successful, and houses were being sold for less than the value of the materials³⁸. The area was initially settled mainly by French artisans fleeing the French Revolution, but the area and the Polygon development deteriorated socially as the surrounding land was subsequently sold off in smaller lots for cheaper housing, especially after the start of construction in the 1830s of the railway lines into Euston, St Pancras and King's Cross. In this period the area housed a large transient population of labourers and the population density of the area soared. The area of Somers Town became known for slum housing.
- 6.5.24** The Grade I listed King's Cross Station was built at the eastern edge of the study area in 1850-52 as the railway terminus for the Great Northern Railway (Listed building reference: 1078328). The station was designed as two train sheds with a central clock tower, all built of yellow stock brick (MLO79812).
- 6.5.25** Immediately east of the Site, the Grade I listed St Pancras Station was constructed in 1863-8 as the railway terminus for the Midland Railway in the Gothic Revival style and opened in 1868 (Listed building reference: 1342037, MLO80835). St Pancras was the largest station roof in the world without internal supports at the time it was constructed (MLO80835).
- 6.5.26** The Midland Railway had goods depots to the north of St Pancras Station, which included extensive coal shoots on the east side of the main line and a large goods shed and ale stores on the west. However, by 1874 more capacity was required and the Somers Town Goods Yard was planned (MLO99220). Despite opposition, the company obtained the necessary Act of Parliament and proceeded to buy land to the west of the station from 1876. By 1878, the Somers Town houses west of St Pancras were mostly demolished which resulted in the displacement of around 10,000 people, but financial constraints delayed the start of construction of the goods yard until 1883.³⁹
- 6.5.27** The depot was designed by John Underwood, the Midland Railway's Engineer for New Works (MLO99220). Construction started with the

³⁷ 'Somers Town', in *Survey of London: Volume 24, the Parish of St Pancras Part 4: King's Cross Neighbourhood*, ed. Walter H Godfrey and W McB. Marcham (London, 1952), pp. 118-123. British History Online <http://www.british-history.ac.uk/survey-london/vol24/pt4/pp118-123> [accessed 7 March 2021].

³⁸ Ibid.

³⁹ Simmons, J. 2003. *St Pancras Station* (2nd edition, revised with additional chapter by R Thorne), p. 89-93.

external brick walls, which ran for a distance of more than 1km; the walls of the Somers Town Goods Yard were surveyed by Museum of London Archaeology Service in 2006 prior to their demolition (ELO16114).

6.5.28 The Somers Town Goods Yard depot was laid out on two levels, like St Pancras Station, with the tracks on the upper level being connected with the main line approach to the station by a bridge over the upper part of Pancras Road. Hydraulic lifts carried wagons down to ground level, where their loads could be stored temporarily and transferred to road vehicles. Horse-drawn carts, drays and vans could go up to the upper level to receive goods. A total of 26 platforms, relatively short by comparison with those for passenger trains, were served by tracks that curved in from the bridge over Pancras Road. The northern part of the depot was reserved for coal, with a 'Milk shed' to its south; other important goods were potatoes and other vegetables (MLO99220).

6.5.29 The goods depot wall on the west side of Midland Road apparently incorporated a narrow ventilation shaft down to the rear of a signal box constructed in the west wall of the tunnel of the St Pancras Branch, below. A door was inserted in the station wall at the base of the west cab ramp, presumably at the same time, leading to spiral stairs down to the east side of the tunnel for the signaller to reach the signal box (ELO16114).

Modern

6.5.30 The Site and study area remain largely unchanged at the start of the 20th century, although a further large coal yard replaces more housing to the north of the Somers Town Goods Yard by 1923.

6.5.31 The Ossulston Estate was developed immediately to the west of the site in the interwar period. Despite policy to house as many Londoners as possible on outlying cottage estates, the pressure of waiting lists and urgency of slum clearance forced Cecil Levita, Chairman of the London County Council (LCC) Housing Committee to review the situation and the Ossulston Estate was built in 1930. The Ossulston Estate can be considered the most important inner-city estate of the inter-war period, representing the most thoughtful attempt by the LCC to inject new rationale into inner-city housing estates. It was influenced in particular by Viennese housing models and was innovative in terms of layout and elevation. The Ossulston Estate is formed of a group of Grade II listed buildings comprising Levita House including attached Shops and Somers Town Coffee House (Listed building reference: 1113232, MLO80183), Chamberlain House, Phoenix Road (Listed building reference: 1139057, MLO80284) and the southern block of Walker House, Phoenix Road including The Cock Tavern (Listed building reference: 1139058, MLO80285).

- 6.5.32** The Kings Cross and St Pancras area was targeted during World War Two and the Somers Town Goods Yard experienced bomb damage, including what may be the impact site of a V1 rocket immediately north of the Site.
- 6.5.33** The Somers Town Goods Yard was disused by the late 1950s, and was largely demolished in the 1960s, except for certain stretches of its perimeter walls along Midland Road, Brill Place and Ossulston Street (MLO99220, ELO16114).
- 6.5.34** The British Library was created by an Act of Parliament in 1972 and nine acres of vacant British Rail land at the Somers Town Good Yard was acquired for the project in 1973 (MLO107476). Cost constraints resulted in the phasing of this project, and construction began in 1982. Opened in 1997 to the designs of Colin St John Wilson and Partners, the Library has five and a half basement levels (reaching a depth of 25 metres below ground(mbg1)) and nine levels above ground and is Grade I listed (listed building reference: 1426345, MLO107476).
- 6.5.35** The BLCC was built on the Site in 2006 and opened in 2007. The BLCC is a separate structure but forms part of the operations of the British Library; it is explicitly excluded from the Grade I listing. The rest of the present-day Site is now in use as a parking lot and a temporary urban garden.

Historic map regression

- 6.5.36** Historic mapping covering the Site is reviewed in Table 7.

Table 7: Historic map regression.

Historic map	On-site	Off-site
1746 Rocque's map	The Site is shown as undeveloped pastureland within large field boundaries.	Gray's Inn Road east of the Site is shown as the road to Hampstead and Highgate. Fields to the south of the Site are marked as Lambs Conduit Fields, and a small collection of buildings surrounded by gardens are shown here, including one area marked as a Bowling Green. Tottenham Court Turnpike is shown west of the Site, at the modern-day junction of Euston Road and Tottenham Court Road.
1770 Bowen map	New Road (present day Marylebone Road and Euston Road) linking Paddington and Islington has been constructed along the southern edge of the Site. The Site is shown as undeveloped land, lying north	The area south of New Road down to the River Thames is marked as London and shown as developed. A cluster of buildings and a church are marked as 'Islington', to the east of the Site. Another cluster of buildings and a

Historic map	On-site	Off-site
	of London and between small settlements at 'Marybone', 'Pancras' and 'Islington'.	church are marked as 'Pancras', to the north of the site. Further development is shown at 'Marybone' to the west of the Site.
1799 Horwood map	<p>The Site is now shown as being in the process of development, labelled as 'Sommers Town'.</p> <p>The major roads in the area are now laid out. Midland Road at the eastern edge of the Site is shown as Skinners Street. Ossulston Street runs along the western edge of the Site. The southern edge of the Site is bordered by a road marked as Chapel Path, lined with housing and attached gardens.</p> <p>The housing is beginning to stretch north across the Site along two small roads marked as running north across the site, Middlesex Street and Brill Row.</p> <p>The northern area of the Site has not yet been developed and is shown as open fields.</p>	<p>Further housing associated with Somers Town is shown immediately bordering the site to the south down to the New Road (Euston Road) and to the west. The area directly north and east of the Site is shown as continuing to be open fields.</p> <p>The area south of the New Road (Euston Road) is also shown as open fields, with the bowling green and Bowling Green House continuing to be marked. A smallpox hospital is now marked on the present-day location of Kings Cross Station. A developed area is shown around Islington further east of the Site.</p>
1828 Greenwood map	The Site is now shown as fully developed, with housing along Chapel Path, Brill Row and Middlesex Street, with additional unnamed smaller streets shown crossing the Site.	The entire study area is now developed. The areas immediately bordering the Site on all sides have been developed as housing. The smallpox hospital is still present to the east of the Site.
1851 Ordnance Survey (OS) map 1:5,280 scale	The Site remains developed as housing, with Chapel Road, Brill Row and Middlesex Street shown crossing the Site.	<p>The study area is shown as developed, mainly as housing.</p> <p>King's Cross Station is marked at the eastern edge of the study area.</p>
1874 OS map 1:1,056	The Site continues to be developed as housing. A Ragged School is shown at the south-west corner of the Site, on the corner of Chapel Street and Ossulston Street. A mission house is marked near the centre of Chapel Street. A row of houses on the north-east section of the Site are marked as Lenton's Buildings.	St Pancras Station is now shown immediately east of the Site. King's Cross Station is shown further east of the site, replacing the site of the smallpox hospital. The area between St Pancras Station and King's Cross Station is developed with industrial buildings such as Printing Works and a Cartridge and Percussion Cap Manufactory.

Historic map	On-site	Off-site
		<p>A gymnasium (the German Gymnasium) is marked.</p> <p>The area north, west and south of the Site continues to be housing. A Boys British School with a Girls annex is shown north of the Site. A school and a church are shown west of the Site.</p>
1895 OS map 1:1,056	<p>The Site has been entirely redeveloped from what was shown on the 1874 OS plan.</p> <p>The Site now forms part of the Somers Town Goods Yard, which covers the larger area enclosed by Phoenix Street, Midland Road, Ossulston Road and Euston Road and is surrounded by a wall.</p> <p>The western half of the Site is covered by a goods shed. A goods shed also covers the south-eastern corner of the Site. The rest of the Site area is covered by rail sidings.</p>	<p>The Site is the width of the Somers Town Goods Yard, which also extends north and south of the Site. The goods yard area to the north of the Site is marked as a coal depot and milk shed. The goods yard area south of the Site is marked as an extension of the goods shed and railway sidings. The whole area is enclosed by a wall.</p> <p>The Midland Grand Hotel is now also marked at the southern end of St Pancras Station.</p> <p>A public urinal is marked outside the south-west corner of the goods yard.</p> <p>The New Hospital for Women is shown at the south-western edge of the study area.</p> <p>The housing to the west of the Site remains unchanged.</p> <p>The housing to the north of the goods yard site, north of Phoenix Street, is partially cleared with Hampden House built on the western end of the street.</p>
1923 OS map 1:1,056	<p>The Site layout remains unchanged. The Site is still occupied by the goods shed and rail sidings of the Somers Town Goods Yard.</p>	<p>A large coal depot is now shown alongside Hampden House north of the Somers Town Goods Yard.</p> <p>The housing west of the Site remains unchanged, as does the area of St Pancras and King's Cross to the east.</p>
1945 Bomb Damage map	<p>The goods yard was heavily bombed during the Second World War (WWII) and was hit by at least three recorded bombs.</p>	<p>The surrounding area was also heavily impacted by bombing during WWII.</p>

Historic map	On-site	Off-site
1946 Historic aerial photography	The Site layout remains unchanged. The Site is still occupied by the goods shed and rail sidings of the Somers Town Goods Yard.	The council flats of the Ossulston Estate have been built, replacing the previous housing west and north-west of the Site. The coal depot, St Pancras Station and King's Cross Station remain unchanged.
1953 OS plan 1:1,250	The Site layout remains unchanged. The Site is still occupied by the goods shed and rail sidings of the Somers Town Goods Yard.	There are no significant changes within the wider study area.
1973 OS plan 1:1,250	The Site layout remains unchanged. The Site is still occupied by the goods shed and rail sidings of the Somers Town Goods Yard.	The large coal depot north of the goods yard has been replaced by the site of a coach and lorry terminal and Euston Air Terminal (Britannia Airways). Walker House, Chamberlain House and Levita House of the Ossulston Estate are labelled to the west of the Site.
1991 OS plan 1:1,250	The Site and the entirety of the Somers Town Goods Yard has been cleared.	Phoenix Road to the north of the Site has been renamed Brill Place. The site of the coach and air terminals have been built over with housing.
1994 OS plan 1:1,250	The Site is now partly occupied by an extension of the British Library construction in the south-eastern corner of the Site. The rest of the Site is shown as cleared.	The British Library is under construction over the southern half of the former Somers Town Goods Yard site. The area of the former Somers Town Goods Yard to the north of the Site is shown as cleared, although the boundary wall is shown as still extant.
1999 Historic aerial photography	A parking lot and road connecting to the British Library is shown on the eastern half of the Site. The western half of the Site is shown as occupied by temporary sheds and further parking.	The British Library occupies the southern half of the former Somers Town Goods Yard site. The northern half of the former Somers Town Goods Yard site remains cleared and unoccupied. The area between and north of St Pancras Station and King's Cross Station is partially cleared and under development.

Historic map	On-site	Off-site
2020 OS plan 1:10,000	The BLCC is now shown on the eastern half of the Site. The western half of the Site is shown as cleared.	The area immediately north of the Site is now developed. The area between and north of St Pancras Station and King's Cross Station has now been redeveloped.

Previous archaeological investigations

- 6.5.37** A significant amount of archaeological fieldwork has occurred within the study area, especially before and during the Channel Tunnel Rail Link (also known as High Speed 1) and London Underground Ltd development works at St Pancras Station and King's Cross Station. This includes comprehensive archaeological desk studies for King's Cross Station and St Pancras Station (ELO476, ELO9116, ELO9117), and extensive archaeological watching briefs undertaken during engineering site investigations and development ground works (e.g. Oxford Archaeological Unit 1997, Gifford and Partners 2003 and MoLAS 2003).
- 6.5.38** These previous archaeological investigations have mainly found remains of the industrial period, and very little evidence for prehistoric to post-medieval sites and finds. Development in the 19th and 20th centuries has significantly disturbed the ground within the Site and the study area, resulting in the removal of any earlier below ground archaeology.
- 6.5.39** Archaeological monitoring within the northern part of the former Somers Town Goods Yard to the north of the Site, on the FCI site, uncovered evidence of the earlier goods yard and provided further information regarding the industrial heritage of the area (ELO11855). Although considerable disturbance and truncation had occurred with the demolition and later construction on the site, the archaeological monitoring observed brick structural elements associated with the 19th century goods depot survived below the modern ground level and were well preserved (ELO11855). A number of foundations and structures associated with the goods depot were partially exposed including evidence of the brick flue associated with chimney which previously stood on the site, cast iron columns bases, footings, floor surfaces, yard surfaces and tracks (ELO11855).

Archaeological potential (summary)

- 6.5.40** Where there is potential for archaeological remains to survive within the Site, the significance of any features or deposits present would depend on their character, date and level of survival.
- 6.5.41** The potential to encounter archaeological remains within the Site relating to the prehistoric to the early post-medieval period within the

Site is very low. The Site has been subject to significant truncation and disruption as a result of the 19th century development; historic mapping suggests an earlier agricultural use of the Site which would mainly leave more shallow and ephemeral archaeological traces which would have been removed by the later development at the Site.

6.5.42 The potential to encounter archaeological remains within the Site relating to the late post-medieval and modern periods is high and would most likely be the industrial remains of the late 19th century Somers Town Goods Yard. However, it is also possible that some remnants of the late 18th and early 19th century housing which predates the construction of the goods yard may also survive within the Site in the form of foundations or cellars.

6.5.43 The potential to encounter archaeological remains within the Site is illustrated in Appendix F5, Figure 4.

6.6 Embedded and good practice measures

6.6.1 The following good practice measures are included in the draft CMP:

- fencing and hoarding shall be fit for purpose and provide adequate screening for buried archaeological remains as required
- adequate security to prevent unauthorised entry to the site including areas of archaeological works shall be provided.

6.7 Assessment

Construction and existence effects

6.7.1 Archaeology may experience effects due to the disturbance or removal of below ground deposits for the construction of basements, piling, installation of services and access roads which would remove known or potential below ground archaeological deposits.

6.7.2 The archaeological baseline has demonstrated that there is high potential to encounter archaeology relating to the post-medieval and modern periods and would most likely be the industrial remains of the late 19th century Somers Town Goods Yard. However, it is also possible that some remnants of the late 18th and early 19th century housing which predates the construction of the goods yard may also survive within the Site in the form of foundations or cellars.

Significance

6.7.3 There is a very low potential to encounter archaeology relating to the prehistoric to the early post-medieval period within the Site, and the very high levels of truncation and disruption as a result of the 19th century development on the Site means that any prehistoric to early post-medieval period archaeological remains which may survive

would be extremely truncated and fragmented. Although these remains, if encountered within the Site, would have the potential to be a locally significant non-designated archaeological site, they are also highly likely to be assets whose values are compromised by very poor preservation or survival. Therefore, archaeological remains from the prehistoric to the early post-medieval period, if encountered within the Site, are considered to be not significant.

6.7.4 There is a high potential to encounter archaeological remains of the late 18th and early 19th century Somers Town housing development, such as remnants of foundations or cellars. Archaeological remains of the Somers Town housing development have the potential to be a locally significant non-designated archaeological site which may contribute to an understanding of the late 18th century expansion of London through speculative house building and the rapid growth and decline of Somers Town. These remains, if encountered within the Site, are considered to be of low significance.

6.7.5 There is a high potential to encounter archaeological remains of the late 19th century Somers Town Goods Yard. Archaeological remains of the Somers Town Goods Yard have the potential to be a locally significant non-designated archaeological site, which may contribute to the greater understanding of the late 19th century development of the Kings Cross and St Pancras area, and the industrial operations of the Good Yard until its closure in the 20th century. These remains, if encountered within the Site, are considered to be of low significance.

Magnitude of change

6.7.6 The installation of services and construction of access roads which may be included within the proposed enabling works (including any necessary protection measures for the retained structures on-site), the demolition of the existing BLCC and fire escape structure, and the excavation and construction of foundations and basements and any associated piling would entirely remove known or potential below ground archaeological deposits within the footprint of the Site. This would be a large magnitude of change.

Significance of effect

6.7.7 The not significant archaeological remains relating to the prehistoric to the early post-medieval period would experience a large magnitude of change and therefore a slight adverse effect from the existence of the Proposed Development.

6.7.8 The locally significant archaeological remains of the late 18th and early 19th century Somers Town housing development would experience a large magnitude of change and therefore a moderate adverse effect from the construction and existence of the Proposed Development. This would be a significant effect.

- 6.7.9** The locally significant archaeological remains of the late 19th century Somers Town Goods Yard would experience a large magnitude of change and therefore a moderate adverse effect from the construction and existence of the Proposed Development. This would be a significant effect.

6.8 Additional mitigation

- 6.8.1** Non-designated heritage assets as well as those designated under the Ancient Monuments and Archaeological Areas Act 1979⁴⁰ and the Planning (Listed Buildings and Conservation Areas) Act 1990⁴¹ are given protection under the NPPF. Policies dealing with the conservation and enhancement of the historic environment are set out principally in Section 16 of the NPPF.
- 6.8.2** Additional mitigation is proposed in the form of an archaeological watching brief during construction, and in accordance with an agreed Written Scheme of Investigation (WSI) setting out the research aims and objectives and outlining plans for the public dissemination of the results, to be agreed with the Greater London Archaeology Advisory Service (GLAAS) representative for the LBC.
- 6.8.3** An archaeological watching brief would fulfil NPPF requirements, as set out in Paragraph 205, to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make the resultant evidence and any archive generated publicly accessible.

6.9 Residual effects

Construction and existence effects

- 6.9.1** As a result of the proposed additional mitigation, including the programme of archaeological recording in line with the NPPF requirements, the large magnitude of change experienced by any surviving heritage assets within the site would be offset by recording and advancing understanding of their significance, and publicly disseminating the results.
- 6.9.2** The residual effects would be neutral and not significant.

6.10 Cumulative effects

- 6.10.1** Cumulative effects in relation to archaeology have been scoped out of this assessment.

⁴⁰ The Ancient Monuments and Archaeological Areas Act 1979. Available at: <https://www.legislation.gov.uk/ukpga/1979/46>

⁴¹ The Planning (Listed Buildings and Conservation Areas) Act 1990. Available at: <https://www.legislation.gov.uk/ukpga/1990/9/contents>

6.11 Assessment summary

Construction and existence effects

Table 8: Archaeology assessment summary – construction effects.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
The removal of known or potential below ground archaeological deposits within the footprint of the Site as a result of the installation of services and construction of access roads which may be included within the proposed enabling works (including any necessary protection measures for the retained structures on-site), the demolition of the existing BLCC and fire escape structure, and the excavation and construction of foundations and basements and any associated piling	The not significant archaeological remains relating to the prehistoric to the early post-medieval period would experience a large magnitude of change and therefore a slight adverse (not significant) effect.	None required	Effect unchanged (not significant)
	The locally significant archaeological remains of the late 18 th and early 19 th century Somers Town housing development would experience a large magnitude of change and therefore a moderate (significant) adverse effect.	An archaeological watching brief during construction and in accordance with an agreed WSI setting out the research aims and objectives and outlining plans for the public dissemination of the results, to be agreed with the GLAAS representative for the LBC.	Neutral (not significant)
	The locally significant archaeological remains of the late 19 th century Somers Town Goods Yard would experience a large magnitude of change and therefore a moderate (significant) adverse effect.	An archaeological watching brief during construction and in accordance with an agreed WSI setting out the research aims and objectives and outlining plans for the public dissemination of the results, to be agreed with the GLAAS representative for the LBC.	Neutral (not significant)

7 Built heritage on-site

7.1 Introduction

7.1.1 This section describes the likely significant direct effects of the Proposed Development on the Grade I listed British Library building, a designated heritage asset, and its setting, and the BLCC, an unlisted building within the Site.

7.1.2 The BLCC is a separate structure to the British Library building but forms part of the operations of the British Library; it is explicitly excluded from the Grade I listing.

7.1.3 These effects could potentially arise due to localised internal and external alterations to the British Library, the construction of a large new building directly adjacent to the Library to its north, and the demolition of the BLCC.

7.1.4 The built heritage on-site assessment has been made on the basis of information sourced from desk top research, research into original sources and site visits, and is drawn from information from the Heritage Statement which forms part of the application for Listed Building Consent. The assessment follows qualitative methods to determine effects on built heritage on-site and their significance.

7.1.5 Effects on archaeology (below ground heritage) are discussed in Section 6. Effects on other built heritage assets, including the settings of other listed buildings are discussed in ES Volume 2 (Townscape, visual and built heritage off-site impact assessment).

7.2 Scope of the assessment

7.2.1 The EIA Scoping Report¹⁰ set out the proposed scope for the assessment of built heritage on-site. In summary:

- Internal alterations to sensitive areas of the Grade I listed British Library building would be limited in number; they would be contained to three main areas at upper and lower ground floor levels where links to the Proposed Development would be made, and they would therefore affect only small areas inside the British Library building. These would begin in the construction phase and being present in the existence phase, while changes to back-of-house areas, which are excluded from the listing and of no heritage value, would have no effect. The operational phase is scoped out because it would not give rise to additional effects to those occurring due to the existence of the Proposed Development.
- External alterations would result from a substantial new building which would be attached in places to the existing British Library's rear elevation. This would result in some adjustments to limited areas of the British Library's secondary north elevation, and in the

demolition of the unlisted BLCC building. There would be direct effects on the British Library and BLCC arising from the demolition works, and there would be direct effects on the British Library because of changes to its setting due to the Proposed Development. The effects would begin during the construction phase and be present through the existence of the Proposed Development. Again, the operational phase is scoped out because it would not give rise to additional effects to those occurring due to the existence of the Proposed Development.

7.2.2 A Scoping Opinion¹¹ was received from Camden Council on 28 June 2021. This included no comments relating to built heritage on-site from Camden Council. Historic England also noted they had no observations to make.

7.3 Stakeholder engagement

7.3.1 Stakeholder consultation was carried out with the Conservation and Design team at Camden Council, the Historic Buildings and Areas Inspector at Historic England, and the Twentieth Century Society, a statutory consultee for listed post-1914 buildings. The Greater London Authority were also consulted.

7.3.2 Camden Council officers were engaged during a series of pre-application meetings. Much of their commentary focused on the design of the public realm and the height and the materiality of the proposed new building, and they concurred with comments by Historic England as regards alterations to the Grade I listed British Library. In summary, officers asked that the Proposed Development include:

- high quality architecture where changes were made to sensitive areas inside the British Library and on its envelope
- a high quality new east-west route north of the new building
- animated frontages
- sympathetic/contextual elevational treatments
- appropriate height in relation to the listed building and the wider historic context.

7.3.3 Design adjustments were made to respond to these points. As a consequence, the sensitivity and setting of the British Library were addressed during the process. No objections were raised to the demolition of the BLCC.

7.3.4 Historic England commented on the detail of all interventions in sensitive areas inside the British Library, on the first-floor rear terrace and on the building envelope, and in regard to the height and visibility of the Proposed Development in relation to the British Library. No objections were raised to the demolition of the BLCC. The design was refined in response to their comments; this included lowering the new

building to prevent its visibility in important views from the east over the ‘Barlow shed’ of St Pancras Station and over the south roof of the library in views from Euston Road, the continuation of high quality natural finishes in the extension corridors at upper ground and first floors inside the British Library, and a stylistically sympathetic approach to the extension of the west wing of the British Library with the relocated BLCC.

7.3.5 The design team also consulted with MJ Long, design partner of Colin St John Wilson at the British Library and architect of the BLCC, before her death in 2018, and with Rolfe Kentish, associate architect at the British Library and MJ Long’s design partner for the BLCC, throughout the pre-application process. Their comments fed into the design development, namely; the central air space between the British Library wings around the first-floor rear terrace was preserved, the new BLCC building was visually set away from the original British Library building by means of a set-back connection and preservation of a cornice element to the north, and the British Library was honoured as an important building through a reflection in materials and suitable setbacks as well as discreet connections of the new building.

7.3.6 The Twentieth Century Society objected to the removal of the existing BLCC during the pre-application process. This element of the Proposed Development is fundamental to the design and would only cause a minor adverse effect and was therefore not changed.

7.3.7 The GLA raised no substantive points that would have required adjustments and that are relevant to the on-site built heritage assessment.

7.4 Methodology

Overview

7.4.1 This section outlines the methodology for assessing the likely significant heritage effects from the construction and existence of the Proposed Development. Full details of the methodology, including relevant assumptions and limitations, can be found in Appendix D4.

7.4.2 The assessment was carried out with reference to the NPPF⁴² and associated guidance in terms of built heritage effects.

7.4.3 This assessment has considered the physical fabric of the Site, existing buildings, cumulative developments, and is based on relevant policy and guidance. The planning application drawings have formed the basis of this assessment.

⁴² MHCLG. (2021) *National Planning Policy Framework*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

7.4.4 In broad terms, the assessment follows the following sequence:

- identification of receptors
- assessment of receptor value and its susceptibility to change which is combined into an overall assessment of sensitivity
- identification of the size and scale of the change to assess the overall magnitude of change
- combination of the sensitivity to change and magnitude of change to determine the scale and nature of the effect and to determine whether this is significant or not; significant effects are those that are moderate or major.

Baseline methodology

7.4.5 Baseline data has been collated from a desktop study and field appraisals to analyse built heritage assets on-site. This process, in combination with a review of relevant policy, has led to the identification of heritage sensitivities and heritage designations requiring consideration.

7.4.6 The significance of the heritage assets has been determined by statutory designation and professional judgement against the values set out in Historic England's Conservation Principles (2008)⁴³ and the NPPF (2021)⁴².

Construction effects

7.4.7 Construction effects on built heritage would mainly be caused by the visibility of machinery, hoardings, cranes and portacabins, creating temporary and short-term effects only. They would vary throughout the duration of the construction programme. The assessment of likely effects is based on professional judgement. It is not considered that built heritage (on-site) effects through vibration during construction would occur, because construction would be planned so as to avoid damage from vibration, and because the British Library is an extremely robust building.

Existence effects

7.4.8 The assessment has considered the planning application drawings and the visualisations of the Proposed Development. This visual material has been assessed against the existing configuration of the buildings presented in the baseline.

7.4.9 Following the identification of built heritage receptors, these receptors were assessed in regard to their value, being identified as having low,

⁴³ English Heritage. (2008) *Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment*. Available at: <https://historicengland.org.uk/images-books/publications/conservation-principles-sustainable-management-historic-environment/>

medium or high value. Each value carries a prescribed sensitivity to change. The Proposed Development was then assessed in relation to these receptors and their value. The relevant magnitude of impact of the Proposed Development on each receptor was established, taking account of the Proposed Development's size and scale, proximity, duration, and the way in which change would be affected and experienced. This assessment also determined the scale and the nature of the effect, being beneficial, neutral or adverse, and determining whether the effect is significant or not.

Cumulative effects

- 7.4.10** The cumulative assessment considers recently consented and submitted applications, including sites that are currently under construction. Sites in the local area are relevant insofar as they are likely to have a visible effect in combination with the Proposed Development.
- 7.4.11** Cumulative effects have been assessed based on visual information available at the time of production of this ES. A cumulative assessment has been carried out in relation to each 'receptor', using the same methodology used to assess the Proposed Development in isolation.
- 7.4.12** The cumulative assessment only considers effects in relation to the Proposed Development and does not consider cumulative developments where the Proposed Development has no effect or a neutral effect.

7.5 Baseline

Overview

- 7.5.1** The British Library is one of few Grade I listed buildings dating to the second half of the twentieth century. It is in the setting of a number of heritage assets. The building is adjacent to the Grade I listed St Pancras Station and former Midland Grand Hotel which lies to the east. To the west are a number of Grade II listed housing blocks on Ossulston Street. Diagonally opposite, on the south side of Euston Road, is Camden Town Hall, listed Grade II. The Site is not in a conservation area but to the east adjoins the King's Cross St Pancras Conservation Area.
- 7.5.2** The British Library is located on a site that has seen three radical transformations over the past 250 years: the land was originally built up with terraced houses, following the construction of Marylebone Road, a new important east-west route through London; in the mid-19th century this residential development was cleared when a new railway terminus was built, and the Site was occupied by a large goods shed; and from 1978 the site was transformed for a third time

when the British Library was built, replacing railway infrastructure with a national cultural institution.

- 7.5.3** The British Library was designed by Colin St John Wilson for this site from 1974. When an earlier design for a site in Bloomsbury became controversial due to the loss of historic buildings and the scale of the new development, a new site was found in 1973, adjacent to St Pancras Station. A masterplan for a new national library was developed and agreed in 1978.
- 7.5.4** The Site was originally part of the masterplan for the new British Library. Cost constraints resulted in the phasing of this project, and construction began in 1982. The British Library opened in 1997 on a reduced footprint, leaving part of the masterplan site to the north empty. Externally the design was conceived to relate to elements of its neighbours, including the red brick and slate finish at St Pancras Station and the Midland Grand Hotel. Its approach was guided by the architecture of Alvar Aalto who had also been the inspiration for Wilson and Leslie Martin's earlier St Cross libraries in Oxford which had square top-lit reading rooms; this design formed the basis of the spatial approach to the British Library.
- 7.5.5** The completed design, despite setbacks in programme and a reduction in its size, was lauded for the quality of its interiors, though its exterior received a mixed reception. The building was listed at Grade I in 2015.
- 7.5.6** In 2007 an addition to the north elevation was completed to house the BLCC. This project was designed by MJ Long and Rolfe Kentish's practice with some input by Wilson, who died in 2007. Both Long and Kentish had been involved in the original design of the British Library. The BLCC building is a less elaborate design than the library and specifically excluded from the Grade I listing.

Historic background

Beginnings and early designs: the Bloomsbury site

- 7.5.7** The roots of the British Library lie in a decision in the mid-20th century to provide a new, larger library for the British Museum. In 1943 the County of London Plan included an extension site for the museum, and this was to house the Library and Department of Prints and Drawings.
- 7.5.8** The design of new buildings for this purpose was awarded in 1962 by the Ministry of Public Buildings and Works to architects Leslie Martin (1908 – 2000) and Colin St John Wilson (1922 – 2007) who had won the job as a result of an invited competitive interview process.
- 7.5.9** Wilson had worked with Martin at the London County Council's Housing Department after the war. From 1955 they were jointly in

practice in Cambridge and from the following year Wilson was Professor Martin's Assistant at Cambridge where they taught architecture. They had designed a group of new library buildings at Manor Road for Oxford University with square top-lit reading rooms surrounded by carrel units (the St Cross libraries), and Wilson has suggested that this project was a deciding factor in winning the British Museum library competition.

- 7.5.10** A design for the first site in Bloomsbury was approved in 1964, necessitating the loss of a large area of historic buildings. The brief was then substantially changed and increased, demanding that the Science and Patents Department inter alia also be accommodated on-site, resulting in a larger building; by this time Martin had stepped back and Wilson was the architect in charge of the project. A groundswell against the loss of this part of historic Bloomsbury, paired with the arrival of a new Labour government, resulted in the site being dropped in 1973.

The site at St Pancras

- 7.5.11** Following the decision to abandon Bloomsbury as the location for a new library, a decommissioned goods yard to the west of St Pancras Station was purchased instead by the Government. In 1975 Wilson began to prepare new designs for a national British Library; this new institution had been brought into being in 1972 by the British Library Act. The new building was to house the British Museum Library, the National Central Library and the National Lending Library for Science and Technology.

The masterplan

- 7.5.12** The masterplan that was developed from 1975 saw the creation of two wings that ran parallel to Midland Road and Ossulston Street, resulting in a splayed overall layout. There were two distinct ranges of reading rooms, humanities to the west and sciences to the east, embracing a core of offices and laboratories, and a public square located at the southern edge on Euston Road, with a conference centre adjoining it on the eastern side.
- 7.5.13** The vertical distribution of the functions within the building was governed by the desire to create top-lit reading rooms, following the design established in the Oxford St Cross libraries. This meant that other functions, including exhibition spaces, were located below at ground floor level, and plant and book storage in basements. A wide entrance hall and a catalogue room were at the centre, just beyond the public square.
- 7.5.14** The brief and design resulted in a 200,000m² large building. Outline planning permission was granted by April 1978. The building was designed to house desks for 3,500 readers and space for 2,500 staff

and up to 25 million volumes. The cost to achieve this programme proved to be too large to accomplish in one construction phase. It was decided in 1978, following the granting of planning permission and positive reception of the design by the client and in the press, that the project was to be split into three phases, of which a reduced version of Phase I was built.

The completion phase

- 7.5.15** Wilson and his team were clear that funding for each phase might not be forthcoming immediately, and therefore designed individual phases so that the building could operate as an entity after the completion of each phase. Phase I was further divided into sub-sections and a process of feasibility assessments followed to achieve a phased project that would meet the brief. This proved a long and painful redesign process, also made difficult by a lack of clarity on budget; this changed each year and was linked to the annual government budget for the arts, rather than being a capital sum. This process resulted in the provision of a largely reduced building with not much more capacity than that of the British Museum reading room. Construction began in 1982 and the building, representing a somewhat reduced version of the planned Phase I of the three-phase masterplan, opened in 1997 and was completed in 1999. The site to the north remained vacant and is shown as ‘land intended for extension’ on plans by the architect published in 1999.
- 7.5.16** In 1987 it was decided that rather than allowing future extension, the agreed modified design for Phase I would be completed to create a self-sufficient library without future extensions. The original masterplan was altered to achieve this and included a different approach to circulation; rather than creating long corridors in the east and west wings on which would be aligned the reading rooms, the shorter site had a large central circulation area which gave access to the reading rooms. It also entailed the insertion of the King’s Library, replacing the catalogue room which was no longer needed because of computerisation; this became a key architectural exhibit, visible from the public foyer and with its books accommodated in a multi-storey glass case. Beyond this were cafés, and the concluding north elevation received a permanent rather than the previously planned temporary finish.
- 7.5.17** Wilson describes the completed design as a series of architectural elements that mediate between public areas of civic proportions, and the human scale which is introduced by furniture, architectural elements and through changes in scale. The bridges connecting the east and west wings have ‘normal’ ceiling heights, and seats and balustrades are all of a human scale, whilst the multi-storey foyer creates a dramatic sense of arrival befitting the task of welcoming visitors to the nation’s library.

- 7.5.18** The public areas of the completed building are rich in natural finishes, particularly internally, and art works are present throughout the complex. Travertine was used for balustrades and built-in furniture; handrails in major spaces are wrapped in leather; the joinery is in oak. For the exterior, a limited palette of materials was used, in part for contextual reasons; the elevations are faced in red brick and the huge pitched roofs are finished in slate, responding to the exterior of St Pancras Chambers to the east. Wilson built on a tradition of recent buildings which he called the ‘other tradition of modernism’; he drew on the design approaches of architects including Alvar Aalto, Hans Scharoun, Gunnar Asplund and Frank Lloyd Wright who, he felt, employed organic forms and ‘sensuous’ materials.
- 7.5.19** The building’s programme of art works was intended to be part of the design, rather than act as applied decoration, incorporating existing art works as well as newly commissioned work. Major new commissions were a large tapestry in the foyer by RB Kitaj, and a sculpture in the forecourt by Eduardo Paolozzi of Sir Isaac Newton. The entrance gates and stone carving on Euston Road were designed by David Kindersley and Lida Cardozo. A number of further art works, including busts, were integrated from the Library’s existing collection or have been added since the Library opened, and many of these are excluded from the listing, as noted in the list description.

Alterations and additions

- 7.5.20** Over time the Library had to respond to changing legislation for access to public buildings, for security reasons and to satisfy modern requirements for library use. Key alterations have been the introduction of ramps in the public piazza; bollards at entrance gates; external lighting; changes to reading room counters; interior fittings in cafes and restaurant spaces and other minor alterations in various areas.
- 7.5.21** A key addition was the extension of the building to the north to house a new conservation centre, designed by Long and Kentish with Sandy Wilson as consultant. MJ Long and Rolfe Kentish were both key members of the original library design team. They won a competition for the BLCC in 2003, and the building was completed in 2007. It accommodates conservation facilities, the British Library Sound Archive and teaching spaces, and is set above a loading bay. A terrace at first floor level links the BLCC with the British Library building. Long and Kentish responded to the brief by designing a quiet building in sympathetic forms and materials, lower than the northern elements of the Library and discreetly accessed via internal routes and a terrace. This addition occupies part of the eastern portion of the original 1978 masterplan site that was not built upon following the decision only to implement Phase I.

- 7.5.22** In 2009 Terry Farrell and Partners were commissioned to design a masterplan for the British Library site, but no built work resulted from this exercise.

Building description

The Site and its setting

- 7.5.23** The Site is located to the north of the British Library, with the newly built FCI directly adjoining to the north. The eastern half of the Site is currently used as a car park and vehicle delivery route into the Library and has a ramp to the lower ground floor delivery bay. The western half is occupied by the Story Garden, a temporary urban garden space and was previously used for construction-related activities for the FCI. Towards Midland Road, the Site is enclosed by original metal railings on a stone plinth designed as part of the British Library development. To the west on the boundary of the site on Ossulston Street is hoarding that relates to the past construction use for the FCI. Both elements of the Site detract from the setting of the Library.
- 7.5.24** The BLCC extends into the eastern section of the Site and is set on steel and concrete columns above the loading bay. It is a building on an L-shaped plan with simple elevations in brick, some timber cladding, and a projecting glass feature on the north elevation. The main conservation studio has a saw-tooth roof. This building is not of the same high design quality as the Library and is excluded from the listing.
- 7.5.25** North of the Site is the FCI, a building designed by HOK and PLP Architecture which opened in 2016. It has a striking tall metal and glass elevation that faces the Site; this has a curved roof which rises taller than the British Library building. Its east and west elevations have elements of orange-coloured cladding with fully glazed elements. This is a 'signature' building with few direct references to its immediate context. It establishes considerable height in this area.
- 7.5.26** To the east of the Site is Midland Road which carries much traffic and has a taxi rank and bus stand which further contribute to its character as a major road. Opposite the Site to the east is the red-brick flank elevation of the train shed of St Pancras Station (Grade I listed); its roof is not visible from Midland Road. This structure is four storeys tall and has a modern mansard above and drops to two storeys halfway along the elevation. To its north is the recently built train shed for regional trains, and to the south the magnificent structure of the former Midland Grand Hotel which fronts Euston Road. The British Library seeks to relate to the Victorian train shed and hotel through use of similar Leicestershire brick and strong forms, though there is a clear contrast between the horizontal orientation of the British Library east elevation, and the verticality of the train station flank wall which creates some visual interest and tension.

- 7.5.27** West of the Site is a group of 1920s flats with internal courtyards, built on the Viennese model. Levita House (Grade II listed) is opposite the Site; it has four storeys in painted render with in-set balconies and a steeply pitched roof with dormer windows and tall chimneys above. Its outer arms are set close to the pavement. To its north is a plain post-war block of flats (not listed), four storeys tall and in pale brick, and then more 1920s housing further north at Chamberlain House (Grade II listed). Ossulston Street has street trees on the west side which shield its buildings in part from the road.

Building fabric

- 7.5.28** Elements of the British Library building that would be altered as part of the Proposed Development are limited; they relate to the north facing elevation from lower ground level upwards, and to a small number of internal spaces at lower ground, ground and first floors. The BLCC would be removed.
- 7.5.29** The fabric of the British Library and its significance are described in detail in the list description. Areas that would be affected by the Proposed Development proposals are described in the following sections.

North elevation

- 7.5.30** The north elevation of the British Library's east wing has three distinct elements; an office section with window bands to the east, a vertical largely blind and taller tower at the centre, and a third section with proudly projecting, paired brise soleil elements to the west. This is a complicated elevation which reflects the uses beyond but lacks the clarity of the side elevations.
- 7.5.31** The central part of the north elevation is largely concealed from view by the BLCC. At lower levels is a loading bay, above this a stark elevation to the upper ground floor with small square windows, surmounted by a restaurant terrace, and further up two receding storeys of office accommodation with continuous window bands.
- 7.5.32** The western section of the north elevation is blind and brick faced, in two horizontal parts; its upper section is set back, the lower section stands on piloti above a recessed ground floor, and both elements have the signature British Library pitched slate roofs. Set forward of the lower element is a circular stair drum, blind, and in the style of Louis Kahn. This is linked to the building with a glazed bridge. To the east is a full height brick tower with four rows of small square-shaped openings.

BLCC

- 7.5.33** This is a later addition of 2003-7 and a much more modest building than the Library proper. Its exterior is described in the paragraph 7.5.21. Internally the building has modern office spaces off corridors

with simple finishes. The conservation studio at the top level is a large and well-designed space with a saw tooth roof which gives good levels of light. The building is not regarded as having special interest in the listing citation; its detailing is simpler than that of the Library and it is of a more modest scale. The recently constructed FCI now dominates its setting, particularly in views from the south.

Interiors

First floor

7.5.34 The spaces that would be affected are located to either side of the restaurant which sits to the north of the King's Library. These spaces are:

- the northern end wall of the public circulation space west of the restaurant and east of the Humanities Reading Room, lined in Travertine, with an original panelled timber door and a bust of Sir Anthony Panizzi (1797- 1879) by sculptor Baron Carlo Marochetti, of 1864. The sculpture is not covered in the list entry but is of some historic significance to the development of the British Library because of the importance of Panizzi to the historic development of the Library; after fleeing Italy and arriving in Britain in 1823, Panizzi was Head of the British Museum and principal librarian from 1856-66 and initiated the creation of the central round reading room in the British Museum
- the first-floor terrace itself, a significant part of the 'completion phase' and Wilson's carefully detailed compromise design of the originally intended larger project. The terrace was extended in the early 2000s when the BLCC was constructed, and this later extension has no significance
- offices/ storage spaces west of the restaurant and north of the public areas, all with plain finishes and without significance
- the kitchen directly to the west of the restaurant, also without significance.

Upper ground floor

7.5.35 The north wall of the public area at upper ground floor level is finished in travertine wall cladding and has a chequerboard marble floor which continues the external grid present in the Euston Road forecourt.

7.5.36 Set into a wall is a recess with a bronze bust of Dr Walter Model von Thunen, a German Lutheran pastor who donated a collection of German post-war stamps which is also on display in pull out frames on the north and the west walls.

7.5.37 The original finishes are a significant part of the original library design and the philatelic exhibits and bust of Model, though not

included in the list entry, have significance as an exhibit of the Library's collections.

Other floors and areas

7.5.38 Other areas that would be affected are all back of house spaces which are located in the northern section of the British Library building close to the rear elevation. Spaces that directly adjoin the north elevation at lower levels are without exception rooms with plain finishes, and include offices, a large post room and storage areas. These are utilitarian spaces without significance.

7.5.39 The interior of the circular fire escape stair drum which is set forward of the north elevation has a plain concrete staircase with metal handrail and plastered and painted walls; the design and fabric inside the stair drum is prosaic and lacks the quality of finish and materials present in the front of house areas which have been identified as significant.

Assessment of significance

7.5.40 The site of the British Library has been a place of radical transformation at least since the 18th century and change rather than consistency has been a recurring driving force in its development. Transformative change is therefore an important part of the historic significance of the site, and has entailed the following:

- the Marylebone Road or New Road (later Euston Road) was established in 1756; this was a major achievement in town planning and was formed on undeveloped land to create a new east-west connection across London. This resulted in the laying out of a new network of side streets and new urban residential development on and around the site
- the arrival of the railway and the construction of St Pancras Station in 1868 prompted the removal of the residential neighbourhood north of Euston Road on the site, and the establishment of large building volumes, namely the station, hotel and associated railway buildings, including a goods shed on the site
- the construction of the British Library necessitated the removal of the St Pancras goods shed and its replacement with a national cultural institution, which was executed only in part, leaving a site to the north, the subject of this current application, vacant
- more recently, parts of this area have been transformed again. This included the redevelopment of a large area north of King's Cross Station by Argent developers for residential, academic and commercial uses. Locally, the construction of the FCI to the north of the site, has resulted in a substantial building which is part of a wider cluster of academic and research institutions, the Knowledge

Quarter, that includes *inter alia* the British Library, UCL and the FCI.

List entry

7.5.41

A detailed account of the existing fabric of the British Library and its significance is given in the list description⁴⁴. This document also sets out the principal reasons for designation of the British Library at Grade I as follows:

- Architectural interest:
 - for its stately yet accessible modernist design rooted in the English Free tradition with Arts and Crafts and classical influences, crisply and eloquently contextualised by its massing and use of materials which respect and contrast to the St Pancras station and hotel
- Materials:
 - for its level of craftsmanship and skilful handling of a range of materials externally and internally, including Travertine, Portland and Purbeck stone, granite, Leicestershire brick, bronze and American white oak throughout, carefully and meticulously detailed
- Interior:
 - for the well-planned interior spaces comprising the generously lit reading rooms and multi-level atrium, successfully fulfilling the brief to create the nation's Library
- Historic Interest:
 - in the tradition of the Royal Festival Hall, it is a landmark public building incorporating at its heart the King's Library, given to the nation by George III
- Architect:
 - a major work by the eminent architect and academic Sir Colin St John Wilson and his architectural partner, MJ Long. Wilson has a number of listed buildings to his name notably the St Cross libraries at the University of Oxford (Grade II*)
- Artistic interest:
 - for the fusion of art with architecture as a component of the design ethos, exemplified by Paolozzi's Newton in the piazza
- Group Value:
 - with the Grade I St Pancras Hotel, Grade II Camden Town Hall and Grade II housing on Ossulston Street.

⁴⁴ Historic England list entry: The British Library, piazza, boundary wall and railings to Ossulston Street, Euston Road and Midland Road. Available at: <https://historicengland.org.uk/listing/the-list/list-entry/1426345>

Hierarchy of significance

7.5.42 In more detail, the heritage significance of the buildings on the Site, in particular in relation to the areas that would be altered, is as follows:

High significance

7.5.43 The external envelope of the building for its quality of design and execution and its contextual merit. Particularly its street elevations and southern forecourt are of the highest significance.

7.5.44 The public interiors of the British Library, particularly its foyer and reading rooms, for their high degree of craftsmanship, fine materials and spatial qualities.

7.5.45 The significance of the internal areas that would be affected by the proposed alterations is high in localised areas on the first and upper ground floors, namely:

- the first floor north wall adjoining the Humanities Reading Room which has a panelled oak door and Travertine-clad wall, with a bust of the mid-19th century head librarian Sir Anthony Panizzi (bust excluded from the listing)
- the upper ground floor travertine-clad north wall with Dr Walter Model von Thunen's stamp collection and his bust (bust excluded from the listing).

Secondary significance (where affected by the Proposed Development)

7.5.46 The north elevation. Not of the same quality as the street elevations, and in the Conservation Management Plan (2019)⁴⁵ described as 'secondary'. This elevation is in part excluded from the listing (loading bays), in part intact but in areas utilitarian, and in part altered. The north elevation in general resulted from a decision to only build phase 1 of Wilson's masterplan. It is part of the 'completion phase' of the library which was a compromise on the original design. A circular fire escape stair on the western end of the north elevation and the north elevation design otherwise resulted from the decision to abort the last phase of the project. This face was designed with care but its elevations were seen by the architects as 'expansion points'⁴⁶.

7.5.47 The first floor rear terrace which has been altered through the loss of some of its enclosing trellis when it was enlarged to connect to the BLCC has lost some of its original integrity.

Low significance:

7.5.48 The BLCC, a later addition of 2007, is excluded from the listing and not locally listed. It does have some contextual merit and design

⁴⁵ Purcell (2019). *British Library St Pancras Conservation Management Plan*

⁴⁶ Interview by the author with MJ Long, 2 August 2017

integrity as a quiet and subservient extension to the British Library, designed by members of the architectural team for the British Library.

No significance:

7.5.49 Non-public areas, including the loading bay and back-of-house spaces north of the reading rooms and beyond the public circulation areas which are excluded from the listing and utilitarian.

7.5.50 Table 9 summarises the heritage sensitivity of assets on the Site.

Table 9: Analysis of heritage sensitivity of assets on the Site.

Heritage receptor	Designation	Sensitivity
British Library	Grade I listed	Exceptional
BLCC	Unlisted	Low

7.6 Embedded and good practice measures

7.6.1 Mitigation measures have been incorporated as part of the design process for the Proposed Development. They have sought to eliminate adverse built heritage effects. This includes having had regard to consultation with Camden Council's Design and Conservation Officer and Historic England, as well as two of the original architects of the British Library who were also the architects of the BLCC. This has ensured that the Proposed Development is sensitive to heritage receptors and the historic environment. In detail, this included:

- lowering the height of the new building and creating a sloping roof to preserve important views of the British Library from the east and south, ensuring that the new building is not dominant in views (refer to Volume 2 of the ES which presents the Townscape, visual and off-site built heritage impact assessment)
- setting the new building away from the western building line of the British Library and the listed housing blocks on Ossulston Street to better preserve their setting thereby creating a generous landscaped open space which would enhance the setting of the British Library and other buildings
- including curved forms on the first-floor north terrace to respond to the undulating geometry of the café of the British Library and the original character of this terrace as a breathing space
- the careful relocation of original finishes and artefacts at upper ground and first floor levels in the west wing, including the Dr Walter von Thunen stamp collection and his bust, where new connections are proposed
- retention of most structural columns in back-of-house areas at the British Library where alterations are proposed to minimise interventions which may have wider implications on structure

- safe storage of original elements to be removed, namely elements of the north terrace trellis, for potential future re-use.

7.7 Assessment

Construction effects

7.7.1 Construction effects would result from temporary effects on the setting of the British Library through structures and machinery on-site associated with the building works. The elements necessary during the construction phase are detailed in the draft CMP which is being submitted with this application. These elements would vary over the construction programme.

7.7.2 It is anticipated that these would include: 2.4m tall hoarding, initially leaving a central area free for continued vehicular access; tower cranes near Midland Road and in the centre of the Site; welfare offices in the form of portacabins on the northern part of the Site in various locations, depending on progress of demolition of the BLCC and other construction work; construction hoists at the western and eastern ends of the Site in later phases attached to the new extension building.

7.7.3 Such construction elements are typical in the street scene as part of substantial new construction, and their appearance is familiar. Their impact would be temporary and short-lived.

7.7.4 Because of the anticipated size and density of the construction elements, and because they would be seen in the immediate context of the British Library and alter its setting, they would have a minor adverse, non-significant, direct, temporary effect on the setting of the British Library.

7.7.5 Construction work also includes the demolition of the BLCC, and the effects of this are set out in Section 7.7.6-7.

Proposals for the existing BLCC

7.7.6 The demolition of the existing BLCC, an unlisted building added in 2007, would result in the loss of a sympathetic and subservient addition to the British Library.

Impact of the demolition of the BLCC

7.7.7 This building is not listed and not on Camden Council's local list. It has some local interest as a work by MJ Long and Rolfe Kentish who were both involved in the design of the British Library, and it houses functioning spaces that have served the conservation centre and sound archive well, albeit requiring some localised modification. The building can therefore be seen as a non-designated heritage asset of some limited local interest.

- 7.7.8** The magnitude of change on the BLCC would be major and the effect direct, permanent, non-significant and minor adverse.

Existence effects

- 7.7.9** The Proposed Development is described in detail in the planning application drawings and the Design and Access Statement. The following paragraphs provide a summary of the relevant visual and built form characteristics of the Proposed Development.
- 7.7.10** Existence effects are assessed in regard to distinct impacts: external physical impacts on the British Library, internal physical impacts on the British Library, impacts on the setting of the British Library, and impacts on the BLCC. Operational effects are scoped out of this assessment as operational activities would not give rise to additional effects to those occurring in the existence phase.
- 7.7.11** The proposals entail the construction of a new building on a largely vacant site to the north of the British Library which was originally intended to be occupied by the Library. The new building is proposed to provide exhibition and event spaces, shops, learning spaces, gallery spaces, meeting and conference rooms and other facilities for the British Library on lower ground, upper ground and first floors. The ground floor would also have commercial retail units in the north wing, and a reception to commercial lab-enabled offices which are proposed for the upper floors. The west wing of the British Library would be extended with a slender building to house the relocated BLCC whose existing unlisted building would be demolished. There would be two new links from the British Library to the extension, contained in the Ossulston Street wing at upper ground and first floor levels, and some localised alterations to the British Library's north elevation, the Ossulston Street boundary and staircase, the external Midland Road staircase, and the first-floor rear courtyard. On the Ossulston Street side is provision for access, ventilation structures and other areas related to the Crossrail 2 railway line; these are very largely contained below ground.

The proposed extension

- 7.7.12** The proposed building is oriented at right angles to Ossulston Street and Midland Road, and cranked southwards at the eastern end of the site in response to the geometry of the British Library and the road layout. It is formed from two parallel, connected wings of eleven and ten storeys above ground, the southern wing being deeper and with a taller roof element. This roof slopes away from the south and relates to the southern roof of the British Library whose form it continues. The building is set back from the streets to the east and west. It has substantial soft-landscaped spaces in organic forms on Ossulston Street and Dangoor Walk, and predominantly hard landscaping with some greening on Midland Road where it is proposed to locate a new

entrance to the Library and the main entrance to the upper floor commercial spaces.

- 7.7.13** The architectural treatment of the proposed building is composed of glazed elevations with interstitial blinds in some areas. The elevations of the main body of the building have a double-height framework of green-coloured mullions and set between these are expressed floorplates and internal mullion surfaces in red-coloured, glass reinforced concrete; this colouration, dark green and red, relates to the British Library and St Pancras Station which both have red brick elevations and Welsh slate roofs, and to the BL's green metalwork. The upper floors of the taller southern wing slope northwards and have a simple glazed treatment. On the roof are lift overruns, mechanical and electrical plant and plant enclosures which are set back from the elevations and largely concealed from street views. On the street, the ground and first floor levels have curved, timber framed glass elevations onto Dangoor Walk to frame shops and the commercial reception, and otherwise have glazed elevations on rectangular alignments.

The impact of the extension on setting

- 7.7.14** The impact on the setting of the British Library would be beneficial. At present, the site to the north of the British Library is largely vacant and has been awaiting development since the British Library opened. The Grade I listed building is poorly served by the empty site which was not intended to be left undeveloped. In fact, it was built up since the mid-18th century, originally with housing and later with a goods yard. Colin St John Wilson and Partners had designed further, continuous accommodation for the British Library on this site, and once the Library opened on a reduced footprint, the vacant site had been marked as 'land intended for extension'.
- 7.7.15** The Proposed Development would be taller and would have different forms to those designed by Wilson's team. The size of the new building would provide the required space for the proposed uses on the site, and is not in itself harmful. The Proposed Development has been skilfully modelled so that it sits comfortably behind the British Library and preserves important views of the listed building. This is demonstrated in the verified views shown in Volume 2 of the ES, the Townscape, visual and off-site built heritage assessment. The most important views of the British Library from the south across its forecourt are largely unchanged, illustrated in views no. 10 and 11; the Proposed Development would be substantially concealed, and only the uppermost part of its southern wing would appear above the British Library, but this would sit lower than the clock tower and the west wing.
- 7.7.16** In views from Ossulston Street and Midland Road, the British Library retains primacy because the new building is set back from the street, illustrated in views 9, 12 and 16. In views from the north the British

Library is considerably less prominent and already well concealed, and the Proposed Development would cause no harm to its setting, as illustrated in views no. 13, 14 and 15.

7.7.17 In architectural terms, great care has been taken to relate the Proposed Development to the British Library. The forms of the elevations are different, but the material and proportions resonate with the British Library and St Pancras Station, in particular the proposed colouration which matches the British Library's bricks and metalwork. The sloping roof forms to the south are designed to be recessive in form and expression and are inspired by the architecture of Alvar Aalto whose buildings were a major influence on Wilson's work. For all these reasons, namely the careful modelling of the Proposed Development's height, building lines, elevational treatment and materials, it would enhance the setting of the Grade I listed British Library building.

7.7.18 The magnitude of change on the setting of the British Library would be major and the effect direct, permanent, significant and major beneficial.

The new BLCC

7.7.19 The west wing of the existing British Library would be extended by a new three-storey element on a shallow footprint. This extension would house the conservation studio, offices and other facilities of the BLCC. The extension would be of comparable height to the British Library's west wing but sit below its roof. It would be externally treated in matching red brick at first floor level and have glazed elevations at ground and lower ground level which would be set behind a colonnade; this would have columns in red and black, matching those at the British Library's southern part of the west elevation. On the street, the original retaining wall would be continued. On the roof would be a setback, glazed volume to provide top-lit spaces. The construction of this element would result in the removal of a circular fire escape stair drum which is attached to the west wing, and the removal of most of the north elevation cornice but with a return element preserved. Otherwise, the north elevation of this wing would be concealed but preserved. An external escape staircase would be set against the site boundary with Ossulston Street, and some of this boundary would be removed to enable the construction of the new BLCC.

Impact of the new BLCC

7.7.20 The proposed new BLCC would substantially preserve the special interest of the listed British Library building. It would conceal but not remove the north elevation of the British Library's west wing and appear as a sympathetic addition in largely matching materials, including red brick and street columns. It would necessitate the

demolition or alteration of small areas of localised original fabric, namely:

- removal of a circular red brick stair enclosure (pepper pot stair) around an external fire escape staircase and its glazed link to the west wing of the Library
- removal of an element of boundary wall on Ossulston Road, consisting of a granite base and metal railings
- removal of a section of cornice in the British Library's north elevation
- in the western main stair tower at first floor level, a small number of square ventilation openings in the north wall would be closed off.

7.7.21 The removal and alteration of these localised elements would have a small impact on the significance of the listed building; this impact would cause a small degree of harm at the low end of the less than substantial spectrum. This harm is set against the benefit of being able to construct additional facilities for the British Library which is predicated on the removal of the BLCC and its re-provision in this new location. The Ossulston Street external staircase is not included in the listing (Purcell CMP⁴⁵) and its loss causes no harm.

7.7.22 The magnitude of change on the British Library would be moderate and the effect direct, permanent, significant and moderate beneficial.

The North Terrace proposals

7.7.23 At first floor level, the north terrace would be extended and enclosed with a curved glazed screen and landscaped. The brick wall to Midland Road would be heightened, perforated for small windows towards St Pancras Station and adjoined by a canopy stretching between the existing east wing door onto the terrace and the new extension. East of the café, an area of brickwork, part of the north elevation, would be removed to enable a link to the new building.

Impact of the North Terrace proposals:

7.7.24 The proposals would result in a further remodelling of the north terrace which adjoins the former staff café, and which was enlarged and altered in 2007 when the BLCC was built. The proposed addition of elements of soft landscaping, a curved cloistered walkway to the west and north, and a low canopy to the east all would cause no harm but enhance this space and allow for a well-designed connection between the library and extension, and this is a benefit. The removal of a section of metal trellis, originally designed to screen the terrace from the loading bay beneath but already truncated in 2007 when the terrace was extended to the north, would cause a low level of less than substantial harm, as would the removal of a small section of north elevation and of the east-facing return of the adjoining stair tower to

enable the new link. The proposed heightening of the eastern brick wall to create privacy, and this and the inclusion of small windows in that wall to allow for glimpses of St Pancras Station can both be achieved without harm.

- 7.7.25** The magnitude of change on the British Library caused by the rear terrace changes would be major and the effect direct, permanent, significant and major beneficial.

Proposals for the interior to create links

- 7.7.26** Internally in the British Library, two links would be made between the public areas of the British Library and the extension, one at upper ground floor and one at first floor level. These links would be slim and would result in the relocation of original wall finishes and artefacts of two small sections of wall, including a bust of Walter Model von Thunen and his German mid-century stamp collection at upper ground floor level, and a bust of a mid-19th century Chief Librarian, Sir Anthony Panizzi, at first floor, as well as the reconfiguration of unlisted back-of-house spaces to the north of these two walls. The new links through these spaces would be finished in the same palette of materials as found in the adjoining public spaces, including Travertine wall cladding and stone flooring, but with simplified floor patterns.

Impact of the proposals for the interior to create links

- 7.7.27** The proposed interventions are small in scale and necessary to connect the British Library and the Proposed Development. They concern two areas of high significance, namely two internal north walls in the public part of the west wing. Because of this great sensitivity, the interventions have been designed with care, and they are appropriate. They would result in the relocation of original fabric, including the stamp collection and von Thunen bust to the immediate corridor extension. The Panizzi bust would be relocated following determination by the British Library's curator team, and it is not listed. The treatment of the extended corridor through unlisted back of house spaces is well-handled, with similar but slightly simplified finishes to those in the British Library's main adjoining public areas and sits comfortably adjacent to the public BL spaces. Therefore, no harm would be caused by these proposals.

- 7.7.28** The magnitude of change on the interior of the British Library would be minor and the effect direct, permanent, non-significant and minor beneficial.

Other external and internal proposals

- 7.7.29** The external escape stair which abuts the north elevation of the east wing near Midland Road requires adapting to function with the Proposed Development, and this necessitates new openings at lower ground level in its brick enclosure, and removal of its bottom flight of stairs. Other fabric would be preserved.

- 7.7.30** The enclosure of the site on Midland Road and Ossulston Street, constructed from original metal railings, would be altered in two places to the north to allow the construction of the new BLCC, new access from Midland Road, and include a relocated element on Midland Road.
- 7.7.31** At basement level 1, and in the north stair tower east of the Humanities reading room wing there would be a small amount of localised internal demolition and small-scale alterations for services, all near the north wall.
- 7.7.32** The north stair and service tower, an existing tall element that adjoins the western reading room wing, would be adapted in two places: at first floor level, 16 small square openings on its north elevation would be infilled, but this area would be concealed by the new BLCC block described above; on the roof of this wing which already houses plant there would be a new plant enclosure with integrated fans, of a similar size and height to those that exist.
- 7.7.33** The landscaping would include provision for cycle stands in the western undercroft on Ossulston Street and in other areas on Midland Road, and limited car parking off Ossulston Street, alongside a comprehensive landscaping scheme with planting contained in organic forms across the Site at street level, and much of the detail would be secured by condition.

Impact of Other Proposals

- 7.7.34** The new openings in the Midland Road stair tower are minimal and would not cause harm, and the removal of the bottom flight of stairs concerns unlisted fabric (see Purcell's CMP⁴⁵).
- 7.7.35** The part removal and part relocation of relatively small elements of the original boundary enclosure would cause at worst low level less than substantial harm where fabric would be removed, but this should be seen in the context of the survival of most of this boundary enclosure and its part relocation which largely mitigate the harm.
- 7.7.36** The internal basement demolition and internal north stair tower changes relate to unlisted fabric and would not cause harm.
- 7.7.37** The adjustments to the northern stair tower would be small in scale and concealed from view and would not cause harm.
- 7.7.38** The landscaping scheme overall would be beneficial and would enhance the setting of the British Library, and the cycle stands and car parking would be discreetly placed and small in scale; they would cause no harm.
- 7.7.39** The magnitude of change on the British Library through these miscellaneous changes would be minor and the effect direct, permanent, non- significant and minor adverse.

Crossrail 2 infrastructure

- 7.7.40** Much design work has been devoted to locating ventilation shafts, access routes and other spaces required for Crossrail 2 below ground, and there is one single storey staircase to lower levels which would be externally expressed as a separate structure outside the building envelope of the British Library.
- 7.7.41** There would be no harmful impact on the setting of the British Library caused by these small structures.
- 7.7.42** The magnitude of change on the British Library through the Crossrail 2 infrastructure works would be negligible and the effect direct, permanent, non-significant and negligible.

Summary

- 7.7.43** Overall, the effects on the British Library through interventions into its internal and external fabric, and effects through new construction on its setting amount to moderate magnitude of change, which would on balance be moderate beneficial, as well as permanent, direct and significant.
- 7.7.44** Table 10 summarises the construction and existence effects on the built heritage receptors on Site.

Table 10: Effects on the built heritage receptors on Site.

Heritage receptor	Grade	Sensitivity	Magnitude of change	Significance of effect
British Library	I	Exceptional	Moderate	Moderate beneficial
BLCC	unlisted	Low	Major	Minor adverse

7.8 Additional mitigation

- 7.8.1** Because no significant adverse effects would occur, no additional mitigation is required.

7.9 Residual effects

Construction effects

- 7.9.1** No mitigation has been proposed with respect to built heritage on-site as a result of the construction of the Proposed Development. As such the effects would be as reported in paragraphs 7.7.1 to 7.7.8

Existence effects

- 7.9.2** No mitigation has been proposed with respect to built heritage on-site as a result of the existence of the Proposed Development. As such the effects would be as reported in paragraphs 7.7.9 to 7.7.44.

7.10 Cumulative effects

- 7.10.1** The list of developments identified for assessing cumulative effects is presented in Appendix D3.
- 7.10.2** The Accurate Visual Representations (AVRs) provided as part of this ES demonstrate that none of the cumulative developments would have a significant effect on the setting of the British Library, the only receptor relevant for this assessment. Most cumulative developments are at a significant distance and cannot be seen in conjunction with the Proposed Development because they are concealed by other development. Only one development, Brill Place (Camden reference 2015/2704/P, ID number 1a and 1b) would be substantially visible in the setting of the Proposed Development. However, Brill Place is only visible in longer views from the north in conjunction with the Proposed Development (as shown in AVR no. 13). The Proposed Development itself is at significant distance and only visible in part with a secondary elevation, and effects on its setting are therefore not significant. Overall, there would be no cumulative effects.

7.11 Assessment summary

Construction effects

Table 11: Built heritage assessment summary – construction effects.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Temporary hoarding	Minor adverse, non-significant, direct, temporary effect on the setting of the British Library.	None required	Effect unchanged
Tower cranes	Minor adverse, non-significant, direct, temporary effect on the setting of the British Library.	None required	Effect unchanged
Welfare offices	Minor adverse, non-significant, direct, temporary effect on the setting of the British Library.	None required	Effect unchanged
Construction hoists	Minor adverse, non-significant, direct, temporary effect on the setting of the British Library.	None required	Effect unchanged
Demolition of the BLCC to enable construction of the Proposed Development	Loss of unlisted building which is excluded from the special interest of the British Library. Major magnitude of change, permanent, direct, minor adverse and non-significant.	None required	Effect unchanged

Existence effects

Table 12: Built heritage assessment summary – existence effects.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Extension to the British Library with the Proposed Development	A large addition on the Site where originally further British Library accommodation was planned. The effect is major beneficial as the building would enhance the existing largely vacant site and thereby the British Library's setting. Major beneficial, permanent, direct and significant.	None required	Effect unchanged
External alterations to the fabric of the British Library in the form of small areas of demolition.	Localised small scale works necessary to connect the listed building to the extension via new openings, and other minor works to the building envelope to enable the construction of the extension. Minor adverse, direct, permanent and non-significant.	None required	Effect unchanged
Crossrail 2 Infrastructure.	Minor works to enable vertical circulation with one staircase. Direct, permanent, non-significant and negligible.	None required	Effect unchanged

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Extension to the BL to provide facilities for the BLCC.	Re-provide facilities for the BLCC in an extension in sympathetic forms to the BL. Minor adverse, direct, permanent and non-significant.	None required	Effect unchanged
Alterations to the north terrace with new landscaping and walkway.	Addition of hard and soft landscaped features and a walkway. Direct, permanent, significant and major beneficial.	None required	Effect unchanged
Internal alterations to the fabric of the British Library through connections at upper ground and first floor level to the extension and through unlisted back-of-house spaces.	Minor effect through relocation of sensitive localised fabric, and negligible in unlisted areas. Minor magnitude, permanent, direct, non-significant and negligible.	None required	Effect unchanged

8 Climate change

8.1 Introduction

8.1.1 This section describes the likely significant effects of the Proposed Development on climate change, specifically the release of greenhouse gases (GHG) that impact on climate change.

8.2 Scope of the assessment

8.2.1 The EIA Scoping Report¹⁰ set out the proposed scope for the assessment of climate change effects. The scope focusses on GHG emissions only. Climate change resilience is addressed in Section 3.3 and therefore, an assessment of resilience to future climate change is scoped out of the EIA.

8.2.2 In relation to the construction of the Proposed Development, the GHG assessment accounts for:

- manufacture and production of construction materials
- transport of construction materials to Site
- construction site works.

8.2.3 In relation to the operation of the Proposed Development, the GHG assessment accounts for:

- operational energy
- operational transport for deliveries
- repair and replacement.

8.2.4 End of life emissions have also been assessed and reported.

8.2.5 The Scoping Report explains which elements of the GHG assessment have been scoped out of the assessment and why. In summary:

- treatment and disposal of waste materials during construction and operation has been scoped out of the assessment. Waste impacts are expected to be minimised through standard practice mechanisms, as well as the embedded mitigation detailed in Section 8.6
- water consumption during construction and operation has also been scoped out of the assessment as this is expected to result in a minor impact on GHG emissions (less than 5% of the total carbon footprint), based on previous project experience
- construction worker transport to and from the Site is expected to result in a minor impact on GHG emissions as it is assumed most would use the public transport network owing to the location of the Site. Therefore, effects from GHG emissions associated with

construction worker transport emissions are scoped out of the assessment⁴⁷

- GHG emissions associated with staff and visitors travelling to the Site are expected to be minimal due to the majority of staff and visitors expected to travel to the Site by public transport, cycling and walking. Vehicular movements for employees and guests will be restricted to Blue Badge holders only. Therefore, GHG emissions associated with staff and visitors travelling to the Site have been scoped out of the assessment.

8.2.6 A Scoping Opinion¹¹ was received from Camden Council on 28 June 2021. This included a number of comments relating to GHG emissions. Responses to these comments are detailed in Appendix D1. In summary:

- Camden Council agreed that GHG should be scoped into the ES and agreed with the scope of the GHG assessment as presented in the Scoping Report
- Camden Council agreed with the approach that all GHG emissions are significant in line with IEMA guidance
- Camden Council requested further detail on the criteria to be used to determine receptor sensitivity and magnitude of impact, and therefore level of effect significance
- Camden Council requested that all sources of GHG benchmarks and conversion factors should be included in the ES, as well as a summary of calculations.

8.3 Stakeholder engagement

8.3.1 An Energy Statement has been prepared for the Proposed Development and submitted as part of the planning application. Pre-application meetings were held with LBC to discuss and agree specific elements regarding the approach and compliance modelling for the Energy Statement. This resulted in the Energy Statement modelling including a robust provision of 'lab-enabled' areas.

8.4 Methodology

Overview

8.4.1 This section outlines the methodology for assessing the likely significant effects on GHG emissions from the construction and operation of the Proposed Development. Full details of the methodology, including relevant assumptions and limitations, can be found in Appendix D4.

⁴⁷ This is also in line with British Standard ES 15978:2011 on assessing the carbon lifecycle impact of buildings.

- 8.4.2** The general approach to estimating GHGs for the baseline and the Proposed Development has been to quantify GHG emissions combining:
- activity data – a measure of the quantity of an activity
 - GHG factor – a measure of the GHG emissions per unit of activity.
- based on the generalised formula
- activity data x GHG factor = GHG emissions or removals.
- 8.4.3** Guidance from the Institute of Environmental Management and Assessment (IEMA) on assessing GHG emissions and evaluating their significance⁴⁸ has also been used to inform the assessment. This guidance states that “in the absence of a defined quantitative threshold of GHG emissions, all GHG emissions can be deemed significant”. The IEMA guidance also provides a framework for ensuring a proportionate, good-practice approach to assessment is adopted.
- 8.4.4** Adverse or beneficial effects are considered to be significant, taking into account the IEMA guidance and the high sensitivity of the receptor.
- 8.4.5** GHG emissions are reported as tonnes of carbon dioxide equivalent (tCO₂e). CO₂e refers to a common unit employed to compare the emissions from various GHGs (methane, ozone, nitrous oxide etc.) based on their global-warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide (CO₂) with the same GWP.

Baseline methodology

- 8.4.6** Baseline GHG emissions associated with embodied carbon are considered zero as they have already occurred and are of a historical nature only. Similarly, with no construction activities currently taking place on site, baseline emissions associated with construction are considered zero.
- 8.4.7** The operational assessment baseline accounts for the impact of existing uses and operations on the Site. These uses result in GHG emissions predominantly from operational building energy consumption and operational transport for deliveries.

Construction effects methodology

- 8.4.8** GHG emissions from the construction of the Proposed Development include the impacts of manufacture and production of construction

⁴⁸ IEMA (2017). IEMA Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance. Available at: <https://www.iema.net/assets/newbuild/documents/IEMA%20GHG%20in%20EIA%20Guidance%20Document%20V4.pdf>

materials, construction site works and transport of construction materials to Site.

- 8.4.9** A Life Cycle Assessment⁴⁹ (LCA) was prepared using OneClick LCA, which is an IMPACT (Integrated Material Profile and Costing Tool) compliant software programme. The LCA assessed the whole life and embodied carbon associated with the Proposed Development. The LCA reported on whole life carbon emissions, including GHG emissions at practical completion (life cycle modules A1-A5) which has informed the construction GHG emissions reported in this assessment.

Operational effects methodology

- 8.4.10** GHG emissions from the operation of the Proposed Development include the impacts associated with operational energy consumption, operational transport for deliveries, repair and replacement and end-of-life.
- 8.4.11** Annual operational energy consumption of the Proposed Development was derived from the Energy Statement which was submitted with the planning application.
- 8.4.12** To calculate the GHG emissions associated with operational transport emissions, estimates were derived from the Transport Assessment for the Proposed Development's number and purpose of trips.

Cumulative effects

- 8.4.13** The global atmosphere is the receptor for GHG emissions. Due to the transboundary nature of GHG emissions, the effects of the Proposed Development have been considered in the context of national, regional and local GHG emissions and concentrations of GHGs in the atmosphere. All sources of emissions, including development projects, have a cumulative effect on atmospheric GHG concentrations and climate change. As such, the GHG emissions assessment is inherently cumulative and, therefore, a separate cumulative assessment is not required.

8.5 Baseline

- 8.5.1** As stated in paragraph 8.4.6, baseline GHG emissions associated with embodied carbon and construction works are zero.
- 8.5.2** Baseline GHG emissions associated with energy use have been estimated as 39 tCO₂e annually, averaged over the 60 year design life.

⁴⁹ British Library Extension Stage 2 Life Cycle Assessment prepared by Arup on behalf of The Applicant (2021)

- 8.5.3** Baseline GHG emissions associated with operational transport account for 161 tCO₂e annually.
- 8.5.4** Extrapolated to the comparative 60-year lifespan of the Proposed Development, the carbon emissions associated with the existing baseline over the 60-year design life are estimated at 12,016 tCO₂e (2,344 tCO₂e attributed to operational building energy consumption and 9,672 tCO₂e attributed to operational transport).
- 8.5.5** Table 13 presents the results of the baseline GHG emissions assessment by activity.

Table 13: Baseline GHG emissions resulting from operational transport and operational energy consumption (numbers presented are subject to rounding).

Life cycle stage	Average annual GHG emissions (tCO ₂ e)	Total GHG emissions (tCO ₂ e)
Operational transport	161	9,672
Operational energy	39	2,344
Total	200	12,016

8.6 Embedded and good practice measures

- 8.6.1** A Sustainability Statement has been produced by Arup for the Proposed Development which outlines how it will respond to national, regional and local planning policy related to sustainable design and construction, including the London Plan 2021, Camden Local Plan (2017) and associated Camden Planning Guidance (CPG).
- 8.6.2** The Sustainability Statement goes beyond the usual scope required by planning policy and uses the United Nations Sustainable Development Goals (UN SDGs) as a framework. It has also been shaped around BREEAM requirements, for which the Proposed Development is targeting BREEAM Excellent, with an aspirational target of BREEAM Outstanding.
- 8.6.3** Full details of the requirements and targets relating to GHG emissions are outlined in the Sustainability Strategy and are summarised here.
- 8.6.4** Project commitments:
- develop an Energy Statement compliant with London Plan Policy 5.2, 5.3 and Published New London Plan Policy SI2 (this has been completed, see paragraph 8.6.8 onwards)
 - deliver an all-electric building, reduce the level of greenhouse gas emissions arising from the leakage of refrigerants from building systems and install energy efficient external lighting and transport systems (ongoing)
 - target a 20% reduction in carbon dioxide emissions on-site from renewable technologies, including heat pumps (addressed in the Energy Statement, see paragraph 8.6.11)

- monitor, verify and report on energy performance (ongoing)
- undertake a LCA covering all building components under direct control of the project team at each RIBA stage to quantify embodied and whole-life carbon; the LCAs will be undertaken in line with BS EN 15978, RICS ‘whole life carbon assessment for the built environment’, the London Plan ‘Draft whole life-cycle carbon guidance’⁵⁰ and the Camden Planning Guidance energy efficiency and adaptation⁵¹ (completed for RIBA Stage 2)
- a pre-demolition audit will be completed including commitments to recycle 95% of non-hazardous construction, demolition and excavation waste; construction waste generation will be limited to a maximum of 6.5 t/100m² GIA; for the operational phase, recycling loop systems will be established and collection facilities will be provided including for paper, food, lights and batteries (ongoing)
- a Circular Economy Statement will be developed according to GLA’s Published New London Plan SI7 to demonstrate the re-use and recycle of demolished materials (BLCC), reduce material demand of the new design and design for re-use and recyclability (completed).

8.6.5 Opportunities identified as going ‘beyond’ these commitments include deriving embodied and whole-life carbon benchmarks, adopting whole-life carbon targets for each building typology to apply during detailed design, developing a proposal for an offsetting strategy to meet Net Zero aspirations taking into account emerging taxation and taxonomy issues, and sourcing 100% electricity from green certified suppliers in the base building.

8.6.6 The measures outlined in the Sustainability Strategy will be tracked and managed through the project’s BREEAM assessment. Where appropriate, these measures have been incorporated into the GHG assessment.

8.6.7 The Energy Statement demonstrates compliance of the Proposed Development with all relevant London Plan, GLA Energy Assessment guidance, and Camden Local Plan requirements.

8.6.8 In line with the requirements of the London Plan, energy consumption and carbon dioxide emissions for the Proposed Development have been assessed at each stage of the ‘be lean, be clean, be green’ energy hierarchy, with overall savings and resulting off-set payment calculated. The Proposed Development has prioritised overall carbon

⁵⁰ Mayor of London (2020) Draft whole life-cycle carbon assessments guidance. Available at: https://www.london.gov.uk/sites/default/files/wlc_guidance_consultation_version_oct_2020.pdf

⁵¹ Camden Planning Guidance: Energy efficiency and adaptation (2021) Available at: <https://www.camden.gov.uk/documents/20142/4823269/Energy+efficiency+CPG+Jan+2021.pdf/96c4fe9d-d3a4-4067-1030-29689a859887?t=1611732902542>

savings through use of passive design features and taken a whole life carbon approach to reviewing effectiveness of proposals.

8.6.9 The Proposed Development has an ambitious energy and carbon reduction strategy. Through a combination of innovative and best practice energy reduction measures, the Proposed Development achieves an overall reduction in regulated carbon dioxide emissions of 39%; beyond the GLA's minimum threshold of 35% via on-site measures.

8.6.10 The following mitigation measures have been included in the Energy Statement and accounted for as part of the GHG assessment:

- optimising passive design through means such as enhanced thermal envelope, envelope air tightness with low infiltration rates daylighting to allow potential to turn off the perimeter lighting automatically saving lighting energy consumption, and passive solar gain
- optimised envelope design through development of the proposed façade, for example applying suitable glazing ratios and shading systems depending on orientation and integrating the use of blinds for dynamic enhancement to performance
- active design measures, for example smart sensing and control, low energy LED lighting, a ventilation strategy including mechanical ventilation and air handling units with high efficiency heat-recovery devices
- following the cooling hierarchy and measures to reduce overheating risk
- air-source heat-pumps located in the roof of the Proposed Development to meet the building's heating and cooling demand, as well as recovering waste heat for use within the building, water-to-water heat-pumps and the opportunity to use additional renewable technology to be incorporated for example PV panels.

8.6.11 Energy performance will be monitored post-construction and the building's systems subject to seasonal commissioning until optimal performance is maintained under automatic control and the building operator is confident to manage ongoing operation. Data will be passed to the Mayor's post construction monitoring platform and live feedback to be provided occupants and visitors to communicate how the building is performing.

8.6.12 The Transport Assessment submitted alongside the planning application commits to 20% of parking spaces will be fitted with active charging facilities and 80% with passive provision to conform with the Camden Planning Guidance: Transport (2021) requirements.

8.6.13 The GHG assessment is based of the best available information at the time of assessment and takes account of embedded and good practice measures where possible at this current design stage. All embedded

and good practice measures relevant for GHG emissions have been presented here, even for measures where it has not been possible to assess and report their benefits.

8.7 Assessment

Construction and operational effects

8.7.1 GHG emissions associated with the Proposed Development account for approximately 166,043 tCO₂e over its 60-year design life. 34% of GHG emissions (56,546 tCO₂e) are from the construction phase and 66% of GHG emissions (109,498 tCO₂e) are associated with the 60-year operational phase.

8.7.2 Table 14 presents the results of the Proposed Development's GHG emissions assessment.

Table 14: GHG emissions (tCO₂e) for the Proposed Development broken down by life cycle stage (numbers presented are subject to rounding).

Life cycle stage	Average annual GHG emissions (tCO ₂ e)	Total GHG emissions (tCO ₂ e)	Total net GHG emissions (tCO ₂ e)
Construction phase			
Manufacture and production of construction materials	10,759	53,795	53,795
Construction traffic and site operations	550	2,750	2,750
Total construction phase	11,309	56,546	56,546
Operational phase			
Operational transport	1,060	63,630	53,958
Operational energy	89	5,344	2,999
Repair and replacement	654	39,263	39,263
End-of-life	21	1,261	1,261
Total operational phase	1,825	109,498	97,482
Total construction and operation	13,134	166,043	154,027

8.7.3 The Proposed Development results in an overall net increase in GHG emissions of 154,027 tCO₂e over the 60-year design life, and therefore has a significant adverse effect.

8.7.4 The two highest contributors to the net increase in emissions are operational transport and embodied carbon from manufacture and

production of construction materials (representing 35% of the net increase each). The third highest contributor to the net increase in emissions (25%) is associated with repair and replacement cycles.

8.7.5 The net increase in emissions associated with operational transport is due to an increase in delivery trips, with 38 trips a day in the baseline increasing to 250 trips a day for the Proposed Development. It should be noted that transport decarbonisation has not been factored into the modelling of operational transport emissions in this assessment; the transport sector is anticipated to decarbonise rapidly in light of the of the Department for Transport's Transport Decarbonisation Plan⁵².

8.7.6 Using the most recent GHG emissions data from UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2019⁵³ the total contribution of the Proposed Development's annual net GHG emissions as a proportion of the annual LBC GHG footprint for 2019 is 1.34%.

8.7.7 Using the same data source but for all London boroughs, the Proposed Development's annual net GHG emissions represent 0.045% of GHG emissions.

8.7.8 When compared to the Committee on Climate Change's (CCC's) UK carbon budgets⁵⁴, the net emissions for the Proposed Development represent <1% of GHG emissions. This is set out in Table 15.

Table 15: Comparison of net GHG emissions associated with the Proposed Development as a proportion of the CCC's UK carbon budgets.

CCC UK carbon budget	Proposed Development's net annual emissions for timeframe (tCO ₂ e)	Percentage of CCC UK carbon budget
4th carbon budget (2023 to 2027)	45,236	0.0023%
5th carbon budget (2028 to 2032)	27,492	0.0018%
6th carbon budget (2033 to 2037)	8,123	0.0016%

8.8 Additional mitigation

8.8.1 No additional mitigation has been identified for the GHG emissions associated with the Proposed Development at this stage of design. The mitigation measures incorporated into the design so far are described in Section 8.6.

⁵² Department for Transport (2021) Decarbonising Transport: a better, greener Britain. Available at: <https://www.gov.uk/government/publications/transport-decarbonisation-plan>

⁵³ Grand Total 2019 Emissions for Camden in the Local Authority territorial CO₂ emissions estimates 2005-2019 (kt CO₂) - Full dataset. Available at: <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2018>

⁵⁴ Committee on Climate change UK carbon budgets. Available at: <https://www.theccc.org.uk/about/our-expertise/advice-on-reducing-the-uks-emissions/>

8.9 Residual effects

Construction effects

- 8.9.1** No additional mitigation has been proposed with respect to construction GHG emissions effects. As such the effects would be as reported in Section 8.7.

Operational effects

- 8.9.2** No additional mitigation has been proposed with respect to operational GHG emissions effects. As such the effects would be as reported in Section 8.7.

8.10 Cumulative effects

- 8.10.1** The assessment results presented in Section 8.7 consider the significance of GHG emissions in the context of global GHG emissions and concentrations in the global atmosphere. As such, the assessment is inherently cumulative.

8.11 Assessment summary

Construction effects

Table 16: Greenhouse gas assessment summary – construction effects.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Manufacture and production of construction materials	Permanent increase of GHG emissions (53,795 tCO ₂ e) on the global atmosphere – significant adverse effect.	None proposed	Effect unchanged
Construction site works including plant activities, transport of construction materials and removal of waste from site.	Permanent increase of GHG emissions (2,750 tCO ₂ e) on the global atmosphere – significant adverse effect.	None proposed	Effect unchanged

Operational effects

Table 17: Greenhouse gas assessment summary – operational effects.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Operational building energy consumption	Permanent increase of GHG emissions (2,999 tCO ₂ e) on the global atmosphere – significant adverse effect.	None proposed	Effect unchanged
Operational transport	Permanent increase of GHG emissions (53,958 tCO ₂ e) on the global atmosphere – significant adverse effect.	None proposed	Effect unchanged

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Repair and replacement	Permanent increase of GHG emissions (39,263 tCO ₂ e) on the global atmosphere – significant adverse effect.	None proposed	Effect unchanged
End-of-life	Permanent increase of GHG emissions (1,261 tCO ₂ e) on the global atmosphere – significant adverse effect.	None proposed	Effect unchanged

9 Daylight, sunlight, overshadowing, solar glare and obtrusive light

9.1 Introduction

9.1.1 This section describes the likely significant effects of the Proposed Development on the daylight and sunlight amenity to the occupiers of surrounding sensitive properties and overshadowing to surrounding amenity areas. Additionally, solar glare to surrounding road and rail viewpoints and the potential for obtrusive light have been assessed.

9.1.2 This chapter should be read in conjunction with the supplementary Daylight and Sunlight Impact On Neighbouring Properties Report submitted as part of this Application.

9.2 Scope of the assessment

9.2.1 The EIA Scoping Report¹⁰ set out the proposed scope for the assessment of daylight, sunlight, overshadowing and solar glare.

9.2.2 The Building Research Establishment (BRE) ‘Site Layout Planning for Daylight and Sunlight – A guide to good practice’⁵⁵ (hereafter the BRE Guidelines) suggest that residential properties have the highest requirement for daylight and sunlight and state, in paragraph 2.2.2 that *“the guidelines are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed”*. Therefore, this section focuses on those residential buildings surrounding the Site which would have the potential to be affected by the existence of the Proposed Development.

9.2.3 Additionally, in line with the BRE Guidelines, public and private amenity areas surrounding the Site which have the potential to be affected by the Proposed Development are considered within this section. Paragraph 13 Appendix I of the BRE Guidelines states that *“adverse impacts occur when there is a significant decrease in the [...] amount of sunlight reaching an open space”*.

9.2.4 The BRE Guidelines also reference the potential for solar glare effects arising from developments comprising large areas of glazing or reflective cladding. The solar glare assessment is therefore undertaken by reference to the BRE Guidelines as well as Commission internationale de l’éclairage (CIE) Collection on Glare (CIE 146:2002)⁵⁶, which provides guidance on when reflections can result

⁵⁵ BRE. (2011) *Guidelines: Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice*. Available at: <https://www.bregroup.com/services/testing/indoor-environment-testing/natural-light/>

⁵⁶ Commission internationale de l’éclairage 146:2002 & CIE 147:2002 Collection on glare (2002)

in adverse effects. The potential for solar glare from the existence of the Proposed Development visible from sensitive viewpoints surrounding the site has been assessed, including locations where they may affect a road user or train driver's line of sight.

9.2.5 A detailed assessment of obtrusive light was also undertaken.

9.2.6 A Scoping Opinion¹¹ was received from Camden Council on 28 June 2021. This included three comments relating to daylight, sunlight, overshadowing and solar glare. Responses to these comments are detailed in Appendix D1. In summary:

- a qualitative approach to the solar glare assessment is sufficient provided any solar glare sources identified can be addressed by embedded mitigation. The solar glare assessment indicates that no significant solar reflections are expected to occur as a result of the glazed elements of the Proposed Development façades, for the assessed viewpoints. As such, no quantitative solar glare analysis is deemed necessary
- locations and viewpoints for the solar glare assessment should be agreed, where possible, with Network Rail and Camden Council
- clarification on potential solar glare effects upon surrounding future planned buildings.

9.3 Stakeholder engagement

9.3.1 A pre-application meeting was held with Camden Council on 4 July 2021 where the expected effects were discussed. Camden Council were receptive to the results however no formal feedback was received.

9.4 Methodology

Overview

9.4.1 This section outlines the methodology for assessing the likely significant effects on daylight, sunlight, overshadowing, solar glare and obtrusive light from the existence of the Proposed Development. Full details of the methodology, including relevant assumptions and limitations, can be found in Appendix D4.

9.4.2 The following scenarios were considered and are reported within this section:

- baseline
- the Proposed Development.

9.4.3 In ascertaining the likely daylight, sunlight and overshadowing effects, comparisons have been made to ascertain the relative impact in relation to the baseline condition.

- 9.4.4** Solar glare is not a comparative assessment and therefore the potential for solar glare effects is assessed in absolute terms upon the façade of the Proposed Development. This is considered to represent the worst-case scenario, as the consideration of consented schemes may serve to shield views of the Proposed Development.

Daylight and sunlight

- 9.4.5** In relation to daylight and sunlight, the following methods of assessment were applied to determine the baseline conditions:

- Vertical Sky Component (VSC)
- No Sky Line (NSL)
- Annual Probable Sunlight Hours (APSH).

- 9.4.6** VSC represents the amount of visible sky that can be seen from that reference point, from over and around an obstruction in front of the window.

- 9.4.7** NSL is a measure of the distribution of diffuse daylight within a room.

- 9.4.8** APSH is a measure of sunlight that a given window may expect over a year period. North-facing windows may receive sunlight on only a handful of occasions in a year, and windows facing eastwards or westwards will only receive sunlight for some of the day. The BRE Guidelines state that only windows with an orientation within 90 degrees of south need be assessed. Total APSH and winter Probable Sunlight Hours (PSH) have been assessed.

Overshadowing

- 9.4.9** The BRE Guidelines provide that an area of amenity space or garden may be adversely affected if less than half (50%) of the area is prevented by buildings from receiving two hours of sunlight on the 21st March and the area which can receive some sun on the 21st March is less than 0.8 times its former value (see Appendix D4). Only amenity areas outside of the Site boundary are assessed, as matters within the Site are considered a design issue.

Solar glare

- 9.4.10** Road junctions and train lines are considered sensitive in relation to solar glare and therefore the relevant viewpoints at traffic junctions from which the Proposed Development will be visible have been considered, where glare can cause temporary blinding to road users or train drivers. Typically, elements considered to be reflective are either glazed apertures or metal cladding.

Obtrusive Light

- 9.4.11** The Obtrusive Light assessments carried out followed the guidance set out in:

- Institute of Lighting Professionals (ILP) Guidance Note GN01/21 The Reduction of Obtrusive Light (2021)
- Institute of Lighting Professionals (ILP) PLG 04 Guidance on Undertaking Environmental Lighting Impact Assessments.

9.4.12 An Obtrusive Light Assessment considers a number of parameters, these are outlined in GN01/21 and parameters relevant to the each of the lighting systems are simulated and analysed in the following Appendices:

- Potential for Obtrusive light due to public realm lighting:
 - Appendix I6: Obtrusive Light Assessment – Public Realm Lighting
 - Appendix I7: Obtrusive Light Assessment – Public Realm Lighting: Methodology
- Potential for Obtrusive light due to internal lighting to British Library Extension:
 - Appendix I8: Obtrusive Light Assessment – Interior Lighting.

9.4.13 The primary parameter considered in both Obtrusive light assessments is ‘*Maximum values of vertical illuminance on properties*’ (spill lighting).

9.4.14 The Site falls within Environmental Zone 4: Urban areas with Height District Brightness. Maximum acceptable values for spill lighting on residential properties are 25 lux (pre-curfew – before 11pm) and 5 lux (post-curfew – after 11pm).

9.4.15 The full methodology for the obtrusive light assessments are included within Appendix I6.

Baseline methodology

Daylight and sunlight

9.4.16 The baseline scenario is depicted in drawing 10445/04/01/01-03 within Appendix I1.

Sensitive receptors

9.4.17 The study area of receptors sensitive to daylight and sunlight was determined by firstly undertaking a review of the surrounding land uses for all surrounding properties in proximity to the Site to identify any receptors that should be considered as potentially sensitive. Information and data sources from the Council (Valuation Office

Agency (VOA) website⁵⁷) and Google Maps⁵⁸ were utilised. Based on professional judgement, properties, amenity areas and viewpoints in close enough proximity to the site to be affected by the Proposed Development were identified.

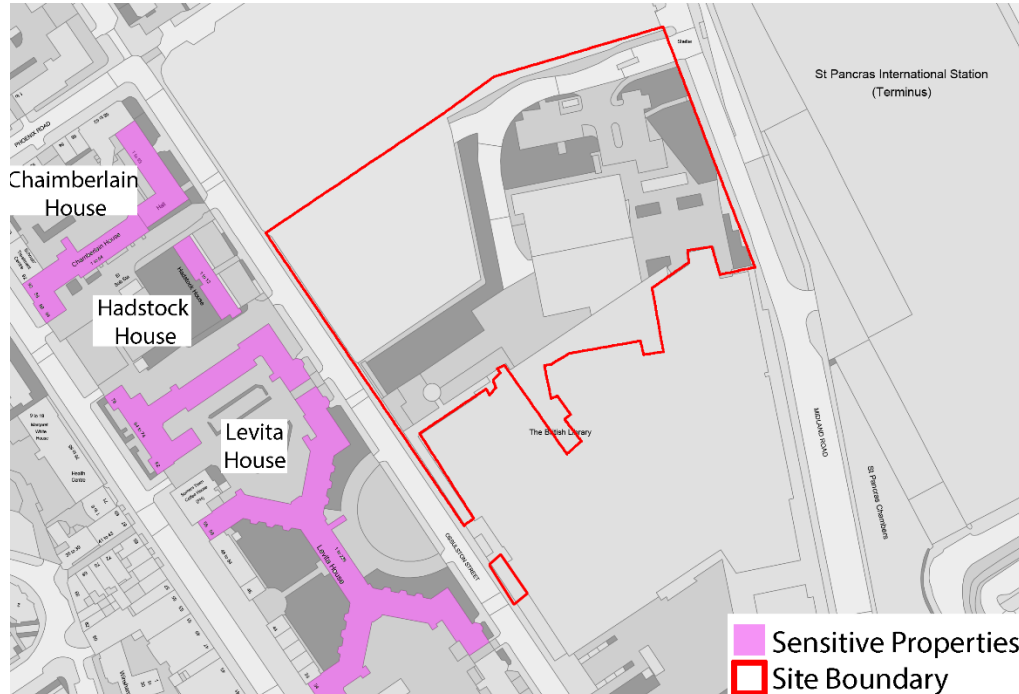
9.4.18 Based on the above, a three-dimensional (3D) model was then developed for the surrounding context.

9.4.19 Section 2.2 of BRE state that the guidelines are intended for “*adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms*”. Therefore, only surrounding residential buildings of long term, permanent occupancy has been considered as sensitive receptors. As industry standard, buildings of commercial use are not considered sensitive to changes in daylight and sunlight conditions from new developments and therefore are not included within this assessment.

9.4.20 Residential buildings identified as sensitive receptors within the study area are listed below and shown in Figure 9.

- Chamberlain House
- Hadstock House
- Levita House.

Figure 9: Sensitive receptors – daylight and sunlight.



9.4.21 Owing to the orientation of the Site facing windows at Hadstock House, this building is not considered sensitive to sunlight alterations

⁵⁷ VOA. *Council Tax valuation list*. Available at: <http://cti.voa.gov.uk/cti/refs.asp?lcn=0&EBAR=1>

⁵⁸ Google. *Google Maps*. Available at: <https://www.google.com/maps>

as a result of the Proposed Development and is therefore not assessed in relation to sunlight.

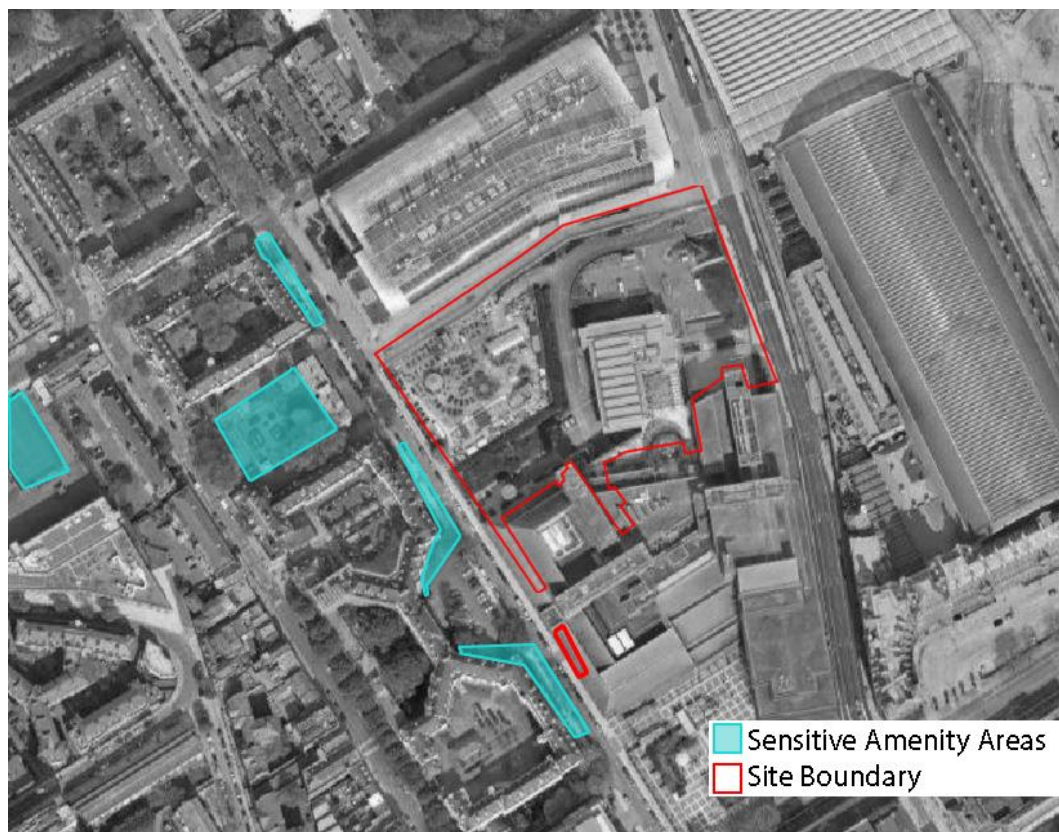
Overshadowing

9.4.22 In relation to overshadowing, the baseline conditions were determined by means of transient overshadowing plots. The transient overshadowing plots determine the extent of overshadowing on surrounding public and private amenity areas. This method has been used initially as a screening exercise to determine the approximate hours of the day an amenity area is cast in shadow in the baseline condition and with the Proposed Development in situ.

9.4.23 As the sun's path is in the south, only the amenity areas located from the north-west through to the north-east of the Site have been considered sensitive. Sensitive receptors within this study area are listed below and shown in Figure 10.

- Hadstock House rear communal garden and play area
- Chalton Sports Court
- outdoor amenity space surrounding Chamberlain House
- outdoor amenity space surrounding Hadstock House
- outdoor amenity space surrounding Levita House.

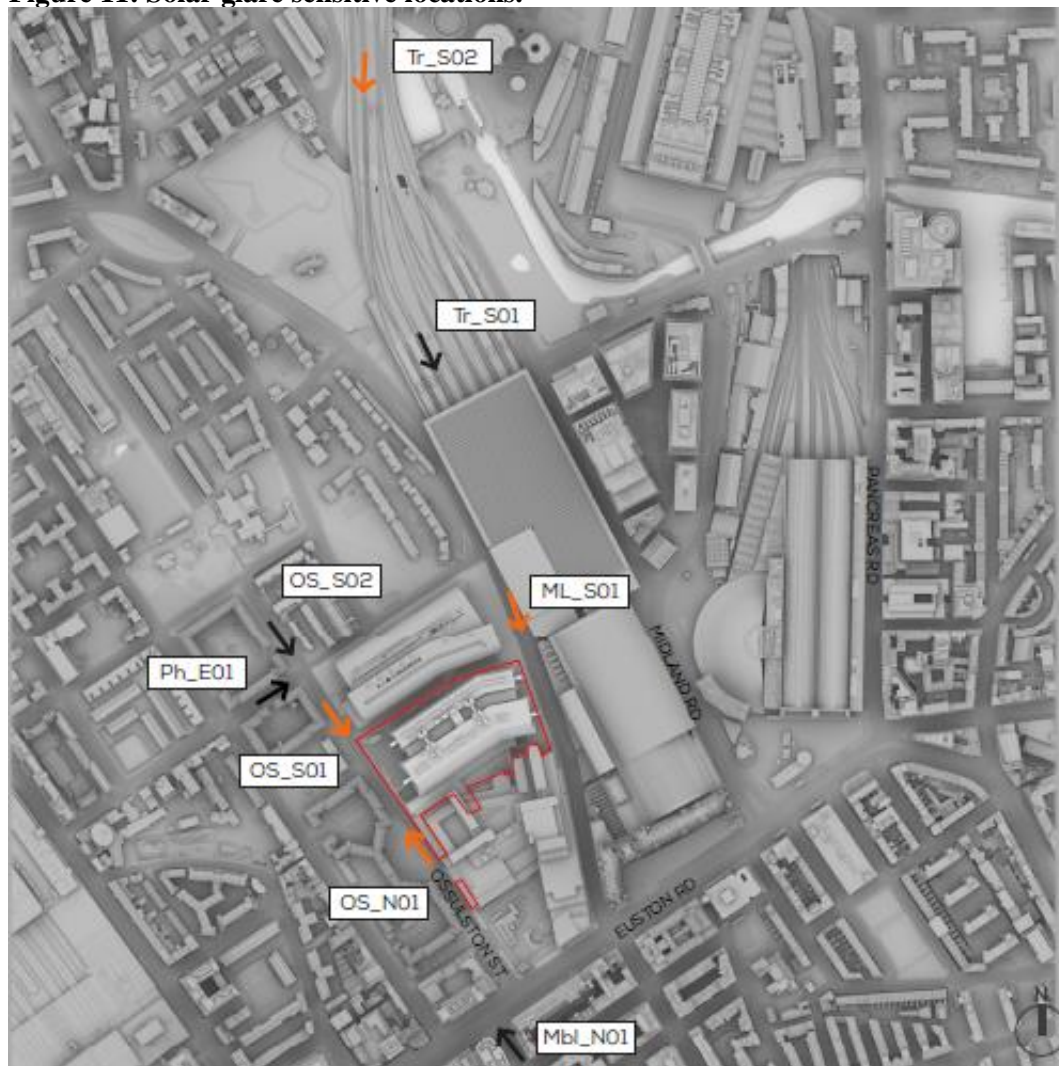
Figure 10: Sensitive receptors – overshadowing.



Solar glare

- 9.4.24** The assessment of solar glare is not comparative; the fact it may occur in the baseline does not necessarily justify its occurrence as a result of a Proposed Development. Therefore, the assessment considers the effect of the Proposed Development in absolute terms.
- 9.4.25** The sensitive locations assessed are presented in Figure 11 where arrows indicate position and direction of the sensitive viewpoint (referenced numbers are preceded with an 'N', 'S', 'E' or 'W' to indicate direction of view).

Figure 11: Solar glare sensitive locations.



- Building visible from the viewpoint
→ Building NOT visible from the viewpoint

Obtrusive light

- 9.4.26** The assessment of obtrusive light is not comparative; the fact it may occur in the baseline does not necessarily justify its occurrence as a result of a Proposed Development. Therefore, the assessment

considers the effect of the Proposed Development in absolute terms and in relation to relevant guidance.

Existence effects

- 9.4.27** The Proposed Development scenario is depicted in drawing 10445/-/09/01/01-03 in Appendix I1.
- 9.4.28** The Proposed Development scenario considers the existence of the Proposed Development in the context of the surrounding existing environment as described above.
- 9.4.29** In ascertaining daylight, sunlight and overshadowing effects of the Proposed Development, the light conditions comparisons have been made against the baseline scenario.
- 9.4.30** The assessment of solar glare and obtrusive light is not comparative; the fact it may occur in the baseline does not necessarily justify its occurrence as a result of a Proposed Development. Therefore, the assessment considers the effect of the Proposed Development in absolute terms.
- 9.4.31** The BRE Guidelines, CIE Collection on Glare and ILP Guidance Notes do not advise on significance of an effect. As such, in the context of the Proposed Development, based on professional judgement, the significance of effects has been assessed as follows:
- ‘moderate’ or ‘major’ effects are deemed to be ‘significant’
 - ‘negligible’ or ‘minor’ effects are considered ‘not significant’.
- 9.4.32** All daylight, sunlight, overshadowing, solar glare and obtrusive light effects are considered ‘direct’, ‘permanent’ and ‘long-term’.

9.5 Baseline

Overview

- 9.5.1** In the baseline condition, the Site comprises low rise buildings, including the BLCC, areas of hardstanding and carparking.
- 9.5.2** The existing surrounding buildings are primarily residential medium rise buildings to the west and north-west and the FCI located to the north of the Site.
- 9.5.3** The Site is bound by Dangoor Walk to the north, Midland Road to the east, the existing British Library buildings to the south and Ossulston Street to the west.

Daylight and sunlight

- 9.5.4** The baseline daylight and sunlight conditions for the three identified surrounding sensitive receptors have been assessed. The baseline results are presented in full in Appendix I2 and summarised below.
- 9.5.5** In the baseline condition 492 windows within 330 rooms have been considered in relation to daylight. For VSC, 171 of the 492 (34.8%) windows meet the BRE Guidelines criteria and for NSL, 234 of the 330 (70.9%) rooms meet the BRE Guidelines criteria.
- 9.5.6** In relation to sunlight, a total of 57 rooms within two buildings have been considered, of which 55 (96.5%) meet the BRE Guidelines criteria for both APSH and winter PSH.

Overshadowing

- 9.5.7** The baseline overshadowing condition is shown in Appendix I3 Overshadowing Results. Due to the low rise and cleared nature of the Site, no shadow is cast as a result of structures within the Site to surrounding amenity areas on 21 March, 21 June or 21 December.

9.6 Embedded and good practice measures

- 9.6.1** During the design process expert advice was given in relation to the proposed massing with a view to reducing the potential for significant daylight, sunlight and overshadowing effects.
- 9.6.2** The potential for solar glare has been considered throughout the design process and as such, solar glare mitigation is embedded within the design. This includes considerations such as orientation of the reflective elements on the façade.
- 9.6.3** The assessment of the potential for obtrusive light has shown that there no likely significant effects occurring as a result of internal lighting, which has been assessed on a worst case scenario basis, and external artificial lighting, which been designed in line with best practice measures as per ILP Guidance.

9.7 Assessment

Existence effects

Daylight

- 9.7.1** The full daylight assessment results for the existence of the Proposed Development can be found within Appendix I2 and are summarised in Table 18.
- 9.7.2** A total of 492 windows serving 330 rooms were assessed for daylight within the three neighbouring residential buildings. For VSC, of the

492 windows assessed, 302 (61.4%) meet the BRE Guidelines criteria. For NSL, of the 330 rooms assessed, 250 (75.8%) would meet the BRE Guidelines criteria. There are instances of windows and rooms which are affected beyond BRE Guidelines criteria (i.e. experience alterations in VSC and NSL greater than 20%) at all three buildings, which are discussed in further detail below.

Table 18: Summary of full daylight assessment for existence of the Proposed Development scenario.

Address	VSC						NSL					
	Total windows assessed	Total windows that meet BRE criteria	20-29.9% reduction	30-39.9% reduction	40%+ reduction	Total affected	Total rooms assessed	Total rooms that meet BRE criteria	20-29.9% reduction	30-39.9% reduction	40%+ reduction	Total affected
Chamberlain House	43	43	0	0	0	0	27	25	0	1	1	2
Hadstock House	62	4	28	16	14	58	24	20	3	1	0	4
Levita House	387	255	26	36	70	132	279	205	15	16	43	74
Total	492	302	54	52	84	190	330	250	18	18	44	80

Chamberlain House

- 9.7.3** This block of flats is located to the north-west of the Proposed Development. The east and south facing elevations have been assessed, with the east facing façade defined by recessed access decks. It was not possible to obtain layouts for this property.
- 9.7.4** A total of 43 windows serving 27 rooms were assessed for daylight within this building.
- 9.7.5** For VSC, all windows assessed would meet the BRE Guidelines criteria and so are considered to experience a negligible effect.

- 9.7.6** For NSL, 25 of the 27 (92.6%) rooms assessed would meet the BRE Guidelines criteria and are therefore considered to experience a negligible effect.
- 9.7.7** Of the two affected rooms, one would experience an alteration in NSL between 30-39.9% which is considered a moderate adverse effect whilst one would experience an alteration in excess of 40% which is considered a major adverse effect.
- 9.7.8** Both rooms which see NSL reductions are located beneath recessed balconies and directly opposite an existing building, and such inherently have limited sky visibility as shown by their baseline values of 22% and 25.8% (based on the assumed layouts). Given that both windows serving these rooms have very low baseline VSC levels below 2%, the absolute reduction in sky visibility is unlikely to be perceptible to the occupants.
- 9.7.9** Overall, all windows would meet the BRE Guidelines criteria for VSC, with two instances of moderate to major adverse impacts in relation to NSL. However, despite the significant percentage change, the absolute reduction in daylight would not result in a meaningful change in daylight terms to the occupants. Owing to this fact and to the high level of BRE Guideline compliance, the effect is considered negligible to minor adverse (not significant).
- 9.7.10** Further contextual considerations on the magnitude of impact to this property and whether the overall effect can be considered appropriate in line with relevant policy is provided in the supplementary Context Report.

Hadstock House

- 9.7.11** This block of maisonette flats is located to the west of the Proposed Development. The east facing elevation has been assessed, which is defined by recessed access decks. It was not possible to obtain layouts for this property and therefore room uses have been assumed.
- 9.7.12** A total of 62 windows serving 24 rooms were assessed for daylight within this building.
- 9.7.13** For VSC, four of the 62 (6.5%) windows assessed would meet BRE Guidelines criteria and are therefore considered to experience a negligible effect.
- 9.7.14** Of the 58 affected windows, 28 would experience an alteration in VSC between 20-29.9% which is considered a minor adverse effect. 16 would experience an alteration between 30-39.9% which is considered a moderate adverse effect. The remaining 14 windows would experience an alteration in excess of 40% which is considered a major adverse effect.
- 9.7.15** Twelve of the affected windows rooms are assumed (based on visual observation) to be kitchens smaller than 13m² which is the minimum

required size of a habitable room and experience major adverse impacts. These are located on the ground and second storey beneath the access deck. As such, these windows are obstructed in the baseline condition, as shown by their comparatively lower baseline levels of VSC (ranging from 4.5% to 9.2%). Given their low baseline levels of VSC, the percentage reduction is disproportionate to what the occupant is likely to experience, with the absolute loss of VSC being between 4-6.9%.

- 9.7.16** The remaining 46 windows serve assumed bedrooms on the first and third storeys. Each of these windows would experience primarily minor to moderate adverse impacts, with two instances of major adverse impacts. In the baseline condition, the bedrooms receive uncharacteristically high levels of VSC considering the urban location, owing to their unobstructed view across the existing Site. With the Proposed Development in situ, the 24 of the bedrooms would continue to retain 15% to 21% VSC, despite the alteration. The remaining 22 would retain between 10-14% VSC.
- 9.7.17** For NSL, 20 of the 24 (83.3%) rooms assessed would meet the BRE Guidelines criteria and are therefore considered to experience a negligible effect.
- 9.7.18** Of the four affected rooms, two bedrooms and a kitchen would experience an alteration in NSL between 20-29.9% which is considered a minor adverse effect whilst one kitchen would experience an alteration between 30-39.9% which is considered a moderate adverse effect.
- 9.7.19** Each of the affected rooms would retain 45% to 75% NSL.
- 9.7.20** Overall, for VSC 12 kitchen windows experience major adverse impacts and 46 bedrooms windows would see impacts ranging from minor to moderate adverse, and two bedroom windows would see major adverse impacts. Four occurrences of NSL impacts occur, ranging from minor to moderate adverse. It should be noted that the 12 kitchen windows are obstructed in the baseline condition, exaggerating the scale of impact. The majority of impacts, which are minor to moderate adverse, occur to bedrooms, which may be considered less important in relation to daylight. Therefore, given the above, the overall effect is considered to range from negligible (not significant) to moderate adverse (significant).
- 9.7.21** Further contextual considerations on the magnitude of impact to this property and whether the overall effect can be considered appropriate in line with relevant policy is provided in the supplementary Context Report.

Levita House

- 9.7.22** This block of flats is located to the south west of the Proposed Development. The north and east facing elevations, including the Site-

facing windows located in the courtyard have been assessed. The façades are defined by recessed balconies. It was not possible to obtain layouts for this property and therefore the layouts have been assumed.

- 9.7.23** A total of 387 windows serving 279 rooms were assessed for daylight within this building.
- 9.7.24** For VSC, 255 of the 387 (65.9%) windows assessed would meet the BRE Guidelines criteria and are therefore considered to experience a negligible effect.
- 9.7.25** Of the 132 affected windows, 26 would experience an alteration in VSC between 20-29.9% which is considered a minor adverse effect and 36 would experience an alteration between 30-39.9% which is considered a moderate adverse effect. The remaining 70 windows would experience an alteration in excess of 40% which is considered a major adverse effect.
- 9.7.26** Of the affected windows, a total of 88 have baseline VSC levels ranging from 0.1% to 6% VSC in the baseline condition. Whilst these windows would see minor to major adverse impacts, given the low baseline values, the alteration is unlikely to be perceptible to the occupant. A total of 23 of these of these windows are known to serve kitchens smaller than 13m² which is the minimum required size of a habitable room. The remaining 55 windows of are of unknown use.
- 9.7.27** The remaining 44 windows all see very good levels of VSC in the baseline condition owing to the largely open nature lack of the Site in its current state. With the Proposed Development in situ, each of these windows would continue to receive in excess of 20% VSC in the majority of cases, despite the minor to major adverse impacts.
- 9.7.28** For NSL, 205 of the 279 (73.5%) rooms assessed would meet the BRE Guidelines criteria and are therefore considered to experience a negligible effect.
- 9.7.29** Of the 74 affected rooms, 15 would experience an alteration in NSL between 20-29.9% which is considered a minor adverse effect and 16 would experience an alteration between 30-39.9% which is considered a moderate adverse effect. The remaining 43 rooms would experience an alteration in excess of 40% which is considered a major adverse effect.
- 9.7.30** The rooms seeing alterations receiving very good levels of daylight distribution in the baseline condition, owing to the largely open nature of the existing Site. All but five rooms seeing minor to moderate impacts they would retain 50-75% NSL, with those falling short retaining 30-50% NSL, each of which are obstructed in the baseline condition. Of the 43 rooms seeing major adverse impacts, 22 are kitchens smaller than 13m² which is the minimum required size of a habitable room. A further nine rooms seeing major adverse impacts

would retain 35-55% NSL, with the remaining 12 retain NSL levels below 35%.

9.7.31 Overall, 44 windows would retain levels of VSC above 20%, and the remaining 88 impacted windows have very low baseline values of VSC, and so the absolute alteration in light is unlikely to be perceptible to the occupants. NSL impacts ranging from minor to major adverse, with approximately half of the rooms retaining above 50% NSL. Therefore, taking into consideration the low baseline levels of daylight at most windows and rooms which results in an exaggerated percentage change, as well as the retained levels of daylight, the effect to this building is considered negligible (not significant) to moderate adverse (significant).

9.7.32 Further contextual considerations on the magnitude of impact to this property and whether the overall effect can be considered appropriate in line with relevant policy is provided in the supplementary Daylight and Sunlight Impact On Neighbouring Properties Report submitted as part of this Application.

Sunlight

9.7.33 The full sunlight assessment for existence of the Proposed Development scenario can be found within Appendix I2 Daylight and Sunlight Results.

9.7.34 A total of 82 windows serving 57 rooms were assessed for sunlight within two neighbouring residential buildings; Chamberlain House and Levita House. Owing to the location of Hadstock House in relation to the Site and orientation of its windows, this building is not relevant for assessment and is therefore not included.

9.7.35 All 57 rooms assessed within these two buildings would meet the BRE Guidelines criteria for APSH and winter PSH. Therefore, both buildings would experience a negligible (not significant) effect.

Overshadowing

9.7.36 The full overshadowing assessment for existence of the Proposed Development scenario can be found within Appendix I3.

9.7.37 The potential overshadowing impacts of the Proposed Development on surrounding amenity areas have been assessed against the baseline scenario which is summarised below.

Transient overshadowing

21 March

9.7.38 On this day, shadow would be cast from the Proposed Development in a westerly direction from 08:00GMT, which moves in a clockwise direction throughout the day. None of the amenity areas are affected

by shadow from the Proposed Development on this day. As such, all the areas assessed would be compliant with BRE Guidelines recommendations and would experience no reduction in the areas receiving direct sunlight on 21 March with the Proposed Development in situ.

21 June

9.7.39 On this day shadow is cast from the Proposed Development from 06:00BST, which moves in a clockwise direction throughout the day. At this time, a small strip of shadow passes across Hadstock House rear communal garden and play area, clearing by 09:00BST. This area sees direct sunlight for the remainder of the day.

9.7.40 The other areas assessed would be unaffected by the Proposed Development on this day.

21 December

9.7.41 On this day shadows are longer owing to the lower position of the sun. Shadow would be cast from the Proposed Development in a north-westerly direction from 09:00GMT, which moves in clockwise throughout the day. No amenity areas assessed would be affected by the Proposed Development on this day.

Summary

9.7.42 Overall, all amenity areas considered are not affected by the Proposed Development on 21 March and are therefore compliant with the BRE Guidelines. Whilst Hadstock House rear communal garden and play area would experience a period of overshadowing on 21 June, the majority of the area would receive direct sunlight for the remainder of this day. Therefore, all amenity areas are considered to experience a negligible (not significant) overshadowing effect.

Solar glare

9.7.43 The full solar glare assessment is provided in Appendix I4, with the sensitive locations assessed shown in Figure 11.

9.7.44 As stated in paragraph 9.4.19, the assessment has been undertaken from nearby locations which are considered sensitive in terms of solar glare. These include traffic junctions and trainlines. The number of viewpoints tested per location varies according to the number of lanes, direction of travel and number of traffic lights. This is specified in the discussion below where appropriate.

9.7.45 Following a review of the relevant study area (approximately 500m radius from the Site which is the radius from which the Proposed Development is visible), a total of eight locations were assessed. The assessment considers the potential occurrence of solar reflections at these locations from the Proposed Development owing to its size and

areas of glazing on the façade. The duration of solar reflections as well as their proximity to a road user's or train driver's line of sight have been considered.

9.7.46 At the following four viewpoints assessed, the Proposed Development is not visible and therefore no effect occurs:

- Mbl_N01
- Ph_E01
- OS_S02
- Tr_S01.

9.7.47 The remaining four viewpoints are discussed in detail below.

Road viewpoint: OS_N01

9.7.48 The viewpoint travelling north along Ossulston Street has been assessed. There is potential for instances of solar glare visible on a thin strip of the façade within 20° to 30° of a driver's line of sight between 09:00 GMT and 10:00 GMT, 11:00 GMT and 12:00 GMT and 15:00 GMT and 16:00 GMT throughout the year. The potential instances of reflection would occur for a very short period on a small portion of the façade above the visor line, which the driver may deploy to mitigate any effects. Therefore, the effect at this viewpoint is considered minor adverse (not significant).

Road viewpoint: OS_S01

9.7.49 The viewpoint travelling south along Ossulston Street has been assessed. There is potential for instances of solar glare visible on a thin strip of the façade within 15° to 30° of a drivers' line of sight between 11:00 GMT and 12:00 GMT and 18:00GMT and 19:00 GMT throughout the year. The potential instances of reflection would occur for a very short period on a small portion of the façade above the visor line, which the driver may deploy and to mitigate any effects. Therefore, the effect at this viewpoint is considered minor adverse (not significant).

Road viewpoint: ML_S01

9.7.50 The viewpoint travelling south along Midland Road is assessed. There is potential for instances of solar glare visible on a thin strip of the façade within 15° to 30° of a drivers' line of sight between 08:00 GMT and 09:00 GMT during the mid-seasons. The potential instances of reflection would occur for a very short period on a small portion of the façade above the visor line, which the driver may deploy and to mitigate any effects. Therefore, the effect at this viewpoint is considered minor adverse (not significant).

Trainline viewpoint: TR_S02

- 9.7.51** The viewpoint travelling south along the St Pancras Station approach has been assessed. There is potential for instances of solar glare visible on thin strip of the façade at 10° of a drivers' line of sight between 06:00 GMT and 07:00 GMT during the summer months. Owing to the limited portion of the façade which sees potential instances of reflection, these would occur for a very short period and above the visor line, which the driver may deploy to mitigate any effects. Therefore, the effect at this viewpoint is considered minor adverse (not significant).

Operational effects

Obtrusive light

- 9.7.52** The detailed results of the obtrusive light assessment are presented within the following technical reports appended to this ES:
- Potential for Obtrusive light due to internal lighting to British Library Extension:
 - Appendix I5: Obtrusive Light Assessment – Interior Lighting
 - Potential for Obtrusive light for surrounding areas:
 - Appendix I6: Obtrusive Light Assessment – Surrounding areas.
- 9.7.53** Overall, the assessments illustrate that the spill light to neighbouring residential properties is below the defined maximum value pre- and post-curfew.
- 9.7.54** Levita House is the receptor in closest proximity to the Site, and therefore the property exposed to the most potential spill light from the Proposed development. The maximum potential light spill on residential windows at this receptor due to the proposed public realm lighting is 0.56 lx. The maximum potential light spill on residential windows due to the Proposed Development's internal lighting is 3.5 lx. The combined 4.06 lux is below the 5 lux threshold outlined in ILP Guidance. The majority of windows would experience no impacts. Therefore, the overall effect in terms of light intrusion arising as a result of the Proposed Development would therefore be negligible (not significant).

9.8 Additional mitigation

- 9.8.1** No additional mitigation is proposed.

9.9 Residual effects

Existence effects

- 9.9.1** No mitigation has been proposed with respect to effects related to daylight, sunlight, overshadowing and solar glare. As such the effects would be as reported in Section 5.7.

Operational effects

- 9.9.2** No mitigation is required with respect to effects related to obtrusive light. As such the effects would be as reported in Section 5.7.

9.10 Cumulative effects

- 9.10.1** Owing to their relative scale, distance from the Site and sensitive receptors, no surrounding cumulative schemes in Appendix D3 were considered relevant to the assessment results presented in Sections 9.7 to 9.9. As such cumulative assessment is not required in relation to daylight, sunlight, overshadowing, solar glare and obtrusive light.

9.11 Assessment summary

Existence effects

Table 19: Daylight, sunlight, overshadowing, solar glare and obtrusive light assessment summary – existence effects.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Alteration in daylight amenity to neighbouring properties	Negligible to Minor Adverse effect (not significant) to <ul style="list-style-type: none"> Chamberlain House. Negligible (not significant) to Moderate adverse effect (significant) to <ul style="list-style-type: none"> Hadstock House Levita House. 	None required	Effect unchanged
Alteration in sunlight amenity to neighbouring properties	Negligible effect (not significant) at all receptors (Chamberlain House and Levita House).	None required	Effect unchanged
Overshadowing to amenity areas	Negligible effect or no impact (not significant) at all amenity areas in the vicinity of the Site.	None required	Effect unchanged
Solar glare from the façades of the Proposed Development	Negligible to Minor Adverse effects or no impact (not significant) at all locations assessed.	None required	Effect unchanged

Operational effects

Table 20: Daylight, sunlight, overshadowing, solar glare and obtrusive light assessment summary – operational effects.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Light pollution from the proposed commercial buildings of the Proposed Development	No impact or negligible effect (not significant) at all receptors.	None required	Effect unchanged

10 Electronic interference

10.1 Introduction

10.1.1 This section describes the likely significant effects of the Proposed Development on electronic interference. Electronic interference assessment is concerned with effects on transmission paths of broadcast television (TV) (e.g. terrestrial and satellite) and radio services and emergency services telecommunications (e.g. fixed point-to-point links).

10.2 Scope of the assessment

10.2.1 The EIA Scoping Report¹⁰ set out the proposed scope for the assessment of electronic interference. In summary, the scope focuses on emergency services telecommunications only, with effects of the Proposed Development on broadcast TV and radio services scoped out; see Table 21.

10.2.2 The operation of the Proposed Development does not give rise to effects beyond those assessed in relation to the existence of the Proposed Development.

Table 21: Electronic interference assessment scope.

Sub-topic	Construction	Existence	Operation
Terrestrial TV	×	×	n/a
Satellite TV	×	×	n/a
Broadcast radio	×	×	n/a
Emergency services telecommunications	✓	✓	n/a

10.2.3 A Scoping Opinion¹¹ was received from LBC on 28 June 2021. Camden Council did not provide any comments, and the FCI provided three relating to electronic interference. Responses to these comments are detailed in Appendix D1. In summary, the following comments were noted:

- the FCI advised the current emergency services communication system will at a future point be replaced by the Emergency Services Network (ESN)
- the FCI noted there may be disruption caused to terrestrial tv and radio services due to the existence of the Proposed Development
- the FCI requested electronic magnetic interference effects on themselves are considered.

10.2.4 The comments from the scoping opinion have been considered in this ES.

10.3 Stakeholder engagement

- 10.3.1** Consultation has taken place with Airwave, an emergency services telecommunications provider, to determine the potential effects the Proposed Development may have on their services.
- 10.3.2** Consultation is ongoing with FCI regarding potential electromagnetic interference during construction and operation of the Proposed Development. Measures embedded in the design include relocating the central incoming UKPN room within the British Library and the transforming equipment within the Proposed Development. Consultation will continue with the FCI through detailed design and construction in order to agree a process going forward.

10.4 Methodology

Overview

- 10.4.1** This section presents the methodology for assessing the likely significant effects on electronic interference, specifically emergency services telecommunications, from construction and existence of the Proposed Development.

Baseline methodology

- 10.4.2** Publicly accessible transmitter information⁵⁹ has been used to review the current profile of emergency services telecommunications in the Central London area. Specifically, emergency services fixed point-to-point telecommunications links that pass through or close to the Site were identified.

Construction effects

- 10.4.3** During construction, large temporary structures such as cranes (including moving parts, e.g. boom) may cause interference to an emergency services fixed point-to-point telecommunications link if it comes within a particular distance of the radio transmission path between the two ends of the link. The particular clearance distance required to avoid interference to the radio transmission is a function of several parameters: frequency of radio transmission, the length of the link, and the location of the Proposed Development in relation to the radio transmission path between the two ends of the link.
- 10.4.4** During consultation, Airwave indicated that it is not possible to identify the specific construction effects at this stage. Instead, consideration has been given to the potential for significant effects

⁵⁹ Ofcom. Spectrum information portal. Available at:
<https://www.ofcom.org.uk/spectrum/information/spectrum-information-system-sis/spectrum-information-portal>

based on the equipment likely to be used in construction and the presence of an emergency services fixed point-to-point telecommunications link passing through or near the Site.

Existence effects

10.4.5 A new development may cause interference to an emergency services fixed point-to-point telecommunications link if it comes within a particular distance of the radio transmission path between the two ends of the link. The particular clearance distance required to avoid interference to the radio transmission is a function of several parameters: frequency of radio transmission, the length of the link, and the location of the Proposed Development in relation to the radio transmission path between the two ends of the link.

10.4.6 The effects of the Proposed Development on the emergency services telecommunications have been assessed by identifying the emergency services fixed point-to-point telecommunications links in the vicinity of the Proposed Development using the Ofcom's Spectrum Information System (SIS)⁵⁹ portal and subsequent consultation with Airwave regarding potential effects.

10.4.7 Any unmitigated impact on emergency services telecommunications as a result of the Proposed Development has been assessed as a significant effect.

Cumulative effects

10.4.8 The cumulative effects assessment consisted of the following:

- examining the location of the committed developments listed in Appendix C in relation to the radio transmission path of relevant emergency services fixed point-to-point telecommunications links
- identifying developments which may have a potential for cumulative effects.

10.5 Baseline

10.5.1 Based on a desktop study of the Ofcom's SIS portal, there is one emergency services fixed point-to-point telecommunication link that passes across the Site. This is identified in Table 22.

Table 22: Emergency service fixed point-to-point telecommunication link(s) that passes across the Site.

Telecommunication link operator	Licence identifier
Airwave Solutions Limited	113205/2

10.6 Embedded and good practice measures

- 10.6.1** There are no relevant embedded or good practice measures included in the Proposed Development relevant to the electronic interference assessment.

10.7 Assessment

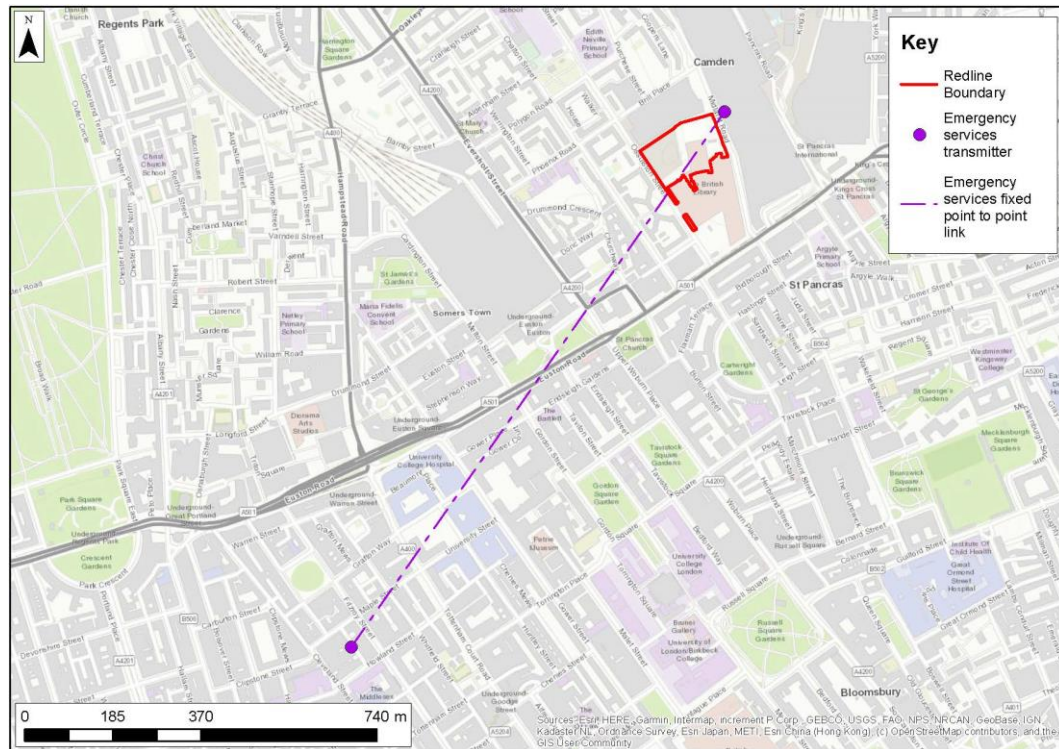
Construction effects

- 10.7.1** Consultation with Airwave has identified that the use of tower cranes and other temporary structures on the Site may give rise to effects. They concluded that further engagement will be required during the construction of the Proposed Development to identify any potential interference with their fixed point-to-point telecommunications link, and where relevant to agree mitigation measures to limit or avoid any interference during construction.
- 10.7.2** It is expected that this would be the subject of a planning condition. On that basis it can be expected that impacts on the fixed point-to-point telecommunications link during construction would be avoided or fully mitigated. The effect from construction is therefore assessed as not significant.

Existence effects

- 10.7.3** Consultation with Airwave has concluded the south-east corner of the Proposed Development would interfere with the radio transmission path of the fixed point-to-point telecommunications link; see Figure 12. This has been assessed as a significant effect.
- 10.7.4** Further engagement will be required to agree appropriate mitigation measures with Airwave. It is expected that this would be the subject of a planning condition.

Figure 12: Impacts from the Proposed Development on the emergency services fixed point-to-point telecommunication link passing across the Site.



10.8 Additional mitigation

10.8.1 Where an emergency services fixed point-to-point, telecommunications link is interfered with by a development, in general there are two main methods for mitigation:

- the link antennas are physically repositioned at the same locations to avoid transmitting across the site of the development
- the transmission link is rerouted in order to avoid transmitting across the site of the development. This may involve introducing a new intermediate link or moving one or more of the existing link antennas to a new location.

10.8.2 Further consultation will be undertaken with Airwave at the detailed design stage to agree the appropriate mitigation method for the Proposed Development. It is expected that this would be the subject of a planning condition.

10.9 Residual effects

Construction effects

10.9.1 No additional mitigation has been proposed with respect to construction electronic interference effects. As such the effects would be as reported in Section 5.7.

Existence effects

- 10.9.2** Given the nature of the potential impacts, with the relevant outlined mitigation measures in place as identified in Section 10.8, it is anticipated there would be no residual impacts on the fixed point-to-point telecommunications link. The residual effect would therefore be not significant.

10.10 Cumulative effects

- 10.10.1** The committed list of developments identified for assessing cumulative effects is presented in Appendix D3.
- 10.10.2** From analysis of the locations of the identified developments, none of these are located within the radio transmission path between the two ends of the emergency services fixed point-to-point telecommunications link. They therefore would not interfere with the link, and it can be concluded that cumulative effects would not occur.

10.11 Assessment summary

Construction effects

Table 23: Electronic interference assessment summary – construction effects.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Large temporary structures such as cranes	It is expected that a planning condition would be put in place requiring engagement with Airwave during the construction stage to identify potential interference and agree suitable mitigation measures. On that basis it can be expected that impacts on the fixed point-to-point telecommunications link during construction would be avoided or fully mitigated. The effect from construction is therefore assessed as not significant.	None required	Effect unchanged

Existence effects

Table 24: Electronic interference assessment summary – existence effects.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Physical massing	Obstruction of the transmission path of the emergency services fixed point-to-point link from the completed Proposed Development would result in a significant effect.	Agreement on appropriate mitigation measures with Airwave. This may involve repositioning link antennas or rerouting the transmission link. It is	The functioning of the link would not be impacted. The effect would be not significant.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
		expected that this would be the subject of a planning condition.	

11 Environmental wind

11.1 Introduction

11.1.1 This section describes the likely significant effects of the Proposed Development on wind microclimate. It outlines the methodology, the baseline conditions and the likely significant environmental wind effects associated with the existence and operation of the Proposed Development. Excessive windiness at ground level may have significant effects on pedestrian comfort and safety. Success in addressing environmental wind issues can enhance the usability of external public spaces including building entrances.

11.2 Scope of the assessment

11.2.1 The EIA Scoping Report¹⁰ set out the proposed scope for the assessment of wind microclimate.

11.2.2 A Scoping Opinion¹¹ was received from Camden Council on 28 June 2021. This included three comments from Camden Council and FCI relating to wind microclimate on page 8. Responses to these comments are detailed in Appendix D1. In summary, the following comments were noted:

- it was recommended that given the height of the Proposed Development, the assessment should be informed by physical wind tunnel testing or computational fluid dynamics testing
- effects to on-site users should be considered and assessed
- focus should be given to the conditions along Dangoor Walk.

11.3 Stakeholder engagement

11.3.1 No consultation specific to this assessment has been undertaken with stakeholders.

11.4 Methodology

Overview

11.4.1 This section outlines the methodology for assessing the likely significant effects on wind microclimate from the combined existence and operation of the Proposed Development. Full details of the methodology, including relevant assumptions and limitations, can be found in Appendix D4.

Baseline methodology

- 11.4.2** The criteria used to describe windiness in this assessment are the Lawson criteria, developed for the London Docklands Development Corporation⁶⁰. The Lawson criteria are useful to describe windiness in terms of acceptability for particular activities. In this assessment, the words ‘Sitting’, ‘Standing’, ‘Strolling’ and ‘Business walking’, ‘access’ are used to describe comfort levels of windiness and ‘general public’, ‘able-bodied’ and ‘restricted access’ are used to describe safety levels of windiness as described in the Lawson criteria.

Combined existence and operational effects

- 11.4.3** The existence and operational effects describe the wind conditions experienced by users in the immediate external surroundings, both inside and outside the Site boundary, once the Proposed Development has been constructed.
- 11.4.4** Effects have been assessed as significant beneficial or adverse or negligible with reference to the intended use of the space and the assessed wind conditions as described according to the Lawson criteria.

Cumulative effects

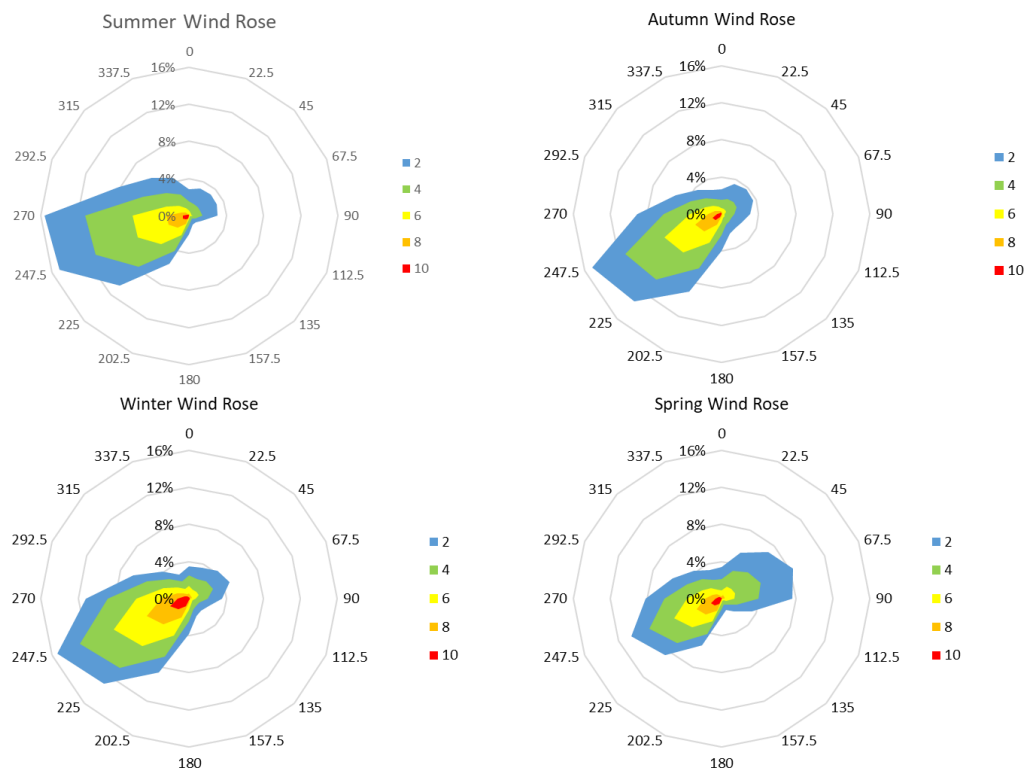
- 11.4.5** The cumulative effects describe the wind conditions experienced by users in the immediate external surroundings, both inside and outside the Site boundary once the Proposed Development has been constructed and future developments in the surroundings are also present. The list of developments identified for assessment is presented in Appendix D3. Cumulative effects have been assessed in the same way as described for the existence and operational effects.

11.5 Baseline

- 11.5.1** Wind conditions on the Site have been assessed using the existing wind climate data below. Figure 13 shows statistical, mean hourly wind speeds and wind directions derived from several London airports that were combined, and adjusted to the Site using the ESDU methodology⁶¹. These wind roses represent the wind behaviour (direction, frequency and speed) across all times of day for each season.

⁶⁰ TV Lawson of Bristol University, extracted from “The evaluation of the windiness of a building complex before construction”, TV Lawson, London Docklands Development Corporation

⁶¹ ESDU, (2012).84011 *Wind speed profiles over terrain with roughness changes*. Available at: https://www.esdu.com/cgi-bin/ps.pl?sess=unlicensed_1200422114217xsj&t=doc&p=esdu_84011d-r1

Figure 13: Assessment wind roses⁶².

11.5.2 Overall, the wind climate in London is similar to the rest of the UK:

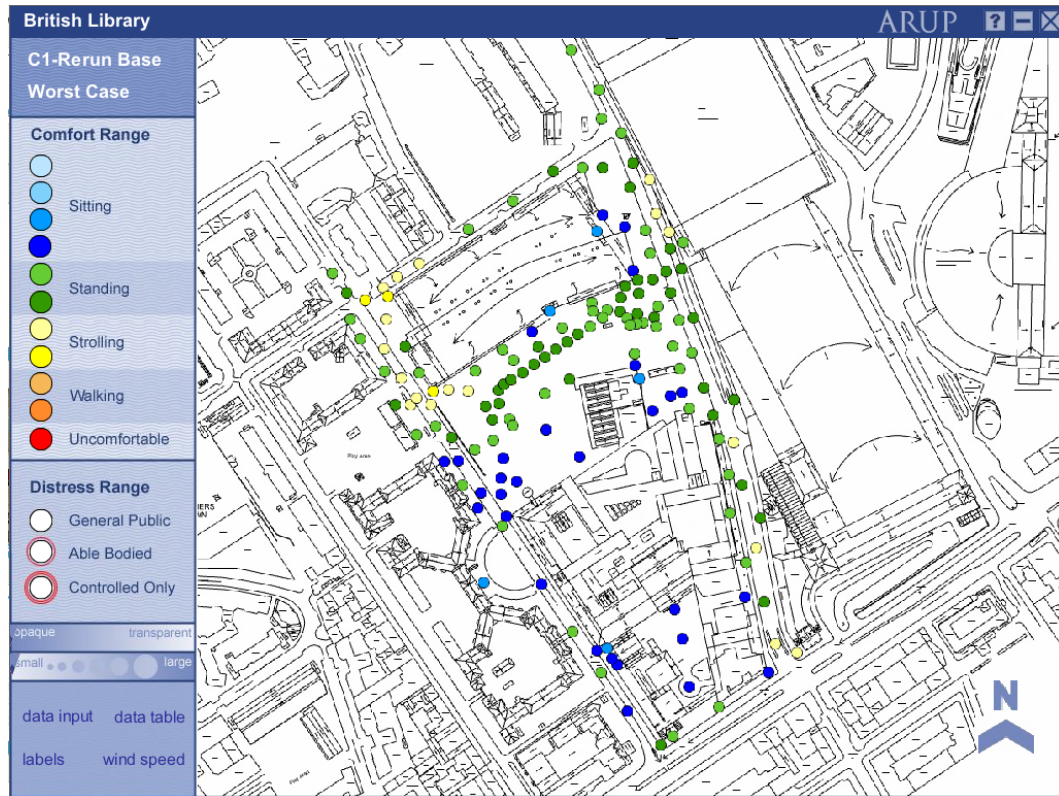
- the westerly winds are the most frequent and strongest winds in London at all times of the year. These winds are relatively warm and wet. Most cases of serious annoyance due to strong winds around buildings are caused by these winds
- north-east winds are almost as common as the south-west winds during the springs but are weaker. They are often associated with cold dry conditions. North-east winds can be more unpleasant than suggested by their strength due to the lower than average air temperature
- winds from the north-west can be as strong as the south-west winds but are less frequent. They are relatively cold and can bring snow in winter
- south-east winds are generally warm and light and are rarely associated with uncomfortable ground level winds.

11.5.3 The Site is mostly flat with very little access to the public. The Site is generally sheltered from oncoming winds in all directions by the existing buildings. It is slightly impacted by the prevailing south-west winds due to an acceleration around the western corners of the FCI.

⁶² London LDDC uncorrected from Open Country.

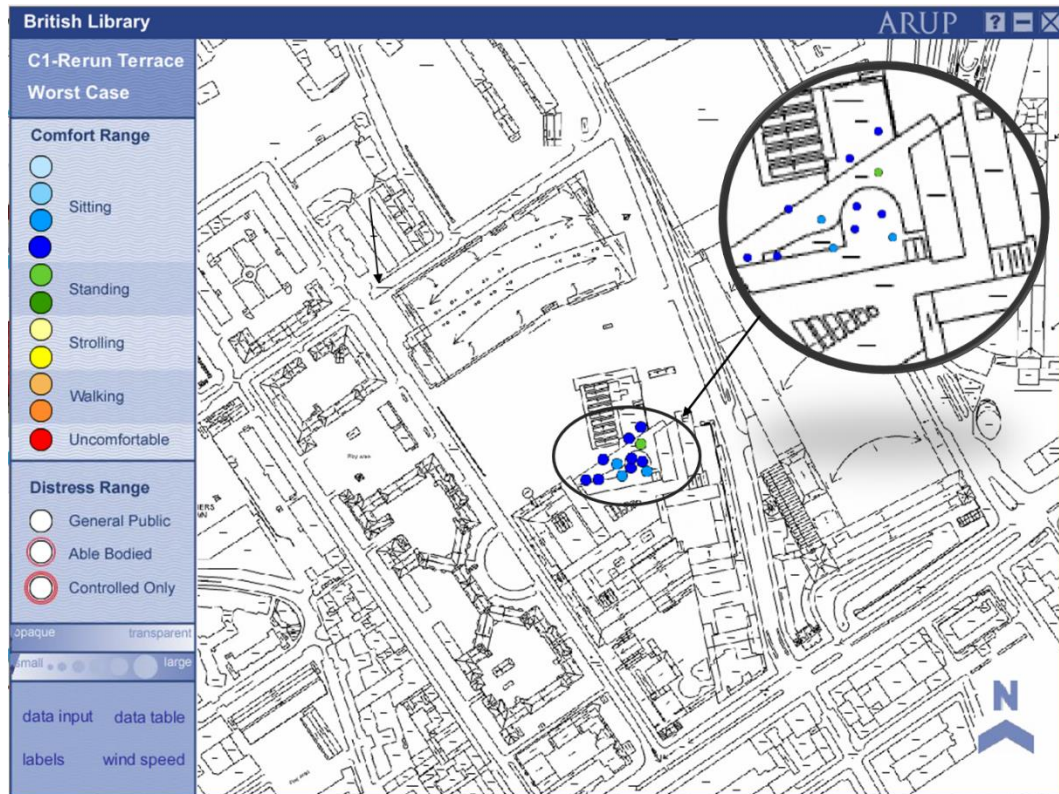
- 11.5.4** As shown in Figure 14, conditions within and external to the Site are within acceptable ‘Sitting’ to ‘Strolling’ range and there are no safety exceedances.

Figure 14: Plot of the worst-case wind conditions in the baseline scenario recorded in the wind tunnel.



- 11.5.5** There is an accessible terrace connected to the existing British Library building. Conditions on the terrace in the worst case are within acceptable ‘Sitting’ to ‘Standing’ ranges.
- 11.5.6** A plot showing the worst-case wind conditions on the existing terrace in existing surroundings is shown in Figure 15.

Figure 15: Plot of the worst-case wind conditions in the baseline scenario recorded in the wind tunnel on the existing British Library terrace.



11.6 Embedded and good practice measures

11.6.1 Massing options were discussed with the design team early in the design process to reduce the impact from wind. From these discussions, the most sensitive activities, such as café spaces, were placed on the more sheltered eastern side of the Proposed Development.

11.7 Assessment

Combined existence and operational effects

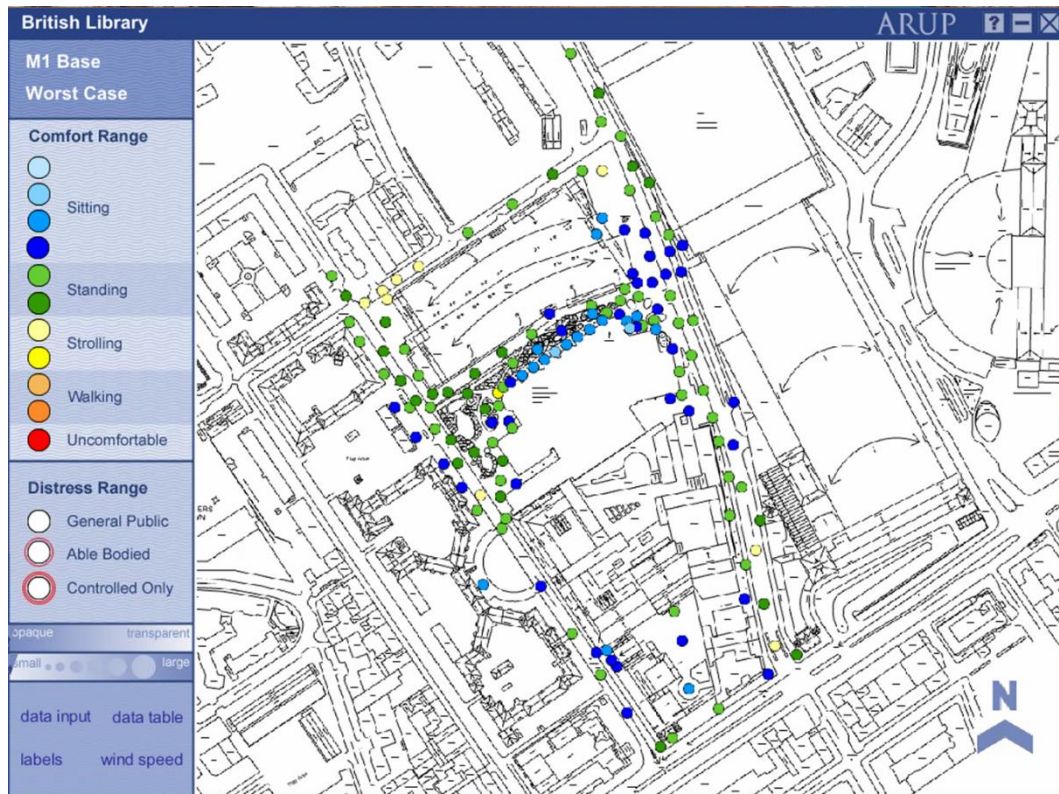
11.7.1 The Proposed Development, shown as the red building in Figure 16, was tested with the proposed landscaping features.

Figure 16: Photo of the model of the Proposed Development with existing surroundings in the wind tunnel (view looking north).



- 11.7.2** Worst-case conditions in this scenario are in the ‘Sitting’ to ‘Strolling’ ranges. Conditions around the western side of the existing FCI improve from mostly ‘Strolling’ to mostly ‘Standing’.
- 11.7.3** A single location at the north-west corner of the Proposed Development recorded ‘Strolling’ conditions. There are no entrances at this location and therefore no mitigation is required.
- 11.7.4** A single location to the north-east of the FCI also recorded ‘Strolling’ conditions. There are no entrances at this location and therefore no mitigation is required.
- 11.7.5** Conditions with the Proposed Development and proposed landscaping in place are acceptable for the proposed uses and are therefore negligible.
- 11.7.6** A plot showing the worst-case wind conditions at ground level around the Proposed Development with proposed landscaping in existing surroundings is shown in Figure 17.

Figure 17: Plot of the worst-case wind conditions recorded in the wind tunnel around the Proposed Development in existing surroundings.



11.7.7 Conditions on the proposed upper-level terrace were also tested. A photo of the model is shown in Figure 18.

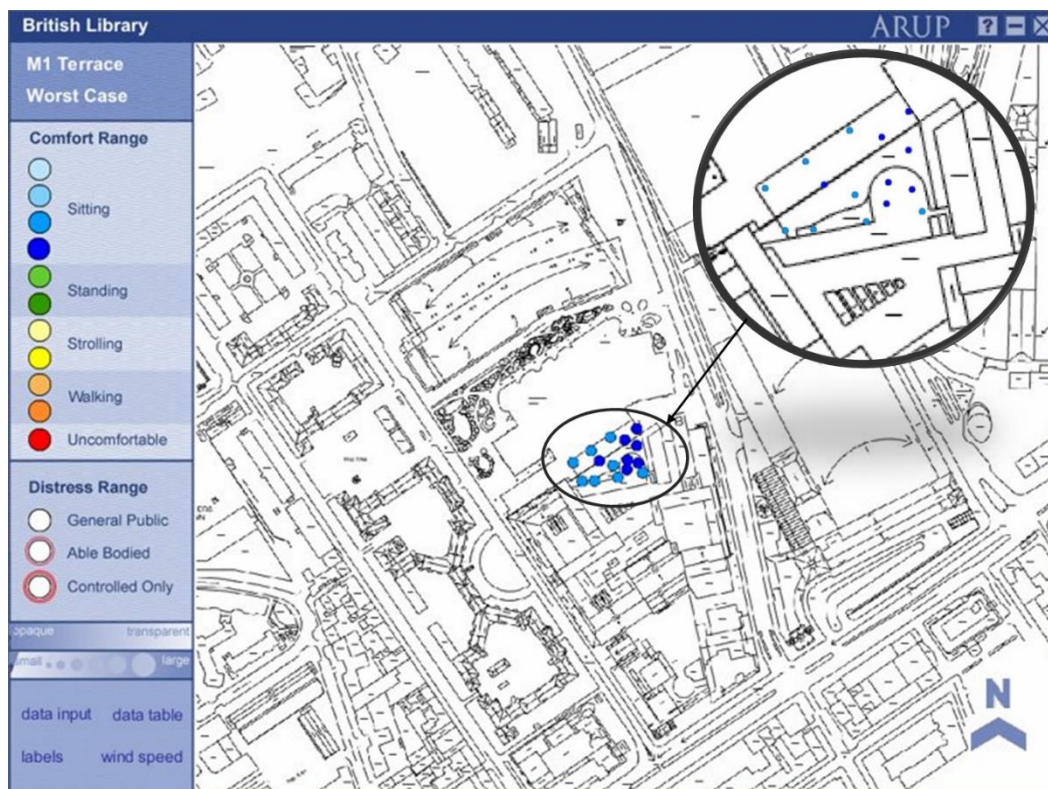
Figure 18: Photo of the model of the upper level terrace within the Proposed Development with existing surroundings (view looking north).



11.7.8 The proposed upper-level terrace was modelled without landscaping and with a larger external area than is proposed. This was due to modelling constraints and the larger external area provided a more conservative scenario to test as there would be fewer obstacles to provide shelter. In this scenario, conditions slightly improve to ‘Sitting’ across the entire terrace space.

11.7.9 Conditions on the accessible terrace connected to the existing British Library building are shown in Figure 19.

Figure 19: Plot of the worst-case wind conditions recorded in the wind tunnel on the proposed and existing terraces, in existing surroundings.



11.8 Additional mitigation

11.8.1 No mitigation is required related to wind microclimate.

11.9 Residual effects

Combined existence and operational effects

11.9.1 No mitigation has been proposed with respect to the existence and operational effects related to wind microclimate. As such the effects would be as reported in Section 11.7.

11.10 Cumulative effects

- 11.10.1** The list of developments identified for assessing cumulative effects is presented in Appendix D3. Three developments qualified by virtue of their proximity (within a 300m radius of the site) and scale (significantly altering the surroundings). They are:
- Central Somers Town (Brill Place) – although not in the prevailing wind direction, the building is significantly taller than its surroundings. It therefore has the potential to reduce local wind conditions or create more turbulence around the Site
 - Kings Cross Central Development Zone A – although not in the prevailing wind direction, the building is within 300m of the Site and significantly alters the city scape. It therefore has the potential to reduce local wind conditions or create more turbulence around the Site. As this development is already under construction, it was also included in the modelled existing surroundings
 - Belgrove House – although not in the prevailing wind direction, the building is significantly taller than some of its surroundings and is within 300m of the Site. It therefore has the potential to reduce local wind conditions or create more turbulence around the Site.
- 11.10.2** The rest of the cumulative schemes listed in Appendix D3 were either too far away or are not considered to significantly change the cityscape enough to impact the wind conditions on the Site.
- 11.10.3** A photo of the test model for the cumulative scenario, including the three developments listed above, is shown in Figure 20, and a plot of the worst-case results is presented in Figure 21.
- 11.10.4** Conditions with the cumulative developments in place are similar to those with existing surroundings. Conditions with the Proposed Development and landscaping in cumulative surroundings are therefore negligible.

Figure 20: Photo of the Proposed Development model in the wind tunnel in cumulative surroundings (view from the south).

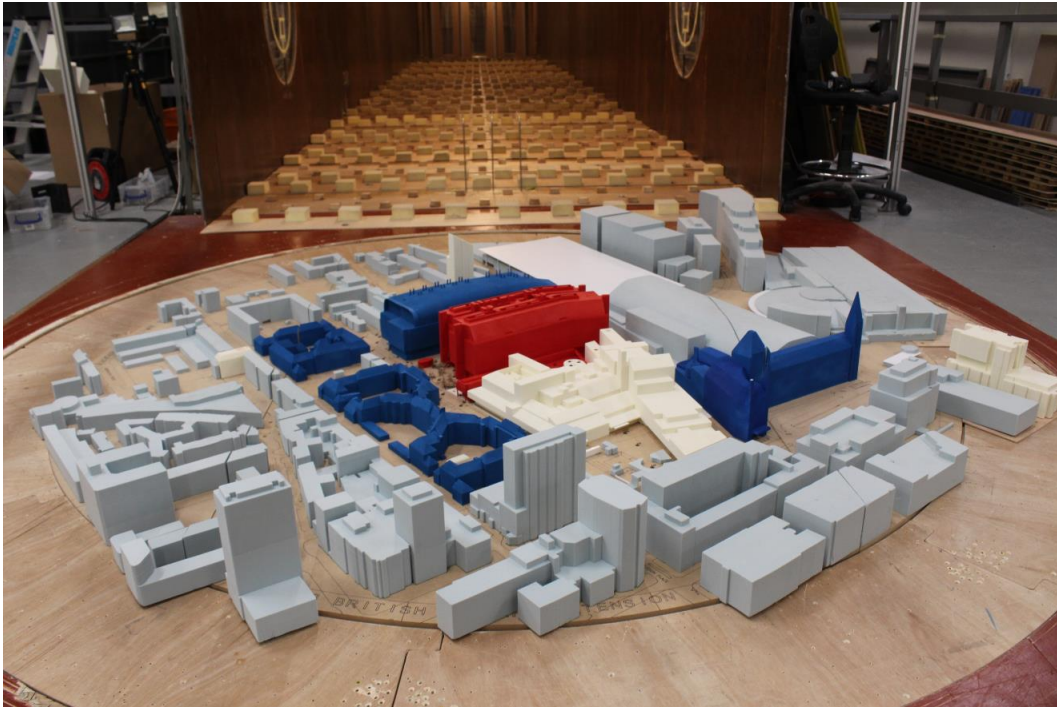
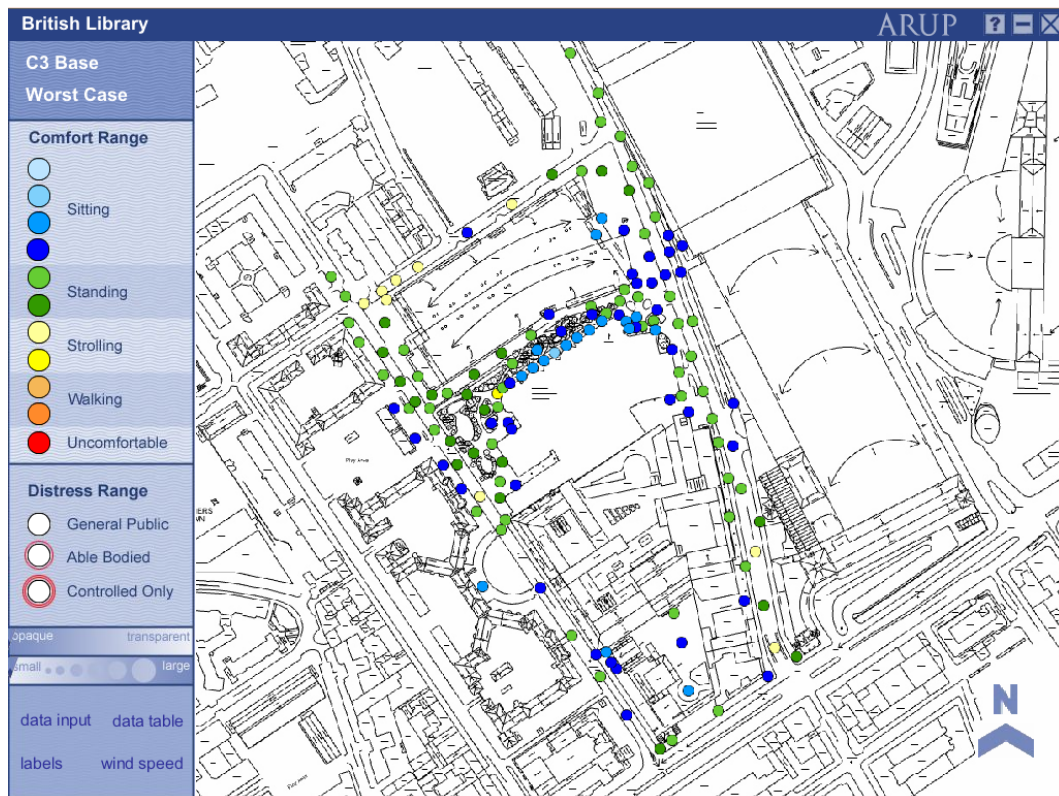


Figure 21: Plot of the wind results around the Proposed Development in cumulative surroundings (worst case).



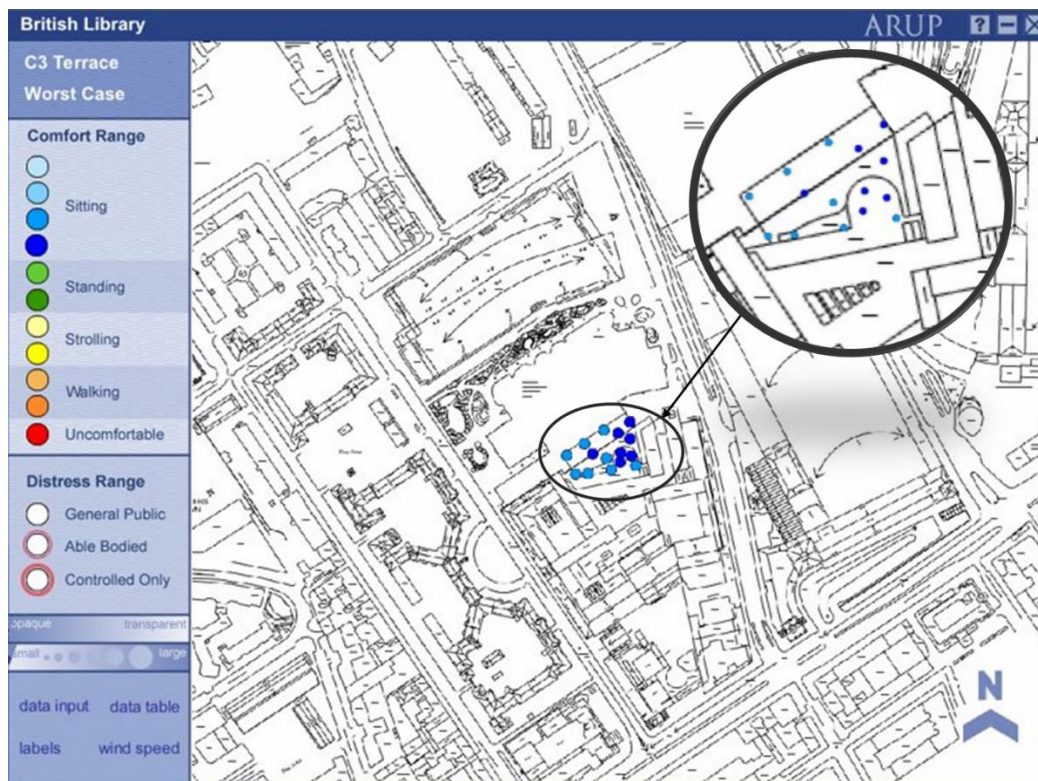
11.10.5 Conditions on the proposed upper-level terrace were also tested with cumulative surroundings. The proposed upper-level terrace was

modelled without landscaping and with a larger external area than is proposed. This was due to modelling constraints and the larger external area provided a more conservative scenario to test as there would be fewer obstacles to provide shelter.

11.10.6 In this scenario, conditions are within the acceptable ‘Sitting’ range across the entire terrace space and are therefore negligible.

11.10.7 Conditions on the existing accessible terrace connected to the existing British Library building are shown in Figure 22.

Figure 22: Plot of the worst-case wind conditions recorded in the wind tunnel on the proposed upper-level terrace, in cumulative surroundings.



11.11 Assessment summary

Combined existence and operational effects

Table 25: wind microclimate assessment summary – combined existence and operational effects.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Change of local wind conditions around the external ground level areas within the site boundaries and immediate surroundings.	‘Sitting’ to ‘Strolling’ conditions are achieved which are acceptable for access and some areas are acceptable for sitting in fair weather. The effects are assessed as negligible.	None required	Effect unchanged
Change of local wind conditions around and within the external upper-level terrace space.	‘Sitting’ conditions are achieved which are acceptable for access and sitting all year-round (depending on other weather conditions such as temperature and precipitation). The effects are therefore assessed as negligible.	None required	Effect unchanged

12 Noise and vibration

12.1 Introduction

- 12.1.1** This section describes the likely significant noise and vibration effects that would arise from the Proposed Development. The noise and vibration effects are considered in relation to their impacts on existing noise sensitive receptors, including people living and working close to the Site.

12.2 Scope of the assessment

- 12.2.1** The EIA Scoping Report¹⁰ set out the proposed scope for the assessment of noise and vibration. In summary, potential impacts due to noise and vibration from the construction and operation of the Proposed Development have been identified.
- 12.2.2** Construction noise and vibration effects may be expected during periods of demolition, earthworks and construction of the Proposed Development. Due to the proximity of existing noise and vibration sensitive receptors, the noise and vibration effects from on-site construction activities have the potential to be significant. Noise from construction traffic associated with the Proposed Development using the surrounding road network also has the potential to be significant and has therefore been assessed.
- 12.2.3** Existence of the Proposed Development, in the absence of construction or operational activities which are considered elsewhere, would not create significant effects related to noise and vibration, and therefore an existence assessment is not relevant and has been excluded from assessment.
- 12.2.4** Operational noise from traffic is scoped into the assessment, whilst other operational aspects such as building services noise have been scoped out on the basis that it is expected that standard conditions will be imposed on the planning permission which will control noise arising from building services, such that any likely impacts would not be significant.
- 12.2.5** A Scoping Opinion¹¹ was received from Camden Council on 28 June 2021. This included two comments relating to noise and vibration. Responses to these comments are detailed in Appendix D1. In summary, the LBC provided no specific comments, the FCI comments on the potential noise and vibration impacts to its facility and key considerations and Network Rail comments on the specific piling techniques required during construction.
- 12.2.6** The FCI comments on an expectation the Applicant will work with the FCI on mitigation solutions for the potential noise and vibration construction effects, including noise and vibration thresholds. The FCI

also requests that consideration is given to the impact of using standby generators as part of the operation noise assessment.

- 12.2.7** Network Rail comments the construction of the Proposed Development should avoid vibrocompaction/displacement piling plant and avoid impact/driven piling, and where piling equipment/plant is to be used then a method statement should be submitted for approval of Network Rail's Asset Protection Engineer prior to works commencing. Section 12.8.2 describes the mitigation proposed in this regard.

12.3 Stakeholder engagement

- 12.3.1** Discussions with the FCI are ongoing in relation to agreeing the management of construction effects. The Applicant is committed to working with the FCI to resolve the issues identified. A binding agreement is being developed with the FCI which will set out agreed specific controls. Further detail is provided in paragraph 12.6.3.

12.4 Methodology

Overview

- 12.4.1** This section outlines the methodology for assessing the likely significant effects of noise and vibration from the construction, existence and operation of the Proposed Development. Full details of the methodology, including relevant assumptions and limitations, can be found in Appendix D4.
- 12.4.2** The following Government policy documents have been considered in the noise and vibration impact assessment.
- NPPF updated 2021⁶³
 - Noise Policy Statement for England (NPSE)⁶⁴
 - Planning Practice Guidance (PPG) – Noise (2014 – updated 2019)⁶⁵.

⁶³ Department for Communities and Local Government (2021), revised National Planning Policy Framework
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

⁶⁴ Department for Environment Food and Rural Affairs (2010), Noise Policy Statement for England (NPSE)

⁶⁵ Department for Communities & Local Government (2014 - updated 2019), Planning Practice Guidance – Noise,
<http://planningguidance.communities.gov.uk/blog/guidance/noise/noiseguidance/>

Baseline methodology

- 12.4.3** A measurement survey was conducted around the Site between 8 and 15 December 2020 and the results are reported in Appendix L1 Baseline noise survey. The noise levels measured have been used to establish baseline noise conditions at each of the identified noise sensitive receptors.

Determining significance of effects

- 12.4.4** Government noise policy (NPSE and PPG-Noise) requires that thresholds should be set to define the onset of the following levels of effect:
- Significant Observed Adverse Effect Levels (SOAEL) - to identify the onset of significant adverse impacts on health and quality of life
 - Lowest Observed Adverse Effect Levels (LOAEL) - to identify the onset of adverse impacts on health and quality of life.
- 12.4.5** Where the noise or vibration level indicates an effect that exceeds the relevant SOAEL threshold determined for the assessment (criteria described in Appendix D4), this has been assessed as a likely significant observed adverse effect. Above this threshold, such noise levels are perceived as '*present and disruptive*' according to the assessment framework given in PPG-Noise. The NPSE states that these effects should be '*avoided*'.
- 12.4.6** The assessment also considered the potential for likely significant effects where the calculated noise or vibration was less than the SOAEL but greater than the relevant LOAEL. Between these thresholds, such noise levels are perceived as '*noticeable and intrusive*' according to the assessment framework given in PPG-Noise. The NPSE states that these effects should be '*mitigated and reduced to a minimum*'.
- 12.4.7** Whilst for this latter category, effects are not categorised as significant in terms of Government noise policy, consideration was given to whether such effects at lower noise exposures could result in an adverse impact on health and quality of life, and should therefore be considered significant in the EIA. For noise predictions between the LOAEL and SOAEL, the basis for assessing a likely significant effect is primarily the magnitude of change in noise in the locality caused by the proposed development, with consideration of other factors such as the character or duration of the noise change and existing level of noise exposure.
- 12.4.8** The criteria for significant effects for different noise and vibration impacts vary depending on the type of noise impact under consideration (e.g. operational traffic, construction activities etc.). The

criteria for significant effects are described in criteria described in Appendix D4.

Construction effects

- 12.4.9** Construction noise effects have been assessed using the approach presented in BS 5228: Part 1⁶⁶ in which predicted construction noise levels from various construction phases are compared to the significance effect levels at dwellings using the ABC method in Annex E of the standard. Effects at non-residential receptors have been assessed by comparing predicted internal noise levels with the BS8233:2014⁶⁷ guidance for various building types.
- 12.4.10** Only a small number of specific types of construction activities give rise to significant levels of vibration from construction at the surrounding residential receptors. Construction vibration effects have been assessed at the closest receptors immediately adjacent to the development using the method set out in BS 5228: Part 2⁶⁶. Predicted vibration levels have been compared with threshold values to judge significance.
- 12.4.11** An additional study of construction vibration has been carried out in reference to the FCI, which is known to be a vibration sensitive receptor. This study is based on measurements made of vibration from bored piling in alluvial clay at a distance of 10m, together with allowances for foundation losses⁶⁸ into the FCI building which is a heavyweight structure on piled foundations. The agreement of mitigation measures is being developed with the FCI separately to this EIA, as detailed in paragraph 12.6.3.
- 12.4.12** Construction traffic⁶⁹ has also been compared against baseline traffic flows to identify whether flows or speeds are expected to cause a significant change in noise level of at least 3dB. For Ossulston Street, where existing flows are not available, assessment of construction traffic noise has been established using noise levels from vehicle passby events, compared with the baseline conditions.

Operational effects

- 12.4.13** The operational traffic noise associated with the Proposed Development has been assessed by predicting the change in noise level resulting from expected traffic increases when compared with the baseline conditions. The assessment uses a similar approach for

⁶⁶ BS 5228:2009+A1:2014. (2009) *Code of Practice for noise and vibration control on construction and open sites, Part 1: Noise, and Part 2: Vibration*. Available at: www.bsigroup.com

⁶⁷ BS 8233:2014. (2014) *Guidance on sound insulation and noise reduction for buildings*. Available at: www.bsigroup.com

⁶⁸ Nelson (1987). *Transportation Noise Reference*, Building foundation losses given in Figure 16.10.

⁶⁹ The British Library Extension Transport Assessment is submitted with this planning application

smaller roads where traffic flows are not available (see paragraph 12.4.12).

- 12.4.14** Operational noise from activities associated with the loading bay has been assessed by predicting the maximum noise level at the nearest noise sensitive receptors. This has been compared to the criteria suggested in ProPG Planning & Noise⁷⁰, where 10 – 15 events exceeding an internal level of 45dBLAmax, are considered significant. For the purposes of this assessment, noise levels exceeding this limit and occurrence would be considered significant.

Cumulative effects

- 12.4.15** Other developments in the area (listed in Appendix D3) have the potential to contribute to cumulative construction noise effects, if construction activities occur concurrently. However, even under such a scenario, the cumulative impact of two activities cannot result in a noise level more than 3dB higher than that from the single loudest activity. 3dB is commonly applied as the threshold for a perceived change in noise levels. There is, however, a small risk that cumulative construction noise effects resulting from other developments could be enough to cause the combined impact to exceed a significance threshold. This should be considered in the context of the potential uncertainty of impacts due to the dependency upon construction techniques adopted, equipment employed and phasing of construction. Cumulative effects have therefore been assessed qualitatively based on their proximity to the Proposed Development and intervening massing which would act as a noise barrier.
- 12.4.16** In general, the impact of construction vehicles is usually not significant in urban environments due to elevated noise levels from existing road traffic. Even allowing for other cumulative developments, the proportionate increase in traffic, and in particular the percentage of HGVs, would not be sufficient to result in a 3dB change on the road links where construction traffic would access the Site. 3dB is commonly applied as the threshold for a perceived change in noise levels. A qualitative assessment has, however, been conducted in order to demonstrate the statement above, considering those developments that would contribute traffic flows along Midland Road. This has been based on a conservative assumption that cumulative developments result in the same number of construction vehicles as the Proposed Development and would occur at the same time. In reality, peak construction vehicle movements resulting from cumulative developments are not likely to occur at the same time.
- 12.4.17** A similar assessment of cumulative operational traffic has also been carried out. Based on the types of development, and the likely

⁷⁰ Association of Noise Consultants (2017), ProPG: Planning & Noise, Professional Practice Guidance on Planning & Noise

associated traffic generation as a proportion of the existing traffic on the local road network.

- 12.4.18** Vibration effects are very localised to the construction site. Therefore, given the locations of other identified developments, cumulative vibration effects are highly unlikely and an assessment is not required.

12.5 Baseline

- 12.5.1** The baseline noise survey demonstrates that the noise environment around the Proposed Development is influenced by a number of effects:

- traffic noise from Euston Road to the South, and Midland Road along the eastern boundary
- existing building services equipment serving adjacent buildings in the locality.

- 12.5.2** The baseline noise conditions reported in Appendix L1 are summarised in Table 26.

Table 26: Summary of baseline noise levels.

Receptor	Baseline noise levels, dB					
	Daytime/evening 07:00 – 23:00			Night time 23:00 – 07:00		
	L _{Aeq,16hour}	Typical L _{A90,15min}	Most frequent L _{Amax,15min}	L _{Aeq,16hour}	Typical L _{A90,15min}	Most frequent L _{Amax,15min}
Location 1	55	46	70	49	42	60
Location 2	59	54	66	55	50	65

12.6 Embedded and good practice measures

- 12.6.1** Implementation of the draft CMP incorporating the requirements of Camden Council's CMP pro-forma⁷¹ would ensure that best practicable means (BPM) are employed. BPM would be in the form of low noise emission plant and processes, as specified in detail in BS5228 Annex B - Noise sources, remedies and their effectiveness. BPM would include noise and vibration control at source, for example:

- the selection of quiet and low vibration equipment
- review of construction programme and methodology to consider quieter methods (including non-vibratory compaction plant, where required)

⁷¹ Camden Council. *About Construction Management Plans*. Available at: <https://www.camden.gov.uk/about-construction-management-plans>

- sensitive location of noise generating equipment on-site
- control of working hours (to be set out in the draft CMP and controlled through Section 61 agreements)
- provision of acoustic enclosures and the use of less intrusive alarms such as broadband vehicle reversion warnings
- screening – for example local screening of equipment, perimeter hoarding or the use of temporary stockpiles.

12.6.2 Noise from building services plant equipment would be controlled through design. The plant is being designed to meet the noise emission limits set by Camden Council.

12.6.3 The FCI is known to be sensitive to vibration. Discussions with the FCI are ongoing, with the aim of establishing appropriate thresholds for construction vibration and control measures. Other recent construction developments adjacent to the FCI have followed a similar process. The controls to be used are being developed and may include programming of the works to avoid the most sensitive periods, vibration trials on the Site, and ongoing construction vibration monitoring.

12.7 Assessment

Construction effects

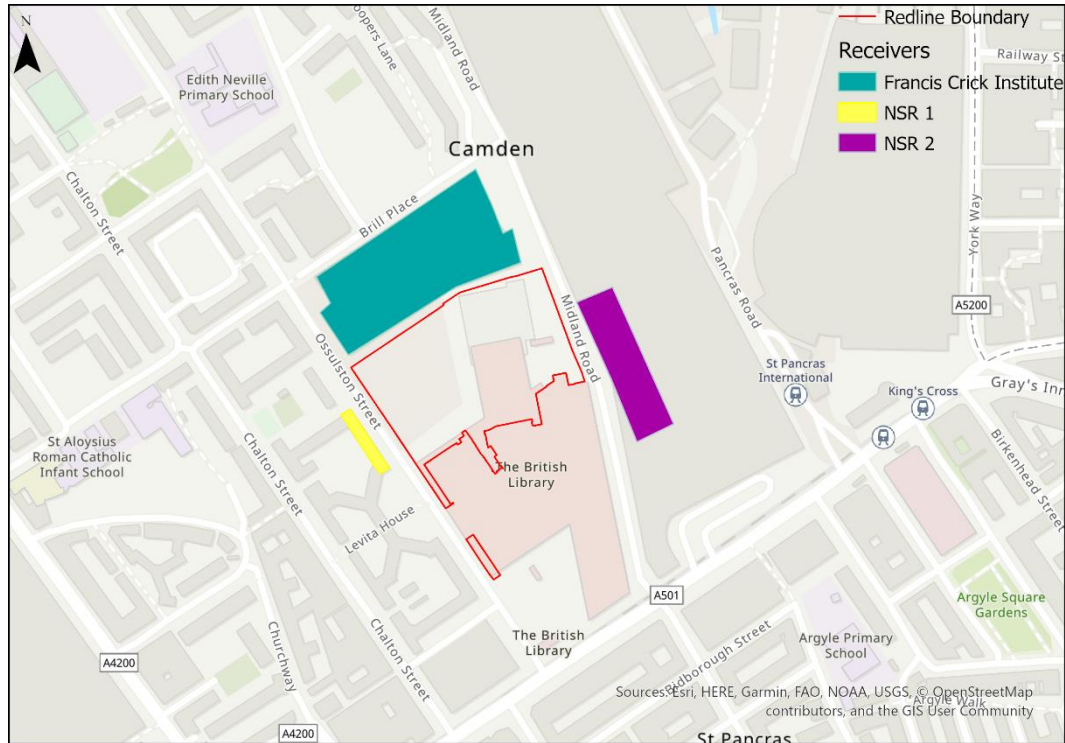
Construction noise

12.7.1 The associated demolition and construction works have been divided into the following stages, which each represent distinct activities in terms of noise impact. With the current construction phasing plan, it is assumed that there will be overlap between certain stages. Appendix L2 describes the plant machinery assumed for the assessment, for each stage:

- site clearance
- demolition and enabling works
- substructure and basement construction
- superstructure core and building frame
- external works including building envelope, cladding and roofing
- mechanical, electrical and plumbing (MEP) installation
- lift installation
- fit out
- landscaping.

12.7.2 The assessment of construction noise has been carried out at the surrounding receivers shown in Figure 23.

Figure 23: Noise sensitive receptors (NSRs).



Residential receptors

12.7.3 The results of the assessment of construction noise at residential receptors are presented in Table 27. These are compared to the thresholds for potential significant effects for construction noise on residential properties, established using the BS5228: Part 1 ABC method and the baseline noise data.

Table 27: Summary of construction noise assessment at residential receptors.

Residential receptor location ¹ (see Figure 23)	Baseline			Construction noise assessment	
	Ambient noise levels* dBL _{Aeq} , daytime ²	ABC category (BS 5228)	ABC threshold dBL _{Aeq} , daytime	Range of predicted daytime construction noise levels* dBL _{Aeq} , daytime	Worst-case level above ABC threshold (dB)
NSR 1: Somers Town	55	A	65	64 - 84	16

NSR 1: Somers Town

- 12.7.4** This receptor is a collection of residential buildings on Ossulston Street. The five-storey complex offers shorter term and temporary accommodation. The closest façade of the building is approximately 19m from the construction site.
- 12.7.5** The typical baseline ambient daytime noise level at this receptor is 55dBL_{Aeq,16hours} at the building façade. The highest predicted construction noise level is 84dBL_{Aeq} which would occur during an overlap of construction processes. This would occur for multiple periods of 3-4 months each. However, levels predicted over the majority of the construction programme would also exceed the 65dBL_{Aeq} ABC threshold.
- 12.7.6** The highest predicted construction noise levels exceed the ABC threshold and has therefore been assessed as significant.
- 12.7.7** In terms of government policy, this level exceeds the daytime SOAEL threshold of 75dBL_{Aeq,daytime}.

Non-residential receptors

- 12.7.8** The results of the assessment of construction noise at non-residential receptors are presented in Table 28.

Table 28: Summary of construction noise assessment at non-residential receptors.

Non-residential receptor location ¹ (see Figure 23)	Baseline	Construction noise assessment	
	Ambient noise levels* dBL _{Aeq, daytime} ²	Range of predicted daytime construction noise levels* dBL _{Aeq, daytime}	Worst-case level above ambient (dB)
NSR2: St Pancras Hotel	59	69 - 84	25
FCI	55	72 - 85	30

NSR 2: St Pancras Hotel

- 12.7.9** St Pancras Hotel is a six-storey hotel adjoined to the west of St Pancras International Railway Station, facing the British Library. The closest façade of the building is approximately 25m from the Site. This receptor is considered a non-residential receptor.
- 12.7.10** The typical baseline ambient daytime noise level is 59dBL_{Aeq,16hours} at the building façade. The highest predicted construction noise level is 84dBL_{Aeq} which would occur during an overlap of construction processes. This would occur for multiple periods of 3-4 months each.

- 12.7.11** The hotel accommodation is assumed to be predominantly bedrooms. The predicted internal noise levels due to construction noise, allowing for typical transmission loss of a sealed glazed façade exceed the design guidance given for residential bedrooms in BS8233 during the noisiest daytime periods.
- 12.7.12** The highest predicted construction noise levels exceed the BS8233 internal noise level guidelines in hotel bedrooms and has therefore been assessed as significant.
- 12.7.13** In terms of government policy, this level exceeds the daytime SOAEL threshold of 75dBL_{Aeq,daytime}.

Francis Crick Institute

- 12.7.14** The FCI is a biomedical research institute, housing sensitive laboratory equipment. The closest façade of the building is approximately 8m from the Site. This receptor is considered a non-residential receptor.
- 12.7.15** The typical baseline ambient daytime noise level is 55dBL_{Aeq,16hours} at the building façade. The highest predicted construction noise level is 85dBL_{Aeq} which would occur during an overlap of construction processes. These highest levels are expected to occur for around 4 months. However, levels predicted over the entirety of the construction programme are equal to or above 72dBdBL_{Aeq}.
- 12.7.16** The FCI contains office and laboratory spaces. The predicted internal noise levels due to construction noise, allowing for typical transmission loss of a glazed façade are marginally above the design guidance given for office spaces (also considered relevant to laboratory areas) in BS8233 during the noisiest periods.
- 12.7.17** The highest predicted construction noise levels marginally exceed the design guidance levels in BS8233 during the noisiest periods of construction. This has therefore been assessed as not significant.

Construction vibration

- 12.7.18** Construction vibration would potentially be generated as a result of demolition (breaking), excavation (earthworks) and piling phases. At this stage, it is not possible to define with accuracy the construction processes for which vibration may be an issue, but these could include (but are not limited to):
- impact breakers (e.g. 'kango' hammers, 'peckers' etc.)
 - bored piling.
- 12.7.19** The effect would depend upon the exact detail of ground conditions and the proximity of the construction activity to the neighbouring premises. Neither of these factors can be determined with a high level

of accuracy at this stage so the results must be considered to be largely qualitative.

- 12.7.20** For bored piling, measured in London W1 (which would suggest similar but not identical ground conditions), a peak particle velocity (PPV) of <1mm/s is predicted at a horizontal distance of 10m, without any further corrections for building foundation losses.

Residential receptors

NSR 1: Somers Town

- 12.7.21** For the purposes of the assessment of vibration to the residential receptors during construction, the piling activity has been assumed to be bored piling as described in the paper, *A comparison of noise and vibration from percussive and bored piling* by D M Hiller (Proceedings of Underground Construction - 2003), which is referenced in BS5228: Part 2: 2014.
- 12.7.22** The Somers Town residential receptor is at least 19m from any demolition or construction activities; therefore, the potential worst-case vibration levels would be well below the threshold of 6mm/s for potential cosmetic damage and 1mm/s for human exposure. The predicted vibration levels from piling activities are shown in Table 29.

Table 29: Predicted piling vibration levels at building foundation for residential receptors.

Receptor	Plan distance to site boundary	Predicted piling vibration level (PPV mm/s)	BS5228-2 Indoor human perceptible level of vibration (PPV mm/s)	BS5228-2 Maximum vibration criteria (PPV mm/s)
NSR1 (Somers Town)	19m	0.29	0.3	1.0

- 12.7.23** As shown in Table 29, the potential impacts of the piling works are below the BS 5228: Part 2 indoor human perceptible level of 0.3mm/s, and below the BS7385-2 categories of causing building damage.
- 12.7.24** The construction vibration effects at the nearest residential receptors have therefore been assessed as not significant.

Non-residential receptors

NSR2: St Pancras Hotel

- 12.7.25** The St Pancras Hotel is at least 22m from any demolition or construction activities; therefore, the potential worst-case vibration levels will be well below the threshold of 6mm/s for potential cosmetic damage and 1mm/s for human exposure. The predicted vibration levels from piling activities are shown in Table 30.

Table 30: Predicted piling vibration levels at building foundation for St Pancras Hotel.

Receptor	Plan distance to site boundary	Predicted piling vibration level (PPV mm/s)	BS5228-2 Indoor human perceptible level of vibration (PPV mm/s)	BS5228-2 Maximum vibration criteria (PPV mm/s)
NSR2 (St Pancras Hotel)	22m	0.27	0.3	1.0

12.7.26 As shown in Table 30, the potential impacts of the piling works are below the BS 5228: Part 2 indoor human perceptible level of 0.3mm/s, and below the BS7385-2 categories of causing building damage.

12.7.27 The construction vibration effects at the St Pancras Hotel has therefore been assessed as not significant.

Francis Crick Institute

12.7.28 With respect to vibration due to bored piling on the FCI, the predicted vibration PPV is up to 0.8mm/s as shown in Table 31.

Table 31: Predicted piling vibration levels at building foundation for the Francis Crick Institute.

Receptor	Plan distance to site boundary	Predicted piling vibration level (PPV mm/s)	BS5228-2 Indoor human perceptible level of vibration (PPV mm/s)	BS5228-2 Maximum vibration criteria (PPV mm/s)
FCI	10m	0.8	0.3	1.0

12.7.29 These expected vibration levels within the basement of the FCI from bored piling at a distance of 10m are below the 1mm/s threshold value for human disturbance and potential complaint, hence it is assessed as not significant.

Construction traffic

12.7.30 The construction traffic noise impact has been assessed based on the baseline noise levels and consideration of the predicted increase in noise level due to the anticipated construction traffic flows⁷² on Midland Road.

12.7.31 For construction traffic on Midland Road, the daily vehicle movements are predicted to include up to 200 HGV and up to 21 <3.5ton vehicles. In the context of the existing baseline vehicle flows (11,738 vehicles, with 8.5% HGVs) this increase in traffic flows is

⁷² The British Library Extension Draft Construction Management Plan is submitted with this planning application

less than 2% and therefore the increase in noise level would be less than 1dB.

- 12.7.32** On this basis, the effects of construction traffic noise on Midland Road are assessed as not significant.

Operational effects

Traffic noise

- 12.7.33** Operational traffic flows associated with the Proposed Development are expected to be up to 232 additional vehicles per day on Midland Road. In the context of the existing baseline vehicle flows (11,738 vehicles, with 8.5% HGVs) this increase in traffic flows is less than 2% and therefore the increase in noise level will be less than 1dB.
- 12.7.34** There are no other roads on the surrounding road network that exceed the study area criteria given in Appendix D4.7. 32 (ie greater than 1dB negligible change), therefore there are no significant effects on other local roads.
- 12.7.35** On this basis the effect of operational traffic noise on Midland Road has been assessed as not significant.
- 12.7.36** Operational noise from the use of the loading bay has also been assessed based on noise measurements in a typical loading bay of 90dB_{L_{Amax}} at 5m from the source. The predicted noise levels from such use of the loading bay are 50dB_{L_{Amax}} at NSR2, which is the closest receptor to the loading bay entrance. For context, the noise survey data for this location shows typical night-time maximum noise levels of 65dB_{L_{Amax}}. Allowing for the sound attenuation of the building façade (typically 30 -35dB attenuation for a sealed façade), the internal maximum noise level from the loading bay within a hotel bedroom will be significantly below the suggested significance criteria of, so no events would be expected to exceed this threshold. In addition, allowing 15dB attenuation for an open window, it is also concluded that noise from the loading bay would not exceed the internal limit even if windows were to be opened. So, noise from the loading bay is assessed as not significant.

12.8 Additional mitigation

Construction noise

- 12.8.1** To address significant noise effects from these activities, the following additional mitigation measures may be considered:
- noise screening around the construction site perimeter
 - the formation of noise enclosures around identified noisy equipment

- construction programming to establish whether there are periods where higher noise levels could be accommodated for shorter periods (this may require a balance between overall programme length and periods of higher noise levels)
- consideration of off-site pre-fabrication of building components.

12.8.2 In response to the request from Network Rail regarding the assessment of risk from piling adjacent to railway infrastructure, a method statement detailing the proposed piling activities will be submitted to Network Rail for approval, prior to piling activities commencing.

Construction vibration

12.8.3 Discussions are ongoing with the FCI to agree a control and management approach to minimise the vibration effects to the FCI in relation to vibration-sensitive equipment.

12.9 Residual effects

Construction effects

12.9.1 The construction noise effects have been identified as significant to the adjacent residential and hotel receptors. The outlined additional mitigation is expected to have a substantial reduction on the level of impact. The addition of noise screening is anticipated to provide a reduction of 10dB where the screening is effective.

12.9.2 The residual effects to the residential receptors would be reduced and would exceed the LOAEL by up to 9dB, i.e. levels reaching 74dB. The effect levels would no longer exceed the daytime SOAEL. However, the residual effects would remain significant in EIA terms, but be below the BS5228 noise insulation mitigation thresholds.

12.9.3 The residual effects to the hotel receptor would be reduced by a similar amount as for the residential, however the residual noise levels would remain significant with levels predicted to reach up to 74dB.

12.9.4 The other measures outlined in 12.6.1 would provide further improvements, but these are not possible at this stage to quantify.

12.9.5 For construction vibration, and construction traffic effects, no mitigation has been proposed as there are no identified significant effects. The effects would be as reported in Section 12.7.

Operational effects

12.9.6 No mitigation has been proposed with respect to operational traffic noise effects. As such the effects would be as reported in Section 12.7.

12.10 Cumulative effects

- 12.10.1** The list of developments identified for assessing cumulative effects is presented in Appendix D3. Of the identified committed developments, only the Central Somers Town (Brill Place) development is close enough to the Proposed Development for construction noise to cumulatively effect the nearest sensitive receptors.
- 12.10.2** Departing construction traffic from the Central Somers Town development is assumed to be routed along Brill Place and Midland Road, rather than along Ossulston Street, where existing traffic flows are low. On this basis, and considering high baseline traffic levels on Midland Road, significant cumulative effects are not expected with the Central Somers Town (Brill Place) development.
- 12.10.3** Without details of the construction of these other developments, only a qualitative assessment of the cumulative effect for the construction phase is possible. It is possible, therefore, that if other construction projects proceed at nearby sites concurrently, the magnitude of this adverse impact could increase when noisy activities are taking place simultaneously. However, there is only one construction site, at Central Somers Town, which is likely to generate any noticeable cumulative effect, and this has been assessed as above.
- 12.10.4** Vibration effects are very localised to the construction site. Therefore, given the locations of other identified developments, cumulative vibration effects are highly unlikely and have not been assessed.
- 12.10.5** Operational traffic has been based on the traffic flow on the wider road network including all committed development, hence the cumulative traffic noise effects are already assessed as part of the operational assessment reported in Section 12.7.
- 12.10.6** Operational building services plant noise would be expected to be controlled at all of these developments to make effectively no contribution to the existing background noise levels, hence no cumulative effects would be expected from these noise sources.

12.11 Assessment summary

Construction effects

Table 32: Noise and vibration assessment summary – construction effects.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Construction noise to adjacent residential receptors	Significant adverse effect at residential receptor to the west of the Site on Ossulston Street.	Further noise mitigation options identified: <ul style="list-style-type: none"> - Noise screening around construction site perimeter - Use of noise enclosures around identified noisy processes and equipment - Construction programming to manage noise impact - Consideration of off-site pre-fabrication options. 	Exceedance of construction noise significance threshold (LOAEL) by 6 – 9dB at residential receptors. Residual noise levels are below BS5228 noise insulation mitigation thresholds. Significant effect remains. Noise levels less than SOAEL.
Construction noise to adjacent non-residential: hotel receptor	Significant adverse effect at hotel receptor to the east of the Site.	Further noise mitigation options identified: <ul style="list-style-type: none"> - Noise screening around construction site perimeter - Use of noise enclosures around identified noisy processes and equipment - Construction programming to manage noise impact - Consideration of off-site pre-fabrication options. 	Exceedance of internal noise guidance thresholds (LOAEL) by 11 - 16 dB at hotel receptor. Significant effect remains. Noise levels less than SOAEL.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Construction noise to adjacent non-residential: laboratory receptor	No significant effects	None required	Effect unchanged
Construction vibration to adjacent residential receptors	No significant effects	None required	Effect unchanged
Construction vibration adjacent non-residential: hotel receptor	No significant effects	None required	Effect unchanged
Construction vibration adjacent non-residential: laboratory receptor	Discussions are ongoing with the FCI to agree a control and management approach to minimise the vibration effects to the FCI to be acceptable to their operations. On the assumption that an agreement will be struck, it can be concluded that no significant effects would occur.	None required	Effect unchanged
Construction traffic on Midland Road	No significant effects	None required	Effect unchanged

Operational effects

Table 33: Noise and vibration assessment summary – operational effects.

Aspect of the Proposed Development	Description of effect and significance	Additional mitigation	Residual effect
Operational traffic on Midland Road	No significant effects	No significant effects	Effect unchanged

13 Socio-economics

13.1 Introduction

13.1.1 This section describes the likely significant effects of the Proposed Development on socio-economics. It outlines the methodology, the baseline conditions and assesses the significance of socio-economic effects associated with the construction and operation of the Proposed Development. Mitigation measures that would be implemented to reduce any adverse effects of the Proposed Development on socio-economics are also considered, if relevant.

13.2 Scope of the assessment

13.2.1 The EIA Scoping Report¹⁰ set out the proposed scope for the assessment of socio-economics. It was proposed that socio-economics should be scoped out of the assessment due to low potential for there to be significant effects as a result of the Proposed Development.

13.2.2 A Scoping Opinion was received from Camden Council on 28 June 2021. This included comments relating to socio-economics. Responses to these comments are detailed in Appendix D1. In summary, Camden Council have requested that a socio-economics assessment is included in the ES, covering the following:

- Given the nature of the Proposed Development, including the offer of new social infrastructure/public institutional space, and the number of new jobs created, further analysis should be undertaken and presented
- Further analysis should also be provided to make the Scoping Report more conclusive where it states, “the future tenants and therefore the specific sectors occupying the new floorspace cannot be guaranteed at this stage or through the buildings lifespan and therefore the effects are not likely to be significant, based on information currently known”. In their response, Camden Council recommend that scenario testing should be undertaken which accounts for the potential range in effects depending on the end user.

13.2.3 The scope for the assessment of socio-economics has therefore been adjusted, with the final scope detailed in Table 34.

Table 34: Socio-economic assessment scope.

Assessment	Construction	Existence	Operation
Employment	×	×	✓
Wider socio-economic impacts	n/a	×	✓

- 13.2.4** Assessment of employment at the construction phase is scoped out based on low potential to be significant which is consistent with the justification provided in the Scoping Report as follows:

“During the construction phase, employment would be generated directly in construction and through both the supply chain and wage expenditure. This would be temporary and on a small scale, within the context of London and the wider south east. A draft CEMP, or equivalent, would incorporate measures which encourage upskilling/training of the local population and create employment opportunities for residents. Based on the low potential to be significant, construction employment is scoped out.”

- 13.2.5** In summary, construction effects are fully scoped out of the socio-economics assessment, as they are not considered relevant to the wider socio-economic impacts assessment. Therefore, the assessment is limited to operational effects (employment and wider socio-economic impacts) only.

13.3 Stakeholder engagement

- 13.3.1** No stakeholder engagement was undertaken as part of the socio-economic assessment.

13.4 Methodology

Overview

- 13.4.1** This section outlines the methodology for assessing the likely significant effects on socio-economics from the operation of the Proposed Development. Full details of the methodology, including relevant assumptions and limitations, can be found in Appendix D4.

Receptors

- 13.4.2** Receptor identification is based on a baseline review of people and businesses within a defined geographical area around the Proposed Development. Receptor inclusion and appraisal of receptor sensitivity uses professional judgement and previous experience.
- 13.4.3** The geographies chosen for assessment vary according to the different baseline sub-topics and reflect the characteristics of each receptor, as summarised in Table 35. Baseline data has been collected from a range of geographies to inform these assessments, including at ward level (St Pancras and Somers Town), London’s Knowledge Quarter⁷³, borough (LBC) and London level, with a full list provided in Appendix M1.

⁷³ As defined in paragraph 13.5.8

Table 35: Geographies for assessment.

Sub-topic	Geography for assessment	Justification
Operational – direct employment	Ward (St Pancras and Somers Town), borough (LBC), and London	This range of scales is considered appropriate, assuming that uptake for future on-site employment may be localised but is also likely to extend to residents living across the wider London catchment area given the Site’s highly accessible location.
Operational – wider socio-economic impacts	Ward (St Pancras and Somers Town), London’s Knowledge Quarter, borough (LBC), and London	This range of scales is considered appropriate given the range of wider socio-economic effects which may result through the Proposed Development.

Operational effects

13.4.4 For operational assessment purposes, the assessment year is 2029 (when the Proposed Development is expected to be fully operational).

Employment – residents living in St Pancras and Somers Town ward, the London Borough of Camden and London seeking employment

13.4.5 The assessment of operational employment effects on residents is based on the proposed amount and type of employment-generating uses, and the occupational and skills profile of residents. The assessment takes into account baseline conditions, the employment assumptions set out within the Economic Value and Knowledge Quarter Uses Statement (submitted separately with the planning application) and published best practice and guidance on calculating additionality, as detailed in Appendix D4.

Wider socio-economic impacts – residents within St Pancras and Somers Town Ward, the London Borough of Camden and London; and institutions/ companies within London’s Knowledge Quarter

13.4.6 The Proposed Development includes the provision of new library accommodation, including the replaced BLCC and British Library Sound Archive and new dedicated spaces for the community, as well as improvements to the wider public realm. These elements have potential to result in beneficial effects for residents living in the St Pancras and Somers Town Ward, LBC and London.

13.4.7 The British Library is located in an area with other institutions supported by knowledge intensive jobs, for example the neighbouring FCI – a centre of excellence for biomedical research. As such there may be potential for beneficial effects as a result of the Proposed Development (through provision of new library and employment generating floorspace) aligning with aspirations of London’s

Knowledge Quarter. The mix of knowledge-based specialisms within the immediate area has potential to improve local and national competition within the sector, while up-skilling the current workforce in the local community and providing spill-over benefits to other institutions/ companies in the locality.

- 13.4.8** As the future tenants and therefore the specific sectors occupying the new employment floorspace cannot be guaranteed at this stage or through the building's lifespan, the socio-economic assessment considers different 'end user' scenarios for this part of the assessment.

Cumulative effects

- 13.4.9** The list of developments identified for assessing cumulative effects is presented in Appendix D3. The potential for cumulative effects with each of these developments has been examined, and an assessment based on professional judgement presented.

13.5 Baseline

- 13.5.1** This section presents the existing socio-economic conditions, with further details regarding the methodology for deriving the baseline provided in Appendix D4. This baseline section has been cognisant of the Economic Value and Knowledge Quarter Uses Statement submitted with the application, drawing upon the same data sources where possible. However, given the different scopes of these documents, the geographical scales may differ.

Economic activity

- 13.5.2** The latest population estimate shows that 58.1% of residents within the St Pancras and Somers Town ward are economically active, which is lower than that of London Borough Camden (68.1%), and the average for London (71.7%)⁷⁴.

Employment

Sectoral employment

- 13.5.3** The 2019 Business Register and Employment Survey data⁷⁵ indicates that the professional, scientific and technical; wholesale and retail trade⁷⁶; and information and communication sectors are key employment sectors for the St Pancras and Somers Town ward's

⁷⁴ ONS (2020). Annual Population Survey – Economic Activity. Available at:

<https://www.nomisweb.co.uk/reports/imp/la/1946157246/report.aspx?town=camden#tabeinact>

⁷⁵ ONS (2020). 2019 Business Register and Employment Survey (BRES). Available at:

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/businessregisterandemploymentsurveybresprovisionalresults/2019>

⁷⁶ Includes motor trades, wholesale and retail

residents, with 15.2%, 13.6% and 10.6% of the local population working in these areas respectively (refer to Appendix M1, Table 1).

13.5.4 Within the London Borough of Camden, there is also a high number of residents working within the professional, scientific and technical sector (18.9%), and information and communication sector (12.7%), as well as the human health and social work activities sector (11.9%).

13.5.5 Across London, the sectors with the highest number of the population working in are the professional, scientific and technical (12.9%); wholesale and retail trade⁷⁷ (11.5%); and administrative and support services (10.8%) (refer to Appendix M1, Table 1).

13.5.6 The proportion of London Borough of Camden residents working in higher skilled⁷⁸ occupations at 70.5%⁷⁹ is higher than the London average (62.7%) (refer to Appendix M1, Table 2).

Current on-site employment

13.5.7 The baseline amount of employment supported by the existing British Library complex is a total of 1,018, on a direct full-time equivalent (FTE) basis. However, the planning application boundary for the Proposed Development includes only the northern part of the British Library, comprising the BLCC and the British Library Sound Archive (both to be replaced on-site). There are approximately 65 staff currently working for the BLCC⁸⁰; however, jobs figures relating to the British Library Sound Archive are not known.

London's Knowledge Quarter

13.5.8 The British Library is located within the centre of London's 'Knowledge Quarter', which covers a 1-mile radius from King's Cross Station. This small part of London is incredibly dense with knowledge, creativity and opportunity. With over 29,000 businesses⁸¹ and 469,300 workers⁸² across Camden, and the neighbouring boroughs of Islington and Westminster, this area hosts clusters of workers in education⁸³; advertising and market research; motion picture/video and television production; publishing activities; creative, art and entertainment activities and scientific research and development.

13.5.9 Knowledge Quarter Ltd is the body linking over 100 members of knowledge-based organisations in the district. The organisation aims

⁷⁷ Includes motor trades, wholesale and retail.

⁷⁸ Calculated based on percentage of employees working in the following occupation groups: managers, directors and senior officials; professional occupations; and, associate professional and technical occupations, as set out in Appendix M1

⁷⁹ ONS, (2020). Nomis Labour Market Profile –Camden –Employment by occupation (Jan 2020 – Dec 2020). Available at: <https://www.nomisweb.co.uk/reports/lmp/la/1946157246/report.aspx>

⁸⁰ It is not known whether this figure is based on FTE

⁸¹ Nomis (2019). UK Business Counts, Enterprise by Industry and employment size band, 2019

⁸² Nomis (2018). BRES safeguarded access

⁸³Top 1 employer in absolute number of employment when looking at 2-SIC Industries.

to mobilise the assets available in the area to accelerate the pace of discovery, science and innovation at a national level, drive economic growth and help implement the new Industrial Strategy⁸⁴. An audit⁸⁵ published in 2019 examined how the vision above can be delivered through three ‘theme’ specialisms: Life Sciences, Cultural, Scientific and Heritage Collections, and Data Sciences. It found that close proximity in an urban setting facilitates open innovation between knowledge-based organisations and that place-based ‘network brokers’ have an important role to play in catalysing relationships.

13.5.10 As set out in the Economic Value and Knowledge Quarter Uses Statement, recent research has shown that the mix of the specialisms can have great impact, where a related variety of business are similar enough to learn from one another but different enough to not get caught in an echo chamber of ideas. The Statement continues that related variety of specialisms can create more resilient economies and thus the mix of specialisms of the Knowledge Quarter is crucial to considering its place within London’s economy. The Statement argues that the mix of sector specialisms hints that there is an ecosystem of knowledge and an infrastructure of institutions generating growth in this area, and aims to deconstruct the drivers of this growth. It shows:

- the number of jobs created in a place over time is likely due to economic growth in the national economy
- the jobs created in a place over time is likely due to growth in that sector, and finally
- the jobs created in that place over and above national and sector trends likely due to its competitive qualities that set it apart from other places – the competitive effect.

13.5.11 The Statement analyses performance by sector and demonstrates the sectors which have been overperforming both national and industrial trends (thereby the competitive effect) within the Knowledge Quarter. These include:

- creative sector jobs
- professional and technical jobs
- health jobs
- local service jobs.

13.5.12 The Statement also cites ‘gaps’ in the innovation ecosystem in the Knowledge Quarter which are space-related, including:

⁸⁴ Knowledge Quarter (2019). Industrial Strategy. Available at: <https://www.knowledgequarter.london/sia/#sia-downloads> 0

⁸⁵ Knowledge Quarter Science and Innovation Audit (2019). Available at: <https://www.knowledgequarter.london/sia/>

- low availability and high cost of appropriate commercial sites and premises
- a dearth of innovation space, especially wet-laboratory space for Life Sciences start-ups and small businesses
- a lack of suitable move-on space in the Knowledge Quarter for companies wishing to expand their operations and/or take on additional staff
- a lack of business accelerators for start-ups and other small firms.

Future baseline

13.5.13 This refers to the projected baseline in 2029, if no development were to take place. Without any likely prospect of additional public funding, the British Library do not anticipate growth between now and 2029 without the new extension. Therefore, it has been assumed for the purposes of the assessment that without the extension there may be limited need for or space to support new job creation and the level of employment would remain relatively stable.

Receptors

13.5.14 The key receptors considered in the assessment are set out in Table 36. Sensitivity of receptors is defined as high, medium, low or negligible. In the context of socio-economics, the level of sensitivity depends upon the baseline conditions (i.e. the extent to which unemployment, skills deficit, or social infrastructure issues etc. are present in an area and thus how much employment or social infrastructure are needed in that area).

Table 36: Receptors relevant to the socio-economics assessment.

Assessment	Receptor	Sensitivity	Justification for the inclusion in the assessment	Justification for the sensitivity rating
Operational – direct employment	Residents living in St Pancras and Somers Town ward, the London Borough of Camden and London seeking employment	Medium	To identify the effect of the uplift in on-site employment, covering both numbers and types of jobs compared to the existing on-site employment	A sensitivity rating of medium has been chosen as the baseline analysis highlights a higher unemployment rate at ward level compared to LBC and London. Notwithstanding this, St Pancras and Somers Town ward, LBC and London present a range of employment opportunities to suit different skills levels.
Operational – wider socio-	Residents within St Pancras and Somers	Low	To consider the wider socio-economic impacts of	A sensitivity rating of low has been chosen for both sets of receptors

Assessment	Receptor	Sensitivity	Justification for the inclusion in the assessment	Justification for the sensitivity rating
economic impacts	Town ward, London Borough Camden and London; and institutions and companies within London's Knowledge Quarter		the Proposed Development. This is a qualitative assessment which considers the potential benefits for residents in terms of new social infrastructure (library facilities etc); as well as the potential benefits of new library and employment floorspace within the context of London's Knowledge Quarter.	(residents and institutions/companies). This central location already provides choice to its residents in terms of social infrastructure/ public institutional space. Furthermore, the baseline analysis demonstrates that institutions/ companies within the Knowledge Quarter are already experiencing beneficial effects as a result of their location.

13.6 Embedded and good practice measures

13.6.1 The Proposed Development provides for an extension of the northern aspect of the existing British Library to provide library accommodation, commercial and lab-enabled office, retail space, and sui generis use related to basement level infrastructure for Crossrail 2 totalling to a gross internal area (GIA) of 100,358m².

13.6.2 There are no embedded mitigation measures of relevance to the socio-economic assessment.

13.7 Assessment

Operational effects

Employment – residents living in St Pancras and Somers Town ward, the London Borough of Camden and London seeking employment

13.7.1 In terms of library floorspace, the Proposed Development consists of demolition and reprovision of the BLCC and the British Library Sound Archive, as well as the construction of new library accommodation. In considering potential net additional jobs relating to the library floorspace within the Proposed Development, the following assumptions have been made:

- no net additional jobs relating to the BLCC
- no net additional jobs relating to the British Library Sound Archive

- 30 net additional jobs relating to the new library accommodation (assumed FTE).

13.7.2 In terms of wider employment, the Proposed Development currently offers some flexibility around the potential employment generating uses, and the density for each use, which would each result in different net employment effects. For the purposes of this assessment, the medium density scenarios have been used for both Scenario 1 (office-led occupation) and Scenario 2 (lab-led occupation), as defined within Appendix D4.

13.7.3 The Proposed Development would likely support between 3,140 (Scenario 2) and 5,730 (Scenario 1) gross full-time equivalent (FTE) jobs at the London scale. The Proposed Development would support approximately 3,179 (Scenario 2) to 5,802 (Scenario 1) net additional FTE jobs at the London scale, of which 1,060 (Scenario 2) to 1,934 (Scenario 1) are indirect and induced jobs. It is estimated that 2,296 (Scenario 2) to 4,190 (Scenario 1) net additional FTE jobs would be supported at the LBC scale, of which 530 to 967 are indirect and induced jobs (refer to Appendix M1, Table 3).

13.7.4 Both Scenarios 1 and 2 are therefore likely to result in new employment opportunities for residents within the local ward, LBC and London levels.

13.7.5 Scenarios 1 and 2 provide the same levels of floorspace for the Alan Turing Institute and retail element and would therefore support the same number of jobs. The differences lie with the type of office space being provided, with Scenario 1 offering all conventional office and affordable workspace, while Scenario 2 would allow for conventional office, lab-enabled and incubator space. It should be noted that the building will be designed and constructed to allow for both office and lab-enabled floorspace in the future. However, for the purposes of the socio-economic assessment, Scenarios 1 and 2 have been included to cover the uncertainty in end user and therefore employment generation.

13.7.6 The proposed uses fall within the key sectors in which residents of the St Pancras and Somers Town ward, LBC and London are employed, as set out in the baseline. Across both Scenarios 1 and 2, the highest proportion of jobs would be created through the provision of office floorspace (the type of which varies according to the scenario). Within the St Pancras and Somers Town ward around 15% of residents are employed in the professional, scientific and technical sector, with 19% of LBC residents and 13% of London's residents also employed within this sector. Given this existing employment profile, it is likely that new employment opportunities (delivered through the Proposed Development, in either Scenario 1 or Scenario 2) are likely to be equally accessible to and beneficial for residents living in the local ward (St Pancras and Somers Town ward), LBC and wider London area.

13.7.7 The sensitivity of residents living in St Pancras and Somers Town ward, LBC and London has been identified as medium. With regards to Scenario 1 (office-led occupation) the impact of the uplift in FTE jobs within this sector is considered to be small within the context of this central London location, using the professional judgement and experience of similar assessments conducted by the project team. Scenario 1 would therefore produce a permanent minor beneficial effect which is not significant in EIA terms. Scenario 2 (lab-led occupation), although generating a lower amount of FTE jobs due to science and R&D spaces as well as incubators requiring a bigger footprint, these end uses have potential to generate significant value to knowledge creation and innovation within the context of the Knowledge Quarter (and as such would be expected to result in jobs with a higher GVA per job). The impact of Scenario 2 is thus considered to be greater and would therefore produce a permanent moderate beneficial effect which is significant in EIA terms.

Wider socio-economic impacts – residents within St Pancras and Somers Town Ward, the London Borough of Camden and London; and institutions and companies within London’s Knowledge Quarter

13.7.8 As set out above, the Proposed Development would result in employment opportunities for residents in the locality and wider London area. There is a commitment to proactively promote all roles below degree level in the local community ahead of wider marketing, by collaborating with Somers Town Jobs Hub and Good Work Camden, for example. Providing CV workshops, Adult Learning Programmes and awareness raising activities around the skills and opportunities in the business sectors in the building and creating accessible job descriptions would aim to reduce barriers and facilitate local people being able to apply for and attain jobs in the Proposed Development.

13.7.9 Other commitments relevant to employment and/or training opportunities comprise:

- over 75% of student work experience opportunities at the British Library ringfenced for local schools and colleges per annum
- a mentoring/work experience scheme facilitated between Business and IP Centre (BIPC) alumni and local young people
- a new Youth Programme for 16-25-year olds led by British Library Learning team, including a Young Entrepreneurship Scheme with the BIPC
- increase engagement with Camden schools from 47% to 100% as a result of increased Learning Centre space
- businesses in the Incubator Space encouraged to provide an internship for a local young person

- continue existing 4-6-week English for Speakers of Other Languages (ESOL) course promoted through local networks
- all employees will be paid at least London Living Wage⁸⁶
- Compact and British Library Community Engagement teams actively promoting opportunities into the community
- collaborate with Knowledge Quarter organisations and Camden Council representatives to optimise opportunities and learning
- regular meetings with the Somers Town Jobs Hub and Good Work Camden to share skills forecasting in relation to new jobs and opportunities in the library and commercial space, and to plan for future training and work experience opportunities.

13.7.10 With regards to social infrastructure, the Proposed Development includes the provision of new library accommodation, including the replaced BLCC and British Library Sound Archive, and the British Library Foyer. This would include a community Learning Garden, flexible spaces for community groups to book free of charge at specific times, a Learning Centre for schools and families and a foyer space to include events and activities for children, families and the local community. The Library Business and Intellectual Property Centre (BIPC) workshop rooms will also be available in the evening and weekends to established community partners at no cost.

13.7.11 In terms of wider public space provision, the Proposed Development includes improvements to the public realm along the frontage of Ossulston street (including the Learning Garden), Midland Road and a greener east-west route along Dangoor Walk, as well as an extended Level 1 terrace. It has also been possible to improve the quality and provide an increased amount of accessible public realm as a result of an integrated approach to the design and delivery of Crossrail 2 infrastructure, which involves the shaft being located below ground.

13.7.12 The receptors (residents) seeking social infrastructure are judged to be of low sensitivity. The assessment demonstrates that the impact of the Proposed Development is judged to be of a medium magnitude and permanent (given the scope for the Proposed Development to provide benefits to the local community and wider public). This magnitude assessment has been derived from the professional judgement of the project team, through an awareness of both the location and sectoral significance of the Proposed Development. This would produce a permanent minor beneficial socio-economic effect which is not significant in EIA terms.

13.7.13 The mix of sector specialisms found within the Knowledge Quarter suggests that there is an ecosystem of knowledge and an infrastructure of institutions generating growth in this area. The Economic Value and Knowledge Quarter Uses Statement argues that there is a

⁸⁶ Mayor of London (2021). London Living Wage. Available at: <https://www.london.gov.uk/what-we-do/business-and-economy/london-living-wage>

‘competitive effect’ within the Knowledge Quarter which is underpinned by knowledge and creativity-intensive jobs. The Proposed Development which comprises new library floorspace as well as lab-enabled and incubator floorspace (Scenario 2) is considered to align with the mix of knowledge-based sectors in the area, thus providing opportunities to contribute to its competitive effect.

13.7.14 The Proposed Development (specifically Scenario 2) may also help to address some of the space-related ‘gap’s’⁸⁷ identified within the Knowledge Quarter through the provision of new lab-enabled and incubator floorspace.

13.7.15 The receptors (institutions and companies within the Knowledge Quarter) are judged to be of low sensitivity. The assessment demonstrates that the impact of the Proposed Development (specifically employment Scenario 2) is judged to be of medium magnitude and permanent (given the scope for the Proposed Development to provide benefits to surrounding institutions and companies). This magnitude assessment has been derived from the professional judgement of the project team, through an awareness of both the location and sectoral significance of the Proposed Development. This would produce a permanent minor beneficial socio-economic effect which is not significant in EIA terms.

13.8 Additional mitigation

13.8.1 Given there are no significant adverse effects on receptors reported, additional mitigation measures are not required.

13.9 Residual effects

Operational effects

13.9.1 No mitigation measures are required. Residual effects are therefore as reported in Section 13.7.

13.10 Cumulative effects

13.10.1 The list of developments identified for assessing cumulative effects is presented in Appendix D3. In Table 37 the potential for cumulative effects with each of these developments is examined, and an assessment of the cumulative effects presented where appropriate.

⁸⁷ Cited within the Economic Value and Knowledge Quarter Uses Statement

Table 37: Socio-economic cumulative effects.

Development	Potential for significant cumulative effects ⁸⁸	Comments
2015/2704/P and 2019/5882/P Central Somers Town Covering Land At Polygon Road Open Space, Edith Neville Primary School 174 Ossulston Street And Purchase Street Open Space, London, NW1 1EE (Brill Place)	Yes	It is assumed that employment floorspace constitutes a minor element of the development. In context of both borough and Greater London markets and economies, this level of employment is a considered to represent a 'business as usual' level of churn and so is not considered to result in delay, displacement, deadweight, substitution of crowding effects.
2020/4825/P St Pancras Hospital 4 St Pancras Way London NW1 0PE	Yes	It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale: <ul style="list-style-type: none"> a) if office-led (Scenario 1); it is expected that there will be demand within this central London location b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.
2004/2307/P: Kings Cross Central - Main site Land between Euston Road, St Pancras Station, Midland Main Line, The New Channel Tunnel Rail Link, York Way and Kings Cross Station. 2020/5885/P: Plot S4 King's Cross Central York Way London, N1C 4AB	Yes	It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale:

⁸⁸ Defined as any scheme likely to include employment floorspace. Precautionary approach adopted to ensure all potential schemes addressed.

Development	Potential for significant cumulative effects ⁸⁸	Comments
<p>2017/3133/P: King's Cross Central Development Zone A N1C 4UR</p> <p>2016/3195/P: Plot T2-T4 King's Cross Central Canal Reach N1C 4BD</p> <p>2016/4445/P: Midlands Goods Shed and Handyside Canopies, Wharf Road N1C 4UZ</p> <p>2016/1877/P: Kings Cross Central - Main Site Building R8 Development Zone R, York Way N1C 4DA</p> <p>2015/4819/P: King's Cross Central Building R3 and Zone R Gardens Development Zone R, York Way N1C 4AF</p> <p>2018/2628/P: Building P2 King's Cross Central, York Way N1C 4UZ</p> <p>2016/6197/P: Building R5 South (R6), King's Cross Central, York Way N1C 4DF</p> <p>2018/4813/P: Building S5, King's Cross Central, York Way N1C 4BE</p>		<p>a) if office-led (Scenario 1); it is expected that there will be demand within this central London location</p> <p>b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.</p>
<p>2004/2311/P: Kings Cross Central - Triangle Site: Land Between York Way, The Thameslink 2000 Rail Line and the East Coast Main Line</p> <p>P041261 (Islington); P2016/1030/RMS (Islington); 2016/1530/P; P2018/3844/RMS (Islington) and P2018/4062/RMS (Islington):</p> <p>Kings Cross Triangle Site, bounded by York Way, East Coast Main</p>	Yes	<p>It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale:</p> <p>a) if office-led (Scenario 1); it is expected that there will be demand within this central London location</p> <p>b) if lab-led (Scenario 2); the mix of specialisms within the immediate</p>

Development	Potential for significant cumulative effects ⁸⁸	Comments
Line & Channel Tunnel Rail Link, London N1C 0AZ		area (Knowledge Quarter) has the potential to improve local and national competition within the sector.
2020/3881/P: Belgrove House, Belgrove Street WC1H 8AA	Yes	It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale: a) if office-led (Scenario 1); it is expected that there will be demand within this central London location b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.
2017/5497/P and 2021/2671/P: 1-6 St Pancras Way (Ugly Brown Building) NW1 0TB	Yes	It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale: a) if office-led (Scenario 1); it is expected that there will be demand within this central London location b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.
2017/3518/P and 2018/0663/P: Stephenson House 75 Hampstead Road NW1 2PL	Yes	It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace

Development	Potential for significant cumulative effects ⁸⁸	Comments
		for either Scenario 1 or 2, based on the following rationale: a) if office-led (Scenario 1); it is expected that there will be demand within this central London location b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.
2018/5715/P; 2020/4919/P; 2020/5791/P and 2021/1809/P: Eastman Dental Hospital Site and Buildings (including the former Royal Free Hospital the Eastman Dental Clinic and the Levy Wing) WC1X 8LD	Yes	It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale: a) if office-led (Scenario 1); it is expected that there will be demand within this central London location b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.
2015/3076/P; 2016/1402/P; 2016/4901; 2019/3453/P and 2020/0589/P: Regent's Park Estate, Robert Street NW1 3QJ	Yes	It is assumed that employment floorspace constitutes a minor element of the development. In context of both borough and Greater London markets and economies, this level of employment is considered to represent a 'business as usual' level of churn and so is not considered to result in delay, displacement, deadweight, substitution of crowding effects.
2019/4201/P: St Pancras Commercial Centre 63 Pratt Street London NW1 0BY	Yes	It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale:

Development	Potential for significant cumulative effects ⁸⁸	Comments
		<p>a) if office-led (Scenario 1); it is expected that there will be demand within this central London location</p> <p>b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.</p>
2018/2398/P: 93-103 Drummond Street and 63 Cobourg Street NW1 2HJ	Yes	It is assumed that employment floorspace constitutes a minor element of the development. In context of both borough and Greater London markets and economies, this level of employment is a considered to represent a 'business as usual' level of churn and so is not considered to result in delay, displacement, deadweight, substitution of crowding effects.
2016/6069/P and 2017/6573/P: 1 Triton Square & St Anne's Church Laxton Place NW1 3DX	Yes	<p>It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale:</p> <p>a) if office-led (Scenario 1); it is expected that there will be demand within this central London location</p> <p>b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.</p>
2014/4385/P; 2016/6311/P and 2018/3682/P: 101 Camley Street NW1 0PF	Yes	<p>It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale:</p> <p>a) if office-led (Scenario 1); it is expected that there will be demand within this central London location</p>

Development	Potential for significant cumulative effects ⁸⁸	Comments
		b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.
2014/4381/P and 2015/5185/P: 102 Camley Street NW1 0PF	Yes	It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale: a) if office-led (Scenario 1); it is expected that there will be demand within this central London location b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.
P2016/0199/FUL (Islington): 4-8 Rodney Street N1 9JH	Yes	It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale: a) if office-led (Scenario 1); it is expected that there will be demand within this central London location b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.
2013/3807/P: Land to west of Royal mail Sorting office bounded by Phoenix Place, Mount Pleasant, Gough Street & Calthorpe Street, Camden, W1CX 0DH	Yes	It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the

Development	Potential for significant cumulative effects ⁸⁸	Comments
		<p>Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale:</p> <p>a) if office-led (Scenario 1); it is expected that there will be demand within this central London location</p> <p>b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.</p>
2016/4208/P: Greater London House Hampstead Road London NW1 7AW	Yes	<p>It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale:</p> <p>a) if office-led (Scenario 1); it is expected that there will be demand within this central London location</p> <p>b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.</p>
2015/6955/P and 2021/1056/P: Panther House, 38 Mount Pleasant, 156-164 Gray's Inn Road WC1X 0AN	Yes	<p>It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale:</p> <p>a) if office-led (Scenario 1); it is expected that there will be demand within this central London location</p> <p>b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.</p>
P2013/1423/FUL:	Yes	It is assumed that employment floorspace constitutes a major element

Development	Potential for significant cumulative effects ⁸⁸	Comments
Land North West of the Royal Mail Sorting Office, Farringdon Road, EC1A 1BB		<p>of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale:</p> <p>a) if office-led (Scenario 1); it is expected that there will be demand within this central London location</p> <p>b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.</p>
2017/0414/P; 2018/1584/P: 44 Cleveland Street, W1T 4JT	Yes	<p>It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale:</p> <p>a) if office-led (Scenario 1); it is expected that there will be demand within this central London location</p> <p>b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.</p>
2015/1139/P; 2016/4842/P; 2016/6984/P and 2017/3751/P: Astor College 99 Charlotte Street London W1T 4QB	Yes	<p>It is assumed that employment floorspace constitutes a minor element of the development. In context of both borough and Greater London markets and economies, this level of employment is a considered to represent a 'business as usual' level of churn and so is not considered to result in delay, displacement, deadweight, substitution of crowding effects.</p>
2014/7908/P: 140-146 Camden Street London NW1 9PF	Yes	<p>It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in</p>

Development	Potential for significant cumulative effects ⁸⁸	Comments
		<p>competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale:</p> <p>a) if office-led (Scenario 1); it is expected that there will be demand within this central London location</p> <p>b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.</p>
<p>P2016/1999/FUL (Islington) and P2017/2937/S73: Fitzpatrick Building, 188-194 York Way London N7 9AS</p>	Yes	<p>It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale:</p> <p>a) if office-led (Scenario 1); it is expected that there will be demand within this central London location</p> <p>b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.</p>
<p>2020/5593/P: Royal National Throat, Nose And Ear Hospital Site 330 Grays Inn Road (and fronting Swinton Street and Wicklow Street) London WC1X 8DA</p>	Yes	<p>It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale:</p> <p>a) if office-led (Scenario 1); it is expected that there will be demand within this central London location</p> <p>b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.</p>

Development	Potential for significant cumulative effects ⁸⁸	Comments
2015/6383/P: 42 Phoenix Road London NW1 1TA	No	It is assumed that employment floorspace constitutes a minor element of the development. In context of both borough and Greater London markets and economies, this level of employment is considered to represent a 'business as usual' level of churn and so is not considered to result in delay, displacement, deadweight, substitution of crowding effects.
2020/3583/P: 247 Tottenham Court Road, London, W1T 7HH; 3 Bayley Street, London, WC1B 3HA; 1 Morwell Street, London, WC1B 3AR; 2-3 Morwell Street, London, WC1B 3AR; and 4 Morwell Street, London, W1T 7QT.	Yes	It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale: a) if office-led (Scenario 1); it is expected that there will be demand within this central London location b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.
2020/0728/P: 70-86 Royal College Street London NW1 0TH	Yes	It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale: a) if office-led (Scenario 1); it is expected that there will be demand within this central London location b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.
2018/2316/P: Land fronting Stephenson Way (to the rear of 222 Euston Road adjacent to	No	It is assumed that employment floorspace constitutes a minor element of the development. In context of both borough and Greater London markets

Development	Potential for significant cumulative effects ⁸⁸	Comments
210 Euston Road) London NW1 2DA		and economies, this level of employment is a considered to represent a 'business as usual' level of churn and so is not considered to result in delay, displacement, deadweight, substitution of crowding effects.
2020/5624/P; 2020/5638/P and 2020/5631/P: Network Building (95-100 Tottenham Court Road) 76-80 Whitfield Street and 88 Whitfield Street London W1T 4TP	Yes	It is assumed that employment floorspace constitutes a major element of the development. If the employment floorspace is in the same or similar sector and of the same magnitude as that proposed, this may result in competing floorspace. However, this is not considered likely to negatively impact the future occupancy of the Proposed Development's floorspace for either Scenario 1 or 2, based on the following rationale: a) if office-led (Scenario 1); it is expected that there will be demand within this central London location b) if lab-led (Scenario 2); the mix of specialisms within the immediate area (Knowledge Quarter) has the potential to improve local and national competition within the sector.
2019/3138/P: 115-119 Camden High Street London NW1 7JS	Yes	It is assumed that employment floorspace constitutes a minor element of the development. In context of both borough and Greater London markets and economies, this level of employment is a considered to represent a 'business as usual' level of churn and so is not considered to result in delay, displacement, deadweight, substitution of crowding effects.
N/A: HS2 at Euston	Yes	It is assumed that employment floorspace constitutes a minor element of the development. In context of both borough and Greater London markets and economies, this level of employment is a considered to represent a 'business as usual' level of churn and so is not considered to result in delay, displacement, deadweight, substitution of crowding effects.
2020/3880/P: 314-320 Acorn House Gray's Inn Road London WC1X 8DP	Yes	It is assumed that employment floorspace constitutes a minor element of the development. In context of both borough and Greater London markets and economies, this level of employment is a considered to represent a 'business as usual' level of churn and so is not considered to result

Development	Potential for significant cumulative effects ⁸⁸	Comments
		in delay, displacement, deadweight, substitution of crowding effects.
2020/5473/P: 17-37 William Road London NW1 3ER	Yes	It is assumed that employment floorspace constitutes a minor element of the development. In context of both borough and Greater London markets and economies, this level of employment is a considered to represent a 'business as usual' level of churn and so is not considered to result in delay, displacement, deadweight, substitution of crowding effects.

13.11 Assessment summary

Operational effects

Table 38: Socio-economics assessment summary – operational effects.

Aspect of the Proposed Development	Effects	Additional Mitigation	Residual effect
Direct employment effects arising from the use of the development for residents living in St Pancras and Somers Town ward, the London Borough of Camden and London seeking employment	<p>The sensitivity of the receptors is medium.</p> <p>The impact of Scenario 1 (office-led occupation) is judged to be small in magnitude and permanent, which would produce a permanent minor beneficial effect (not significant).</p> <p>The impact of Scenario 2 (lab-led occupation) is judged to be large in magnitude and permanent, which would produce a permanent moderate beneficial effect (significant).</p>	None required	Effect unchanged
Wider socio-economic effects arising from the use of the development for residents within St Pancras and Somers Town ward, London Borough Camden and London; and institutions and companies within London's Knowledge Quarter	<p>The sensitivity of both of the receptors (residents and institutions/ companies) is low.</p> <p>Impacts are judged to be medium in magnitude and permanent, this would result in permanent minor beneficial effects (not significant).</p>	None required	Effect unchanged

