

1. Introduction

Introduction

- 1.1 This Environmental Statement (ES) has been prepared on behalf of Linear Construction Limited (the 'Applicant'), in accordance with the statutory procedures set out in The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended)¹ (the 'EIA Regulations').
- 1.2 The ES relates to the development of land which is located off Lord Street, Cheetham Hill, Manchester (the 'site'). The site falls within the jurisdiction of Manchester City Council (MCC). The site is located at Ordnance Survey (OS) National Grid Reference (NGR) SJ841994.
- 1.3 The development proposals comprises a residential led scheme (the 'proposed development') for which the Applicant has prepared a full planning application for (referred to hereafter as the 'application'). The application will be submitted to MCC.
- 1.4 The Applicant recognises that the proposed development falls under the definitions set out within Schedule 2, Paragraph 10(b) 'Urban Development project' of the EIA Regulations which, owing to its nature, scale and location, is likely to give rise to significant effects on the environment. The Applicant has therefore voluntarily commissioned an environmental impact assessment (EIA) for the proposed development, the findings of which are presented within this ES.
- 1.5 EIA is a formal process in which the likely significant effects of certain types of development projects on the environment are identified, assessed and reported upon.
- 1.6 This ES presents the results of the EIA that has been undertaken of the proposed development as a whole and of the site a whole.
- 1.7 In accordance with the EIA Regulations, the ES reports on the likely significant environmental effects of the proposed development during the demolition and construction stage, the subsequent completed development stage.

- 1.8 The EIA has taken into account the mitigation measures that are being proposed by the Applicant, including those measures that have been integrated into the planning and design of the proposed development to avoid and, where avoidance is not possible, to reduce and/or off-set likely significant adverse effects. It then assesses the significance of the residual effects.
- 1.9 The EIA has been carried out by Ramboll UK Limited ('Ramboll') and a team of technical specialists in accordance with good practice guidelines including, the Institute of Sustainability and Environmental Professionals (ISEP, formerly the Institute for Environmental Management and Assessment (IEMA)) Quality Mark criteria. The EIA team, in addition to the Applicant's wider design and planning team, is presented in Table 1.2, along with the respective disciplines.
- 1.10 The ES comprises the following:
- Non-Technical Summary (NTS);
 - Volume 1: Main Environmental Statement Report (this document);
 - Volume 2: Townscape and Visual Impact Assessment (TVIA); and
 - Volume 3: Technical Appendices.
- 1.11 This chapter of the ES provides a general description of the site, the relevant planning context, planning application details, as well as the content and structure of the ES. More detailed information on the site is provided in the technical assessments of this Volume, as well as in ES Volume 2. Further information on how the scope of the EIA was defined and on the structure of this ES, is provided in Chapter 2: EIA Process and Methodology.
- 1.12 This chapter is accompanied by Technical Appendix 1.1: ISEP Quality Mark Checklist.

¹ Secretary of State, 2017. Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended), London, HMSO.

Development Context

Site Location and Context

- 1.13 The site is located at Lord Street, M4 4EX (centred at NGR: SJ841994), as presented in Figure 1.1.
- 1.14 The boundaries and immediate surroundings of the site comprise the following:
- North: Immediately north of the site is Lord Street. Following Lord Street is a small commercial unit containing multiple businesses and a car park in the rear. On the north side of this retail unit lies a small garden and the Manchester Oratory Catholic Church, which contains two separate Grade II Listed Buildings within its perimeter.
 - South: The site is bordered by a car park and associated Texaco Petrol station located along Cheetham Hill Road. Further south are residential properties located within an apartment complex. Park Place Bus Station is situated outside of this complex, providing services to Piccadilly Gardens and Sale through bus routes 135 and 41.
 - West: The west of the site is completely bound by the A665 Cheetham Hill Road. Beyond this lies the connection to Carnarvon Street and Topps Tiles Clearance Outlet and its associated car park.
 - East: the site is bound by Fernie Street to the east with residential and commercial properties located further beyond the road.

Site Description

- 1.15 As presented in Figure 1.1, the site is 0.18 hectares (ha) in area and made up of a rectangular parcel of land and comprises vacant, derelict land with one disused building, a single storey, former tyre shop.
- 1.16 The site consists of hardstanding and scrub. No trees are present on the site. The site and its surrounding environmental context is shown below in Figure 1.2.

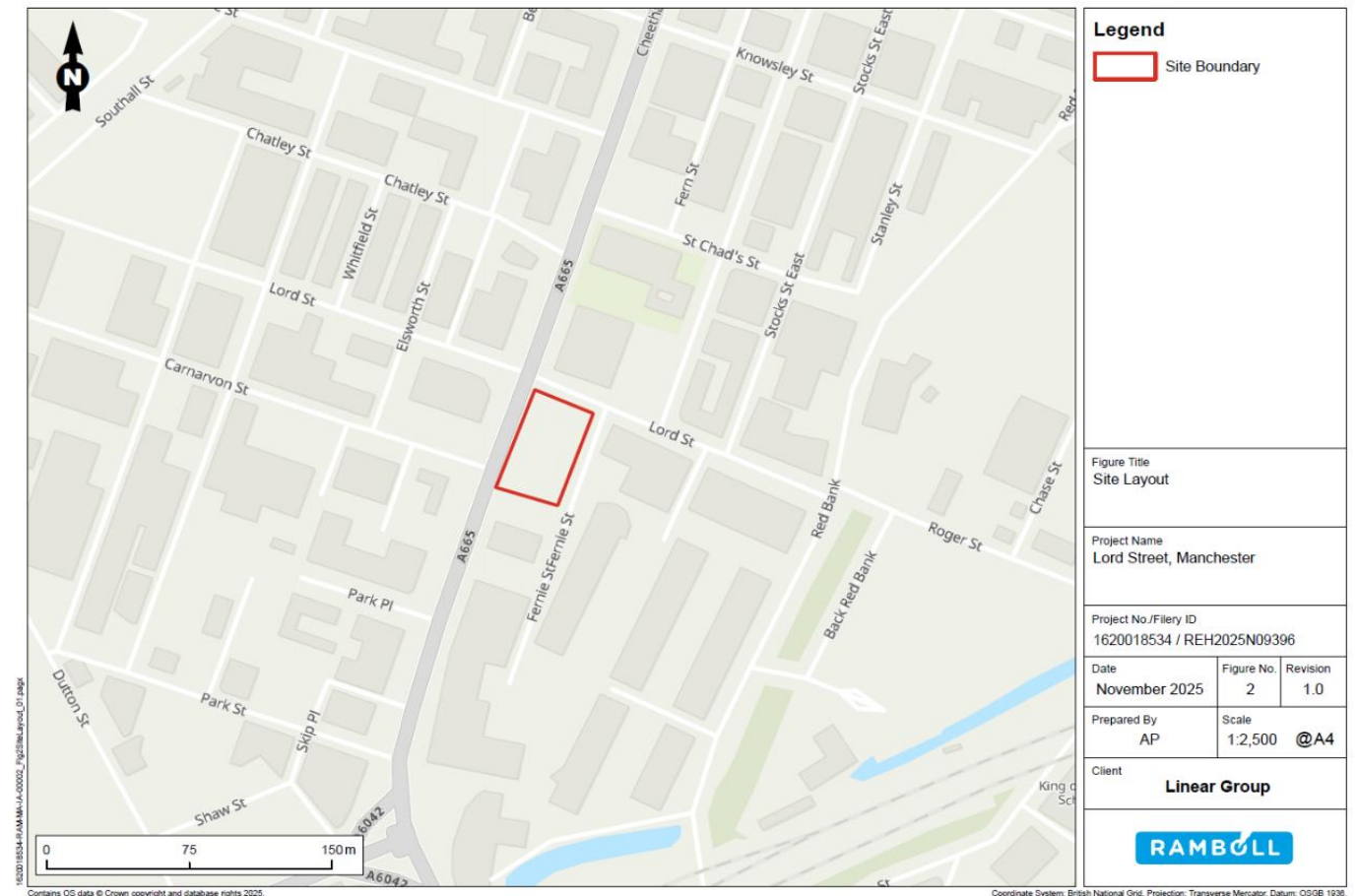


Figure 1.1: Site Location Plan

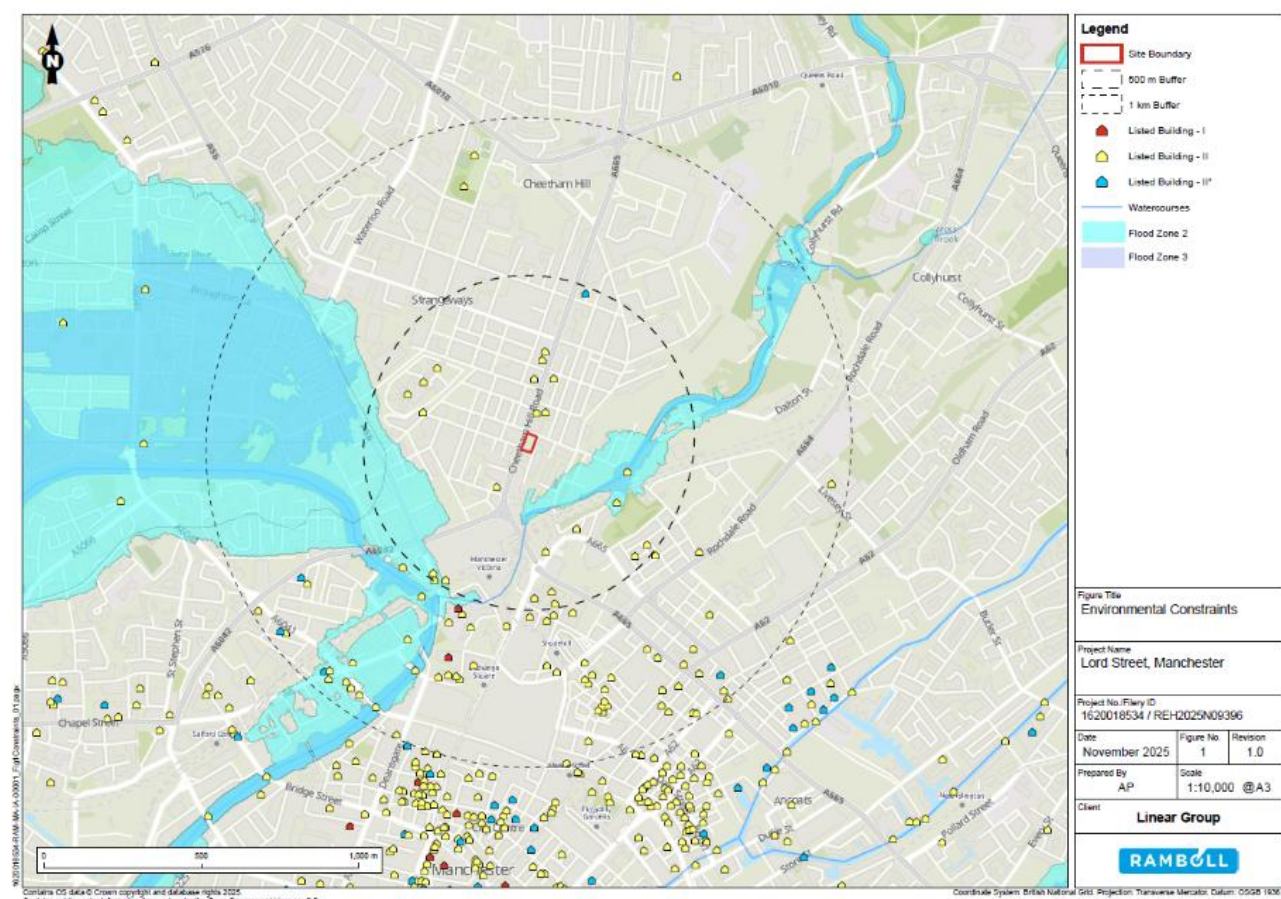


Figure 1.2: Site and Surrounding Environmental Context

1.17 Vehicular and pedestrian access to the site is provided from Lord Street, however the site is not currently accessible to the general public.

Environmental Considerations

- 1.18 A detailed description of the environmental considerations and sensitive receptors considered in the EIA are presented in each of the technical assessment chapters (Chapters 6 to 9) of this Volume and in ES Volume 2.
- 1.19 There are no statutory or non-statutory land-based designations within the site boundary, nor does the site contain any historic statutory or non-statutory designations. The site is however located within the Impact Risk Zone of the Rochdale Canal Site of Special Scientific Interest and Special Conservation Area. There are no further statutory or non-statutory designations located within 1km of the site.
- 1.20 The site falls within the Manchester City Council Air Quality Management Area, which has measured exceedances for PM10 and NO2 since 2001.

- 1.21 The underlying geographic formation of the site consists of the Chester Formation of sandstone and sedimentary bedrock. The Till, Devensian superficial deposit is also present underneath the site. The site is not located within a Groundwater Source Protection Zone. There are no boreholes present within the site boundary.
- 1.22 Groundwater and surface water sampling revealed elevated levels of cyanide and ammoniacal nitrogen above Environmental Quality Standards.
- 1.23 Elevated ground gas concentrations have been recorded during previous investigations; however, the scope of these investigations were limited by the presence of existing gas holders, associated infrastructure and ancillary buildings, which restricted the depth and location of exploratory locations.
- 1.24 The Environmental Agency Flood Mapping confirms that the site is not located within Flood Zone 2 or 3. There are portions of the site located within the northern and northwestern boundaries that are within a 1 in 1000 year annual likelihood of surface water flooding.
- 1.25 There are no Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs) or National Nature Reserves (NNRs) located within 2 km of the site.
- 1.26 There are no heritage assets within the site redline boundary. There are two grade II listed buildings within 100 m of the site boundary;
- St Chad’s Cheetham Hill First World War Memorial Cross (list entry 1485562), located approximately 80 m north of the northern site boundary; and
 - Roman Catholic Church of St Chad (list entry 1208542), located approximate 85 m north of the northern site boundary.
- 1.27 The site does not fall within a conservation area.
- 1.28 Publicly available environmental sensitivity data sets for the site and surrounding study area are presented in Figure 1.2 providing a summary of the key sensitive receptors group.

Planning Context

Planning Policy Context

1.29 The proposed development has been considered against relevant planning policies and guidance at national, regional and local levels.

National Policy and Guidance

- 1.30 The EIA is written in regard to the following national policy and guidance in informing assessments, their methodology and identification of sensitive receptors:
- National Planning Policy Framework (NPPF); and
 - Planning Practice Guidance

Regional Planning Policy

- 1.31 The EIA will have regard to the Places for Everyone Joint Development Plan. The Joint Development Plan is a plan for nine of the ten Greater Manchester districts, which will determine the type of development that will take place within the districts, maximising the use of brownfield land and urban spaces, whilst protecting Green Belt land from the risk of unplanned development. It will also ensure all new developments are sustainably integrated into Greater Manchester’s transport network or supported by new infrastructure.
- 1.32 The Joint Development Plan Document:
- Sets out how nine districts should be developed up until 2037;
 - Identifies the amount of new development that will come forward, in terms of housing, offices and industry and warehousing, and the main areas in which these will be focused;
 - Supports the key delivery of infrastructure, such as transport and utilities;
 - Protects the important environmental assets across the city region;
 - Allocates sites for employment and housing outside of the existing urban area; and
 - Defines a new Green Belt boundary for Greater Manchester.

Local Policy

- 1.33 The ES has been written with regard to MCC’s Local Development Framework Core Strategy Development Plan Document and any relevant Supplementary Planning Documents (SPDs) and Supplementary Planning Guidance (SPGs).
- 1.34 Key policies and guidance from these documents and others have been referenced in the Planning Statement which accompanies the application, and in technical assessment chapters where relevant.

Planning History

- 1.35 Planning permission was first granted on 21 November 2016 under application reference 113914/FO/2016 for the development of a 16 storey building consisting of 192 apartments and a ground floor commercial unit. Since this application, multiple applications have been filed for the proposed development in order to discharge the planning conditions associated with the permission. These are detailed in Table 1.1.
- 1.36 The scheme was later amended through a non-material amendment application (138553/NMC/2023) which retained the same number of residential units but reduced the level of onsite parking.

Table 1.1: Site Planning History	
Reference	Description
113914/FO/2016	Erection of a 16 storey building to form 192 residential apartments (Use Class C3a) together with ground floor commercial unit (172 sqm) (Use Class A1, A2, A3 or B1) with associated vehicular access from Fernie Street, car parking and hard and soft landscaping following demolition of existing buildings
CDN/19/0095	Discharge of Condition 4 Part A – Ground Conditions
CDN/19/0182	Discharge of Conditions 5 and 6 – Construction Management Plan and Local Labour
CDN/19/0330	Discharge of Condition 3 - Drainage
CDN/19/0418	Discharge of Condition 4 Part A – Ground Conditions
CDN/19/0536	Discharge of Condition 3 - Drainage
124193/JO/2019	Variation of Condition 10 – Replacement Environmental Standards.
138553/NMC/2023	Non-material amendment to planning permission 124193/JO/2019 to amend condition 2 (Approved drawings) to insert an additional internal staircase, amend number of car

Table 1.1: Site Planning History	
	parking spaces, remove sub-basement and change the commercial space to residents’ amenity space

Project Team

1.37 Table 1.2 sets out the project and design team for the project.

Table 1.2: Design and EIA Team	
Company	Role
AEW Architects	Architect / Principal Designer
Enabl	Planning Consultant
Rihbell	Project Manager
Reform	Landscape Architect
Ramboll	EIA Coordinator Human Health and Socioeconomics Consultant
Architectural Aerodynamics	Wind Microclimate Consultant
Reform	Townscape and Visual Impact Consultant
Proximity	Daylight, Sunlight, Solar Glare Consultant
Redmore	Climate Change Consultant

1.38 As required by Regulation 18(5)(b) of the EIA Regulations, Table 1.3 presents a statement from the Applicant outlining the relevant expertise or qualifications of the competent experts that have undertaken the EIA and prepared this ES.

Table 1.3: Topic Chapter Professional Experience	
Introductory and Concluding Chapters, Non-Technical Summary Ramboll	Project Manager – Campbell Risdon Campbell is a Senior Consultant with over two years of experience coordinating and managing EIAs within the property sector. He holds an MSc from the University of Manchester in Environmental Impact Assessment and Management and is an Associate member of ISEP. Project Director – Harry Parker Harry is a Chartered Environmentalist with 18 years’ experience in environmental impact assessment (EIA) working in public and private sector. During his career Harry has managed and directed EIAs for a wide range of residential and commercial developments across the UK and Ireland

Table 1.3: Topic Chapter Professional Experience	
Daylight, Sunlight and Overshadowing Proximity	Jerome Muir Jerome is a senior chartered building surveyor specialising in rights to light and daylight and sunlight impact assessment for over 8 years.
Wind Microclimate Architectural Aerodynamics	Joseph Osman Joseph has an MEng degree in aerospace engineering, and since 2008 has helped to deliver hundreds of high-profile wind engineering projects, including tall buildings, masterplans, stadia and bridges. During a 7 year period working within the product management team for one of the worlds leading off-the-shelf CFD codes, Joseph worked to ensure that CFD methods can be applied accurately and robustly to a diverse range of applications.
Socioeconomics and Human Health Ramboll	Ivan Tennant Ivan is a chartered town planner leading on the provision of evidence to test the quality and policy compliance of major development and planning projects, many of which have been subject to EIA. He has appeared on multiple occasions as an expert witness to explain this evidence at examinations in public and private enquiries. Isobel Kiely Isobel has a BA (Hons) in sociology and social research. Isobel has built her career around the significant impact that businesses, policies, developments, infrastructure, and initiatives can have on the health and wellbeing of their surrounding communities. She is experienced in Health Impact Assessments (HIA) and Environmental Impact Assessments (EIA) health chapters. Henry Lucas Henry has over 2 years ‘experience writing socio-economic chapters for Environmental Impact Assessments across various residential, mixed-use, and energy developments across the UK. His work involves a combination of policy analysis, socio-economic analysis, and impact assessment, adhering to ISEP standards. Henry also has the ability to contribute to Health Impact Assessments (HIAs) and Equalities Impact Assessments (EqIAs).
Climate Change and Greenhouse Gases Redmore	Megan Pond Megan holds a BSc in Chemistry and has provided input to Environmental Statements for both Air Quality and Climate Change reporting for 2 years.

Environmental Statement

Environmental Statement Structure

1.39 The ES comprises the following documents:

- Non-Technical Summary
- Volume 1: Main Environmental Statement
 1. Introduction;
 2. EIA Process and Methodology;
 3. Alternatives and Design Evolution;
 4. Proposed Development Description;
 5. Demolition and Construction Description;
 6. Daylight, Sunlight and Overshadowing;
 7. Wind Microclimate;
 8. Socioeconomics and Human Health;
 9. Climate Change;
 10. Cumulative Effects; and
 11. Summary of Additional Mitigation and Residual Effects
- Volume 2: Townscape and Visual Assessment.
- Volume 3: Technical Appendices:
 - Appendix 1.1: ISEP Quality Mark Checklist;
 - Appendix 2.1: EIA Scoping Report;
 - Appendix 2.2: EIA Scoping Opinion;
 - Appendix 2.3: Transport Statement;
 - Appendix 2.4: Interim Travel Plan;
 - Appendix 6.1: Daylight, Sunlight and Overshadowing Methodology;
 - Appendix 6.2: 3D Views;
 - Appendix 6.3: Vertical Sky Component (VSC) Table;
 - Appendix 6.4a: No Sky Line (NSL) Table;
 - Appendix 6.4b: NSL Contours;
 - Appendix 6.5: Annual Probable Sunlight Hours (APSH) Table;
 - Appendix 6.6: 2 Hour Time in Sun Plots;
 - Appendix 6.7: Cumulative 3D Views;
 - Appendix 6.8: Cumulative VSC Table;
 - Appendix 6.9a: Cumulative NSL Tables;
 - Appendix 6.9b: Cumulative NSL Contours;
 - Appendix 7.1: Wind Microclimate Assessment;

- Appendix 8.1: Socio-Economics and Human Health Policy and Guidance;
- Appendix 9.1: Climate Legislation, Policy and Guidance;
- Appendix 9.2: Life Cycle Assessment; and
- Appendix 9.3: Carbon and Energy Statement.

1.40 The required content of the ES is set out in Schedule 4 of the EIA Regulations. Table 1.4 presents the requirements of the EIA Regulations and indicates where in this ES the requirements have been met.

Table 1.4: Information Required in an Environmental Statement (Schedule 4 of EIA Regulations)		
Required Information		Chapter of the ES
1	A description of the development, including in particular: a description of the location of the proposed development; a description of the physical characteristics of the proposed development, including, where relevant, requisite demolition works, and the land-use requirements during the operation stage; a description of the main characteristics of the operational phase of the proposed development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used; an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the operation stage.	ES Chapter 1: Introduction, ES Chapter 4: Proposed Development Description, ES Chapter 5: Demolition and Construction Description, ES Chapters 6-16, ES Volumes 2 and 3
2	A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the Applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.	ES Chapter 3: Alternatives and Design Evolution
3	A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the proposed development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.	ES Chapter 3: Alternatives and Design Evolution

Table 1.4: Information Required in an Environmental Statement (Schedule 4 of EIA Regulations)		
Required Information		Chapter of the ES
4	A description of the factors specified in Regulation 4(2) likely to be significantly affected by the proposed development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.	ES Chapters 6-10, Volume 1, ES Volumes 2 and 3
5	A description of the likely significant effects of the proposed development on the environment resulting from, <i>inter alia</i>: a) the construction and existence of the development including, where relevant, demolition works; b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources; c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste; d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters); e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources; f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change; and g) the technologies and the substances used. The description of the likely significant effects on the factors specified in Regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development. The description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the proposed development, including in particular those established under Council Directive 92/43/EEC and Directive 2009/147/EC.	ES Chapters 6-10, Volume 1, Volumes 2 and 3

Table 1.4: Information Required in an Environmental Statement (Schedule 4 of EIA Regulations)		
Required Information		Chapter of the ES
6	A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.	ES Chapters 6-10, Volume 1 ES Volumes 2 and 3
7	A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). The description should explain the extent to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.	ES Chapter 5: Demolition and Construction Description, Volume 1 Mitigation sections of ES Chapters 6-10, Volume 1 and ES Volumes 2 and 3
8	A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to EU legislation such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or UK environmental assessments may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.	ES Chapters 6-10, ES Volume 1, ES Volumes 2 and 3
9	A non-technical summary of the information provided under 1 to 8 above.	Non-Technical Summary
10	A reference list detailing the sources used for the descriptions and assessments included in the ES.	ES Chapters 1-10, ES Volume 1, ES Volumes 2 and 3

Environmental Statement Good Practice

1.41 As with EIA, good practice in the preparation of the ES is defined in a number of sources, with more specific issues covered by ES review checklists. Many of these checklists are very detailed and go to some length. In terms of widely applicable and practical guidance, the Institute of Sustainability and Environmental Professionals (formerly the Institute of Environmental

Management and Assessment (IEMA)) Quality Mark indicator check has been referenced in undertaking the EIA and in producing this ES as described in Technical Appendix 1.1, ES Volume 3.

- 1.42 Ramboll is a Registrant on the ISEP Quality Mark. Accordingly, as part of Ramboll's Quality Assurance procedures and Quality Mark Commitments, the EIA has been undertaken to meet the Quality Mark Commitments as set out in Technical Appendix 1.1, ES Volume 3.

2 EIA PROCESS AND METHODOLOGY

Introduction

- 2.1 This chapter of the ES sets out the general approach to the process and methodology that is adopted when undertaking an EIA. It describes the EIA legislative framework and identifies the key guidance that was considered. The scoping and consultation process that was adopted to identify the key environmental topics for inclusion in the EIA and ES is outlined.
- 2.2 While the overall EIA approach and methodology are described in this chapter, further detail on how the approach and methodology were tailored to the scoped-in environmental topics is presented in the relevant technical assessment chapters of ES Volumes 1 and 2.
- 2.3 This chapter is accompanied by the following technical appendices within ES Volume 3:
- Technical Appendix 2.1: EIA Scoping Opinion Request Report;
 - Technical Appendix 2.2: Manchester City Council EIA Scoping Opinion;
 - Technical Appendix 2.3: Transport Statement; and
 - Technical Appendix 2.4: Interim Travel Plan.

Environmental Impact Assessment

- 2.4 The ES has been prepared in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations, 2017¹ (the 'EIA Regulations'). The EIA Regulations set out the statutory process and minimum requirements for EIA and the contents of the ES. Specifically, they prohibit the grant of planning permission for developments likely to have significant effects on the environment, defined in the EIA Regulations as 'EIA Development', unless information on those effects is considered by the relevant planning authority in reaching its decision on a planning application. That information includes both the ES, which is the Applicant's own assessment, and any other information provided by consultation bodies, the public, and any other persons about the proposal's environmental effects.
- 2.5 In addition to the EIA Regulations, the following guidance on EIA and the application of the EIA Regulations have been considered in undertaking this EIA:
- ISEP:
 - ISEP Guidelines for Environmental Impact Assessment²;
 - ISEP Special Report into the State Environmental Impact Assessment Practice in the UK³;
 - ISEP Demystifying Cumulative Effects⁴;
 - ISEP Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance⁵;
 - ISEP Guide to Climate Change Resilience and Adaptation⁶;
 - ISEP Delivering Proportionate EIA⁷;
 - ISEP Health in Environmental Impact Assessment⁸;
 - ISEP Shaping Quality Development⁹;

- Department for Communities and Local Government (DCLG) [now Department for Levelling Up, Housing and Communities]: Amended Circular on Environmental Impact Assessment (consultation paper)¹⁰;
 - DCLG [now Department for Levelling Up, Housing and Communities] Environmental Impact Assessment: A guide to good practice and procedures (consultation paper)¹¹;
 - Department for Communities and Local Government:
 - NPPF, 2025¹²;
 - PPG¹³;
 - Ministry of Housing, Communities and Local Government (MHCLG) Online Resource - Guidance for Environmental Impact Assessment¹⁴;
 - Landscape Institute and ISEP: Guidelines for Landscape and Visual Impact Assessment¹⁵;
 - Landscape Institute: Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment¹⁶
- 2.6 Guidance of relevance to individual technical assessments have been set out in Chapters 6-9, as well as ES Volume 2. In accordance with the EIA Regulations, this EIA has been undertaken based on the proposed development as described in ES Chapter 4: Proposed Development Description and ES Chapter 5: Demolition and Construction Description of this Volume.

EIA Process

- 2.7 EIA is a process that identifies the likely significant environmental effects (both beneficial and adverse) of a proposed development. The process aims to avoid, reduce and/or off-set any significant adverse environmental effects, where these are identified, and to enhance any beneficial effects. proposed developments to which EIA is applied are those that are likely to have significant effects on the environment by virtue of factors such as their nature, size or location.
- 2.8 The process and outcomes of the EIA are presented in an Environmental Statement (ES). The contents of an ES are prescribed by the EIA Regulations and should be a clear and concise summary of a proposed development and its likely environmental effects - including direct, indirect and cumulative effects - on the natural, built and human environments. The ES is submitted to a relevant planning authority (in the case of planning applications, to local planning authorities) to accompany an application for planning permission. In this way, the aim of EIA is to protect the environment by ensuring that a local planning authority, when deciding whether to grant planning permission for a project which is likely to have significant effects on the environment, does so in the full knowledge of the project's likely significant effects and takes this into account in the decision making process. Alongside this, an EIA's objective is also to ensure that the public and statutory consultees are given early and effective opportunities to participate in decision-making procedures and to enable the grant of required licences.

1 Secretary of State, 2017. Town and Country Planning (Environmental Impact Assessment) Regulations 2017, London, HMSO.
2 ISEP (ISEP), 2004. Guidelines for Environmental Impact Assessment. ISEP.
3 ISEP (ISEP), 2011. Special Report into the State Environmental Impact Assessment Practice in the UK. ISEP.
4 ISEP, 2020. Demystifying Cumulative Effects. ISEP.
5 ISEP, 2022. ISEP Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition. ISEP.
6 ISEP 2020. ISEP Guide to Climate Change Resilience and Adaptation. ISEP
7 ISEP 2017. Delivering Proportionate EIA. ISEP.
8 ISEP, 2017. Health in Environmental Impact Assessment. ISEP.
9 ISEP 2015. Shaping Quality Development, November 2015. ISEP.

10 Department for Communities and Local Government, 2006. Amended Circular on Environmental Impact Assessment: A consultation paper. DCLG.
11 Department for Communities and Local Government, 2006. Environmental Impact Assessment: A guide to good practice and procedures – a consultation paper. DCLG.
12 Department for Communities and Local Government, December 2025. National Planning Policy Framework. London. HMSO.
13 Department for Communities and Local Government (Live Document) Planning Practice Guidance [online] Available: <http://planningguidance.communities.gov.uk/>.
14 Ministry of Housing, Communities and Local Government, 2014. Guidance for Environmental Impact Assessment. DCLG.
15 Landscape Institute and ISEP, 2013. Guidelines for Landscape and Visual Impact Assessment. Third Edition.
16 Landscape Institute, 2024. Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third edition

Screening

- 2.9 Screening is the term in the EIA Regulations used to describe the process by which the need for EIA is considered in respect of a proposed development. Some developments are automatically subject to EIA by reason of their size, nature and effects. These projects, known as Schedule 1 developments, include mainline railways, airports, waste facilities and large power stations. The proposed development is not such a project.
- 2.10 The need for an EIA for all other projects is determined on the basis of the following set criteria:
- The development is within one of the classes of development stated in Schedule 2 of the EIA Regulations; AND
 - EITHER it meets or exceeds the size threshold for that class of development in Schedule 2; OR a part of the project is in a sensitive area; AND
 - It is likely to have significant effects on the environment by virtue of factors such as its nature, size, or location.
- 2.11 These are known as Schedule 2 developments. Given the scale of the proposed development and the location of the Site, it is accepted by the Applicant that the proposed development has the potential to have significant effects on the environment and that it falls within the definition of Schedule 2 10(b) 'Urban Development Projects'.

Scoping and Consultation

- 2.12 Scoping is the term used in the EIA Regulations whereby an applicant can request a formal 'Scoping Opinion' from the relevant local planning authority on the content of an ES and the extent of the information to be considered in the assessments. The purpose of scoping is to focus the EIA on the environmental issues and potential impacts which need the most thorough attention; to identify those which are unlikely to need detailed study; and to provide a means to discuss methods of impact assessment so as to reach agreement on those that are the most appropriate.
- 2.13 The Applicant submitted an EIA Scoping Request Report to MCC on 17th November as part of a formal request for an EIA Scoping Opinion pursuant to Regulation 15(1) of the EIA Regulations. The EIA Scoping Request Report is presented in Technical Appendix 2.1 of ES Volume 3 and sets out a description of the then emerging proposed development; the potential key environmental impacts and likely effects to be considered as part of the EIA and ES; as well as the proposed approach that would be adopted for the EIA including the proposed scope and assessment methodologies to predict the scale of effects and to assess the significance in each case.
- 2.14 An EIA Scoping Opinion was issued by MCC on 8th January 2025. The EIA Scoping Opinion is presented in Technical Appendix 2.2 of ES Volume 3. MCC confirmed their general agreement to the scope of the EIA as presented in the EIA Scoping Request Report and the EIA Scoping Opinion provided general comments requesting further information on the EIA outside of what was provided within the Scoping Report. The exception of this was the request for the inclusion of the consideration of Transport and Heritage as part of the EIA. The Transport Statement is included as Technical Appendix 2.3 and the Interim Travel Plan is included as technical Appendix 2.4. Built Heritage has been considered within ES Volume 2: Built Heritage and Townscape and Visual Impact Assessment. It should be noted that Highways Manchester agreed with the outcome of the Scoping Report that Traffic and Transport would not need to be required further within the EIA, however MCC's Scoping Opinion has still requested its inclusion.

- 2.15 The environmental topic-specific EIA Scoping Opinion comments/requests and associated agreements reached are, however, summarised in each of the technical assessment chapters of ES Volume 1 and 2.
- 2.16 In accordance with Regulation 18(4)(a), the EIA has been undertaken and the ES prepared based on the EIA Scoping Opinion. Where the approach differs, full justification is provided within the technical assessment chapters, as appropriate.
- 2.17 As part of the EIA, technical consultations were undertaken with the:
- Greater Manchester Archaeological Advisory Service;
 - Greater Manchester Ecology Unit;
 - Natural England;
 - United Utilities;
 - Manchester City Council Neighbourhood Directorate;and
 - Manchester Highways Development Control.
- 2.18 Details of these technical consultations are included in the relevant technical assessment, as appropriate.

Scope of EIA

Non-Significant Issues

- 2.19 One objective of the EIA scoping process is to ensure that the EIA is proportionate and focussed only on the likely significant environmental effects of the proposed development. Appraisals for each technical topic were undertaken as part of the EIA scoping process to determine the existing baseline conditions and the potential for likely significant effects to arise.
- 2.20 Accordingly, the EIA scoping process identified that the proposed development is unlikely to give rise to significant environmental effects in respect of the following environmental topics::
- Ecology;
 - Water Resources and Flood Risk;
 - Ground Conditions;
 - Transport;
 - Air quality
 - Noise and Vibration;
 - Materials and Waste;
 - Aviation;
 - Archaeology; and
 - Major Accidents and Disasters.
- 2.21 A summary of the justification for scoping these topic areas out of the ES is provided below, with detailed justifications for scoping out presented in ES Volume 3, Technical Appendix 2.1.
- 2.22 Standard good practice, mitigation and enhancement measures identified during the course of preparing these documents were integrated into the proposed development as described in ES Chapter 4: Proposed Development Description and ES Chapter 5: Demolition and Construction Description.
- 2.23 In respect of waste, significant effects are considered unlikely when following the methods of assessment set out in the ISEP Guidance on Materials and Waste in Environmental Impact Assessment¹⁷ and when considering the measures embedded into the proposed development design with respect to waste

¹⁷ ISEP, 2020. Materials and Waste in Environmental Impact Assessment. IEMA

minimisation. As such, a waste chapter was scoped out of the ES. The use of materials, anticipated waste arisings and management measures to be adopted are considered in Chapter 4: Proposed Development Description; and Chapter 5: Demolition and Construction Description.

- 2.24 Whilst significant environmental effects in respect of major accidents and disasters are considered unlikely, and is scoped out of the ES, consideration has been given to this topic in undertaking the EIA as discussed within ES Chapter 3: Alternatives and Design Evolution, Chapter 4: Proposed Development Description and Chapter 5: Demolition and Construction Description.

Potentially Significant Effects

- 2.25 The potentially significant environmental effects that were identified during the EIA scoping process and have been addressed within technical assessment chapters are as follows:
- Volume 1: Main Environmental Statement Report:
 - Chapter 6: Daylight, Sunlight and Overshadowing;
 - Chapter 7: Wind Microclimate;
 - Chapter 8: Socioeconomics and Human Health;
 - Chapter 9: Climate Change; and;
 - Volume 2: Built Heritage and Townscape and Visual Assessment.

EIA Approach

Consideration of Alternatives

- 2.26 The EIA Regulations require that an applicant provides a summary description of reasonable alternatives studied and to provide a description of their specific characteristics, as well as an indication of the main reasons for selecting the preferred option, including a comparison of the environmental effects. The EIA Regulations do not define the term 'alternative' and EIA good practice tends to consider alternative design proposals and to explain the process through which the proposed development has evolved.
- 2.27 ES Chapter 3: Alternatives and Design Evolution presents the objectives of the proposed development and describes how the development proposals have evolved in response to environmental and planning opportunities and constraints, as well as consultation comments.
- 2.28 For the proposed development, the following alternatives have been considered:
- The 'Do-Nothing' alternative where the existing condition of the site remains in its underutilised state with no redevelopment; and
 - Alternatives considered in the course of the design process (such as layouts and design) taking into account environmental and other relevant planning and design constraints as part of the design evolution.

Baseline

- 2.29 The purpose of the EIA is to predict how environmental conditions may change as a result of a proposed development. This requires that the current environmental conditions and those in the future are established. This is referred to as the 'baseline' and is usually established through a combination of desk-based research, site survey, empirical studies, projections and modelling. Together, these describe the existing and future character of a site and the value (importance) and vulnerability (sensitivity) of key environmental resources and receptors, against which any changes or effects resulting from a proposed development can be identified, understood and assessed.

Existing Baseline

- 2.30 The existing baseline represents the existing environmental conditions of the site and the surrounding study areas at the time of the assessments as described in ES Chapter 1: Introduction. The technical assessments in ES Volume 1 (6-9), ES Volume 2 and ES Volume 3 provide more detailed descriptions of topic specific existing baseline conditions against which the proposed development has been assessed.

Future Baseline

- 2.31 The future baseline represents the future on-site conditions of the site and the surrounding study areas.
- 2.32 A future baseline has been adopted for the following technical assessment chapters:
- Chapter 6: Daylight, Sunlight and Overshadowing – committed developments will be considered as part of the baseline where construction has meaningfully progressed.
- 2.33 For the climate change assessment, the methodology also considers the projected end of the design life of the development, assumed to be 60 years.

Receptors

- 2.34 Existing and future receptors that may be sensitive to potential environmental impacts as a result of the proposed development are summarised within ES Chapter 1: Introduction and ES Chapter 5: Demolition and Construction Description with further detail provided in respective technical assessment chapters. A summary of these potentially sensitive receptors are as follows:
- Demolition and construction workers and industry;
 - Future off-site residential and non-residential users;
 - Future on-site occupants, including residential occupants of the first completed residential block;
 - Existing off-site and future on-site cyclists and pedestrians;
 - Housing need within MCC;
 - Local economy;
 - Local social infrastructure, including primary and secondary schools, primary healthcare facilities and open and play space;
 - Sensitive and vulnerable groups (including locations with concentrations of vulnerable users);
 - Retail and recreational areas;
 - Off-site amenity spaces;
 - Climate;
 - Existing townscape character areas; and
 - Existing visual receptors and local and strategic views from publicly accessible locations such as roads, footpaths and open spaces.

Impact Assessment

Basis of EIA

- 2.35 The EIA and the technical assessment chapters have considered the proposed development as a whole and the site as a whole.
- 2.36 In accordance with the EIA Regulations, the EIA has been undertaken based on the:
- the site as presented and described in Chapter 1: Introduction, as well as the individual technical assessment chapters of this Volume (ES Chapters 6-9) and ES Volume 2 and
 - proposed development as presented and described in ES Chapter 4: Proposed Development Description and Chapter 5: Demolition and Construction Description of this Volume.

- 2.37 The proposed development described in ES Chapters 4 and 5 includes mitigation which has been embedded through the design evolution process.
- 2.38 The proposed development has been assessed in the EIA, based on the following:
 - Demolition and construction methods and control measures;
 - Detailed planning application drawings;
 - Detailed 3D model; and
 - Detailed area schedule, residential unit and tenure mix.

Sources of Proposed Development Information

- 2.39 In addition to ES Chapters 1, 4 and 5 and the aforementioned documents, information on the proposed development has been drawn from the following application documents, as appropriate:
- Planning Statement;
 - Plans and Drawings (including floor plans, elevations and landscape drawings)
 - Schedule of Accommodation;
 - Statement of Community Involvement;
 - Design and Access Statement;
 - Affordable Housing Statement

- Energy Statement;
 - Environmental Standards Statement;
 - Fire Statement;
 - Transport Assessment;
 - Flood Risk Assessment and Drainage Strategy;
 - Construction Management Plan and Construction Site Waste Management Plan;
 - BNG Statement and BNG Metric Tool; and
 - Carbon Proforma.

Assessment Methodology

General

- 2.40 The aim of the EIA is not to assess the proposed development’s compliance/performance against planning policy as this is considered within the Planning Statement that accompanies the application. Instead, reference has been made to national, regional and local policy to inform the scope of technical assessments, the assessment methodologies applied and the existence of any sensitive receptors to be considered.
- 2.41 Detailed assessment methodologies are provided within each technical assessment chapter of this ES Volume and ES Volume 2; however, in general terms, the assessments have been based upon the following approach:
 - Review of the existing conditions (and defined future conditions) at the site and within the study area for the environmental topic under consideration via various sources of information, data and reports;
 - Completion of desk-top studies;
 - Completion of site surveys;
 - Consideration of relevant legislation;
 - Consideration of relevant planning policies (national, regional and local), guidance and standards;
 - Consultations with consultation bodies as appropriate;
 - Consideration of potentially sensitive receptors that could be affected by the proposed development;
 - Use of published technical guidance and best practice (where relevant);
 - Use of quantitative and qualitative assessment methods, professional judgement and expert opinion;
 - Interpretation of the proposed development to identify the reasonable worst-case for assessment;

- Assessment of potential environmental impacts and likely effects, with an evaluation of their likely duration, magnitude and scale, taking into consideration embedded mitigation (where relevant); and
 - Identification of additional mitigation and/or enhancement measures, followed by an assessment of the significance of the residual effects.
- 2.42 How the proposed development might affect the environment relies on predictions about what impact a certain action would have. Some predictions can be made using mathematical or simulation models, particularly where there are well known relationships between cause and effect. For example, the degree to which noise levels may increase as a result of additional traffic flows can be predicted using a mathematical equation. The level of air pollution from a known traffic flow can also be predicted from a computer-based simulation model. The visibility of a building can be predicted by accurately superimposing its outline and position over a photograph. Other impacts are less easy to predict in quantitative terms; for example, whilst the extent of a loss of a habitat can be measured, the effect on the abundance of individual species is more difficult to predict. In such cases, the EIA attempts to quantify the anticipated scale of impact using empirical experience, literature and professional judgement.
- 2.43 In all cases, the overall approach and specific methods of predicting the likely nature and magnitude of impact, as well as the scale of effect is set out in each of the technical assessments. Where used, recognised specific predictive methods are referenced. Any assumptions or limitations to knowledge are stated. In either case the thought process leading to the conclusions is based on reasonably reliable data and so is considered to be prudent and robust.
- 2.44 Where detailed information on the proposed development has not been available, reasonable assumptions have been made, and have been clearly set out, based on experience of developments of similar type and scale to enable assessment of likely significant effects.
- 2.45 The proposed development has not yet been approved so the conditional tense (‘would’) has been used to describe the development proposals, situations, potential impacts and likely effects that could/would arise from the introduction of the proposed development, as well as the embedded mitigation measures that would be delivered or would be required upon approval of the proposed development. This approach does not lessen the Applicant’s commitment to deliver the proposed development as presented within the ES. Furthermore, each technical assessment (and in particular summary tables at the conclusion of each chapter) clearly sets out the means by which any required additional mitigation measures relied upon, are proposed to be secured.

Proposed Development Stages

- 2.46 Each technical assessment considers the following stages of the proposed development:
 - Demolition and Construction Stage (during the redevelopment works);
 - Completed Development Stage (upon completion and operation); and
 - Cumulative Stage (in combination with or in addition to consented schemes).
- 2.47 An End-of-Life Stage has also been considered in respect of greenhouse gas emissions in ES Chapter 9: Climate Change.
- 2.48 The demolition and construction programme of the proposed development would be sequenced over a 140-150 week period and technical chapters the EIA has assessed and reported on the environmental effects of the completed development as a whole.
- 2.49 The development programme and demolition/construction methods presented in this chapter have informed the identification of on- and off-site receptors for assessment, as well as potential ‘worst-case’ scenarios.

Assessment Scenarios

2.50 The assessment of the development scenarios has been carried out against the existing baseline conditions or defined future baselines (as described in the Baseline Section of this chapter).

2.51 Taking into account the development stages, the following assessment scenarios have been assessed in the technical assessment chapters, unless indicated otherwise:

Demolition and Construction Stage

- **Scenario 1:** Existing Baseline/Future Baseline;
- **Scenario 2:** Existing Baseline/Future Baseline + Proposed Development.

Completed Development Stage

- **Scenario 1:** Existing Baseline/Future Baseline;
- **Scenario 2:** Existing Baseline/Future Baseline + Proposed Development.

Mitigation

2.52 Mitigation is the term used to refer to the process of avoiding where possible and, if not, reducing, controlling and/or off-setting the likely significant adverse effects of a development. Mitigation measures relate to the design stage; the demolition and construction stage; or the activities associated with the completed and operational stage.

2.53 As part of the EIA, an iterative approach has been adopted where significant environmental effects have been avoided where possible in the first instance through the design refinements and iterations, as reported upon within Chapter 3: Alternatives and Design Evolution of this ES Volume. Where adverse environmental effects were identified through early assessment work, opportunities to reduce or control impacts and effects, or in some cases, to compensate for impacts and effects, were identified and incorporated into the proposed development. In addition, opportunities to enhance the beneficial environmental effects of the proposed development have been sought and incorporated into the proposed development. These are referred to as 'embedded' mitigation.

2.54 Within each technical assessment chapter, the assessment of the effects that are likely to arise as a consequence of a potential impact or change to receptors from the proposed development is first presented. If any additional mitigation measures are required, further to that already embedded into the proposed development throughout its evolution, these are proposed, and the proposed development is reassessed to ascertain the likely residual significant environmental effects. This is reported on within each technical assessment chapter of the ES.

2.55 In all cases, mitigation measures are presented as embedded, specific commitments or statements of fact. It is anticipated that the implementation of mitigation identified throughout the ES would be secured by means of appropriately worded planning conditions, planning obligations secured pursuant to section 106 of the Town and Country Planning Act 1990, the collection of any applicable Community Infrastructure Levy (CIL) payment or through other statutory and building control regimes. Where the need for additional mitigation is identified, each assessment confirms how the mitigation is proposed to be secured.

Impacts and Effects

2.56 Unless otherwise required by published assessment guidance (e.g. air quality), the EIA has made distinction between:

- impacts: the change or action; and
- effects: the result/consequence/outcome of the change.

2.57 As a general rule, the EIA assesses the effects that are likely to arise as a consequence of a potential impact or change to receptors following the application/consideration of embedded mitigation measures.

2.58 A range of likely effects have been considered - including direct or indirect (or secondary) and cumulative:

- Direct effects are those which arise as a direct consequence of a project action, e.g. the loss of habitat or the run-off of surface water to a watercourse;
- Indirect effects include, for example, the decline in the abundance of a species as a result of the loss of habitat or the damage to aquatic vegetation as a result of water pollution. Other common examples include the effect on air quality and ambient noise as a result of increased traffic flows; and
- Intra- and inter-project cumulative effects are those that could arise concurrently (refer to Cumulative Effects section later in this chapter).

2.59 Furthermore, consideration has been given to the temporal and spatial nature of effects including permanent or temporary; reversible and irreversible; short-, medium- or long-term; local, borough, regional, national levels. In the context of the proposed development, temporary (short- and medium-term) effects are typically those associated with the demolition and construction works, and permanent (long-term) effects are typically those associated with the completed and operational development.

2.60 Typically, local effects are those affecting receptors neighbouring the Site, while effects upon receptors within the wider study area are assessed at a borough level (i.e. MCC). Regional effects are those affecting receptors within Greater Manchester. Effects upon different parts of the country, or England as a whole, are considered to be at a national level and effects across national boundaries are considered to be at an international level (albeit there are no such effects at national or international level).

Significance

2.61 The assessment of residual environmental effects is important in that it informs the determination by the relevant planning authority of the overall acceptability of a proposed development. Determining significance relies on accepted thresholds and criteria where available or, for situations in which such are not available, expert interpretations and value judgments.

2.62 Significance is usually a function of the value (or importance) and vulnerability (collectively referred to as sensitivity) of the receptor, the magnitude of the potential impact and the scale of the effect. Value or importance might be a function of international designation or local/regional relevance. Vulnerability is a function of the receptors ability and resilience to accept and accommodate the change. Thus, significance is a concept that can be applied objectively to individual effects.

2.63 Throughout the ES the same terminology has been used to describe these individual effects, unless specific alternative terminology exists in recognised topic specific guidance.

2.64 Significance has been evaluated with reference to definitive standards and accepted or published criteria and legislation, where available. Where it has not been possible to quantify potential impacts and residual effects, qualitative assessments have been carried out, based on expert knowledge and professional judgement. Where uncertainty exists, it has been noted in the relevant assessment and a prudent or conservative approach adopted so that the significance is not be underestimated.

2.65 Specific typical conventions have been developed to define significance, wherever possible, defined and structured as transparently as possible using the following criteria, unless indicated otherwise:

- The sensitivity of the receptor to the change or potential impact, based on a rating of low, medium, high;
- The magnitude of the potential impact, based on a rating of high, medium, small/low and unknown;
- The scale of the effects based on a rating of negligible, minor, moderate, major;
- The likelihood of the effect occurring, based on a rating of unlikely, likely, certain;
- The duration of the effect, based on a rating of short-, medium-, long-term;
- The geographical extent of the effect at local, borough, regional, national and international levels; and
- The reversibility of the effect, being either reversible or irreversible.

- 2.66 Unless indicated otherwise within a technical assessment, the duration of the effect has been defined as follows:
- Short-term: up to 5 years;
 - Medium-term: 5-10 years; and
 - Long-term: 10 years +.
- 2.67 In order to provide a consistent approach to the presentation of effects, the following terminology has been used to describe the type/nature of residual effect, unless indicated otherwise:
- **Adverse** - detrimental or negative effect to a receptor;
 - **Neutral** - an effect that on balance, is neither beneficial nor adverse to a receptor OR an effect that is equally beneficial and adverse to a receptor¹⁸; and
 - **Beneficial** - advantageous or positive effect to a receptor.
- 2.68 The scale of the predicted effects has been classified according to the following semantic scale, unless indicated otherwise:
- **Negligible**¹⁹ - imperceptible effect;
 - **Minor** - slight, very short or highly localised effect;
 - **Moderate** - limited effect (by magnitude, duration, reversibility and sensitivity of receptor) which may be considered significant; and
 - **Major** - considerable effect (by magnitude, duration, reversibility and sensitivity of receptor) which may be more than of a local significance or lead to a breach of a recognised environmental threshold, policy, legislation or standard.
- 2.69 There are some exceptions to the conventions and terminology described above for certain topic specific assessments. Within the townscape and visual assessment, the scale of effect and nature of effect are separate judgements; this is different to other parts of the ES, in which the scale and nature of effect are presented as a single assessment. This is because the assessment of the nature of effect for visual amenity involves judgements on qualitative matters (such as architectural quality or visual composition) which are based on professional opinion and are not necessarily related to the size of the impact. The scale and nature of effect therefore do not qualify each other and an effect that is, for example, of 'major' scale with an 'adverse' nature of effect is not necessarily 'majorly adverse', because an impact could be very large in scale but only adverse to a small degree.
- 2.70 This is set out in the relevant technical assessment chapters.
- 2.71 The scale of effects is typically determined through the use of matrices and the application of professional judgement. However, the use and interpretation of matrices rely on the judgement and discretion of the particular technical specialist. Accordingly, a generic matrix has not been adopted for the EIA as a whole.
- 2.72 The specific benchmarks have been established by the project team using available national, regional and local policy together with other relevant guidance, recognised best practice and expert judgement. The development of these benchmarks is explained in more detail in each assessment or technical appendix.
- 2.73 Throughout the ES, residual effects have been predicted as either 'significant' or 'not significant'. Significant effects are considered material to the planning decision process. Residual effects of moderate and major scale are typically considered significant, but would be dependent on the relevant technical assessment, as well as the existence of published assessment guidance. Where published assessment guidance is not definitive in respect of categorising/determining significant environmental effects,

professional judgement has been applied, taking into account the duration, extent and context of the effect, to determine significant effects.

Cumulative Assessment

- 2.74 The EIA Regulations require that all likely significant effects of a development are taken into account, including cumulative effects.
- 2.75 There is no prescriptive guidance on the methodology for the assessment of cumulative effects. However, ISEP Guidance²⁰ identifies two types of cumulative effects:
- Type 1 - **Intra Project Effects**: Combined effects of different types of impact or 'impact interactions', for example the multiplying effects arising from noise, dust and visual impacts during the construction of the proposed development on a particular sensitive receptor; and
 - Type 2 - **Inter Project Effects**: Combined or additive effects generated from the proposed development together with other planned or likely foreseeable developments and also referred to as 'in-combination effects'. These other developments may generate their own individually insignificant effects but when considered together could amount to significant cumulative effects, for example, combined transport and accessibility impacts from two or more (proposed) developments. Additive effects were considered for air quality, visual and townscape.

Intra-Project Cumulative Effects

- 2.76 As mentioned above, there is no established EIA methodology for assessing and quantifying the intra-project cumulative effects of individual effects on sensitive receptors. Therefore, Ramboll has developed an approach which uses the defined residual effects of the proposed development to determine the potential for effect interactions and so the potential for intra effects of individual effects.
- 2.77 Intra-project cumulative effects from the proposed development itself on existing off-site and future on-site sensitive receptors during the demolition and construction works and once the proposed development is completed, have been considered for the assessment.
- 2.78 Dependent on the relevant sensitive receptors, the assessment focusses either on key individual receptors or on groups considered to be most sensitive to potential interacting effects. The criteria for identifying those receptors which are considered to be potentially sensitive include existing land uses, proximity to the demolition and construction works and the site, and likely duration of exposure to effects.
- 2.79 It should be noted that only residual effects that are minor, moderate or major in scale have been considered within this assessment, as negligible effects are, by definition, imperceptible.. For technical assessment topics where alternative forms of conclusions have been reported (e.g. Not Significant or Significant), the technical specialists have applied their profession judgement to provide the nature and scale of effect (e.g. ecology, air quality, townscape and visual) to enable an intra-cumulative assessment to be undertaken.
- 2.80 Due to the cross-boundary and overlapping nature of these effects across various environmental topics, and the assessment approach adopted, the results of intra-project cumulative effects are holistically presented within a discrete assessment chapter (ES Chapter 11: Cumulative Effects) and not within each of the technical assessment chapters. This avoids unnecessary duplication and repetition and presents a proportionate approach.
- 2.81 All technical topics scoped within the ES as technical assessment chapters have been considered in this assessment, with the exception of Climate, which has been assessed within the ES Chapter 9: Climate Change, as part of the in-combination climate change impact (ICCI) assessment.

¹⁸ In respect of the TVIA it is possible for Neutral residual effects to be classed as 'significant' for situations in which the 'net equation' of beneficial and adverse impacts considered together results in an overall effect which is neither beneficial or adverse on balance (e.g. due to their guidance, a townscape and visual impact assessment can result in a 'moderate neutral' effect, which would be classed as 'significant').

¹⁹ Negligible can also be used in isolation when achieving a particular threshold, absolute value or target criteria.
²⁰ Institute of Environmental Management and Assessment, 2011. The State of Environmental Impact Assessment Practice in the UK.

2.82 With regard to the potential for cumulative effects to occur, it is anticipated that standard mitigation measures as detailed in ES Chapter 5: Demolition and Construction Description of this ES Volume can be applied to prevent temporary significant effects from the interaction of effects occurring on-site. These would be implemented through a site-specific Construction Environmental Management Plan (CEMP), which would be secured by means of appropriately worded planning conditions.

Inter-Project Effects

- 2.83 The EIA Regulations require an assessment of potentially significant cumulative effects of a proposed development along with other 'existing and/or approved projects'. There are no legislative or policy requirements which set out how an inter-project cumulative impact assessment should be undertaken.
- 2.84 Accordingly, inter-project effects arising from the proposed development in combination with, or in addition to, cumulative schemes during the demolition and construction works and also once the proposed development is complete, have been considered in the EIA.
- 2.85 Each technical ES chapter presents the assessment of combined effects of the proposed development with certain other cumulative schemes. Schedule 4 of the EIA Regulations states that only schemes which are existing and/or approved should be considered, i.e. schemes built or under construction or with a planning permission.
- 2.86 Spatial considerations and scale of development criteria has been developed based on professional judgement to determine whether cumulative schemes have the potential for cumulative effects when combined with the proposed development's effects. The following selection criteria has been used to enable a proportionate assessment:
- Schemes which are consented or approved or have a resolution to grant or which are currently at an early stage of demolition/ construction; and
 - Schemes which have a minimum total floor space area of approximately 10,000 m² gross external area (GEA) and/ or comprise at least approximately 150 residential units; and
 - Either:
 - within 1 km of the redline boundary of the site; or
 - outside 1 km of the redline boundary of the site and are spatially linked to the site by means of the local road network; and
 - visible in protected/important views to and from the site.
- 2.87 As part of the EIA scoping process, a list of proposed cumulative schemes was provided in Appendix 1 of the EIA Scoping Opinion Request Report. The MCC approved the list of proposed cumulative schemes.
- 2.88 Fourteen cumulative scheme have been identified for consideration in the inter-project cumulative assessment of the EIA. The location of these qualifying cumulative schemes are presented in Figure 2.1.
- 2.89 Each of the technical assessments chapters has undertaken a topic-specific screening exercise to determine the likelihood for cumulative effects to occur together with/in addition to the proposed development. Justification for the screening out any of the cumulative schemes is provided within each of the technical assessment chapters.
- 2.90 The shortlisted cumulative schemes have been quantitatively assessed on a topic-by-topics basis, subject to the availability of scheme information in the public domain. Where information is not available, qualitative assessments have been undertaken based on professional judgement.
- 2.91 Where a cumulative scheme is subject to multiple applications, each technical assessment has considered the scheme which represents the worst-case for their topic.
- 2.92 Where possible, the status of cumulative schemes' construction works have been taken into account. For example, where construction has progressed to a material degree, such as to affect local views, wind microclimate, or daylight and sunlight such schemes have been considered as part of the existing baseline.

Number	Planning Reference	Proposal Summary	Status
1	137941/FO/2023 Brewery Gardens	Residential led mixed use development for 505 apartments with commercial uses. Development comprises two buildings (one part 29, 25 and 20 storeys, one 12 storeys).	Under construction
2	132416/FO/2021 Land Bounded by the Travelodge and Surface Level Carparking to the North, Further Surface Level Carparking to the East, Manchester College to the South and Bury New Road to the West Manchester 935m from the site.	Residential led mixed use development for 461 apartments with ground floor commercial uses, comprising two buildings part 27, 20, 17 storeys and part 11 and 10 storeys.	Approved
3	122280/FO/2019 Land Bounded by Great Ducie Street and Mirabel Street Manchester M3 1PJ 550m from the site	Residential led mixed use development for 84 residential apartments comprising one ten-storey building for 45 apartments, and one 14 storey building for 84 apartments. Commercial uses on the ground floor	Approved
4	19/74205/FULEIA - Salford City Council 700m from site	A single building with two blocks (14 and 55 storeys) to include: 542 residential apartments, commercial at ground. residential apartments, commercial at ground	Approved
5	22/80890/REM (submitted pursuant to 21/78473/HYBEIA (S73 permission)) - Salford City Council Original consent 19/74465/HYBEIA 860m from the site	Phases 2 and 3 only Phase 2- 40-storey (plus ground) building containing 518 apartments, ground floor commercial space	Approved
6	118831/FO/2018 Former Boddingtons Brewery Site Dutton Street Manchester M3 1LE 935m from site	Residential led mixed use development for 536 residential units, comprising two buildings (one maximum 17 storeys and one maximum 26 storeys). Commercial floor space included.	Under construction
7	136492/FO/2023 Manchester College 415m from the site	Phase 2 of the new city centre campus for the Manchester College and UCEN Manchester 5,870 square metres educational	Completed

Table 2.1: Cumulative Schemes			
Number	Planning Reference	Proposal Summary	Status
		floorspace within a 5 storey building.	
8	136812/OO/2023 136814/FO/2023 Red Bank Victoria 210m from site	Residential scheme including 4,800 units across in multiple buildings ranging from 6 to 34 storeys.	Outline / Approved
9	138696/FO/2023 Land At 33 - 41 Cheetham Hill Road Manchester M4 4FT 50m from site	p Residential led development comprising a part 17 / part 23-storey residential development comprising 237 apartments.	Approved
10	138302/FO/2023 1 Park Place Manchester M4 4EZ 110m on site	part 25 and part 15 storey residential building comprising 154 apartments	Approved
11	126944/FO/2020 Land Bound By Dantzic Street, Gould Street, Williamson Street And Bromley Street (Known As Victoria Riverside) 425 m from site	Three towers (37, 26 and 18 storeys) and podium levels (6 storey) to form 634 residential apartments and townhouse accommodation together with commercial accommodation (1222 sqm)	Under construction
12	116366/FO/2017 124120/JO/2019 Land Bounded by Dantzic Street & Aspin Lane, Land Bounded by Gould Street & Angel Meadows and Land bounded by Old Mount Street, School Street, Naples Street & Ludgate Street 480m from site	Four residential buildings (22 storey building, 17 storey building, 40 storey building and part 12, part 9 storey building) to form 756 residential apartments together with ground floor commercial uses (616 sqm)	3 Plots completed 1 Plot Approved
13	134092/FO/2022 Land At Corporation Street "New Victoria Phase 2" 475m from site	Ten storey office building with ground floor commercial unit	Approved
14	EIASCO/25/011 50-54 Red Bank 180m from site	Residential led scheme for 589 units, comprising one 43 storey and one 18 storey building.	EIA Request (pre-planning)

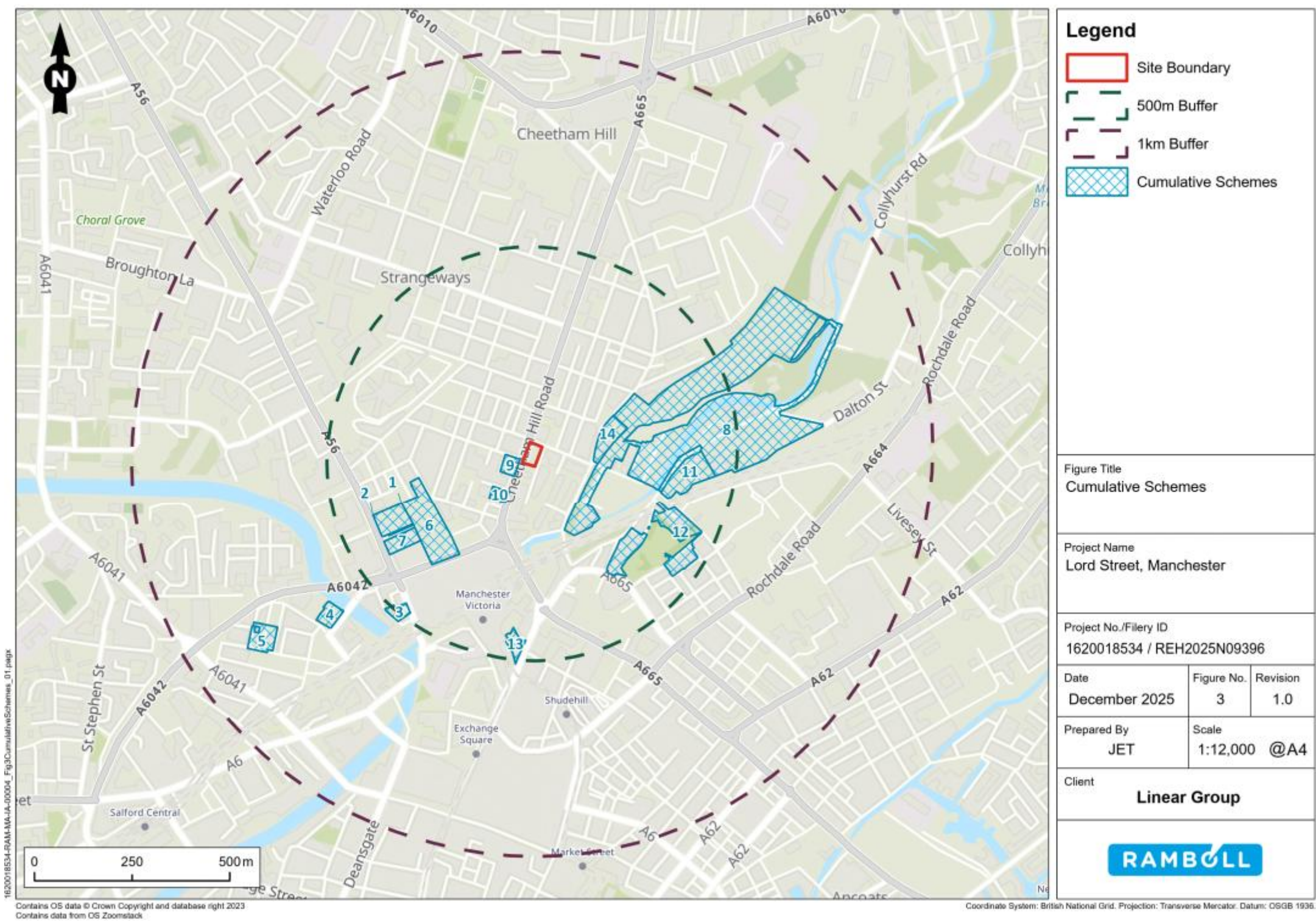


Figure 2.1: Location of Qualifying Cumulative Scheme for EIA

Assumptions and Limitations

2.93 The principal assumptions that have been made, and any limitations that have been identified, in undertaking the EIA are set out below. Assumptions specifically relevant to each environmental topic have been set out in each technical assessment of the ES.

- Baseline conditions have been established from a variety of sources, including historical data, but due to the dynamic nature of certain aspects of the environment, conditions at the site and surrounding land uses may change.
- Assessments have considered the existing baseline conditions at the time of ES preparation (2025) unless otherwise stated in the technical assessment chapter in ES Volume 1 and 2;
- The technical assessments in ES Volume 1 and ES Volume 2 are based on:
 - the current legislative and policy framework, having regard to emerging policies and legislative changes;
 - the assumption that embedded mitigation measures set out in ES Chapter 4: Proposed Development Description and ES Chapter 5: Demolition and Construction Description would be secured by planning condition, legal agreement (S106), community infrastructure levy (CIL) and regulatory regimes;
- Demolition and construction works across the site would take place substantially in accordance with the phasing and programme of works described in ES Chapter 5: Demolition and Construction Description;
- Cumulative schemes will be implemented substantially in accordance with information that is publicly available or that has been provided to the Applicant, and subject to the same regulatory regimes and good practice management controls; and
- It is assumed that information received from third parties is accurate, complete and up to date.

Technical Assessment Chapters

2.94 The following consistent approach has been adopted to the presentation of the EIA findings in each of the technical assessments:

- An explanation of the information gathering and assessment methodology, including a review of policy and legislative requirements of relevance to the specific technical area;
- A description of the baseline conditions;
- The identification and assessment of the potential impacts and likely effects arising during the demolition, construction and operation of the proposed development taking into account any embedded mitigation measures;
- A description of additional mitigation or enhancement measures required to reduce the significance of any adverse environmental effects, including the requirements for post-development monitoring;
- An assessment of the residual environmental effects and an evaluation of their significance against defined criteria; and
- An assessment of the inter-project cumulative effects.

2.95 Each environmental topic scoped within the EIA and ES has been assigned a separate technical assessment chapter in ES Volumes 1 (Chapter 6-9) and 2 TVIA. Within each technical assessment chapter the following structure has been followed, unless indicated otherwise:

- Introduction – a brief introduction to the assessment;
- Methodology – an overview and review of policy and legislative requirements of relevance to the specific technical topic, a summary of consultations undertaken, an outline of the technical, spatial

and temporal scope of the assessment, a description of the methods undertaken to characterise the baseline, as well as an explanation of the approach to defining the significance of likely environmental effects;

- Baseline Conditions – a description of the baseline conditions;
- Assessment of Effects – an assessment of the likely significant effects of the proposed development and an evaluation of their significance against defined criteria taking into account embedded mitigation;
- Assessment of Residual Effects – a description of the additional mitigation, if required and then an assessment of the likely residual effects of the proposed development;
- Summary of Residual Effects;
- Cumulative Effects – cross reference to the intra-cumulative effects assessment in ES Chapter 18 and an assessment of inter-project cumulative effects; and
- Summary – a summary of the assessment.

3 ALTERNATIVES AND DESIGN EVOLUTION

Introduction

- 3.1 The EIA Regulations require the ES to report on the reasonable alternatives (for example in terms of design, technology, location, size and scale) studied by the Applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.
- 3.2 This chapter of the ES therefore explores the objectives of the proposed development, its design evolution and the reasonable alternatives considered. In doing so, the chapter carries out an analysis of the site and existing environmental conditions which informed the design evolution of the Proposed Development. The 'Do Nothing' development scenario is also addressed. Throughout the design process there has been consultation with MCC and other key stakeholders. Additionally, the design process has been informed by a community engagement programme undertaken by the Applicant.
- 3.3 Further details can be found in the Design and Access Statement and the Statement of Community Involvement which accompanies the application.

Development Objectives

- 3.4 The specific development objectives for the proposed development are to deliver:
- The remediation and urban regeneration of derelict land;
 - High quality new homes offering a good mix of different unit sizes and layouts that are appropriate to the local area;
 - Improved permeability and accessibility across the site; and
 - High quality architectural design and buildings of appropriate scale and massing for the local area.

Policy Considerations

- 3.5 The development considerations for the site are set out in the following planning policy and guidance documents at national, regional and local levels:
- National Planning Policy Framework (2025)¹;
 - Places for Everyone – Joint Development Plan² (March 2024); and
 - Supporting SPGs and SPDs (regional and local), guidance and standards.
- 3.6 Development considerations for the site are set out in these adopted and emerging planning documents and have informed the design of the proposed development.
- 3.7 Throughout the pre- and post-application submission design processes, which included public consultation; engagement with MCC, and other stakeholders; and consideration of formal consultation responses and representations, a range of issues were identified which influenced the final layout of the proposed development. The design process has therefore been an iterative one, as the design team has sought to respond to the issues raised. This has produced alternatives or different ways in which the development objectives could be feasibly achieved on-site.
- 3.8 The sections below outline some of the key environmental factors that influenced the design of the proposed development.

¹ Department for Communities and Local Government, 2025. National Planning Policy Framework. London. HMSO.

Site Design Considerations

- 3.9 The following site constraints and opportunities informed the design process:
- Existing road network has great variation in use, with Cheetham Hill Road being the busiest of these surrounding roads, with Lord Street and Fernie Street being much quieter by comparison;
 - Potential for new frontages on the Cheetham Hill Road and Lord Street;
 - Changes in ground level across the site;
 - Existing public realm;
 - Adjacent building heights and surrounding viewpoints; and
 - Poor permeability on site.

Alternatives

Alternative Sites

- 3.10 No alternative sites have been considered by the Applicant for the following reasons:
- The site has existing planning consent;
 - The Applicant is seeking to optimise the site's potential in accordance with the NPPF; and
 - The site would provide a key development opportunity to contribute to the regeneration of an underutilised site, and to provide greater and more varied housing.

Alternative Land Uses

- 3.11 The Applicant is a residential developer and the project objectives are to deliver a residential development. Alternatives land uses have been discounted from the consideration of alternatives.

Alternative Scenario 1: Do-Nothing

- 3.12 The 'Do Nothing' scenario is considered as a basis for comparing the proposed development against the site continuing in its existing site use.
- 3.13 In the event the proposed development at the site, or any other development, did not come forward, several adverse effects and lost opportunities would result:
- The opportunity to provide a fully integrated development;
 - The opportunity to deliver additional housing;
 - The opportunity to maximise the productive use of the site; and
 - The opportunity to deliver biodiversity net gain.

Alternative Scenario 2: Existing Consent for the Site

² Manchester City Council – Places For Everyone Joint Development Plan 2024

- 3.14 Planning permission was granted for the site for in 2016 under MCC Planning Reference 113914/FO/2016 for the development of the following:
- "Full planning permission for the erection of a 16-storey (15 storeys with part 16th floor mezzanine) residential development consisting of 192 apartments with ground floor commercial floorspace (Use Classes A1, A2, A3 or B1), means of access, basement car parking, amenity space, landscaping and demolition of existing structures".*
- 3.15 The proposed development is therefore similar in nature to the existing consent, with both comprising a single tall building providing residential units. The proposed development therefore represents an increase in the height and number of residential units for compared with the consented scheme, but a reduction in car parking and retail floorspace.
- 3.16 The proposed development was amended by application 138553/NMC/2023 to include a second staircase, reduce car parking and remove the retail floorspace.
- 3.17 An ES was produced to support this application, the scope of which contained the following technical topics:
- Wind Microclimate;
 - Daylight, Sunlight and Overshadowing; and
 - Townscape and Visual Impact.
- 3.18 The environmental effects of the consented scheme and the proposed development have been compared in Table 3.1.

Table 3.1 Comparison of alternatives			
Topic	Effects of the consented scheme	Effects of the proposed development	Comparative summary
Townscape and Visual Impact	• Moderate adverse (not significant) effects during construction on the townscape character of Green Quarter and on views from flats in the Green Quarter, people staying in the Park Inn Hotel, pedestrians walking on the pavements of main roads, local roads and within the Green Quarter. • Minor adverse (not significant) effects during construction on the townscape character of Cheetham Hill and views from Strangeways prison (for residents), Cheetham Hill Road, New Bridge Street, Great Ducie Street, Carnarvon Street, Dutton Street, the access path between Roger street and Dantzic Street over the River Irk (for pedestrians), local cycle networks, and from Cheetham Hill Road and the Green Quarter (for local workers).	• Minor-Moderate Beneficial (not significant) effect on all Townscape Character Areas including TCA1 – Cheetham Hill Road Coordior; TCA2 – Lord Street/Fernie Street; TCA3 – Green Quarter Cluster; and TCA4 – NOMA/Victoria North. • Minor Neutral (not significant) effect on View A, anchester Fort; View F Manchester Cathedral; View I Green Quarter. • Minor-Moderate neutral (not significant) effect on View B Manchester Jewish Museum; View J Blackfriars Street, View L Angel Meadows, View N Cathedral Gardens. • Minor-Moderate beneficial (not significant) effect on View D Manchester Oratory. • Minor beneficial (not significant) effect on View E	Greater adverse effects during demolition and construction and beneficial effects during operation due to increased visibility. No effects on heritage receptors assessed.

Table 3.1 Comparison of alternatives			
	• Moderate beneficial (not significant) effects during operation on the townscape character of Green Quarter and on views from flats in the Green Quarter, people staying in the Park Inn Hotel, pedestrians walking on the pavements of main roads, local roads and within the Green Quarter. • Minor beneficial (not significant) effects during operation on the townscape character of Cheetham Hill and views from Strangeways prison (for residents), Cheetham Hill Road, New Bridge Street, Great Ducie Street, Carnarvon Street, Dutton Street, the access path between Roger street and Dantzic Street over the River Irk (for pedestrians), local cycle networks, and from Cheetham Hill Road and the Green Quarter (for local workers).	Cheetham Hill Road/Park Street. • Major Moderate Neutral (significant) effect on View C Lord Street/Strangeways. • Negligible (not significant) effect on View M Colyhurst Road.	
Wind Microclimate	• Suitability of wind conditions at thoroughfares ranging from moderate beneficial to negligible (not significant). • Suitability of wind conditions at entrances ranging from moderate beneficial to negligible (not significant). • All locations safe and suitable for their intended use.	• Suitability of wind conditions across the entirety of the site and proposed development.	No change – safe and suitable conditions achieved at all locations.
Daylight, Sunlight and Overshadowing	• Minor adverse loss of daylight at Jefferson Place, 1 Fernie Street; Barton Place, 3 Hornbeam Way; Melia House, 2 Hornbeam Way. • Moderate adverse loss of daylight to Britton House, Lord Street. • Minor adverse loss of sunlight to Britton House, Lord Street and Melia House, 2 Hornbeam Way.	• Increased height • Moderate Adverse (significant) loss of daylight at Jefferson Place and Barton Place. • Minor Adverse (not significant) loss of daylight at Britton House, The Hallmark, Melia House, Masson Place and Britton House. • Minor adverse (not significant) loss of sunlight on Britton House.	Greater loss of daylight and sunlight due to increased height.

Table 3.1 Comparison of alternatives			
Socioeco- nomics and human health	Not assessed – none anticipated	- Minor beneficial (not significant) effect on employment creation, spending in the local economy and increased housing supply. - Minor adverse effect (not significant) effect on the demand for open and play space. - Moderate adverse (significant) effect on existing and future residents in changes to daylight and sunlight amenity.	Greater beneficial effect on human health and communities through increased housing provision. Greater demand for open space and play space. Significant effect on daylight and sunlight amenity as noted in the DSO assessment.
Climate change	Not assessed – minor adverse effects on the global climate anticipated. Previous energy strategy also all-electric heating with air source heat pumps, however no photovoltaic panels were proposed. Car parking proposed.	Minor adverse (not significant) effects also anticipated with the updated scheme in respect to the global climate	Greater overall emissions but comparable emissions per residential unit, or improvements given the car-free nature of the proposed development.

Alternative Layouts, Designs and Design Evolution

- 3.19 The design evolution for the proposed development started with the consented scheme as amended in 2023. On review of the consented scheme opportunities for an increased number of dwellings and a new pedestrian link between Cheetham Hill Road and Fernie Street, as well as requirements of building regulations.
- 3.20 The design evolved following pre-application meetings with Manchester City Council. MCC feedback focused on the need to create a slender form by increasing the height-to-width ratio and reducing the level of the terrace. Figure 3.1 shows how the proposed development changed from the scheme presented at the September pre-application meeting to the proposed development massing.
- 3.21 Other comments raised by MCC including simplifying the materiality and colour palette and to pay close attention to window details. This has resulted in the single red brick tone and the metal fretwork by the windows, as set out in Chapter 4 of this ES.
- 3.22 Public consultation on the proposed development ran from November 2025 to December 2025 and included a website as well as an event on Tuesday 2nd December 2025.

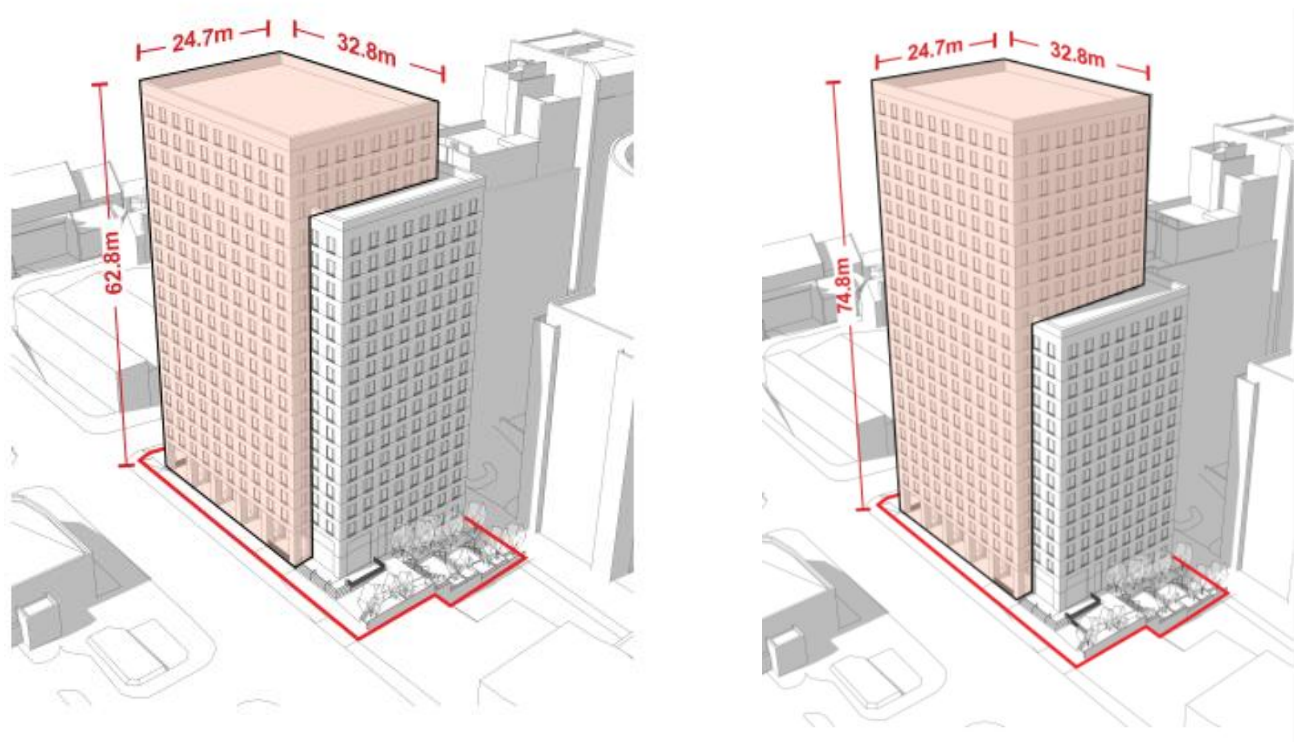


Figure 3.1 - Increasing height of the proposed development and lowering the terrace level – comparison between September 2025 iteration (left) and proposed development (right)

Comparison of Environmental Effects

- 3.23 In line the EIA Regulations, a comparison of the main alternatives have been undertaken and is presented in Table 3.1.

Conclusion

- 3.24 The site benefits from existing planning consent for a 16-storey residential development. The proposed development would represent an increase in residential units and building massing, and a reduction in car parking, when compared to the consented scheme.
- 3.25 Compared with the existing consent the Proposed Development leads to greater scale effects for townscape, visual impact, daylight and sunlight. While climate change and socioeconomic and human health effects were not assessed in the previous ES, climate change effects are likely to be comparable and the proposed development provides additional benefit from the increase in homes.
- 3.26 The design processes has taken into consideration comments from the pre-application consultation processes, leading to a refinement of massing, layout and façade options.

4 PROPOSED DEVELOPMENT DESCRIPTION

Introduction

- 4.1 This chapter of the ES provides a description of the proposed development for the purposes of identifying and assessing the potential environmental impacts and likely environmental effects of the proposed development in the technical assessments of ES Volume 1 (Chapters 6-9) and ES Volume 2.
- 4.2 In accordance with the EIA Regulations, this chapter sets out the physical characteristics of the built development including the proposed access and egress arrangements; the landscape strategy; utilities; and estimated emissions, residues and waste arisings as part of the proposed development.

Planning Application

- 4.3 As indicated in ES Chapter 1: Introduction, the Applicant is submitting a full planning application for the proposed development, described as follows in the application form:

"Demolition of existing structures and erection of a residential apartment development comprising 251 dwellings (Use Class C3) with landscaping and associated works."

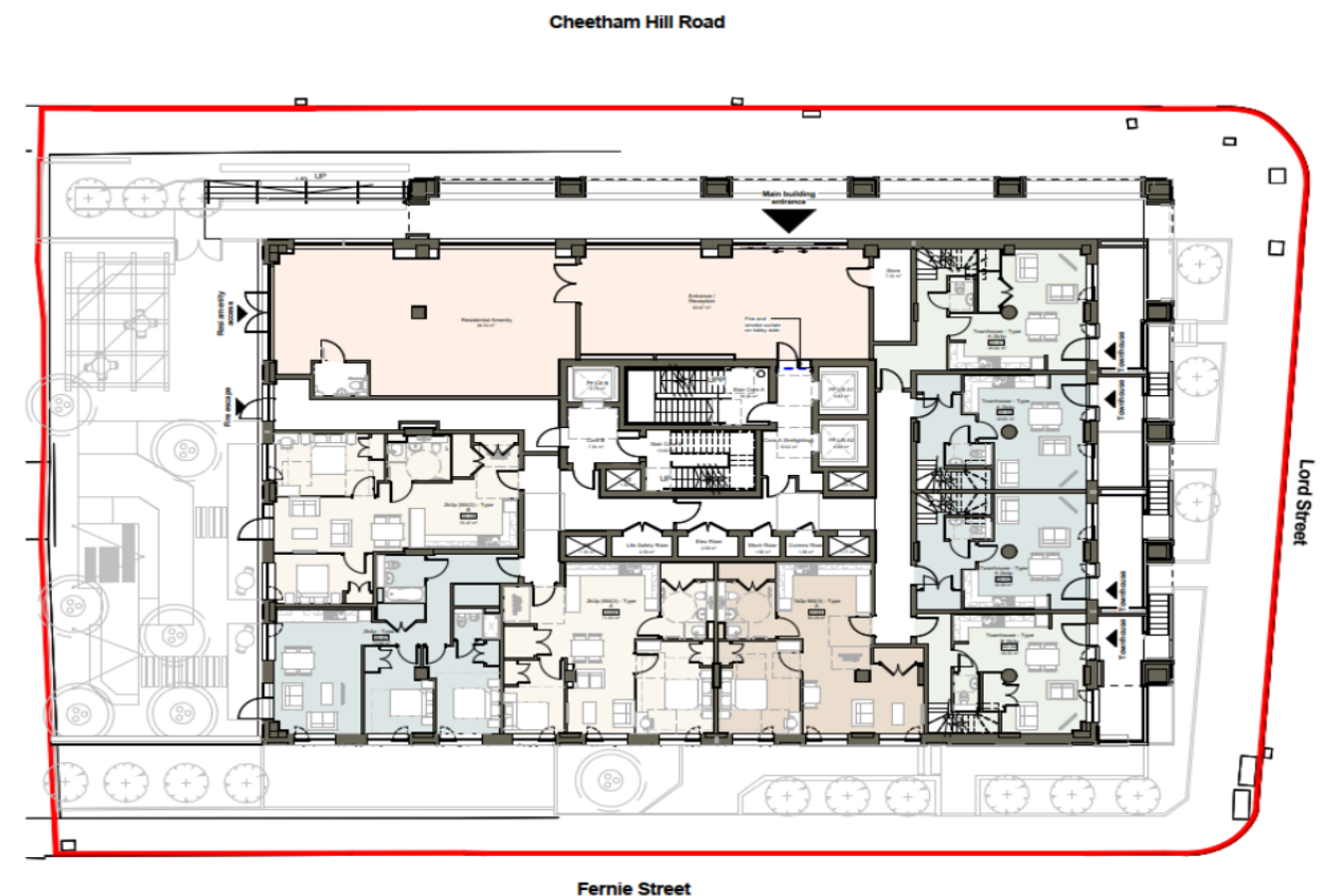
Proposed Development Description

Land Use

Overview

- 4.4 The proposed development comprises a single 24 storey residential building.
- 4.5 The building form will be set back at ground level to create a colonnade along Cheetham Hill Road and Lord Street. There will be an area of public realm to the west of the building. The main entrance to the building is from Cheetham Hill Road. There are four duplex (two-storey) townhouses fronting Lord Street; there is residential amenity space at ground floor and all other floorspace comprises residential apartments. The ground floor plan is shown in Figure 4.1.
- 4.6 A basement would extend to a maximum depth of 5.025m below the ground level. This accommodates the cycle and refuse stores and back of house functions, and is accessed from Fernie Street. The internal basement layout is arranged across several levels, with sloped or ramped connections accommodating the changes in height. The plan for this is shown in Figure 4.2.

Figure 4.1: Ground Floor Plan Layout



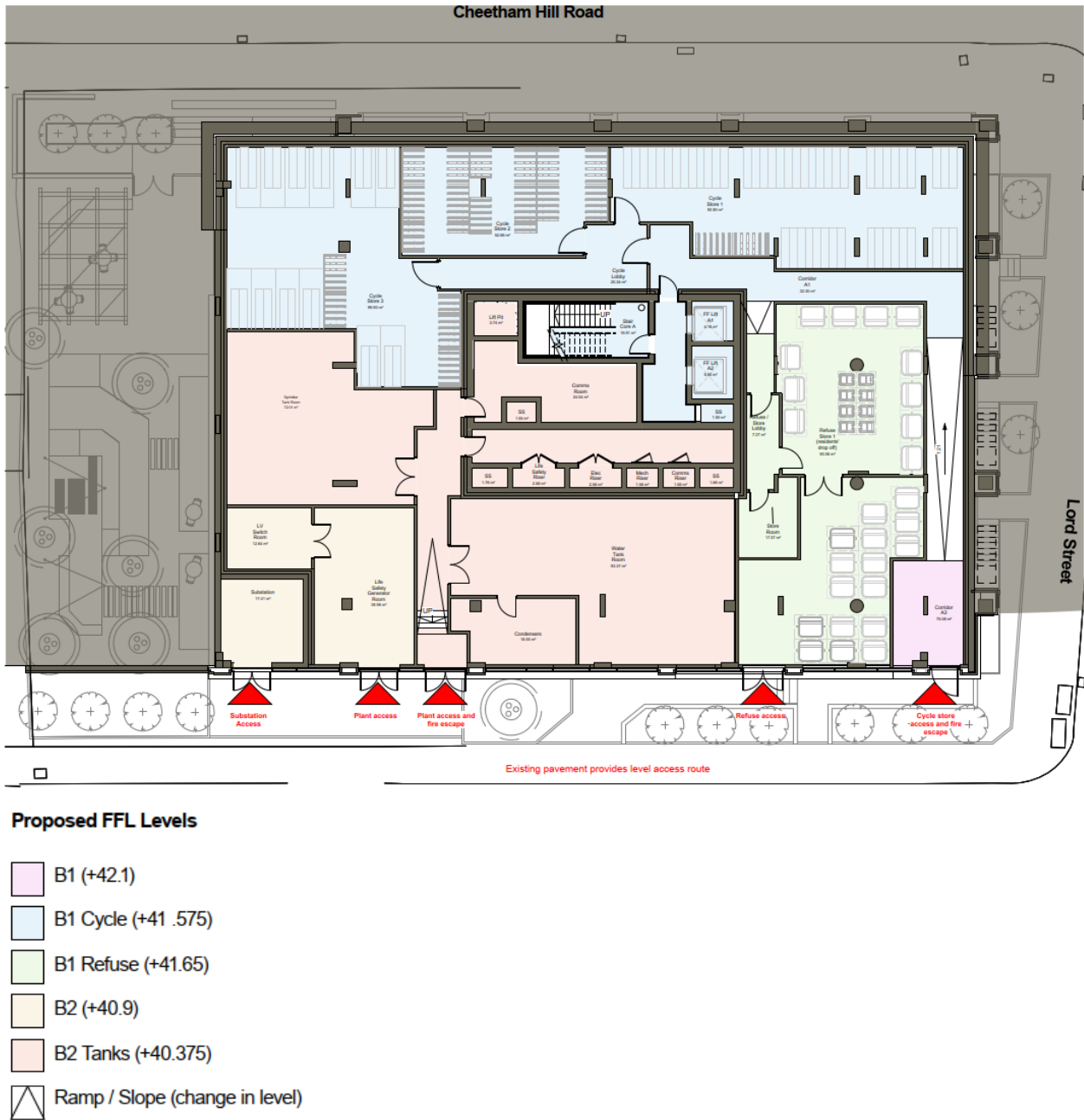


Figure 4.2 Basement Plan Layout

Area Schedule

- 4.7 The proposed development would provide 251 residential units (use class C3). Within the residential use class, uses would be sub-divided across:
- Residential homes;
 - Residential amenity; and

- Ancillary uses, including cycle storage and waste storage.

4.8 A summary of the floorspace schedule for the proposed development is presented in Table 4.1.

Table 4.1: Proposed Area Schedule		
Use Class	Gross Internal Area (GIA) m ²	Net Internal Area (NIA) m ²
Residential (Use Class C3) - 251 units including ancillary residential uses	22,203	16,046
Total	22,203	16,046

- 4.9 All homes will be for private (market) sale.
- 4.10 The unit mix of the proposed development consists entirely of 1 and 2 bedroom flats, with 83 1-bed flats and 168 2-bed flats.

Roof Levels

- 4.11 As shown in Figure 4.3, the 24th level roof will accommodate solar photovoltaic panels and mechanical and electrical plant equipment.
- 4.12 The 15th floor level comprises external amenity area for residents.

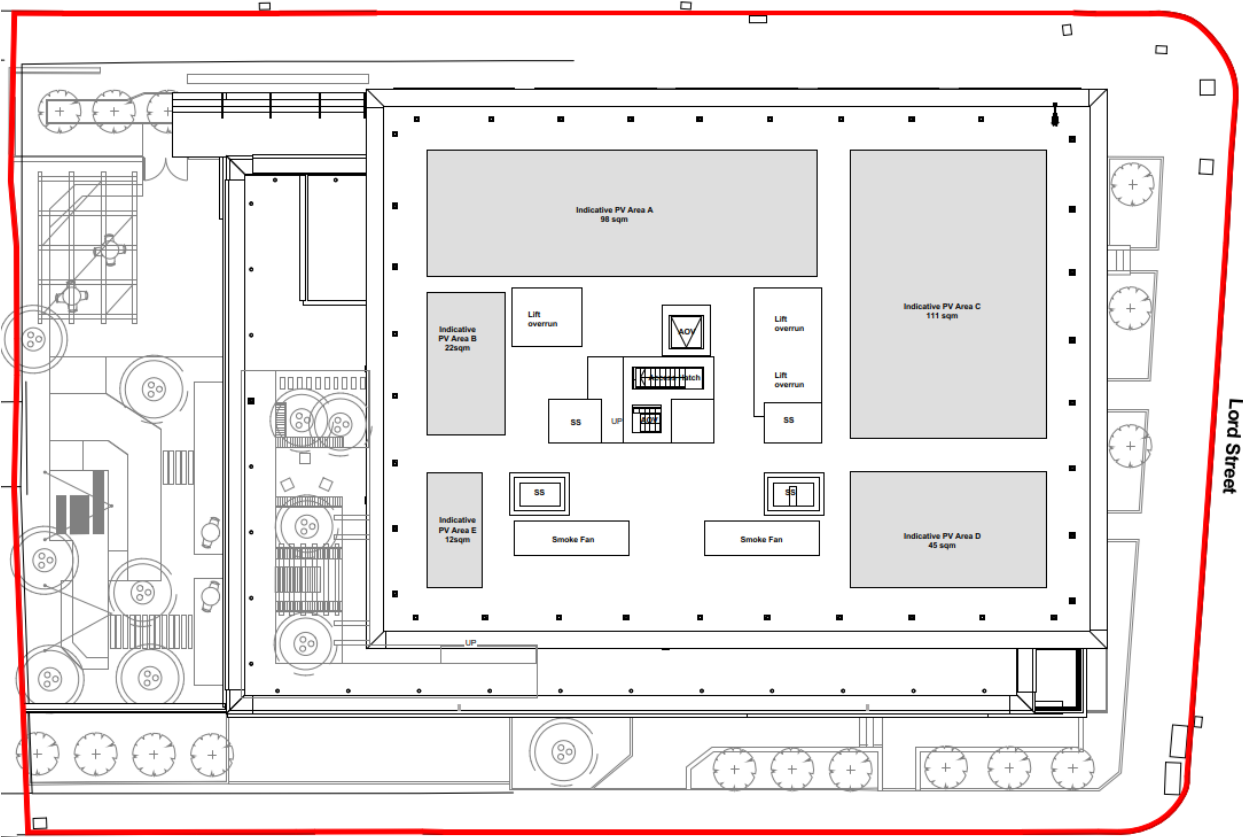


Figure 4.3 Roof Plan Layout

Built Form, Height and Massing

- 4.13 The proposed development building reaches a height of 73.9 m above ground level (AGL) across 24 above ground storeys. This tallest extent is located along Lord Street to the north of the site. On the southern and eastern side, the building steps in at the 15th floor (46.05m AGL) to provide an external roof terrace for residents as shown on the 15th floor plan in Figure 4.4. Elevations are provided in figure 4.5 showing the ground and first floor colonnades and the step-back at the 15th floor.

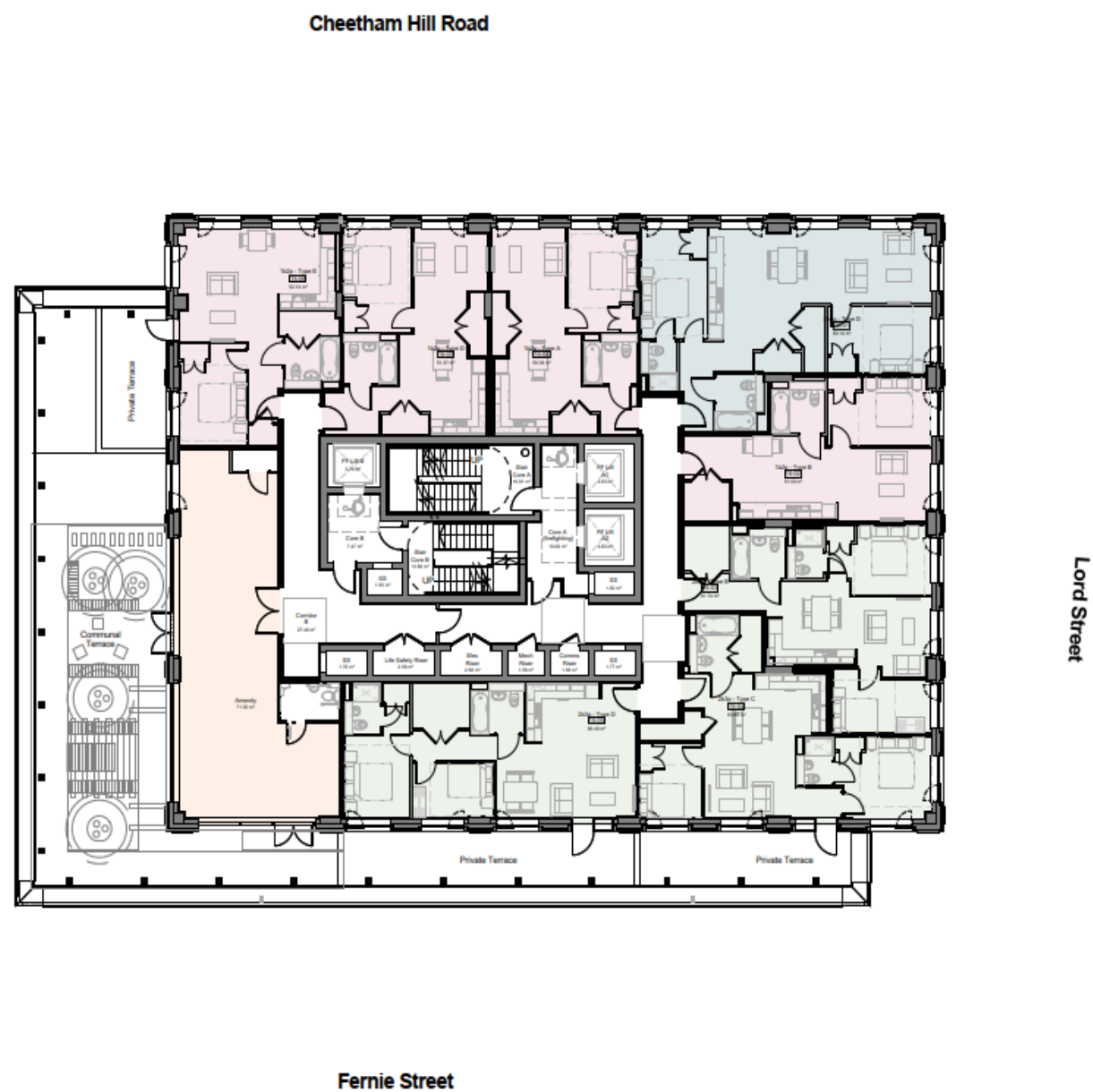


Figure 4.4 15th Floor Plan Layout

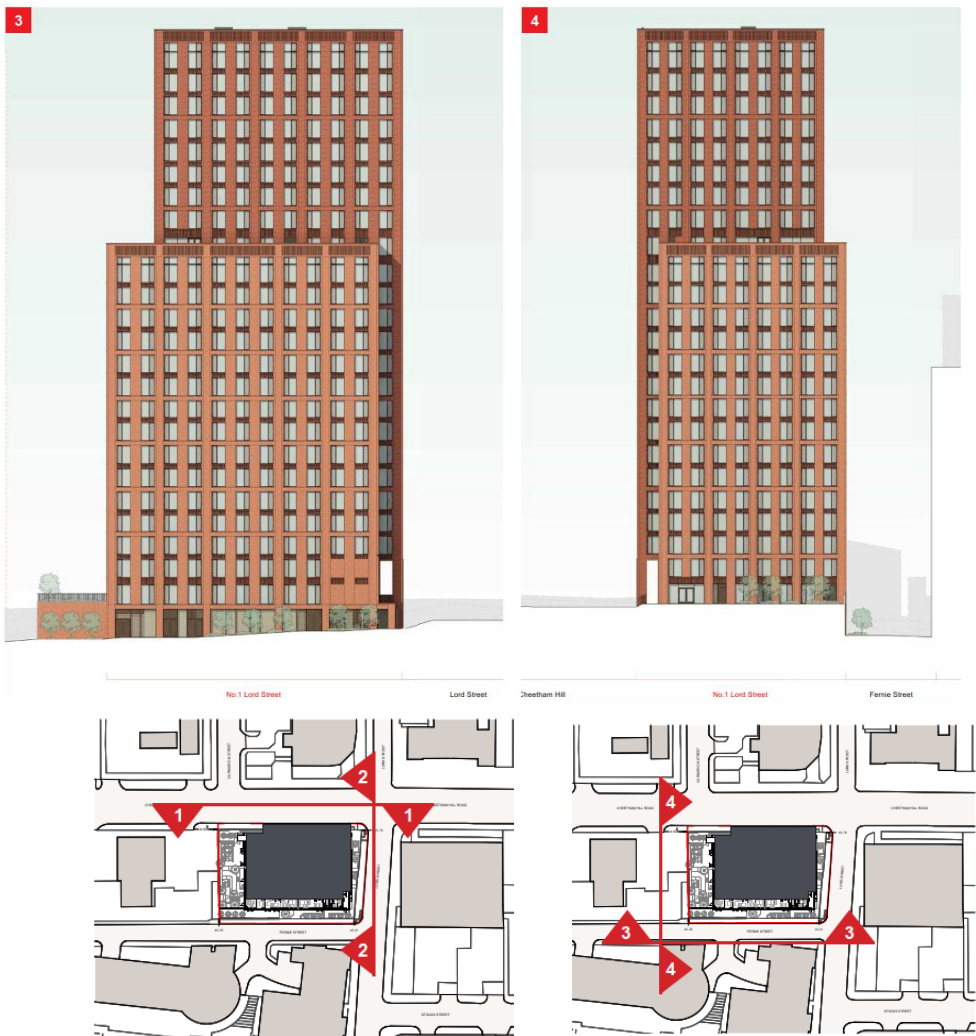


Figure 4.5 Building Elevations

Material Palette and Façade Detailing

- 4.14 As shown in the elevations in Figure 4.5 above, the facade material palette comprises predominantly red brick. Details (as shown in Figure 4.6) include:
- Square brick columns to form the colonnade;
 - A floral window fretwork pattern drawing inspiration from the from the stone floral motifs found on the former Free Library located nearby; and
 - Sawtooth brick detailing at the top of the building.



Figure 4.6 - Facade details

Realm and Open Space Network

4.15 Table 4.6 provides a breakdown of the public realm, private amenity and open space to be delivered across the proposed development.

Table 4.6: Public Realm and Communal Amenity Areas	
Deliverable	Area (m ²)
Open space	605
Public realm	350
Private amenity	490

Amenity Space

4.16 The amenity space on-site would the 15th storey roof terraces for use by residents alongside a small amount of indoor amenity space also contained on the 15th storey. This is shown above in Figure 4.4.

Public Realm

4.17 This comprises space along the western side of the site boundary outside of the building footprint, which will provide a small amount of seating, planting and updated entrances to the proposed development.

Play Space

4.18 No formal play space will be provided on-site.

Hard Landscaping

4.19 Hard landscaping material selection has been informed by the local context and would be of a high quality. They have been chosen to ensure the palette utilises a limited range of materials, integrating seamlessly with the proposed development character areas.

4.20 Hard landscaping is set to comprise tree and shrub planting at the ground level along with a stepped colonnade to the entrance of the proposed development located along Cheetham Hill Road.

Biodiversity Enhancements

- 4.21 Biodiversity enhancement is a fundamental element of the proposed development design package, focusing on retaining and enhancing existing habitats, increasing tree cover, and integrating ecological features throughout the scheme.
- 4.22 The existing biodiversity habitat on site is very limited, with the site being filled primarily with overgrown vegetation which will be removed as part of the proposed development. However, the loss of vegetation is still something that needs to be considered in regards to meeting the Biodiversity Net Gain Requirements for the proposed development, which would require a 10% biodiversity net gain.
- 4.23 A Biodiversity Net Gain Assessment has been undertaken for the proposed development which has quantified the level of change in biodiversity from the existing site to the proposed development as minus 41.66% (-41.66%). These losses will be compensated by onsite planting at the ground and roof terrace levels, alongside an off-site compensation strategy to reach the 10% requirement.

Lighting Strategy

4.24 The detailed lighting design would be prepared by a specialist consultant in conjunction with an ecologist and in accordance with the Bat Conservation Trust’s Guidance Note 08/23 ‘Bats and Artificial Lighting at Night.’ This would be submitted as part of the planning application.

Parking
Cycle Parking

4.25 A breakdown of cycle parking provision is displayed in Table 4.7.

Table 4.7: Proposed Cycle Parking Spaces			
Cycle Space Type	Standard	Non-Standard	Total
Residential	239	12	251

4.26 The cycle strategy has been developed in line with MCC guidelines, providing 1 cycle space per apartment. All cycle spaces are located within the basement, with resident access from the central circulation core. The strategy also allows for 5% non-standard cycle spaces (12no. in total) to accommodate larger adapted cycles as described in LTN1/20. Additionally, a dedicated cycle cleaning and maintenance area is provided in the store.

Car Parking

- 4.27 The proposed development is car free – no car parking is proposed.
- 4.28 There are opportunities for on-street parking within the immediate vicinity of the site with a number of free parking spaces up to 2 hours along Lord Street, Stocks Street, Stocks Street East, St Chads Street or Stanley Street.

Waste, Deliveries and Servicing
Deliveries and Servicing Management

4.29 Waste will be collected from Fernie Street, via a proposed 2.7 x 12.5m loading servicing bay.

Waste Management

4.30 An Operational Waste Management Plan has been produced to accompany the application and provides detailed information. A summary is provided in the sections below.

Operational Waste Arisings

4.31 The total estimated residential waste arising for the proposed development is expected to be in line with a development of its size and there is furthermore no expectation that any hazardous waste would arise from the operational proposed development.

Waste Facilities

- 4.32 It is proposed that residents within the development would be provided with four bins. One for general non-recyclable waste, one for mixed dry recyclables, another one for glass and a small receptacle for organic recycling (food).
- 4.33 The residents would store and segregate waste into four main streams internally before taking it to ‘Refuse 1 (drop-off)’, located at the northwestern corner of the basement. Future residents are expected to utilise the lifts provided to access this area, before correctly disposing of their waste in the relevant streams .On-site operatives or a relevant management company will be responsible for m for dragging bins to the envisaged collection point to the rear of the Fernie Street footway.
- 4.34 It is anticipated that waste collection would be provided by Manchester City Council collections (i.e. fortnightly collections) for the four waste streams

Plant, Energy Utilities and Drainage
Heating and Cooling

- 4.35 Air Source Heat Pumps will provide hot water to the proposed development, with individual electric panel space heaters providing heating.
- 4.36 The combined estimated energy demand for heating and hot water is estimated at 828.18 kWh per year.
- 4.37 The carbon content of the delivered heat is as follows:
- Heating (electric panel heaters) 177 gCO2/kWh - based on the current carbon intensity of the electricity grid; and
 - Hot water (heat pump) 58.61 gCO2/kWh.

Ventilation

- 4.38 The apartments and townhouses will benefit from whole house balanced mechanical ventilation with heat recovery.
- 4.39 Purge ventilation is provided through openable windows.

Renewable Electricity

4.40 339 m² of solar photovoltaic panels will be installed on the roof.

Energy Efficiency

- 4.41 Energy efficiency measures employed in the proposed development are as follows:
- High performance thermal insulation;
 - Low air permeability;
 - Sophisticated heating controls;

- 100% LED lighting;
- Appliances and white goods specified will be highly energy efficient; and,
- Each dwelling will be specified with a smart meter to enable occupant to effectively monitor and manage their energy consumption.

Potable Water

4.42 Potable water would be supplied to the proposed buildings by United Utilities achieved through the establishment of a dedicated on-site water network.

4.43 Proposed water saving features are as follows:

- Water efficient sanitary fittings such as low flush WCs and low flow taps and showers with flow regulators would be installed in the dwellings; and
- A daily water consumption of 105 l/ person/ day would be targeted for the dwellings to be achieved through the provision of low flow sanitary fixtures and fittings.

Foul Water

4.44 Foul water drainage will be conveyed via a new below-ground pipe network and discharged from the site to the existing combined sewer located in the northeastern corner of the site. It is proposed that the foul water from the development will discharge to the United Utilities combined water sewer in Fernie Street.

Surface Water

4.45 The proposed development will meet greenfield run-off rates, providing attenuation to accommodate flows up to the 1 in 100-year event with a climate change allowance of 45%. Stormwater storage will be provided by an attenuation storage tank located within the building footprint below the basement slab. Discharge will be to the combined water sewer running along Fernie Street

Summary of Embedded Mitigation Measures

- 4.46 As set out in Chapter 2: EIA Process and Methodology, the aim of an EIA is to develop measures to avoid, offset or reduce the significant adverse environmental effects of a project and to enhance any beneficial effects.
- 4.47 As part of the EIA, an iterative approach has been adopted where significant environmental effects have been avoided where possible in the first instance through the design refinements and iterations. Where adverse environmental effects were identified through early assessment work, opportunities to reduce or control impacts and effects, or in some cases, to compensate for impacts and effects, were identified and incorporated into the Proposed Development. In addition, opportunities to enhance the beneficial environmental effects of the Proposed Development have been sought and incorporated into the Proposed Development. An example include:
- No car parking spaces are provided at the proposed development;
 - Cycle parking spaces;
 - Surface water drainage strategy achieving greenfield run off rates;
 - Photovoltaic panels, air source heat pumps for hot water and all-electric heating strategy;
 - A building design and material palette which has been informed by the context and identity of the surrounding area; and
 - Provision of landscaped public realm.

5 DEMOLITION AND CONSTRUCTION DESCRIPTION

Introduction

- 5.1 This chapter of the ES provides a description of the demolition and construction works associated with the proposed development for the purposes of identifying and assessing the potential environmental impacts and likely environment effects of the demolition and construction stage in the technical assessments of ES Volume 1 (Chapters 6-9), ES Volume 2 and discrete reports in ES Volume 3.
- 5.2 In accordance with the EIA Regulations, the chapter describes the demolition and construction stage of the proposed development and the key activities that would be undertaken during these works. The chapter also describes the management controls that form part of the proposed development that would be implemented to avoid and where possible, minimise and mitigate the magnitude of potential environmental impacts.
- 5.3 It is not possible to predict in detail the specific environmental impacts and effects that may arise from the works as detailed demolition and construction method statements and specifications have not yet been prepared and sub-contractors not yet appointed. However, it is possible to establish the potential environmental impacts associated with the works and to determine a framework for the management of these impacts to ensure that significant environmental effects are avoided and where not possible, mitigated.
- 5.4 The demolition and construction management framework which has been developed for the proposed development as part of the iterative design process is set out within this chapter and would form the basis for a Construction Management Plan (CMP) to be implemented during the demolition and construction works. An initial CMP has been submitted with the planning application, prepared in accordance with standard best practice and regulatory requirements. The CMP would define relevant policies, legislative requirements, thresholds, limits, procedures and roles and responsibilities for the implementation of environmental and management controls for the duration of the works.
- 5.5 An outline of all the anticipated environmental impacts and necessary management controls that would be covered within the CMP is provided within this chapter.
- 5.6 It is important to note that this chapter does not assess the magnitude of potential impacts, nor the scale of likely environmental effects during the demolition and construction stage, as this is dealt with in individual technical assessments within ES Volume 1 (Chapters 6-9), ES Volume 2 and ES Volume 3. Management controls set out in this chapter are considered as embedded mitigation within each of the technical assessments as the controls:
- Are standard industry measures applied at construction sites;
 - Are tried and tested measures and therefore benefit from a high degree of certainty in respect of effectiveness to avoid, mitigate and/or mitigate likely effects; and
 - Have been committed to by the Applicant and would form part of the proposed development’s CMP, which would be secured by means of an appropriately worded planning condition.

Development Programme

- 5.7 A detailed development programme has not yet been finalised. However, to enable assessment of likely environmental impacts and their effects within the EIA, an indicative, but feasible, programme has been developed by the Applicant based on a number of assumptions. These assumptions have been informed by an understanding of current and future projected market conditions, logistical arrangements, technical considerations and professional experience, all of which are considered to be reliable.

5.8 The indicative development programme is shown in Table 5.1.

Table 5.1: Indicative Proposed Development Programme			
Work Stage	Duration (weeks)	Start Date	Completion Date
Enabling Works and sub-structure	60	Q4 2026	Q1 2028
Superstructure, Facade, Fit out and Landscaping	90	Q1 2028	Q4 2029

- 5.9 For the purpose of this EIA, based on commencement of works in Q4 2026, the development works are anticipated to be undertaken over a continuous 150-week period, with completion targeted for Q4 2029.

Interface with Key Stakeholders

- 5.10 Early discussions would be held with MCC and other relevant statutory consultees, such as TfGM. These discussions would include site logistics, management, access and egress and hoarding arrangements.
- 5.11 Prior to work starting on-site, the CMP would be produced and agreed with MCC. This would include roles and responsibilities, details on the control measures and actions to be taken to minimise the potential environmental impacts of the proposed development. Monitoring and record-keeping requirements would also be addressed in the CMP.

Enabling and Demolition Works

Site Enabling Works

Pre-Commencement Surveys, Investigations, Consents and Licenses

- 5.12 Concurrent with the discharge of planning conditions, any remaining surveys and investigations would be undertaken prior to the commencement of works on-site. In addition, various consents and licences would need to be granted.
- 5.13 All statutory consents and licences required to commence on-site activity would be obtained ahead of works commencing, giving the appropriate notice period. These would include:
- Notices and agreements for works on the highway in accordance with the Highways Acts 1980 and Road Traffic Act 1988;
 - Temporary Traffic Orders and parking bay suspensions;
 - Hoarding and Scaffold licences;
 - Details of pedestrian route diversions;
 - Crane over sail licences;
 - Connections to existing statutory services and mains sewer;
 - Licence for discharge of water from the site into the public sewer;
 - Approval of CEMP, including any specific agreements relating to the control and monitoring of demolition and construction noise, e.g., Section 61 of the Control of Pollution Act 1974 for noise; and
 - Construction Notice (Health and Safety Executive F10 notice).

Site Offices/Welfare Facilities and General Site Access

- 5.14 Construction compounds, including welfare facilities for construction staff would be constructed at the site.
- 5.15 Facilities are intended to be provided off-site in a local existing building. This location is subject to availability and will be agreed upon early within the commencement of the site works and will remain throughout the duration of the works. Initial site works will be supported by a self-contained welfare unit located on the site footprint.

Utility Diversions and Removals

- 5.16 UKPN would be contacted at the earliest opportunity to ensure that the works are acceptable to all parties and completed in a timely manner.
- 5.17 Prior to any demolition works taking place, the location of services would be identified and marked on-site using utilities record drawings and on-site investigation techniques such as hand dug trial holes and scanning using a cable avoidance tool.

Earthworks, Piling, Excavation and Construction Works

- 5.18 The length of the piles would vary, depending on whether they are to support superstructure column loads, but it is anticipated that the piles would largely be between 10 m to 21.5 m in length. Where large loads are transferred from the superstructure, longer piles may be used. A piling method statement would likely be conditioned for future discharge or approval prior to commencement of works.

Cores

- 5.19 There will be a single core located within the centre of the building and would incorporate the lifts, stairs and service risers and would be designed to provide the main lateral stability system for the buildings.
- 5.20 The concrete walls would be constructed from reinforced concrete using either slip-form construction or jump-formed techniques. Concrete would be pumped and a hydraulic placing boom used to assist concrete placement. Tower cranes would be positioned to suit the site logistics and used to lift reinforcement cages for the cores. Stairs would be installed once the cores are complete. In the meantime external hoists and temporary stairs will be provided for the use by frame contractor operatives and will be supplemented by the introduction of a passenger host car which will be installed in stages as the building climbs vertically.

Superstructure Works

- 5.21 The construction of the superstructure of each block would involve the erection of reinforced concrete cores (to provide for the overall stability of the structure), followed by the formation of reinforced concrete columns and slabs, to roof level.
- 5.22 The cores would be constructed from reinforced concrete using either slip-form construction or jump-formed techniques.
- 5.23 Also, the use of concrete would be selected to provide adequate sound insulation within each block and to comply with fire protection requirements. Cement replacement content and secondary or recycled aggregate content would be considered once the sub-contractors have been appointed, to minimise environment impacts.
- 5.24 Construction (sub- and superstructure) waste volumes have been estimated based on Building Research Establishment (BRE) Benchmarks. It is anticipated that all construction waste material would be removed off-site. However, as the Applicant’s company policy is to divert 90 % of construction, demolition and

excavation waste from landfill through re-use or recycling, it is conservatively expected that 70% by volume of non-demolition construction waste material would be recycled off-site in addition to the recycling and re-use of demolition and excavation waste volumes as discussed earlier.

Envelope and Fit out Works

- 5.25 It is envisaged the tower cranes would remain in location until the hoist has been removed and hoist infill panels installed.
- 5.26 Internal fit out of the proposed residential units would be undertaken.

Public Realm and Landscaping Works

- 5.27 Landscaping would be delivered following completion of the building envelope. Landscaping works will include tree and shrub planting alongside hard landscaping to for covered and uncovered seating areas for use by the future residents of the proposed development and the public.

Highways Works

- 5.28 Highway works would be limited to amendments to Fernie Road to accommodate the servicing bay.

Construction Vehicles and Plant
Construction HGV Trips and Access Arrangements

- 5.29 The exact number of trips anticipated to be generated by the construction of the proposed development is currently not know and is subject to the specific construction phasing and timings, which will be determined by the principal contractor. It is considered that the construction traffic generated is likely to be similar to that of associated developments within the area, resulting in a total of 30 2-way Heavy Goods Vehicle (HGVs) trips during peak construction time.
- 5.30 Construction traffic is expected to reach the site via Cheetham Hill Road before turning onto Lord Street. This will be agreed with local highways authority and will furthermore be included within the Construction Management Plan. Consultation has begun with a local traffic management company to help develop the traffic solution to service the project whilst being sympathetic to the local area and beyond.
- 5.31 The primary construction access to the site would be from Lord Street, with vehicles then travelling via Cheetham Hill Road.

Typical Construction Plant and Machinery

- 5.32 The types of plant and machinery that are likely to be used on-site per development works activity are provided in Table 5.2.

Table 5.2: Likely Plant and Machinery		
High Level Work Phase	Specific Work Phase	Plant Required
Enabling Works and Substructure	Mobilisation	Delivery vehicles
	Site Preparation	Delivery vehicles; excavator; forklift
	Piling	Piling rig; excavator; concrete pump; dumper trucks; muck away wagons;

Table 5.2: Likely Plant and Machinery		
High Level Work Phase	Specific Work Phase	Plant Required
		delivery vehicles; concrete bowzers
	Groundworks/Substructure/Waterproofing	Delivery vehicles; excavators; dumper trucks; concrete pump; dumper trucks; muck away wagons; concrete bowzers; mobile crane
	Below ground drainage incl. connections	Delivery vehicles; excavators; dumper trucks; concrete pump; dumper trucks; muck away wagons; concrete bowzers; trenching equipment; traffic controls
Superstructure, Facade, Fit out and Landscaping	Structural Frame	Delivery vehicles; excavators; dumper trucks; concrete pump; dumper trucks; muck away wagons; concrete bowzers; mobile crane; tower crane; goods hoist; passenger hoist
	Building Envelope	Delivery vehicles; mobile crane; tower crane; goods hoist; passenger hoist; mast climbers
	Roof	Delivery vehicles; tower crane; goods hoist; passenger hoist;
	Incoming Utilities	Delivery vehicles; excavators; dumper trucks; concrete pump; dumper trucks; muck away wagons; concrete bowzers; trenching equipment; traffic controls
	Mechanical & Electrical	Delivery vehicles; tower crane; scissor lift; MEWPS
	Plumbing, Sprinklers & Drainage	Delivery vehicles; tower crane; scissor lift; MEWPS
	Vertical Transportation (Lifts)	Delivery vehicles; scissor lift
	Ceiling and Partitions	Delivery vehicles; scissor lift
	Internal fit-out	Delivery vehicles; scissor lift

¹ Secretary of State, 1974. Control of Pollution Act, HMSO.

Table 5.2: Likely Plant and Machinery		
High Level Work Phase	Specific Work Phase	Plant Required
	Communal Spaces	Delivery vehicles; scissor lift
	Externals	Delivery vehicles; excavators; dumper trucks; concrete pump; dumper trucks; muck away wagons; concrete bowzers; trenching equipment; traffic controls
	Test & Commissioning	Specialist testing equipment

Construction and Contracting Strategy

5.33 The Applicant would be the main contractor and would be responsible for a number of sub-contractors (e.g., piling, concrete, cladding) and ultimately for environmental management during the construction process.

Construction Employment

5.34 The project is forecast to sustain approximately 120–140 full-time roles (internal and supply chain), with a peak on-site workforce of around 130–150 personnel during the superstructure and fit-out stages. In addition to direct on-site employment, the scheme will support an estimated 200–280 indirect roles within the wider supply chain, including materials manufacturing, logistics, and professional services.

Hours of Work

5.35 Working hours would be agreed with MCC but are expected to be:

- 08:00 to 18:00 hours Monday to Friday;
- 08:00 to 13:00 hours Saturday; and
- No working on Sundays or Bank Holidays.

5.36 All work which is intended outside of these hours, excluding emergencies, would be subject to prior agreement and reasonable notice to MCC in terms of Section 61 (S61) of the Control of Pollution Act 1974¹.

Health and Safety

5.37 All works on-site would be undertaken in accordance with the provisions of the Construction (Design and Management) (CDM) Regulations 2007². A CDM Principal Designer would be appointed by the Applicant and would work with the Project Team to ensure compliance with these Regulations.

5.38 All method statements would incorporate regulatory safety matters and a Health and Safety File would be maintained on-site for inspection by the Health and Safety Executive, MCC and others as appropriate.

² Secretary of State, 2015. Health and Safety, The Construction (Design and Management) Regulations 2015. HMSO.

Consultation

- 5.39 The Applicant would engage with and inform the local community and local stakeholders of particular construction tasks and indicative timelines across the individual construction phases and would ensure that both parties are fully involved in any such dialogue.
- 5.40 Matters for public consultation during the bulk excavation and piling works would be brought to the public’s attention through staging drop-in exhibitions and the circulation of bespoke newsletters within the established catchment area. Local stakeholders would be engaged in direct communication with the Applicant, design team and other such consultants as required from time to time through the established Resident’s and Community Liaison Groups. These groups would be open to new members as and when required and would be run in accordance with the stipulations of MCC.
- 5.41 The Applicant’s procedures would allow for:
- A clear point of contact for the public to make enquiries and to submit complaints;
 - Details of how enquiries would be registered and progressed;
 - Advising the intended timescale for responding to the matter raised;
 - Records of any responses given, and to whom; and
 - Escalation procedures if the response is not satisfactory.

Materials and Waste Management

Materials

- 5.42 Construction materials would be selected following the Building Research Establishment (BRE) ‘Green Guide to Specification’. These include:
- Minimising embodied energy content (the energy used in manufacture);
 - Using recyclable materials where they have high embodied energy; and
 - Maximising the recycled content of the material, ease of maintenance, appropriate sourcing of materials and totally excluding deleterious and hazardous materials.
- 5.43 Key materials required for the proposed development are envisaged to include those indicated in Table 5.4. The total embodied carbon of the building materials is estimated to be 11,011,788.51 KgCO2e.

Table 5.3: Indicative Key Construction Materials	
Materials	Materials Required For
Concrete	Foundations, substructure, superstructure (including concrete piling), cores, stairs and shear walls
Steelwork	Foundations, superstructures, minor structural elements
Brick, blockwork and stonework	External Envelope, External and Internal walls
Cladding	External Envelope
Glazing	External Envelope (windows)
Partitioning (gypsum board)	Internal walls

Storage and Handling

- 5.44 The sustainability of raw materials would be considered during the procurement process. All construction materials would be appropriately stored on-site to minimise damage by vehicles, vandals, weather or theft.

- 5.45 Where possible, prefabricated elements would be lifted directly into position from delivery vehicles. This would assist in reducing on-site storage and labour requirements and construction noise levels, thereby reducing potential nuisances to the surrounding receptors.

Potential Environmental Impacts

- 5.46 A review of the potential environmental impacts associated with the demolition and construction works has been undertaken to proactively inform the development proposals and inform appropriate mitigation measures. Potential impacts can arise from day-to-day works or from individual instances of accidents, poor operation or management. However, these impacts are largely dependent on the implementation of effective controls e.g., the employment of dust suppression methods, use of a well-trained workforce and properly maintained plant.
- 5.47 A summary of the potentially environmental impacts that could arise during the demolition and construction works and the mitigation measures which are integral to the development proposals are provided in Table 5.4. Further detail and assessment of these likely impacts are provided in ES Volume 1 Chapters 6-9 and in ES Volume 2.
- 5.48 Construction plant specifications have been defined allowing noise and other implications to be assessed. Potential impacts in many areas are largely dependent on attention to management control (e.g. watering to control dust, use of noise attenuated plant), which would be under the control of the Applicant and sub-contractors required, by tender requirements, to adhere to management controls and measures detailed in the CMP.

Table 5.4: Summary of Potential Environmental Impacts during Demolition and Construction		
Receptor	Potential Impacts	CEMP Mitigation
Short, medium and long distance views to and from site	• Temporary impact in views looking out at the site and views looking towards the site	• Installation of site hoarding • Standard, good on-site housekeeping • On-site wheel washing facilities • Dust management
Townscape	• Temporary impact to townscape character	• Installation of site hoarding • Standard, good on-site housekeeping • On-site wheel washing facilities • Dust management

Mitigation and Scope of Environmental Management Controls

- 5.49 The following mitigation controls would be committed to and delivered pursuant to either planning conditions, obligations contained in a legal agreement (under Section 106 of the Town and Country Planning Act, 1990) and supported as necessary by contract obligation between the Applicant and relevant sub-contractors or regulatory provisions in force from time-to-time.

Construction Environmental Management Plan

- 5.50 A CMP would be prepared submitted for review and approval by the appropriate local authorities prior to commencement of works on-site. It would include the following:
- A commitment to environmental protection (all consultants and trade contractors would be invited to declare their support for this at tender stage);
 - Documentation of measures to comply with environmental aspects of any planning conditions;

- Detailed control measures and activities to be undertaken to minimise likely environmental impacts, as well as associated roles and responsibilities;
- Target criteria for environmental issues, where practical, such as water and energy consumption;
- Any requirements for monitoring and record keeping;
- Proposed noise, vibration and dust monitoring levels to be agreed by MCC
- A dedicated point of contact during normal working hours and in emergencies with responsibility to deal with environmental issues if they arise; and
- A review and monitoring regime of on-site performance against the CMP provisions by the project team and regular environmental audits of its implementation.

- 5.51 The CMP would provide the necessary level of management and control of demolition and construction practices. This includes advance notice of operations and duration of work that may cause noise, disruption to access, or other effects.
- 5.52 The CMP would form part of tender documentation and contractors would be required to demonstrate how they would work within these provisions, identify communication channels for exchange of information and set out programmes for monitoring and auditing of environmental control systems.
- 5.53 Where departures from the CMP are inevitable, prior identification is required, such that other mitigation measures can be considered.

Considerate Constructors

- 5.54 The principal contractor would be required to register the site under the Considerate Constructors Scheme.

Principal Contractor and Management of Sub Contractors

- 5.55 All contractors would have responsibility for monitoring any sub-contractors' environmental performance; acting as a point of contact for consultation and feedback and for developing mechanisms to solve on-site issues as and when required.

Neighbourhood and Public Liaison

- 5.56 The Applicant would be expected to nominate a manager who would act as the Project Environmental Manager (PEM), who would be named at all site entrances, with a contact telephone number. The contact name and details would be provided to all the relevant stakeholders by the Applicant prior to the start of the demolition and construction works.
- 5.57 The PEM would have primary responsibility for dealing with the appropriate local authorities and other stakeholders on environmental matters, and all key stakeholders would be notified whenever a change of responsibility occurs for the PEM role. The PEM would keep neighbours, local authorities and other relevant parties informed of the nature of the ongoing works, their duration and programme to establish and maintain good relationships with them.
- 5.58 It is anticipated that meetings would take place between the PEM and key stakeholder groups to review progress and to agree any necessary actions. The PEM would also deal with enquiries from the general public, including any complaints. Any complaints would be logged and reported to the relevant individual within MCC (and *vice versa*) as soon as practicable.
- 5.59 The PEM would coordinate responses to queries and address issues in a timely and satisfactory manner.

Monitoring, Inspection and Auditing

- 5.60 The CMP would define responsibilities and procedures for the management of the potential impacts on the environment arising during demolition, enabling and construction. A monitoring programme of the

environmental effects of demolition and construction would be implemented to agreed the relevant authority requirements. This programme would:

- Evaluate the effectiveness of environmental mitigation, and identify environmental problems and appropriate responses at an early stage;
- Ensure that the works are carried out in accordance with the provisions of the CMP; and
- Identify and implement any environmental improvements that would contribute to the overall environmental performance of the proposed development.

- 5.61 The Applicant would wish to reassure itself that the CMP is being adhered to by all sub-contractors. To this end, site inspections and more formal audits would be undertaken and a checklist pro-forma, which would cover the environmental issues addressed in the CMP, used.
- 5.62 Where a problem is identified, corrective action would be identified and implemented in conjunction with the Applicant, Site Manager and sub-contractors.
- 5.63 It is envisaged that there would be a requirement for regular reporting of monitoring and auditing to relevant local authorities, who would be asked to review implementation of the protective measures as necessary during demolition and construction, and would have direct access to the monitoring representative to ensure that any non-compliances with the requirements of the CMP are speedily rectified.

Emergencies and Environmental Incidences

- 5.64 Protocols to be implemented on-site in instances of emergencies and environmental incidences would be set out within the CMP for approval by MCC.

Housekeeping and General Site Management

- 5.65 Hoardings would be erected around the site to provide a clear and secure demarcation between operational activities and other areas and to provide information regarding the proposed development and its progress. Particular attention would be paid to locations supporting high volumes of pedestrian movement demolition and construction routes, access gates and security arrangements.
- 5.66 A clean site policy would be maintained and contractors and their sub-contractors would be expected to maintain a tidy site. A street sweeper would be employed as required during the demolition, piling and excavation periods of the construction programme to make sure that the streets around the site would be kept clean during the works.
- 5.67 Hoardings would be lit from half an hour after sunset to half an hour before sunrise. Prior to the erection of any external floodlighting details would be agreed with MCC. On-site floodlights would be fixed to the tower cranes and on the hoarding or lighting poles. Emergency escape lighting would identify the escape route.

Residential and Open Space Amenity

- 5.68 The following mitigation and environmental controls would collectively limit potential visual, noise, vibration, traffic and dust impacts associated with the proposed development's construction works at the site:
- Maintaining aesthetically appropriate site hoardings;
 - Agreeing working hours with MCC;
 - Undertaking regular road sweeping;
 - Arranging and locating potentially high impact site activities and plant away from neighbouring residential receptors;
 - Selecting quiet plant and regularly maintaining plant;
 - Implementing good site housekeeping measures;

- Directing site lighting away from sensitive receptors;
- Turning site lighting off outside of normal working hours;
- Screening scaffolding and active construction activities above hoarding levels, where practical;
- Implementing construction traffic management measures as agreed with MCC;
- Implementing and monitoring dust management measures;
- Implementing and monitoring noise and vibration measures; and
- Using temporary acoustic barriers around potentially noisy activities.

Unexploded Ordnance

5.69 A working method statement will be prepared by the construction contractor and will identify safe working practices and response mechanisms should UXO be encountered on the site. This will be managed as part of the Construction Management Plan.

Wind

- 5.70 Windstorms could cause the wind gust conditions and damage or disrupt on-site crane operation. Wind storms could also cause wind gust conditions and result in damage to hoarding.
- 5.71 Mitigation in place to reduce the likelihood of these potential effects would include:
- 5.72 Measures for operating tall cranes during high winds would be considered within the detailed CMP alongside the requirement for the main contractor to implement all relevant conditions on operating procedures, and other commitments relevant. A crane strategy could also be developed which outlines procedures to be undertaken in high winds (e.g., stopping work).
- 5.73 Specification of hoardings would indicate resilience to windstorms and strong gusts, and it would be ensured that these could be erected/ removed safely.

Transport

- 5.74 A Construction Logistics Plan (CLP) would be followed which takes into account legislative requirements (e.g., Highways Act 1980³, the New Roads and Street Works Act 1991⁴, Town and Country Planning Act 1990⁵, Traffic Management Act 2004⁶); Police, Fire Authority and HSE Guidance; Local Authority Transport Schemes; and Neighbourhood Lorry Restrictions. The CLP would include details of the following:
- Agreed demolition and construction traffic routing and site access points;
 - Road cleaning facility provisioning;
 - Temporary traffic control measures;
 - Temporary and permanent access to the works - for personnel and vehicles;
 - Off-loading and storage areas;
 - Traffic management procedures for waste disposal vehicles;
 - Personnel and vehicle segregation;
 - Equipment e.g. temporary fencing and signage;
 - Temporary and permanent closures and diversions of footpaths;
 - Street furniture removal, if required; and
 - Site inductions.

- 5.75 Wheel cleaning facilities with adjoining hard standings would be located at the access and egress points of the site. These wheel cleaning facilities would be supplemented by regular road cleaning during the excavation and would have appropriate catchment areas.
- 5.76 The outline CLP would be updated upon confirmation of the detailed development programme and would form part of the proposed development’s CMP.

Vehicle Routing and Traffic Management

- 5.77 Vehicles making deliveries to the site or removing spoil or demolition material would travel via designated routes which would be agreed with MCC and the police as required. The Applicant would liaise with the local authorities to provide directional signage on the principal routes on the highway network surrounding the site, if required, in order to improve navigation.
- 5.78 Demolition and construction traffic movements are likely to take place on the local and wider highway network between 08:00 and 18:00 hours from Monday to Friday and 08:00 to 13:00 hours on Saturdays unless the times are constrained by planning conditions. Where possible vehicle movements would be scheduled out of peak hours.
- 5.79 The demolition and construction sequence for the site would be programmed to minimise the need for road closures. However, there may be instances when they are unavoidable. Where this is the case, road closures would be requested 6 to 12 weeks in advance, and authorised by TfGM, the local authorities and the police.
- 5.80 The Applicant would co-ordinate all deliveries and collections to/from the site, and ensure that as far as possible that:
- All delivery and collection vehicles are aware of the proposed routing;
 - Prior to a delivery or collection, haulers would notify the relevant authorities (TfGM, Police, Highways Authority) in accordance with the Road Vehicles (Authorisation of Special Types) (General) Order 2003⁷ if required; and
 - Liaison would be undertaken with occupants of adjacent buildings to avoid delays to service deliveries due to construction vehicles.
- 5.150 Larger vehicle movements would be scheduled to avoid peak hours on the local road network if at all possible. If an alternative construction traffic route is required this would first be agreed with MCC.
- 5.151 All deliveries would be made to the designated areas within the site. If for any reason it is necessary to load and unload outside site boundaries, the details and procedure for this would be agreed in advance with MCC and occupants of neighbouring properties.

HGV Management

- 5.81 It is anticipated that construction HGV movements would generally take place out of peak hours when congestion on the local road network is lower.
- 5.82 Loading and unloading of vehicles, dismantling of equipment such as scaffolding or moving equipment or materials around the site would be conducted in such a manner as to minimise noise impacts to existing surrounding residential properties.

Parking Management and Staff Travel

- 5.83 Demolition and construction workers would be encouraged to access the site by public transport with limited parking provision provided on-site. Information would be provided on the local bus, and rail to ensure workers are aware of the choices available to them.

³ Secretary of State, 1980. Highways Act. HMSO.

⁴ Secretary of State, 1991. New Roads and Street Works, 1991. HMSO.

⁵ Secretary of State, 1990. Town and Country Planning Act 1990. HMSO.

⁶ Secretary of State, 2004. Traffic Management Act. HMSO.

⁷ Secretary of State, 2003. Road Vehicles (Authorisation of Special Types) (General) Order. HMSO.

5.84 Where practicable all loading and unloading of contractors' vehicles would be within the site boundary. Contractors would avoid parking vehicles on the public highway and vehicle movements would be staggered to avoid queuing outside the site access points.

Contamination

5.85 all on-site enabling and construction activities will be undertaken in line with Construction Design Management Regulations (CDM), CL:AIRE Development Industry Code of Practice, as well as best practice measures.

Ecology

5.86 Where vegetation requires removal, it should be checked for the presence of mammals, amphibians and birds prior to removal.

Noise and Vibration

5.87 Effective coordination and time management of demolition and construction activities would be used to avoid noise and vibration nuisance to surrounding uses. Early and helpful communications with the surrounding and on-site receptors would assist in managing any complaints arising during the demolition and construction works of the proposed development.

5.88 Contractors would be required to ensure that works are carried out in accordance with best practicable means as stipulated in the Control of Pollution Act 1974⁸. A full explanation of measures to control construction noise would be incorporated within the CMP and detailed in all construction method statements. All work intended outside of working hours, presented earlier in this chapter, would be subject to prior agreement and reasonable notice to MCC in terms of a Section 61 consent.

Noise Emissions

- 5.89 The precise scope of noise control cannot be specified until detailed construction method statements are complete. However, the following standard best practice would be implemented as a minimum for the proposed development:
- Planning deliveries and removals out of peak hours;
 - Parking construction traffic off the public highway;
 - Controlling the discharge of trucks from site to avoid congestion;
 - Implementing traffic management systems at the entrances to the site at all times to control the traffic into the site;
 - Maintaining the site hoarding around the site boundary to screen noise from low level sources and/or street level receptors;
 - Agreeing working hours with MCC;
 - Using 'silenced' plant and equipment wherever possible and maintaining plant on a regular basis;
 - Selecting electrically driven equipment where possible in preference to internal combustion powered; hydraulic power in preference to pneumatic; and wheeled in lieu of tracked plant;
 - Regularly maintaining plant;
 - Operating plant at low speeds where possible and incorporating automatic low speed idling;
 - Siting noisy activities away from sensitive receptors, where possible;
 - Temporarily screening or enclosing static noisy plant to reduce noise emissions and certifying plant to meet relevant standards;

- Implementing noise monitoring to accord with maximum levels set out in the ES;
- Minimising disturbance from reversing beepers through measures such as site layout, provision of screening or use of broadband sound emitting reversing alarms;
- Switching off vehicle engines where vehicles are standing for an extended period of time;
- Lowering materials whenever practicable rather than dropping; and
- Making all contractors familiar with the guidance in BS 5228⁹ which would form a pre-requisite of their appointment.

Vibration

- 5.90 The following measures would be included within the CMP for the proposed development:
- Carrying out vibration monitoring during early piling works, away from any affected property or buried utilities, to quantify the levels of vibration likely to be attained; and
 - Compiling an appropriate action plan for incorporation into the CMP to ensure that the adverse effects of subsequent piling work, if identified, are minimised at all works.
- 5.91 BS 5228 Part 2 contains historic vibration measurement data for piling works, including the CFA method proposed for the proposed development. Historic data presented in Table D.6 4 of BS 5228 suggest that vibration levels would fall to below 1 mm/s within 10 m of the piling works. Vibration of less than 1 mm/s is unlikely to generate complaints from those living within nearby off-site sensitive properties. The historic data suggests that this method of piling is unlikely to lead to vibration that would cause damage to buildings, even cosmetic damage.

Air Quality

- 5.92 Dust and emission control and mitigation at the site would be particularly important during earthworks and dry weather periods. The site located within the MCC wide Air Quality Management Area (AQMA).
- 5.93 A Dust Management Plan (DMP) would be prepared for the site. The IAQM¹⁰ guidance measures for high-risk sites that would be adopted at the site, are summarised in Table 5.5.

Table 5.5: Dust Mitigation Measures for High-Risk Sites	
Phase	Mitigation Measure
Communications	Develop and implement a stakeholder communications plan that includes community engagement before work commences on site • Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager • Display the head or regional office contact information • Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority.
Site management	• Record all dust and air quality complaints, identify cause(s), take

⁸ Secretary of State, 1974. Control of Pollution Act. HMSO.
⁹ British Standards Institution, 2009 and 2014. British Standard 5228: 2009+A: 2014 Code of practice for noise and vibration control on construction and open sites. BSI.

¹⁰ Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

Table 5.5: Dust Mitigation Measures for High-Risk Sites	
Phase	Mitigation Measure
	appropriate measures to reduce emissions in a timely manner, and record the measures taken • Make the complaints log available to the LA upon request • Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book • Hold regular liaison meetings with other high risk construction sites within 250m of the site boundary, to ensure plans are coordinated and dust and particulate matter emissions are minimised
Monitoring	Undertake daily on-site and off-site inspection, where receptors are nearby, to monitor dust, record inspection results, and make the log available to the LA when asked • Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the LA upon request • Increase the frequency of site inspections when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions
Preparing and maintaining the site	Located away from receptors, as far as is possible • Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site • Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period • Avoid site runoff of water or mud • Keep site fencing, barriers and scaffolding clean using wet methods • Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below • Cover, seed or fence stockpiles to prevent wind whipping
Operating vehicle, machinery and sustainable travel	Ensure all vehicles switch off engines when stationary - no idling vehicles • Avoid the use of diesel or petrol powered generators and use mains

Table 5.5: Dust Mitigation Measures for High-Risk Sites	
Phase	Mitigation Measure
	electricity or battery powered equipment where practicable • Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas • Produce a Construction Logistics Plan to manage the sustainable delivery of goods and material Ensure vehicles switch off engines when stationary.
Operations	• Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques • Ensure an adequate water supply on the site for effective dust suppression, using non-potable water where possible and appropriate • Use enclosed chutes and conveyors and covered skips • Minimise drop heights and use fine water sprays wherever appropriate • Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods
Waste management	Avoid bonfires or burning of waste materials
Demolition	• Ensure effective water suppression is used during demolition operations • Avoid explosive blasting, using appropriate manual or mechanical alternatives • Bag and remove any biological debris or damp down such material before demolition
Measures specific to construction activities	Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out • Avoid scabbling (roughening of concrete surfaces) if possible • Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery
Measures specific to trackout	Avoid dry sweeping of large areas • Ensure vehicles entering and leaving site are covered to prevent escape of materials

5.94 Mitigation measures would be incorporated into demolition and construction working practices to reduce the likelihood of significant adverse dust effects form the demolition and construction works.

Non-Road Mobile Machinery

5.95 Demolition and construction plant emissions are considered to be a small, insignificant and temporary emission source relative to ambient conditions. The proposed development would apply suitable best practice mitigation measures for site plant would be adhered to as follows to reduce the likelihood of significant adverse air quality effects from Non-Road Mobile Machinery (NRMM) throughout the demolition and construction works:

- NRMM would be modern and well maintained. Should any emissions of dark smoke occur (except during start-up) then the relevant machinery would be stopped immediately and any problem rectified before being used again;
- Engines and exhaust systems would be regularly serviced according to manufacturer’s recommendations and maintained to meet statutory limits/opacity tests;
- Plant would be located away from the boundaries close to residential areas;
- Use of diesel or petrol powered generators would be avoided by using mains electricity or battery powered equipment where feasible and if safety concerns can be overcome; and
- A CLP would be implemented to manage the sustainable delivery of goods and materials.

5.96 In addition, construction plant emissions on-site would be minimised by means of the following controls:

- Keeping site plant and equipment in good order and maintained in accordance with the manufacturer’s specifications;
- Ensuring plant is not left running when not in use;
- Locating stationary construction plant away from the site boundaries and pedestrian walkways as far as possible;
- Using plant with dust arrestment equipment where practicable; and
- Employing cleaner fuels for construction plant, where practicable.

5.97 The Applicant would give detailed dust control protocols as part of their contracts for the site.

Aviation

5.98 During the construction works, crane operators would comply with the recommendations of BS 7121:2012¹¹. In addition, the provision of medium intensity steady red obstacle lighting to the completed tower buildings to provide 360-degree visibility and to the temporary construction crane when operating above 100 m AOD, to be agreed with the relevant stakeholders before work starts on-site.

Waste Management

5.99 As a principal waste mitigation measure during the proposed development’s construction works, the Applicant has prepared a Construction Waste Management Plan (CWMP) which has been submitted as part of the planning application, the basis of which would be implemented on-site.

5.100 The scope of the CWMP would include the following:

- Identification of the likely types and quantities of waste generated (including waste acceptance criteria testing to assist in confirming appropriate waste disposal options for any contaminated materials);
- Identification of waste management options in consideration of the waste hierarchy, on- and off-site options, and the arrangements for identifying and managing any hazardous wastes produced;

- A plan for efficient materials and waste handling in consideration of constraints imposed;
- Targets for the diversion of waste from landfill;
- Identification of waste management sites and contractors for all wastes, ensuring that contracts are in place and emphasising compliance with legal responsibilities; and
- A commitment to undertaking waste audits to monitor the amount and type of waste generated and to determine if the targets set out in the CWMP have been achieved. Targets would be reviewed and where necessary, amended. All results would be communicated to the staff.

5.101 In particular, the following measures would be proposed in the CWMP to minimise waste generation on-site:

- Ordering the quantity of materials required for the job, thus reducing over-ordering;
- Determining when and where materials are required and requesting ‘just in time’ deliveries;
- Materials would be specified to reduce the embodied carbon of the development;
- The recycled content of material, ease of maintenance, appropriate sourcing of materials and exclusion of hazardous material would be maximised;
- Returning damaged goods or incomplete deliveries;
- Where possible and appropriate to do so, using prefabricated elements would be lifted directly into position from delivery vehicles;
- Having appropriate storage areas ready - these should be covered to protect against rain and ideally have a hard standing surface;

5.102 Any waste that is not re-used on-site and therefore requires off-site disposal would be dealt with in accordance with the Waste Hierarchy, the requirements of the EA and in line with relevant legislation.

Recycling

5.103 Segregation (on-site or off-site) and recycling of cardboard, timber, metal, plastics, plasterboard and gypsum-based products would be strongly encouraged by the Applicant and project team. The segregation of polythene film waste from other plastics would also be considered and local collections investigated.

5.104 It is proposed that waste would be segregated and stored for collection on-site, through the use of a series of clearly labelled skips and potentially equipped with compactors to take different materials. Wheelie bins would be placed at appropriate locations for each material type for manual loading. These bins would be transferred to the relevant skip storage location.

5.105 Where on-site segregation of waste is not deemed possible due to spatial constraints at the site, the waste carriers would be required to ensure off-site segregation for waste and diversion from landfill is undertaken.

Disposal

5.106 All construction materials that cannot be re-used or recycled or are classified as ‘hazardous’, following the Waste Acceptance Criteria testing, would be disposed of at appropriately licensed disposal facilities. The destination of all waste or other materials from the site would be notified to the relevant authority for approval. Deposition would be in accordance with the requirements of the:

- Environment Agency;
- Environmental Protection Act 1990¹²;
- Controlled Waste (Amended) Regulations 2012¹³;
- Waste Regulations 2011¹⁴;

¹¹ British Standards Institution, 2012. BS 7121:2012 Code of Practice for Safe Use of Cranes. BSI.

¹² Security of State, 1990. Environmental Protection Act 1990. London. HMSO.

¹³ Department of the Environment, Food and Rural Affairs (DEFRA), 2012. Controlled Waste (Amended) Regulations 2012. London. HMSO.

¹⁴ Security of State, 2011. The Waste (England and Wales) Regulations. London. HMSO.

- Hazardous Waste (England and Wales) Regulations 2005¹⁵;
- Duty of Care (Amended) Regulations 2003¹⁶; and
- Environmental Permitting (Amended) Regulations 2015¹⁷.

- 5.107 To provide evidence of licensed tipping and to prevent the likelihood of fly tipping, a docket system would be used. The Applicant and sub-contractors would operate a sequential numbered docket system to confirm that each load has been received at the approved disposal site. Copies of these dockets would be kept at the site and would be available for inspection.
- 5.108 No burning of construction waste would take place on-site.

Summary

- 5.109 The development programme for the proposed development as a whole is projected to be completed by Q4 2029.
- 5.110 The proposed demolition and construction works would have the potential to cause environmental impacts. Mitigation and management measures have been developed during the course of the iterative EIA process.
- 5.111 The information contained in this chapter would inform the framework for the CMP; a draft version has been submitted with the planning application and the final version is to be secured by an appropriately worded planning condition and/or obligations by means of a Section 106 legal agreement.
- 5.112 The CMP would be developed and agreed with MCC and other relevant authorities, prior to the commencement of works and would comply with the mitigation measures set out within this chapter. In addition, works would be delivered under the Considerate Constructors Scheme.
- 5.113 The implementation of mitigation and management measures set out in appropriate documents and relevant chapters of this ES, in conjunction with periodic monitoring to ensure the implementation and effectiveness of proposed measures, would assist in avoiding significant effects from demolition and construction works and in controlling residual effects.
- 5.114 The framework presented within this chapter is embedded mitigation and has formed the basis for the technical impact assessments presented in ES Volume 1 Chapters 6-9 and ES Volume 2.

¹⁵ Department of the Environment, Food and Rural Affairs (DEFRA), 2005. Hazardous Waste (England and Wales) Regulations, 2005. London. HMSO.

¹⁶ Department of the Environment, Food and Rural Affairs (DEFRA), 2003. The Environmental Protection (Duty of Care) (England) (Amendment) Regulations 2003, London. HMSO.

¹⁷ Security of State, 2015. Environmental Permitting (England and Wales) (Amended) Regulations, London. HMSO.

6 DAYLIGHT, SUNLIGHT AND OVERSHADOWING

Introduction

- 6.1 This chapter of the ES reports on the likely significant Daylight, Sunlight and Overshadowing effects to arise from the demolition and construction stage and the completed development stage of the proposed development.
- 6.2 The chapter describes the Daylight, Sunlight and Overshadowing policy context; the methods used to assess the potential impacts and likely effects; the baseline conditions at the site and within the study area; the effects taking into consideration embedded mitigation; the need for additional mitigation and enhancement; the significance of residual effects; and inter-project cumulative effects.
- 6.3 The chapter is supported by the following technical appendices in ES Volume 3:
 - Technical Appendix 6.1: BRE Guidance & Assessment Methodology;
 - Technical Appendix 6.2: Baseline and Proposed Massing Images
 - Technical Appendix 6.3: Tabulated VSC Results (Baseline vs Proposed)
 - Technical Appendix 6.4: Tabulated No Skyline (“NSL”) Results & NSL Contour Plots (Baseline vs Proposed)
 - Technical Appendix 6.5: Time in Sun Plots (Baseline vs Proposed)
 - Technical Appendix 6.6: Baseline & Proposed + Cumulative Massing Images
 - Technical Appendix 6.7: Tabulated VSC Results (Baseline vs Proposed + Cumulative)
 - Technical Appendix 6.8: Tabulated NSL Results & NSL Contour Plots (Baseline vs Proposed + Cumulative)
 - Technical Appendix 6.9: Tabulated APSH Results (Baseline vs Proposed + Cumulative) and
 - Technical Appendix 6.10: Time in Sun Plots (Baseline vs Proposed + Cumulative).

Methodology

- 6.4 The assessment has been informed by the following legislation, policies and published guidance:
 - International Legislation:
 - N/A
 - National Legislation, Policy and Guidance:
 - National Planning Policy Framework (“NPPF”) 2025
 - Regional Policy and Guidance:
 - Places for Everyone Joint Development Plan (2024)
 - Local Policy and Guidance:
 - Manchester City Council Local Development Framework, Core Strategy, July 2012
 - Guide to Development in Manchester Supplementary Planning Document
 - Topic Specific Guidance and Industry Standards:
 - Building Research Establishment (BRE) Guidance Note Site Layout Planning for Daylight & Sunlight: A Guide to Good Practice (2022) (“the BRE Guidance”)
- 6.5 The above acknowledge that town and city centres, and other locations with proximity to transport links, are appropriate locations for higher density of development. Planning policy and the BRE Guidance acknowledge that guidelines regarding daylight and sunlight should be applied flexibly in such locations.

Consultation

- 6.6 Table 6.1 summarises the consultation that has been undertaken with respect to the (topic chapter) assessment.

Table 6.1: Summary of Consultation		
Consultee and Form/Date of Consultation	Summary of Comments	Where in this Chapter Comments are addressed
EIA Scoping Opinion		
	Scoping Opinion notes that the comments (regarding receptors) are acceptable.	N/A
Other Consultation		
None	N/A	N/A

- 6.7 Following a site inspection, additional receptors are identified as worthy of impact appraisal. These buildings are included in the list of buildings noted below in the Technical Scope section.

Assessment Scope

- 6.8 The assessment of daylight, sunlight and overshadowing amenity impacts has been undertaken in accordance with the provisions of the BRE Guidance, cited above.
- 6.9 Professional judgement and experience have been employed in the identification of sensitive receptors and the interpretation of technical analysis results.

Technical Scope

- 6.10 The assessment of impacts on the daylight and sunlight amenity of the buildings above has been made with reference to the following:
 - Vertical Sky Component (“VSC”) – a measure of sky visibility (from which daylight is derived) and daylighting potential, calculated at the midpoint of a window
 - The measurement of the ‘No Sky Line’ (“NSL”) – a contour line separating those parts of a room that receive direct skylight from that part which does not
 - Probable Sunlight Hours received by neighbouring habitable rooms, measured both annually (“APSH”) and during the Winter months (“WPSH”);
 - Time in Sun – the extent to which an external amenity area receives 2 hours of direct sunlight on 21 March. Used to determine whether an external amenity space would appear to adequately sunlit throughout the year and be substantially free of permanent shade.

Spatial Scope

- 6.11 In identifying the Study Area, the BRE Guidance has been used.
- 6.12 The Guidance emphasises the assessment of residential accommodation, specifically habitable rooms within residential buildings. A non-residential building may be assessed if there is a reasonable expectation of daylight and sunlight, such as hospitals or schools. Commercial office buildings are not typically considered to be daylight and sunlight receptors requiring impact assessment.

- 6.13 The appropriate study area has been defined following a Site inspection and research to identify neighbouring buildings of residential use, with the application of professional judgement to consider which neighbouring buildings within 250m of the site rely on the site for the receipt of daylight and sunlight, warranting further technical appraisal.
- 6.14 The technical scope of the assessment has considered the following neighbouring receptors:
- Britton House, 21 Lord Street, Manchester M4 4FN;
 - Jefferson Place, 1 Fernie Street, Manchester M4 4AZ;
 - The Hallmark, 6 Cheetham Hill Road, Manchester M4 4GA;
 - Melia House, 19 Lord Street, Manchester, M4 4AX;
 - Barton Place, 3 Hornbeam Way, Manchester, M4 4AT
 - Masson Place, 1 Hornbeam Way, Manchester M4 4AJ
 - St. Chad’s Presbytery, Stocks Street, Manchester, M8 8GG
 - Area of lawn associated with Britton House
 - Garden and landscaping associated with St Chad’s Presbytery
- 6.15 Rooms within the above buildings that are understood to be of non-habitable use (based on site inspection or room layout research) are excluded from the assessment.

Temporal Scope

- 6.16 The assessment has considered only those impacts arising from the completed development stage which would be expected to be permanent and long-term in nature (i.e. more than 10 years).
- 6.17 Demolition and construction stage impacts on daylight and sunlight amenity have not been assessed, on the basis that they are temporary. Impacts are progressive, in that they evolve as the proposed development is constructed towards the completed development stage impacts identified.

Baseline Characterisation Method

Desk Study

- 6.18 To establish baseline conditions in the study area, relevant data was reviewed and assessed. Data was obtained from the following sources:
- Point Cloud survey
 - Photogrammetric model of the site and surroundings
 - 3D AutoCAD model of the proposed development

Field Study

- 6.19 Site inspection was undertaken to identify the daylight and sunlight receptors assessed as part of this Chapter.

Assessment Method

Demolition and Construction Stage

- 6.20 As any potential daylight and sunlight effects relating to Demolition and Construction stages will gradually increase to the potential effects identified for the completed proposed development, the interim construction effects have not been assessed, as it is considered that the completed proposed development represents the worst-case assessment in terms of likely daylight and sunlight impacts.
- 6.21 During the construction phase, the daylight and sunlight effects will gradually change from the baseline condition to those impacts (where present) with the proposed development in place, which is described below in the operational phase.

Completed Development Stage

- 6.22 The assessment has been undertaken in accordance with the provisions of the BRE Guidance document Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice.
- 6.23 Where appropriate, a technical analysis exercise has been undertaken and the daylight and sunlight conditions, as existing and proposed, have been assessed with reference to the following tests:
- Vertical Sky Component (“VSC”)
 - The No Sky Line (“NSL”)
 - Annual Probable Sunlight Hours (“APSH”) and Winter Probable Sunlight Hours (“WPSH”)
 - External Amenity Space Time in Sun
- 6.24 The BRE Guidance sets out numerical targets for each of the above.
- 6.25 The BRE Guidance states that these numerical targets are not, however, mandatory and that Alternative Targets may be set to reflect the City Centre context of the Site.
- 6.26 It is the opinion of Proximity that Alternative VSC, APSH and WPSH targets can be set for this site, applying BRE principles. Further information on how alternative daylight and sunlight targets have been set is included at Appendix 6.1.
- 6.27 The unmodified BRE targets for daylight and sunlight are set out below, along with the Alternative Targets established for areas of current and future high density, established through application of BRE principles.

Table 6.2: Daylight and Sunlight Targets		
Metric	BRE Target - Unmodified	Alternative Target for High Density Environments
VSC	27%	21.6%
NSL	At least 0.8x baseline	n/a
APSH	25%	20%
WPSH	5%	4%
Time in Sun	2 Hours	N/a

Cumulative Stage

- 6.28 For impact assessment in the Cumulative Condition, the same criteria will be assessed as the Completed Development Stage, with the massing of the relevant cumulative developments included.

Assessment Criteria

- 6.29 The criteria used to assess if an effect is significant or not, is set out in subsequent sub-sections. This is determined by consideration of the sensitivity of the receptor, magnitude of impact and scale of the effect. In considering the significance of an effect, consideration has been given to the duration of the effect, the geographical extent of the effect and the application of professional judgement.

Receptor Sensitivity/Value Criteria

- 6.30 Having identified the relevant receptors, it is necessary to consider their sensitivity to reductions in daylight and sunlight. The general methodology that Proximity has adopted for determining sensitivity to a measured magnitude of change is tabulated below.

Table 6.3: Receptor Sensitivity Criteria	
Sensitivity	Criteria
Low	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Medium	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
High	The receptor/resource is tolerant of change without detriment to its character, is of low or no local importance.

- 6.31 The BRE Guidance emphasises the availability of daylight and sunlight to living rooms and daylight to bedrooms and family kitchens.
- 6.32 The BRE does not impose a hierarchy of habitable rooms, i.e., confirm whether one habitable room should receive more light than another, but in real terms, such a hierarchy does exist and that hierarchy should be borne in mind when considering and evaluating the impact that the proposed development might have on the availability of light in a City Centre environment.
- 6.33 The above general methodology has been developed further below to establish the following window sensitivity matrix, informed in part by the BRE Guidance, and, based on the function or use of the rooms behind each of the windows that have been assessed.

Table 6.4: Receptor Sensitivity Criteria		
Room Use	Daylight Sensitivity	Sunlight Sensitivity
Living Room / Combined Living, Kitchen & Dining ("LKD")	High	High
Kitchen / Dining	Medium	Low
Bedrooms	Medium / Low	Low
Student Accommodation	Low	Low
Communal Kitchens	Low	Low
Circulation Space	n/a	n/a
Toilets / Bathrooms	n/a	n/a
Commercial Uses	n/a	n/a

Impact Magnitude Criteria

- 6.34 It is possible to reduce the amount of daylight and / or sunlight that a window currently receives without that reduction amounting to a material / significant or adverse impact on the existing amenity enjoyed. The following has been used as a methodology for determining the magnitude of impact in evaluating the results of the technical study.
- 6.35 Magnitudes of change are defined below

Table 6.5: Impact Magnitude Criteria	
Magnitude of Impact	Criteria
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

Table 6.5: Impact Magnitude Criteria	
Magnitude of Impact	Criteria
	From a measurement perspective this will include any reduction in amenity of up to 20% less than the existing or baseline values. i.e., retained values in the Proposed condition will be at least 0.8x baseline values.
Low	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstance/situation. From a measurement perspective this will include any reduction in amenity of between 20-30% of the existing or baseline values.
Medium	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed. From a measurement perspective this will include any reduction in amenity of between 30-40% of the existing or baseline values.
High	Total loss or major/substantial alteration to key element/features of the baseline (pre-development) conditions such that the post development character/composition/attributes will be fundamentally changed. From a measurement perspective this will include any reduction in amenity of in excess of 40% of the existing or baseline values.

Scale of Effect Criteria

.Impacts have been assessed based on the value/sensitivity of receptors against the magnitude of impact to determine the scale of effect as presented in Table 6.6.

Table 6.6: Scale of Effect Criteria			
Magnitude of Impact	Sensitivity of Receptors		
	Low	Medium	High
Low	Negligible Adverse - Minor	Negligible Adverse - Minor	Minor
Medium	Negligible Adverse - Minor	Minor	Moderate
High	Minor	Moderate	Major

- 6.36 Based on professional judgement, moderate and major effects are considered significant in EIA terms.
- 6.37 In determining the significance of reported effects, consideration has been given to the type of effect i.e. direct, indirect or secondary, the geographical extent of the effect and the duration of the effect i.e. temporary which is considered to be either short term (up to five years) or medium term (5-10 years) or permanent (10 years or more).
- 6.38 All effects identified in this chapter are permanent, long term and direct. Each impact identified will confirm the significance of the effect and whether it is Negligible, Minor, Moderate or Major.

Application of the BRE Guidance in Environmental Impact Assessment

- 6.39 Appendix H of the BRE Guidance outlines how the guidelines within can be applied in the context of Environmental Impact Assessment.
- 6.40 It notes several factors that tend towards a minor adverse impact, including only a small number of windows are affected; loss of light is marginally outside of the guidelines; a receptor has a low-level requirement for daylight or sunlight; other reasons, such as a window standing unusually close to a boundary.
- 6.41 The BRE Guidance also notes factors tending towards a major adverse impact. Such factors include a large number of windows being affected; loss of light is substantially outside of the guidelines; all the windows in a particular property are affected.
- 6.42 Notwithstanding the above generalisation of an impact, a reduction in daylight and sunlight amenity will at all times be subject to the BRE general compliance criteria, as follows:
- If the BRE targets are met in the Proposed condition, then any reduction in daylight and sunlight will not be considered significant.
 - Where the BRE targets are not achieved in the Baseline condition, a retention of 0.8x baseline values in the Proposed Condition will not be considered significant. In accordance with the BRE Guidance, such a reduction is unlikely to be noticed by the room occupants.
 - A 20% reduction of the measured baseline NSL value (i.e., retention of 0.8x baseline value) will not have a material impact, on the grounds that such a reduction would not be noticed by the room occupants.
 - As confirmed earlier in this Chapter, it is the professional opinion of Proximity that a VSC of 21.6% is within an acceptable tolerance of the BRE targets, given the City Centre context of the Site.
- 6.43 As confirmed earlier in this Chapter, it is the professional opinion of Proximity that a 4% winter and 20% annual APSH result is within an acceptable tolerance of the BRE targets, given the City Centre context of the site.

Nature of Effect Criteria

- 6.44 The nature of the effect has been described as either adverse, neutral or beneficial as follows:
- Beneficial – An advantageous effect to a receptor;
 - Neutral – An effect that on balance, is neither beneficial nor adverse to a receptor or is equally beneficial and adverse to a receptor; or
 - Adverse – A detrimental effect to a receptor.

Assumptions and Limitations

- 6.45 Proximity has inspected the site and its surroundings to identify the window provision of the neighbouring buildings that overlook the site (to the extent that such windows are capable of being observed from the adjacent public highways). This has been supplemented with Google Earth Imagery.
- 6.46 The interior of the neighbouring buildings considered as part of Chapter have not been inspected. It has, therefore, been necessary to make assumptions regarding the arrangement of the neighbouring rooms. These assumptions have, where possible, been informed by information available from Manchester City Council’s Public Access Planning Portal, as well as other online sources available in the public domain including Land Registry plans and sales particulars, noted below:
- Britton House – MCC Ref. 82191/FO/2007/N1
 - Jefferson Place – Leaseplans available from Land Registry

- 6.47 The height between the internal floor level and the windowsill in each room of the neighbouring buildings will influence the position of the working plane, which is the level at which the internal distribution of skylight is measured. The position of the working plane has been assumed.
- 6.48 On the basis that the neighbouring buildings have not been inspected, assumptions have also been made to their use and function. Assumptions have been primarily influenced by observations made during the Site inspection. Neighbouring buildings of residential use have also been identified by reference to Valuation Office Agency records – neighbouring buildings with a Council Tax Band being of residential use.

Baseline Conditions
Existing Baseline

- 6.49 The site is currently an open parcel of land, bounded by Fernie, Street, Lord Street, Cheetham Hill Road and the neighbouring petrol station.
- 6.50 The daylight and sunlight amenity of a given receptor is influenced by the massing of land, buildings and structures surrounding it
- 6.51 On the basis that it is free of any massing, there are no obstructions on the site to daylight and sunlight amenity of the neighbouring buildings.
- 6.52 The area to the west and north of the site is characterised by low-rise, low-density buildings of commercial use. To the east and south of the site are tall buildings, built in close proximity to one another. These buildings have a limiting effect on daylight and sunlight amenity of the area generally due to their height and the density of the local environment.
- 6.53 The measured daylight and sunlight amenity of the neighbouring receptors in the baseline condition is tabulated below:

Table 6.7: Daylight Amenity in Baseline Condition		
Receptors	Windows (%) which achieve VSC target	Windows (%) below VSC target
Britton House	114 windows (43%)	149 windows (57%)
Jefferson Place	258 windows (36%)	458 windows (64%)
The Hallmark	45 windows (24%)	142 windows (76%)
Melia House	0 windows (0%)	75 windows (100%)
Barton Place	2 windows (2%)	95 windows (98%)
Masson Place	3 windows (10%)	27 windows (90%)
St. Chad’s Presbytery	23 windows (92%)	2 windows (8%)

- 6.54 Sunlight amenity of the neighbouring receptors in the Baseline Condition is tabulated below:

Table 6.8: Sunlight Amenity in Baseline Condition		
Receptors	Rooms (%) which achieve APSH and WPSH targets	Rooms (%) which do not achieve APSH and WPSH targets
Britton House	117 rooms (79%)	32 rooms (21%)
Jefferson Place	n/a	n/a
The Hallmark	n/a	n/a
Melia House	n/a	n/a

Table 6.8: Sunlight Amenity in Baseline Condition		
Receptors	Rooms (%) which achieve APSH and WPSH targets	Rooms (%) which do not achieve APSH and WPSH targets
Barton Place	n/a	n/a
Masson Place	n/a	n/a
St. Chad’s Presbytery	6 rooms (100%)	0 rooms (0%)

Future Baseline

- 6.55 No separate impact assessment has been undertaken for a Future Baseline Condition.
- 6.56 Where neighbouring developments have commenced on site and are not remote from the site, and therefore an influence on daylight and sunlight amenity, their massing has been included within the Baseline Condition.
- 6.57 This on the basis that any such buildings will have been constructed before the proposed development..
- 6.58 Planning approved developments that are close enough to the site to be relevant, but of which construction is yet to commence, are included as massing in the Cumulative impact assessment, covered later in this chapter.

Sensitive Receptors

- 6.59 The receptors identified as sensitive to the construction of the proposed development, and which have been ‘scoped-in’ to the assessment, are the Living Rooms, Living-Kitchen-Dining (“LKD”) rooms and bedrooms of the neighbouring building summarised in Table 6.9.

Table 6.9: Summary of Sensitive Receptors	
Receptor	Sensitivity
Britton House	LKDs - Daylight and Sunlight – High Sensitivity Bedrooms – Low Sensitivity
Jefferson Place	LKDs - Daylight and Sunlight – High Sensitivity Bedrooms – Low Sensitivity
The Hallmark	LKDs - Daylight and Sunlight – High Sensitivity Bedrooms – Low Sensitivity
Melia House,	LKDs - Daylight and Sunlight – High Sensitivity Bedrooms – Low Sensitivity
Barton Place	LKDs - Daylight and Sunlight – High Sensitivity Bedrooms – Low Sensitivity
Masson Place	LKDs - Daylight and Sunlight – High Sensitivity Bedrooms – Low Sensitivity
St. Chad’s Presbytery	LKDs - Daylight and Sunlight – High Sensitivity Bedrooms – Low Sensitivity
External Amenity areas of Britton House and St Chad’s Presbytery	High – Sunlight only

- 6.60 Based on our professional judgement, no other buildings in the vicinity merit impact assessment. This is on the basis that they are either not of residential use or, where residential rooms are present, their

spatial relationship with the site means that the proposed development will have a Negligible impact on daylight and sunlight amenity.

Assessment of Effects

Demolition and Construction Effects

- 6.61 As any potential daylight and sunlight effects relating to Demolition and Construction stages will gradually increase to the potential effects identified for the completed proposed development, the interim construction effects have not been assessed, as it is considered that the completed proposed development represents the worst-case assessment in terms of likely daylight and sunlight.
- 6.62 During the construction phase, the daylight and sunlight effects will gradually change from the baseline condition to those impacts (where present) with the proposed development in place, which is described below in the operational phase.

Completed Development Effects - Daylight

- 6.63 Impacts on daylight amenity of St Chad’s Presbytery are considered to be Negligible Adverse and Not Significant. All rooms would achieve the VSC target; all rooms would pass the NSL test.
- 6.64 Impacts on daylight amenity that merit a more in-depth review and consideration have been identified to the following neighbouring buildings:
- Britton House
 - Jefferson Place
 - The Hallmark
 - Melia House
 - Barton Place
 - Masson Place

- 6.65 Impacts on daylight amenity of these neighbouring buildings are explained in greater detail below.

Britton House

- 6.66 In the Baseline Condition, 114 windows (43%) would achieve the BRE’s VSC target of 27%. 149 windows (57%) would not achieve the 27% VSC target. Those windows which do not achieve the target in the Baseline Condition are limited in VSC by the massing of the adjacent Jefferson Place and Barton Place buildings.
- 6.67 In the Proposed Condition, 154 windows (59%) achieve the VSC target, or retain VSC values that are at least 0.8x baseline values.
- 6.68 A further 3 windows (1%) would achieve VSCs of at least 21.6% and therefore achieve the Acceptable Tolerance Alternative Target set with reference to the City Centre / City Centre Fringe location.
- 6.69 106 windows (40%) would not achieve the Acceptable Tolerance Target of 21.6%. The majority of these windows (81 of 106 windows) would experience Major magnitudes of change. These windows typically serve two bedrooms and two LKD rooms located in that part of Britton House directly overlooking the site. Regarding these impacts:
- 6.70 Given the site is free of any massing, major magnitudes of change are reasonably contemplated and likely unavoidable in any redevelopment of the site in keeping with the adjacent buildings.
- Bedrooms are a low sensitivity daylight receptor and even major magnitudes of change to low sensitivity receptors are considered a to be of a Minor Adverse Significance of Impact.

- 6.71 All LKD rooms are also served by other windows which do not overlook the site and which receive daylight from other directions. All of these LKD rooms, bar one, pass the NSL test. The LKD which does not experiences only a low magnitude of change in NSL.
- Impacts on these LKD rooms (a high sensitivity daylight receptor) are considered to be Minor Adverse.
- 6.72 Of the 192 rooms appraised in Britton House, 163 rooms (85% of rooms appraised) would pass the NSL test, experiencing negligible reductions in NSL which are unlikely to be noticeable to the room occupants.
- 6.73 Of the 29 rooms which do not pass the NSL test:
- one is an LKD room which experiences a low magnitude of change.
 - 28 are bedrooms. 14 of these experience a low magnitude of change, 14 would experience a major magnitude of change.
 - On the basis that bedrooms which are a low sensitivity receptor 53 rooms (26% of rooms appraised) would experience major magnitudes of change in NSL.
- 6.74 Overall, given the localised nature of the impacts, which are predominantly present to bedrooms (a low sensitivity receptor), the proposed development will result in a **Minor Adverse** effect on the daylight amenity of Britton House.

Jefferson Place

- 6.75 In the Baseline Condition, 258 windows (36%) would achieve the BRE's VSC target of 27%. 458 windows (64%) would not achieve the 27% VSC target. The VSC of those windows which do not achieve the target in the Baseline Condition are limited by:
- the massing of the adjacent Britton House buildings; and
 - projecting parts of its own massing and the presence of balconies both of which reduce sky visibility and therefore VSC in the baseline condition.
- 6.76 In the Proposed Condition, 487 windows (68%) achieve the VSC target, or retain VSC values that are at least 0.8x baseline values.
- 6.77 A further 48 windows (7%) would achieve VSCs of at least 21.6% and therefore achieve the Acceptable Tolerance Alternative Target, set with reference to the City Centre / City Centre Fringe location.
- 6.78 181 windows (25%) would not achieve the Acceptable Tolerance Target of 21.6%. Of these 181 windows:
- 49 would experience low magnitudes of change;
 - 38 would experience moderate magnitudes of change;
 - 94 would experience a high magnitudes of change.
- 6.79 Of the 401 rooms appraised in Jefferson Place, 374 rooms (93% of rooms appraised) would pass the NSL test, experiencing negligible reductions in NSL which are unlikely to be noticeable to the room occupants.
- 6.80 Of the 27 rooms which do not pass the NSL test:
- 15 would experience a low magnitude of impact.
 - 12 would experience a medium magnitude of impact.
- 6.81 The impact on the majority of this neighbouring building, being those parts which do not overlook the site directly, is either of Negligible or Minor Adverse significance.
- 6.82 There are impacts on rooms in Jefferson Place that are of a moderate and major Scale of Effect, typically localised to those parts closest the site.
- 6.83 Whilst these rooms are a minority of the building as a whole, when considered with reference to the BRE Guidance, these rooms:

- Are more than a 'small number' of windows and rooms; and
- Would experience high magnitudes of impact are 'substantially outside of the guidelines'.

- 6.84 On that basis, it is considered that the effect on Jefferson Place is **Moderate Adverse** and therefore significant.

The Hallmark

- 6.85 In the Baseline Condition, 45 windows (24%) would achieve the BRE's VSC target of 27%. 142 windows (76%) would not achieve the 27% VSC target. Those windows which do not achieve the target in the Baseline Condition are limited in VSC by the massing of the adjacent Jefferson Place and projecting parts of its own massing adjacent to windows. This adjacent massing limits sky visibility and therefore VSC values in the Baseline Condition.
- 6.86 In the Proposed Condition, 166 windows (89%) achieve the VSC target, or retain VSC values that are at least 0.8x baseline values.
- 6.87 21 windows (11%) would not achieve the 27% VSC target, nor the Acceptable Tolerance Target of 21.6%. Of these:
- 11 would experience low magnitudes of impact;
 - 3 would experience moderate magnitudes of impact;
 - 7 would experience a high magnitudes of impact.
- 6.88 All 127 rooms appraised (100%) in The Hallmark, would pass the NSL test, experiencing negligible reductions in NSL which are unlikely to be noticeable to the room occupants.
- 6.89 Overall, the effect on The Hallmark is **Minor Adverse** and therefore Not Significant. Impacts, where present, are to a small number of rooms and of those only a small portion are of medium and high magnitude of impact. Given the small number of windows affected, in accordance with the BRE Guidance these effects are considered to be a 'tending towards a minor adverse impact'.

Melia House

- 6.90 In the Baseline Condition, none of the 75 windows appraised (100%) achieve the BRE's VSC target of 27%. These windows are limited in VSC by the massing of the adjacent Britton House, Jefferson Place and adjacent projecting parts of Melia House's own massing. This adjacent massing limits sky visibility and therefore VSC values in the Baseline Condition.
- 6.91 In the Proposed Condition, 66 windows (88%) would retain VSC values that are at least 0.8x baseline values.
- 6.92 9 windows (12%) would not achieve the VSC target of 27% nor the Acceptable Tolerance Target of 21.6%. Of these 9 windows
- All 9 of these serve rooms also served by another window which retains a high proportion of Baseline VSC.
 - 8 serve rooms that experience only a low magnitude of impact in NSL (i.e. daylight distribution within the room).
 - Reductions in VSC are, in real terms, small and between 1% and 5%.
- 6.93 43 rooms of 55 appraised (78%) in Melia House, would pass the NSL test, experiencing negligible reductions in NSL which are unlikely to be noticeable to the room occupants.
- 6.94 Of the remaining 12 rooms, 11 would experience only low magnitudes of impact in NSL; one would experience a medium magnitude of impact.
- 6.95 Overall:

- These rooms assessed are a minority of Melia House rooms as a whole;
 - Effects on VSC and NSL are predominantly of low magnitude of impact, or are to rooms served by more than one window
- 6.96 In accordance with the BRE Guidance, these factors tend towards a minor adverse impact. The Scale of Effect on daylight amenity of Melia House is therefore **Minor Adverse** and not significant.

Barton Place

- 6.97 The majority of windows and rooms in Barton Place would have no view of the proposed development. Impacts assessment of Barton Place focusses on those window and rooms which will see the proposed development between Jefferson Place and Britton House.
- 6.98 In the Baseline Condition, 2 windows (2%) would achieve the BRE’s VSC target of 27%. 95 windows (98%) would not achieve the 27% VSC target. Those windows which do not achieve the target in the Baseline Condition are limited in VSC by the massing of the adjacent Jefferson Place, Britton House and Melia House. These adjacent buildings limit sky visibility and therefore VSC values to windows of Barton Place in the Baseline Condition.
- 6.99 In the Proposed Condition, 67 windows (69%) either achieve the VSC target, or retain VSC values that are at least 0.8x baseline values.
- 6.100 30 windows (11%) would not achieve the 27% VSC target, nor the Acceptable Tolerance Target of 21.6%. Of these:
- 14 would experience low magnitudes of impact;
 - 7 would experience moderate magnitudes of impact; and
- 6.101 9 would experience a high magnitude of impact.
- 6.102 All windows experiencing a high magnitude of change in VSC have low to very low baseline VSC values (2% to 10%). This means that even small, ‘real terms’ reduction in VSC appear proportionally more significant. Reductions in VSC of these windows is generally small (less than 5%). Further, the rooms served by these windows (bar one) are each served by at least one other window.
- 6.103 33 rooms of 78 rooms appraised in Barton Place (42%), would pass the NSL test, experiencing negligible reductions in NSL which are unlikely to be noticeable to the room occupants.
- 6.104 45 rooms (58%) would not pass the NSL test, experiencing reductions that could be noticeable to the occupants.
- 6.105 Of these 45 rooms which do not pass the NSL test:
- 8 would experience a low magnitude of impact.
 - 11 would experience a medium magnitude of impact.
 - 26 would experience a high magnitude of impact.
- 6.106 Overall, the Scale of Effect of the proposed development on daylight amenity of Barton Place is considered to be **Moderate Adverse**. Whilst the majority of this neighbouring building will experience Negligible or No adverse impact on daylight amenity, impacts of up to medium and major significance will be experienced by a small but significant minority of its rooms.

Masson Place

- 6.107 The majority of windows and rooms in Masson Place would have no view of the proposed development. Impacts assessment of Masson Place focusses on those window and rooms which will see the proposed development past Barton Place and between Jefferson Place, Britton House.
- 6.108 In the Baseline Condition, 3 windows (10%) of the 30 appraised would achieve the BRE’s VSC target of 27%. 27 windows (90%) would not achieve the 27% VSC target. Those windows which do not achieve

the target in the Baseline Condition are limited in VSC by the massing of the adjacent Barton Place and Melia House and, to a lesser extent, Britton House. These adjacent buildings limit sky visibility and therefore VSC values to windows of Masson Place in the Baseline Condition.

- 6.109 In the Proposed Condition, 26 windows (87%) either achieve the VSC target, or retain VSC values that are at least 0.8x baseline values.
- 6.110 4 windows (13%) would not achieve the 27% VSC target, nor the Acceptable Tolerance Target of 21.6%. Of these:
- 3 would experience low magnitudes of impact.
 - 1 would experience moderate magnitude of impact.
- 6.111 All four of these windows achieve very low VSC levels in the Baseline Condition. As a result of the proposed development, VSC reductions to each of these four windows is less than 1% VSC. In real terms such small reductions in VSC are unlikely to be noticeable to room occupants.
- 6.112 4 rooms of 10 rooms appraised in Masson Place (40%), would pass the NSL test, experiencing negligible reductions in NSL which are unlikely to be noticeable to the room occupants.
- 6.113 6 rooms (60%) would not pass the NSL test, experiencing reductions that could be noticeable to the occupants.
- 6.114 Of these 6 rooms which do not pass the NSL test:
- 1 would experience a low magnitude of impact.
 - 2 would experience a medium magnitude of impact.
 - 3 would experience a high magnitude of impact.
- 6.115 Overall, the Scale of Impact of the proposed development on daylight amenity of Masson Place is considered to be **Minor Adverse** and not significant.
- 6.116 The significant majority of this neighbouring building will experience Negligible or No adverse impact on daylight amenity, and of those parts where impacts are present these impacts are, in real terms, small.
- Completed Development Effects – Sunlight to Buildings**
- 6.117 In accordance with the BRE Guidance, windows serving habitable rooms have only been appraised if they face within 90 degrees of due south.
- 6.118 Windows that are more than 90 degrees from due south (i.e., north-west, north and north-east facing) have a limited expectation of direct sunlight due to their orientation, and do therefore not merit sunlight amenity impact appraisal.
- 6.119 In accordance with the BRE Guidance, where the proposed development is wholly to the north (i.e. more than 90 degrees from due south) of neighbouring main window, the proposed massing will have no impact on sunlight amenity.
- 6.120 Britton House and St Chad’s Presbytery are the only receptors that have rooms served by south facing windows that merit impact appraisal.
- 6.121 The windows of all other receptors are either:
- 6.122 Located to the south of the site, meaning that they do not receive direct sunlight over the site; or
- are oriented more than 90 degrees from due south, meaning that they have limited capacity to receive direct sunlight and, in accordance with the BRE Guidance, do not require impact assessment.
- 6.123 The effect on the proposed development on the sunlight amenity of these neighbouring receptors is therefore **Negligible Neutral** and Not Significant.
- 6.124 St Chad’s Presbytery and Britton House are assessed in more detail below.

St Chad’s Presbytery

- 6.125 In the baseline condition, all 6 rooms (100%) would achieve both the annual and winter sunlight targets.
- 6.126 In the Proposed Condition, all 6 rooms (100%) would continue to achieve the Winter and Annual sunlight targets. The effect of the proposed development on sunlight amenity of the rooms of this building are **Negligible Adverse** and therefore Not Significant.

Britton House

- 6.127 In the Baseline Condition, 117 rooms (79%) of 149 appraised would achieve both the annual and winter sunlight targets. 21 rooms (14%) would achieve either the annual or winter sunlight target, but not the other. 11 rooms (7%) would achieve neither sunlight target.
- 6.128 In the Proposed Condition, 138 rooms (93%) would achieve the Annual sunlight targets or retain at least 0.8x baseline sunlight values. 10 of these remaining rooms are LKD rooms experiencing high magnitudes of impact; one is a bedroom experiencing low magnitude of impact. Of these 11 rooms:
- Two LKDs and one bedroom achieve APSH values of 21% - a figure that is within a perceived ‘Acceptable Tolerance’ of the BRE target of 25%, given the high density City Centre environment.
 - The remaining 8 LKD rooms are served by multiple windows. The only south facing window to each of these rooms is, however, located immediately adjacent to a projecting ‘stepped out’ part of Britton House with a balcony present to each floor level. These design features of Britton House are an obstruction to direct sunlight and they place an inherent limitation on the receipt of direct sunlight for part of the day (and therefore the sunlight amenity of these rooms).
- 6.129 On the basis that the site is currently an open parcel of land, it is reasonably foreseeable that any development of the site will result in the presence of High magnitudes of impact.
- 6.130 All 148 rooms appraised (100%) would achieve the Winter sunlight targets or retain at least 0.8x baseline winter sunlight values.
- 6.131 Overall, as a result of the construction of the proposed development, the Scale of Effect on the sunlight amenity of Britton House in **Minor Adverse** and therefore not significant.
- 6.132 The proposed development will have an effect on sunlight amenity of a small number of rooms, and in accordance with the BRE Guidance, this tends towards a minor adverse impact.

Completed Development Effects Sunlight to External Amenity Spaces

- 6.133 The gardens associated with St Chad’s Presbytery and the areas of lawn associated with Britton House are identified as external amenity spaces in the vicinity of the site worthy of Time in Sun Impact assessment.
- 6.134 In the Baseline Condition both spaces are well sunlit, achieving 2 Hours Time in Sun to 100% of their respective areas.
- 6.135 In the Proposed Condition, neither space will experience any reduction in the extent to which they achieve 2 Hours Time in Sun. Effects of the proposed development on the sunlight amenity of these external spaces is **Negligible Neutral** and not significant.

Assessment of Residual Effects

Additional Mitigation

Demolition and Construction Stage

- 6.136 No additional mitigation measures have been developed for the demolition and construction stage of the proposed development.

Completed Development Stage

- 6.137 None proposed.

Enhancement Measures

- 6.138 No enhancement measures are proposed in respect of Daylight, Sunlight and Overshadowing.

Demolition and Construction Residual Effects

- 6.139 Not applicable.

Completed Development Residual Effects

- 6.140 As no additional mitigation is contemplated, the residual completed development effects remain as reported in the assessment of effects section.

Summary of Residual Effects

- 6.141 Table 6.10 provides a tabulated summary of the outcomes of the assessment of the proposed development.

Table 6.10: Summary of Residual Effects								
Receptor	Description of Residual Effect	Additional Mitigation	Scale and Significance of Residual Effect **	Nature of Residual Effect*				
				+ +/- -	D I	P T	R IR	St Mt Lt
Demolition and Construction								
N/A								
Completed Development								
St Chad’s Presbytery	Reduction in daylight amenity	None proposed	Negligible Adverse	+/-	D	P	IR	Lt
Britton House	Reduction in daylight amenity	None proposed	Minor Adverse	-	D	P	IR	LT
Jefferson Place	Reduction in daylight amenity	None proposed	Moderate Adverse	-	D	P	IR	LT
The Hallmark	Reduction in daylight amenity	None proposed	Minor Adverse	-	D	P	IR	LT
Melia House	Reduction in daylight amenity	None proposed	Minor Adverse	-	D	P	IR	LT
Barton Place	Reduction in daylight amenity	None proposed	Moderate Adverse	-	D	P	IR	LT
Masson Place	Reduction in daylight amenity	None proposed	Minor Adverse	-	D	P	IR	LT
Britton House	Reduction in sunlight amenity	None proposed	Minor Adverse	+/-	D	P	IR	LT
St Chad’s Presbytery	Reduction in sunlight amenity	None proposed	Negligible Adverse	+/-	D	P	IR	LT

Table 6.10: Summary of Residual Effects								
Receptor	Description of Residual Effect	Additional Mitigation	Scale and Significance of Residual Effect **	Nature of Residual Effect*				
				+ +/- -	D I	P T	R IR	St Mt Lt
Britton House – Lawn	Reduction in sunlight amenity	None proposed	Negligible Neutral	+/-	D	P	IR	LT
St Chad’s Presbytery - Gardens	Reduction in sunlight amenity	None proposed	Negligible Neutral	+/-	D	P	IR	LT
Notes: * - = Adverse/ + = Beneficial/ +/- = Neutral; D = Direct/ I = Indirect; P = Permanent/ T = Temporary; R = Reversible/ IR = Irreversible; St = Short-term/ Mt = Medium-term/ Lt = Long-term. **Negligible/Minor/Moderate/Major								

6.142 In general terms, the proposed development aligns with the broader principle of high density found in the immediate vicinity of the Site. The neighbouring buildings of the Green Quarter, clustered between Cheetham Hill Road to the west and Redbank to the east, are also of high density and low spacing to height ratio.

6.143 It is therefore reasonably contemplated that any redevelopment of the site with buildings of comparable scale to the other buildings of the Green Quarter is likely to result in adverse impacts on daylight amenity. Per planning policy and the BRE Guidance, guidelines for daylight and sunlight amenity should be flexibly applied in such circumstance.

Cumulative Effects

Intra-Project Effects

6.144 As explained in Chapter 2: EIA Process and Methodology, intra-project cumulative effects are discussed in Chapter 10: Cumulative Effects.

Inter-Project Effects

6.145 Table 6.11 provides a summary of the likely cumulative effects resulting from the proposed development and the cumulative developments within the study radius for daylight and sunlight.

Table 6.11: Inter-Project Cumulative Effects		
Cumulative Development	Completed Development	
	Cumulative Effects Likely?	Reason
No.1 Park Place	Yes	Massing may affect daylight and sunlight to some of the same windows and rooms as the proposed development. There is however a limited or no view of this proposed building from many of the receptor windows.
33-41 Cheetham Hill Road	Yes	This proposed building is directly overlooked by the windows of Jefferson Place and seen through windows of Hallmark and Britton House. Its massing and the proposed development massing will together affect daylight amenity of these buildings

Table 6.11: Inter-Project Cumulative Effects		
Cumulative Development	Completed Development	
	Cumulative Effects Likely?	Reason
Red Bank Victoria	No	The majority of windows through which the proposed development will be seen have either limited or no view of the massing of this Cumulative development.

6.146 All other planning approved developments in the vicinity are either too far away from the identified receptors, or will not be seen due to other massing, meaning that they have no material influence on the Cumulative Assessment.

Demolition and Construction Cumulative Effects

6.147 As above, effects of the Demolition and Construction Stages have not been considered.

Completed Development Cumulative Effects - Daylight

The overall proportion of windows and rooms which achieve the BRE targets is compared below. From this it can be seen where cumulative effects are present. Table 6.12: Proposed vs Cumulative Condition – Windows which achieve BRE targets.			
Receptors	Windows (%) which achieve VSC target	Cumulative Windows (%) below VSC target	Possible Cumulative Impact on VSC (Y/N)
Britton House	154 windows (59%)	113 windows (43%)	Yes
Jefferson Place	487 windows (68%)	205 windows (29%)	Yes
The Hallmark	166 windows (89%)	91 windows (49%)	Yes
Melia House	66 windows (88%)	59 windows (79%)	Yes
Barton Place	67 windows (69%)	67 windows (69%)	No
Masson Place	26 windows (87%)	26 windows (87%)	No
St. Chad’s Presbytery	25 windows (100%)	23 windows (92%)	Yes – Minor

6.148 A summary of the NSL results is tabulated below:

Table 6.13: Proposed vs Cumulative Condition – Windows which achieve BRE targets.			
Receptors	Proposed Rooms (%) which pass NSL test	Cumulative Rooms (%) which pass NSL test	Possible Cumulative Impact on NSL (Y/N)
Britton House	163 rooms (85%)	162 rooms (84%)	No – Negligible change
Jefferson Place	374 rooms (93%)	297 rooms (74%)	Yes
The Hallmark	127 rooms (100%)	127 rooms (100%)	No
Melia House	43 rooms (78%)	37 rooms (67%)	Yes
Barton Place	33 rooms (42%)	33 rooms (42%)	No
Masson Place	4 rooms (40%)	4 rooms (40%)	No
St. Chad’s Presbytery	6 rooms (100%)	6 rooms (100%)	No

- 6.149 Based on the above, Cumulative Effects on daylight amenity will be experienced by Britton House, Jefferson Place, The Hallmark and Melia House. Overall, there would be no uplift in Effect on the daylight amenity of Britton House, the Hallmark and Melia House. In general terms the change in results does not warrant an uplift in the Residual Effect overall.
- 6.150 In the Cumulative Condition there is an uplift in effect on daylight on Jefferson Place. This building would experience an increase in the number of windows and rooms, including high sensitivity Living Rooms, which do not achieve the BRE targets.
- 6.151 The localised Moderate and Major adverse effects resulting from the proposed development would, in the Cumulative Condition, be experienced by a greater proportion of this neighbouring building. The Cumulative Impact on daylight amenity is therefore **Major Adverse**.
- 6.152 This uplift is principally due to addition of the massing at 33-41 Cheetham Hill Road, which the windows of Jefferson Place look towards.
- 6.153 The windows of Jefferson Place overlook parcels of land with single storey structures. This means that any redevelopment of these lands with buildings of high density, as at 33-41 Cheetham Hill Road, will result in elevated magnitudes of impact compared to the baseline condition, and therefore an elevated adverse effect.

Completed Development Cumulative Effects – Sunlight to Buildings

- 6.154 The overall proportion of windows and rooms which achieve the BRE’s Annual and Winter sunlight targets is compared below. From this it can be seen where cumulative effects are present

Table 6.14: Proposed vs Cumulative Condition – Rooms which achieve Annual sunlight targets.			
Receptors	Rooms (%) which achieve APSH target	Cumulative Rooms (%) which achieve APSH target	Possible Cumulative Impact on APSH (Y/N)
Britton House	138 rooms (93%)	135 rooms (91%)	No
St. Chad’s Presbytery	6 rooms (100%)	6 rooms (100%)	No

Table 6.15: Proposed vs Cumulative Condition – Rooms which achieve Winter sunlight targets.			
Receptors	Rooms (%) which achieve WPSH target	Cumulative Rooms (%) which achieve WPSH target	Possible Cumulative Impact on WPSH (Y/N)
Britton House	149 rooms (100%)	139 rooms (93%)	No
St. Chad’s Presbytery	6 rooms (100%)	6 rooms (100%)	No

- 6.155 In the Cumulative condition there is no uplift in Effect on sunlight amenity of the neighbouring buildings.

Completed Development Cumulative Effects – Sunlight to External Amenity Spaces

- 6.156 There is no cumulative effect on sunlight amenity of external amenity spaces appraised. Both the Britton House lawn and the St Chad’s Presbytery gardens will remain well sunlit in the Cumulative Condition, with the entirety of each area continuing to achieve 2 Hours Time in Sun on 21 March.

Summary of Assessment (NTS)
Background

- 6.157 This chapter has detailed the potential Daylight, Sunlight and Overshadowing effects due to the construction and completed development stages of the proposed development. The assessment of construction and completed development stages has been undertaken taking into account the relevant national and local guidance and regulations.
- 6.158 The assessment has been undertaken with reference to provisions contained within the BRE Guidance¹. This document is the industry standard guidance for assessment of daylight and sunlight amenity impacts.
- 6.159 The impact of the proposed development on the daylight and sunlight amenity of the following neighbouring buildings assessed:
- Britton House, 21 Lord Street, Manchester M4 4FN;
 - Jefferson Place, 1 Fernie Street, Manchester M4 4AZ;
 - The Hallmark, 6 Cheetham Hill Road, Manchester M4 4GA;
 - Melia House, 19 Lord Street, Manchester, M4 4AX;
 - Barton Place, 3 Hornbeam Way, Manchester, M4 4AT
 - Masson Place, 1 Hornbeam Way, Manchester M4 4AJ
 - St. Chad’s Presbytery, Stocks Street, Manchester, M8 8GG
 - Area of lawn associated with Britton House
 - Garden and landscaping associated with St Chad’s Presbytery
- 6.160 The focus of the BRE Guidance is on assessment of habitable rooms, such as bedrooms, kitchens and living rooms within neighbouring buildings. In accordance with the BRE Guidance, rooms within neighbouring buildings above that are not of habitable use (for example circulation spaces, WCs), or other neighbouring buildings of commercial use, have not been impact assessed.

Demolition and Construction Effects

- 6.161 As any potential daylight and sunlight effects relating to Demolition and Construction stages will gradually increase to the potential effects identified for the completed proposed development, the interim construction effects have not been assessed, as it is considered that the completed proposed development represents the worst-case assessment in terms of likely daylight and sunlight.
- 6.162 During the construction phase, the daylight and sunlight effects will gradually change from the baseline condition to those impacts (where present) with the proposed development in place, which is described below in the operational phase.

Completed Development Effects – Daylight

- 6.163 Construction of the proposed development will result in reduced daylight and sunlight over the Site to windows and rooms of the neighbouring buildings.
- 6.164 The Scale of Effect on the daylight amenity of Jefferson Place and Barton Place is Moderate Adverse. Parts of these neighbouring buildings will experience a reduction in daylight and in accordance the BRE Guidance this would tend towards a Significant Impact.
- 6.165 The Scale of Effect on the other neighbouring buildings are not significant, on the basis that

¹ Building Research Establishment (BRE) Guidance Note Site Layout Planning for Daylight & Sunlight: A Guide to Good Practice (2022)

- the windows and rooms continue to achieve the respective daylight targets;
- where reductions are present, they are of Minor Adverse effect; or
- adverse effects are to a localised and small minority of the neighbouring building.

6.166 In accordance with the BRE Guidance and its application to Environmental Impact Assessment, these impacts are considered to be either Negligible or Minor Adverse and therefore not significant.

Completed Development Effects – Sunlight

6.167 St Chad’s Presbytery and Britton House have been sunlight impact appraised.

6.168 Windows of the other neighbouring building are either

6.169 south of the site, meaning that they do not receive direct sunlight over it; or

- oriented north-west, north or north-east facing, meaning that these windows and the rooms they serve have limited capacity to receive direct sunlight.

6.170 In accordance with the BRE Guidance, rooms fulfilling the above criteria need not be impact assessed, on the basis that construction of the proposed development will have no significant impact on sunlight amenity.

6.171 Impacts on sunlight amenity of St Chad’s Presbytery are Negligible Neutral. Impacts on sunlight amenity of Britton House are, overall, Minor Adverse. On that basis the impact of the proposed development on the sunlight amenity of these buildings is not significant.

6.172 Overall, it is considered that the completed proposed development would result in adverse effects on the Daylight and Sunlight amenity of the identified receptors, and as such would give rise to the significant effects on daylight, sunlight and overshadowing covered in more detail above.

Cumulative Effects

6.173 There would be cumulative impacts on the daylight amenity of the following buildings:

- Britton House
- Jefferson Place
- The Hallmark
- Melia House
- St. Chad’s Presbytery

6.174 Effects on all buildings apart from Jefferson Place in the cumulative scenario will be as stated for the proposed development in isolation. i.e. there would be no cumulative uplift in effect.

6.175 In the Cumulative condition the impact on Jefferson Place would be Major Adverse. This is due to an increase in the prevalence of moderate and major adverse effects, compared to those identified for the proposed development alone. The increased prevalence of adverse impacts is principally due to inclusion of the proposed massing at 33-41 Cheetham Hill Road, which the windows of Jefferson Place face directly.

6.176 There are no Significant Cumulative effects on the sunlight amenity of Britton House, St Chad’s Presbytery or either of the external amenity spaces associated with these neighbouring buildings.

7 WIND MICROCLIMATE

Introduction

- 7.1 This chapter of the ES reports on the likely significant wind microclimate effects to arise from the demolition and construction stage and the completed development stage of the proposed development.
- 7.2 The chapter describes the wind microclimate policy context; the methods used to assess the potential impacts and likely effects; the baseline conditions at the site and within the study area; the effects taking into consideration embedded mitigation; the need for additional mitigation and enhancement; the significance of residual effects; and inter-project cumulative effects.
- 7.3 The chapter is supported by the following technical appendices in ES Volume 3:
- Technical Appendix 7.1: One Lord Street – Wind Microclimate Assessment.

Methodology

- 7.4 The assessment has been informed by the following legislation, policies and published guidance:
- International Legislation:
 - There is no international legislation relating to wind microclimate.
 - National Legislation, Policy and Guidance:
 - Environment Act (2021)¹

There is no specific legislation relating to the assessment of environmental wind flows in the built environment.
 - National Planning Policy Framework, NPPF (2025)²

There is no specific planning policy guidance dealing with microclimate in terms of pedestrian comfort set out in the NPPF.
 - Planning Practice Guidance, PPG (2024)³

The national PPG states, under ‘Consider form’, that:

“Some forms pose specific design challenges, for example how taller buildings meet the ground and how they affect local wind and sunlight patterns should be carefully considered.”

The PPG states, under ‘Consider scale’, that:

“Account should be taken of local climatic conditions, including daylight and sunlight, wind, temperature and frost pockets.”
 - Regional Policy and Guidance:
 - Greater Manchester Combined Authority’s (GMCA’s) Places For Everyone Joint Development Plan Document, 2024

Within the Greater Manchester Combined Authority’s (GMCA’s) Places For Everyone Joint Development Plan Document, 20244, under Policy JP-P1 Sustainable Places, it is stated:

“...the following key attributes that all development, wherever appropriate, should be consistent with:

15. Comfortable and inviting, with indoor and outdoor environments:

¹ Environment Act, 2021. Available at: <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted> [Accessed 03/09/2025].

² Department for Levelling Up, Housing and Communities, 2025. National Planning Policy Framework. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Accessed 03/09/2025].

- A. Offering a high level of amenity that minimises exposure to pollution; and
- B. Addressing microclimate issues such as sunlight, indoor air quality, overheating, shade, wind and shelter.”

Furthermore, under Policy JP-C5: Streets for All, it is stated:

“The design and management of streets will follow a Streets for All approach, including by:

.....

- h. Offering shelter from wind and rain, and shade from the sun;”
- Sustainable Design and Construction SPG (2014)

Section 2.3.7 states the following:

“Large buildings have the ability to alter their local environment and affect the microclimate. For example, [...] tall buildings [...] can influence how wind travels across a site, potentially making it unpleasant at ground level or limiting the potential to naturally ventilate buildings. One way to assess the impact of large buildings on the comfort of the street environment is the Lawson Comfort Criteria. This tool sets out a scale for assessing the suitability of wind conditions in the urban environment based upon threshold values of wind speeds and frequency of occurrence. It sets out a range of pedestrian activities from sitting through to crossing the road and for each activity defines a wind speed and frequency of occurrence. Where a proposed development is significantly taller than its surrounding environment, developers should carry out an assessment of its potential impact on the conditions at ground level and ensure the resulting design of the development provides suitable conditions for the intended use.”

The SPG also advises using the Lawson Comfort Criteria to assess the impact of a large building on the comfort of the street environment, which sets out a scale for assessing the suitability of wind conditions in the urban environment.

- Local Policy and Guidance:
 - There are no local policies and guidance relating to wind microclimate.
- Topic Specific Guidance and Industry Standards:
 - The industry standard criteria for wind microclimate assessments are commonly referred to as the Lawson criteria and emerged during a period of substantial research on the subject. Professor Tom Lawson⁵ presented what has become the ‘University of Bristol’ variant of the Lawson criteria in 1973, prior to a collaborative initiative that produced the London Docklands Development Corporation (LDDC) variant of the Lawson criteria.

The LDDC variant applies a single percentage probability of exceedance of a range of wind speeds and associates each wind speed to a common pedestrian use such as sitting, standing and walking for comfort, with higher wind speed thresholds for the assessment of safety. The de-facto standard for wind microclimate assessments in the UK is the Lawson criteria, predominantly the LDDC variant.

Consultation

- 7.5 Table 7.1 summarises the consultation that has been undertaken with respect to wind microclimate assessment.

³ Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government, 2024. Planning Practice Guidance. Available at: <https://www.gov.uk/government/collections/planning-practice-guidance> [Accessed 03/09/2025].

⁴ Places For Everyone Joint Development Plan Document, Greater Manchester Combined Authority (GMCA), 2024

⁵ Lawson, T.V, 2001. Building Aerodynamics. Imperial College Press.

Table 7.1: Summary of Consultation		
Consultee and Form/Date of Consultation	Summary of Comments	Where in this Chapter Comments are addressed
EIA Scoping Opinion		
Manchester City Council	The formal scoping opinion dated 5 th January 2025 confirmed wind microclimate should be included within the scope of the EIA.	Chapter 7 wind microclimate presents the assessment as proposed in the EIA Scoping Report.
Other Consultation		
N/A	N/A	N/A

Assessment Scope

7.6 The wind microclimate of the site was assessed through a computational fluid dynamics (CFD) study based on the LDDC variant of the Lawson criteria which is the de-facto standard for wind microclimate assessments in the UK.

Technical Scope

- 7.7 The assessment considers the potential impacts and likely effects of the proposed development during the demolition and construction stage and the completed development stage within the context of existing surrounding buildings, as well as future surrounding buildings.
- 7.8 The technical scope of the wind microclimate assessment considers the expected wind microclimate in areas that would be accessible to pedestrians and future occupiers of the proposed development at various locations, including ground and terrace levels, throughfares and at entrances. There will be no pedestrian or amenity uses proposed at the roof level. There is one terrace at level 15. The wind conditions have been categorised using the Lawson Comfort Criteria to determine the suitability of the proposed development for different pedestrian activities. In addition, consideration has been given to strong winds which may pose a safety concern.
- 7.9 A qualitative assessment of wind conditions has been undertaken for the demolition and construction stage using the measured wind conditions at the existing site in combination with the professional judgement of an experienced wind engineer.
- 7.10 A quantitative assessment of wind conditions has been undertaken for the completed development stage by means of a CFD study.
- 7.11 Existing pedestrian receptors around the site and study area have been assessed for wind conditions against both their current use and against the baseline wind conditions. New pedestrian receptors introduced by the proposed development have been assessed against their intended use.
- 7.12 For both existing and new receptors, a scale of effect has been assigned based on the wind conditions measured, the intended usage of the receptor area and (where relevant, for existing receptors) any potential change in wind conditions from the baseline.

Spatial Scope

7.13 The study area has been determined by means of professional experience and industry standard and covers an area of 450 metres (m) from the site boundary. This is equivalent to approximately 400 m from the edge of this built centre and exceeds the 250 m minimum radius specified within ASCE/SEI 49-12⁶ guidance and the 300 m minimum radius specified within AWES-QAM-1-2019⁷ guidance, the relevant wind engineering guidelines that cover the spatial extent of physical or digital proximity models.

- 7.14 This built centre of one residential tower is bordered by Lord Street to the north which is fronted by retail units. To the east lies Fernie Street, beyond which the Britton House and Jefferson Place apartment buildings are situated approximately 50–60 m from the site. A Texaco petrol station borders the southern border, while Cheetham Hill Road forms the western boundary and is fronted by a tiling shop located about 50 m away.
- 7.15 The study has captured all relevant built structures within the proposed development that may alter wind patterns within the study area. Moreover, it has also captured nearby spaces and properties that would be expected to be influenced by the introduction of the built element of the proposed development.
- 7.16 The study area incorporates new and existing sensitive receptors located with the site and study area. Moreover, it has also captured nearby spaces and properties – albeit distant and limited in number – that would be expected to be influenced by the introduction of the built element of the proposed development.

Temporal Scope

- 7.17 The assessment has considered impacts arising during the demolition and construction stage which would be of expected to be temporary and short to medium-term (5-10 years) in nature and from the completed development stage which would be expected to be permanent and long-term in nature (i.e. more than 10 years).
- 7.18 The assessment has considered the following scenarios:
- Configuration 1: Existing site within existing surrounds (the baseline scenario);
 - Configuration 2: The proposed development within existing surrounds; and
 - Configuration 3: The proposed development within cumulative surrounds.

Baseline Characterisation Method

Desk Study

7.19 No desk study was carried out for the baseline scenario.

Field Study

7.20 Field study/data collection was not required at the site as the data provided by other sources was deemed to be adequate and representative of the site conditions.

Modelling

7.21 The existing baseline conditions at the site and study area have been established through CFD modelling.

Assessment Method

Methodology

- 7.22 The microclimate of any development is the distinctive climate of a small-scale area. The weather variables in a microclimate, such as wind, may be different to the conditions prevailing over the area as a whole. This assessment has considered the wind conditions that would result upon the introduction of the proposed development into the study area. This assessment has further considered the cumulative impact following the introduction of relevant consented schemes within the study area.
- 7.23 The assessment has predicted the proportion of time a receptor location would experience wind speeds in excess of threshold values for safety, as well as typical activities such as walking, waiting and outdoor sitting. It can therefore be demonstrated within the various parts of a new development and the adjacent schemes, whether wind conditions are suitable or unsuitable, and whether design adjustment or mitigation measures are required.

⁶ American Society of Civil Engineers, 2012, Wind Tunnel Testing for Buildings and Other Structures.

⁷ Australasian Wind Engineering Society, 2019, Quality Assurance Manual: Wind Engineering Studies of Buildings.

- 7.24 The CFD modelling has employed a steady-state Reynolds Averaged Navier Stokes (RANS) approach. This method employs turbulence models to approximate the magnitude of velocity fluctuations about the average wind speeds predicted, in order to derive an estimation of the effect of gusts. Further details of this approach are provided within Technical Appendix 7.1, ES Volume 3. Salient highlights of this approach are as follows:
- The Shear Stress Transport k- ω turbulence model has been employed;
 - Architectural features of 0.5 m or more have been captured within the geometry modelled;
 - Cell sizes of as small as 0.2 m were utilised to capture flow behaviour in critical locations; and
 - The region of interest closest to the ground (1.5 m) incorporated five layers of cells.
- 7.25 A 3D model of the site and surrounds has been assessed to determine wind conditions within three configurations:
- Configuration 1: Existing site within existing surrounds;
 - Configuration 2: Proposed development within existing surrounds; and
 - Configuration 3: Proposed development within cumulative surrounds.
- 7.26 Proposed on-site pedestrian activities have been informed by review of the general arrangement plans (location of entrances and communal terraces) and landscape plans (seating areas and thoroughfares).

Site and Study Area Wind Climate

- 7.27 Wind environment studies require that wind speed data obtained from a measurement station be transposed to the site of interest. The measurement station of choice for this assessment is that at Manchester Airport.
- 7.28 The wind speed history, provided by weather organisations such as the UK Met Office or the National Oceanic and Atmospheric Administration, is reformatted into the number of observations of wind speeds within each of several wind speed ranges, for each wind direction and for each month of the year. The months are grouped into seasons and a Weibull distribution is fitted to the wind speed distribution for each wind direction, for each season. The resulting weather centre wind data are transposed to open country terrain at sea-level, accounting for upwind terrain. The open country wind data are then transposed to reference height at the site.

Lawson Comfort Criteria

- 7.29 The industry standard criteria for wind microclimate assessments are commonly referred to in the UK as the Lawson Comfort Criteria, after one of their main authors. As with most other leading practitioners undertaking wind microclimate assessments, the LLDC variant of the Lawson Comfort Criteria has been used in this assessment.
- 7.30 The LDDC variant applies a single percentage probability of exceedance of a range of wind speeds and associates different wind speeds to different types of usage. This offers a relatively simple and practical manner for the assessment of wind comfort and safety.
- 7.31 A wind speed of 15 metre per second (m/s) occurring once per year is rated as unsuitable, in terms of safety, with the potential to de-stabilise the less able members of the public including the elderly, cyclists and children.
- 7.32 The LDDC variant of the Lawson Comfort Criteria prescribes that wind conditions are suitable for a given activity when the threshold is exceeded no more than 5 % of the time. The value of 5 % has been established as giving a reasonable allowance for extreme and relatively infrequent winds that are tolerable within each category.
- 7.33 Where certain activities are year-round, such as walking, entrance use or for waiting areas, comfort ratings are required to be met in all seasons. For more seasonal activities, such as outdoor recreation or for sitting spaces, the assessment focuses on relevant seasons where the expectation will exist for

conditions to be suitable. The LDDC Comfort Criteria threshold wind speed values are presented in Table 7.2.

Table 7.2: Lawson Comfort Criteria			
Threshold Wind Speed (m/s)	Comfort Rating / Activity		Qualifying Comments
4	C4	Long-term sitting	Reading a newspaper and eating and drinking.
6	C3	Short-term standing/sitting	Appropriate for bus stops, window shopping and building entrances.
8	C2	Strolling	General areas of walking and sightseeing.
10	C1	Walking	Local areas around tall buildings where people are not likely to linger.
>10	C0	Uncomfortable	Uncomfortable for all uses

- 7.34 The assessment takes full account of seasonal variations in wind conditions and pedestrian activities. For example, conditions for recreational activities focus on summer (June, July, August), but also consider spring (March, April, May) and autumn (September, October, November), while conditions for pedestrian thoroughfare, access or waiting (e.g. bus stops) consider all seasons, with winter (December, January, February) usually being the critical season. The assessment is summarised in terms of suitability for various activities. The activities considered and their relation to the Lawson Comfort Criteria are summarised in Table 7.3.

Table 7.3: Suitability Assessment	
Suitability	Lawson Comfort Criteria
For passage in areas where tolerance of less comfortable windy conditions is expected, e.g. in substantially built-up areas of commerce where transit from A to B is often prompt, with pedestrians unlikely to linger.	Walking in all seasons.
For access to and passage through the proposed development and study area.	Strolling in all seasons.
For leisure uses such as a park, children’s play area or other general recreational spaces.	Standing or short-term sitting from spring to autumn.
For pedestrian ingress or egress (entrances) at a building entrance, or short periods of sitting or standing such as at a bus stop, taxi rank, or a meeting point.	Standing or short-term sitting in all seasons.
For long periods of sitting such as for an outdoor café.	Long-term sitting in summer.

Demolition and Construction Stage

- 7.35 The wind conditions for the demolition and construction stage have been assessed qualitatively based on experience as standard within the industry.
- 7.36 During demolition and construction, conditions are expected to transition gradually from those experienced in the existing condition to those for the completed proposed development.

Completed Development Stage

- 7.37 With the introduction of the proposed development, the massing of the proposed development is expected to affect wind conditions within the site and immediate surrounding area by potentially increasing occurrences of downdraughts and subsequent acceleration of wind around corners.

Cumulative Stage

7.38 The introduction of the cumulative schemes could affect wind conditions within the site and immediate surrounding area by increasing occurrences of downdraughts and subsequent acceleration of wind around corners.

Assessment Criteria

7.39 The criteria used to assess if an effect is significant or not, is set out in subsequent sub-sections. This is determined by consideration of the sensitivity of the receptor, magnitude of impact and scale of the effect. In considering the significance of an effect, consideration has been given to the duration of the effect, the geographical extent of the effect and the application of professional judgement.

Receptor Sensitivity/Value Criteria

7.40 During the demolition and construction stage, receptors are defined to be pedestrians and cyclists on the roads in the study area and demolition and construction workers within the site. During this stage, sensitivity to wind is typically reduced as receptors, such as members of the public, would not visit the site which will be closed off for access. All receptors are considered to be of medium sensitivity to the local wind microclimate conditions and are given an equal weighting.

7.41 For the completed development stage with the proposed development in place, receptors are defined to be persons on foot, seated or travelling by bicycle within the proposed development and study area. All receptors are equally sensitive to the presence or absence of an acceptable wind microclimate. An unacceptable microclimate exists when either an exceedance of the safety criteria exists, or when the comfort criteria is not met for the existing/planned use at a receptor. All receptors are considered to be highly sensitive to the local wind microclimate conditions and are given an equal weighting.

7.42 The sensitivity of receptors has been classified as low, medium or high, in accordance with the criteria set out in Table 7.4.

Table 7.4: Receptor Sensitivity Criteria	
Sensitivity	Criteria
Low	N/A.
Medium	Demolition and construction workers and other site operatives during the demolition and construction stage of the proposed development.
High	Pedestrians within the site during the completed development stage. Pedestrians and any cyclists with the study area.

Impact Magnitude Criteria

7.43 The magnitude of impact is defined by the severity of the deviation from the standards set out by the Lawson criteria. Exceedances of the safety criteria are deemed to be the most critical, given their potential effect on pedestrians’ wellbeing, i.e. they may be unduly exposed to the potential for harm. Such effects are thus deemed to have a high impact magnitude. Where the comfort criteria are not met, i.e. where the conditions are too windy for a particular receptor to be sufficiently comfortable for existing or planned pedestrian uses and thus inconvenient but not unsafe, such effects are deemed to be of medium impact magnitude. Where the comfort criteria are marginally exceeded, to the extent that the exceedance is expected to be perceptible, but tolerable, such effects are deemed to be of low impact magnitude.

7.44 The magnitude of impact has been classified as low, medium or high, in accordance with the criteria set out in Table 7.5.

Table 7.5: Impact Magnitude Criteria	
Magnitude of Impact	Criteria
Negligible	The comfort criteria are met and any effect does not alter the suitability of existing and future wind conditions with respect to existing and/or planned activities
Low	The comfort criteria are marginally exceeded, to the extent that the exceedance is expected to be perceptible, but tolerable.
Medium	The comfort criteria are not met, i.e. where the conditions are too windy for a particular receptor to be sufficiently comfortable for existing and/or planned pedestrian uses and thus inconvenient but not unsafe.
High	Exceedances of safety criteria are deemed to be the most critical, given their potential effect on pedestrians’ wellbeing, i.e. they may be unduly exposed to the potential for harm.

7.45 On this basis, therefore, exceedances of the safety criteria are considered to be of high magnitude, while exceedances of the comfort criteria are considered to be of medium or low magnitude.

Scale of Effect Criteria

7.46 Impacts have been assessed on the basis of the value/sensitivity of receptors against the magnitude of impact to determine the scale of effect as presented in Table 7.6.

Table 7.6: Scale of Effect Criteria			
Magnitude of Impact	Sensitivity of Receptors		
	Low	Medium	High
Negligible	Negligible	Negligible	Negligible
Low	Minor	Minor	Minor
Medium	Minor	Moderate	Moderate
High	Moderate	Major	Major

7.47 Based on professional judgement, moderate and major effects are considered significant in EIA terms. In determining the significance of reported effects, consideration has been given to the type of effect i.e. direct, indirect or secondary, the geographical extent of the effect and the duration of the effect i.e. temporary which is considered to be either short term (up to five years) or medium term (5-10 years) or permanent (10 years or more).

7.48 Duration of effect has been described as short-, medium- or long-term-, in accordance with the criteria set out in Table 7.7.

Table 7.7: Duration of Effects Criteria	
Duration	Criteria
Short	Up to 5 years
Medium	5-10 years
Long	10 years

Nature of Effect Criteria

7.49 The nature of the effect has been described as either adverse, neutral or beneficial as follows:

- Beneficial – An advantageous effect to a receptor;

- Neutral – An effect that on balance, is neither beneficial nor adverse to a receptor or is equally beneficial and adverse to a receptor; or
- Adverse – A detrimental effect to a receptor.

7.50 The following are the significance criteria used to assess likely wind conditions as a result of the proposed development on high sensitivity receptors and are applicable to wind conditions both on and off-site (within the study area):

- Major Beneficial: Any effect on wind conditions which is expected to improve pedestrian safety, namely an improvement in conditions from being considered unsafe to being considered safe;
- Moderate Beneficial: Any effect on wind conditions which is expected to improve pedestrian comfort from unsuitable to suitable for existing or planned activities;
- Minor Beneficial: Any effect on wind conditions which is expected to improve pedestrian comfort from unsuitable to marginal or tolerable for planned activities, or from marginal or tolerable to suitable for existing and planned activities;
- Negligible Neutral: Any effect that does not alter the suitability of existing wind conditions and any effect on future wind conditions that would be suitable with respect to existing and planned activities;
- Minor Adverse: Any effect on wind conditions which worsens pedestrian comfort from suitable to marginal or tolerable for planned activities, or from marginal or tolerable to unsuitable for planned and existing activities;
- Moderate Adverse: Any effect on wind conditions that worsens pedestrian comfort from suitable to unsuitable for existing and planned activities; and
- Major Adverse: Any effect on wind conditions adversely affecting pedestrian safety, namely a deterioration in conditions from being considered safe to being considered unsafe.

Assumptions and Limitations

- 7.51 The assessment has relied on wind climate data provided by Manchester Airport. It has been assumed that these data sets have been reported correctly.
- 7.52 The assessment has been carried out using CFD methods. The method adopted employs turbulence models to approximate the magnitude of velocity fluctuations about the average wind speeds predicted, in order to derive an estimation of the effect of gusts. The assessor conducts regular validation of proprietary CFD processes against experimental results.

Baseline Conditions

Existing Baseline

- 7.53 The site comprises a vacant plot of derelict hardstanding land colonised by overgrown vegetation.
- 7.54 Meteorological data for the site shows prevailing winds from the south throughout the year with a secondary peak from the west, mainly during the summer months.
- 7.55 Wind conditions within the study area satisfy the criteria for pedestrian safety.
- 7.56 Within the existing site and study area, wind conditions are suitable for at least short-term standing or better throughout the year, with a small area of strolling conditions present to the north-east of the site. Overall, wind conditions are comfortable for pedestrian movement and access at building entrances throughout the study area.
- 7.57 Figures 7.1, 7.2 and 7.3 present the existing site conditions from the CFD analysis.

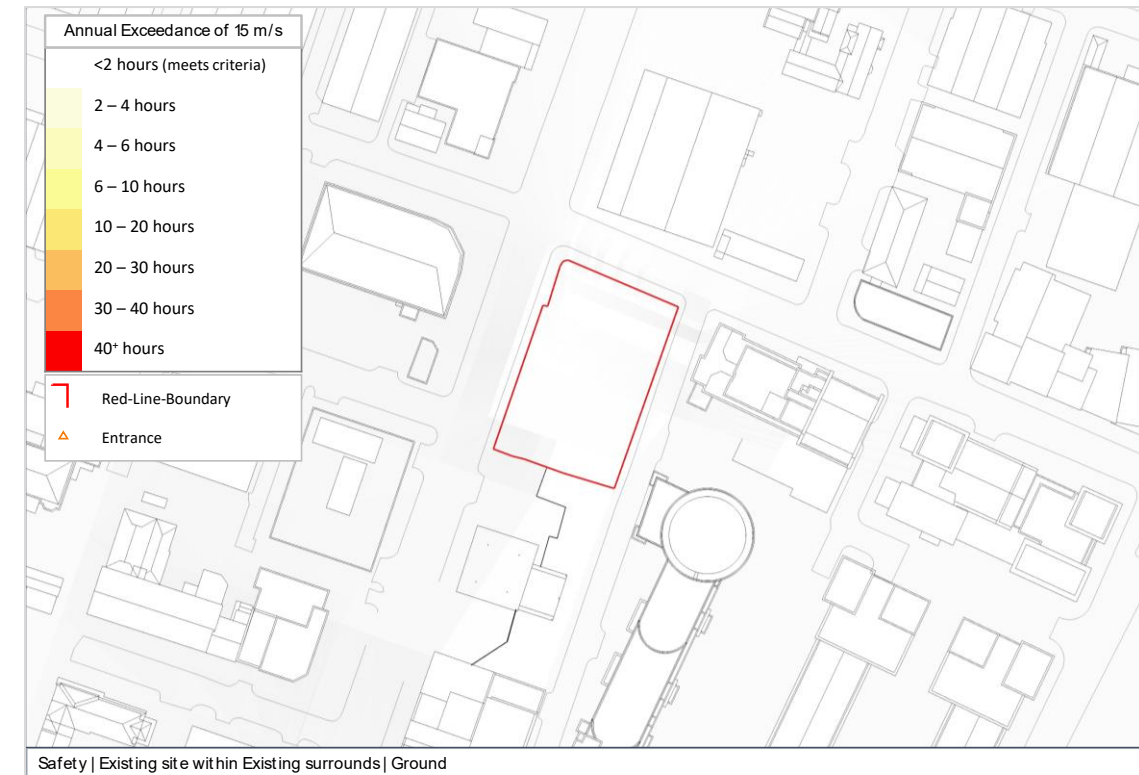


Figure 7.1: Configuration 1 - Existing site within existing surrounds – Safety – Ground



Figure 7.2: Configuration 1 - Existing site within existing surrounds – Comfort – Worst seasonal



Figure 7.3: Configuration 1 - Existing site within existing surrounds – Comfort – Summer season

Future Baseline

7.58 The future baseline conditions were assessed qualitatively. The cumulative schemes are located such that they are not expected to influence or be influenced by the prevailing wind direction, and have negligible effects within the study area. Thus wind conditions are expected to remain as described in the existing baseline scenario.

Sensitive Receptors

7.59 The receptors identified as sensitive to the proposed development and which have been ‘scoped-in’ to the assessment are summarised in Table 7.8.

Table 7.8: Summary of Sensitive Receptors	
Receptor	Sensitivity
Demolition and construction workers and other site operatives during the demolition and construction of the proposed development.	Medium
Pedestrians within the site during the completed development stage. Pedestrian users and cyclists within the study area during the completed development stage.	High

Assessment of Effects

Demolition and Construction Effects

- 7.60 During the demolition and construction stage, there would be potential for wind to blow into and across any open areas of the site. However, the construction site would be occupied only by site workers, whose sensitivity to windy conditions would be less than members of the public.
- 7.61 Construction activity is likely to be less sensitive to general wind conditions due to the nature of the site during construction (i.e. site hoardings, restricted site access for workers) compared to when the proposed development is completed. Conditions for passers-by would predominantly be suitable for strolling and as a result would be acceptable, in terms of comfort. Conditions within the site will also be acceptable for construction workers and other site operatives.
- 7.62 In terms of comfort, therefore, there would generally be temporary, short-term, **Negligible** (not significant) effects during the demolition and construction stage. Conditions are expected to transition gradually from those experienced under existing conditions to those for the completed development.

Completed Development Effects

- 7.63 Figures 7.4, 7.5, 7.6, 7.7 and 7.8 present the proposed development within existing surrounds conditions from the CFD analysis.
- 7.64 Following the introduction of the proposed development, safety criteria are predicted to be met within the study area. This would represent a permanent, long-term, **Negligible** (not significant) effect.
- 7.65 Wind conditions on the throughfares within the site are suitable for short-term standing / sitting or better throughout the year and thus comfortable for pedestrian movement. This would represent a permanent, long-term, **Negligible** (not significant) effect.
- 7.66 Wind conditions at entrances throughout the site are suitable for short-term standing or better throughout the year and are thus comfortable for pedestrian ingress and egress. This would represent a permanent, long-term, **Negligible** (not significant) effect.
- 7.67 Wind conditions at the elevated terrace are suitable for at least short-term sitting, with extensive areas also appropriate for long-term standing / sitting during summer, with a small, localised area near the south-east corner that is suitable for strolling in summer. Overall, the terrace is considered comfortable for general recreational use. This would represent a permanent, long-term, **Negligible Adverse** (not significant) effect.
- 7.68 Within the wider study area, wind conditions are suitable for at least strolling or better throughout the year. This would represent a permanent, long-term, **Negligible** (not significant) effect.

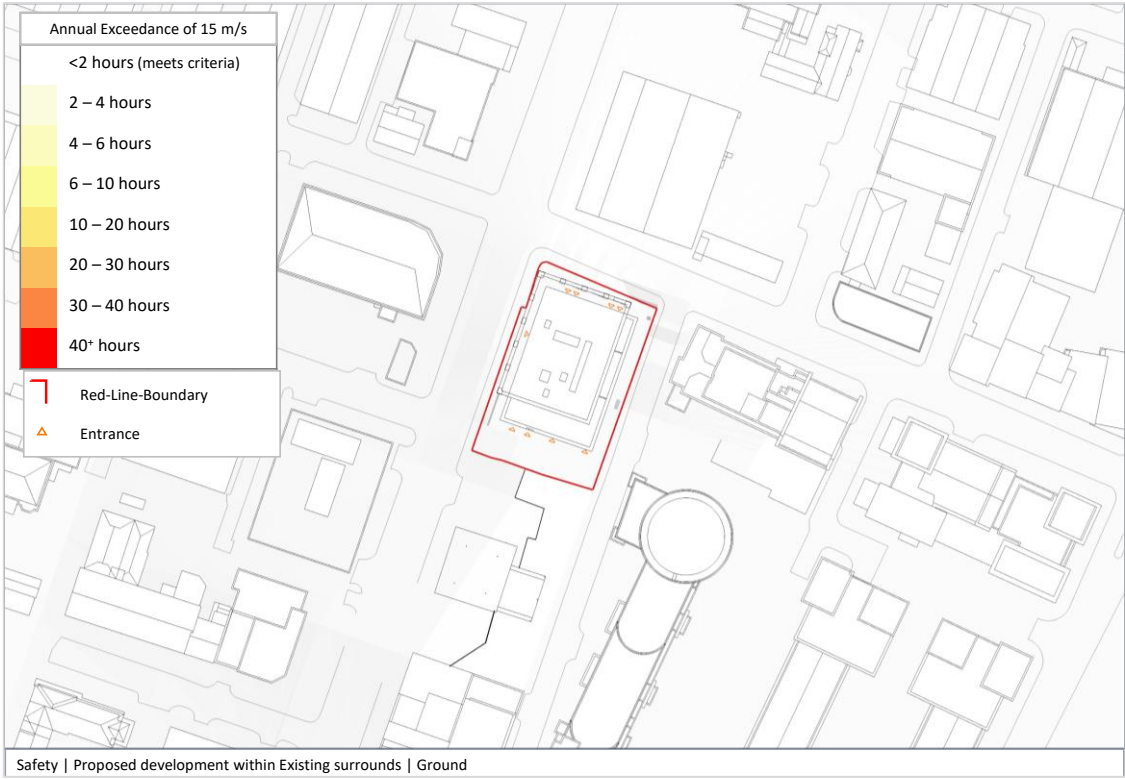


Figure 7.4: Configuration 2 - Proposed development within existing surrounds – Safety – Ground

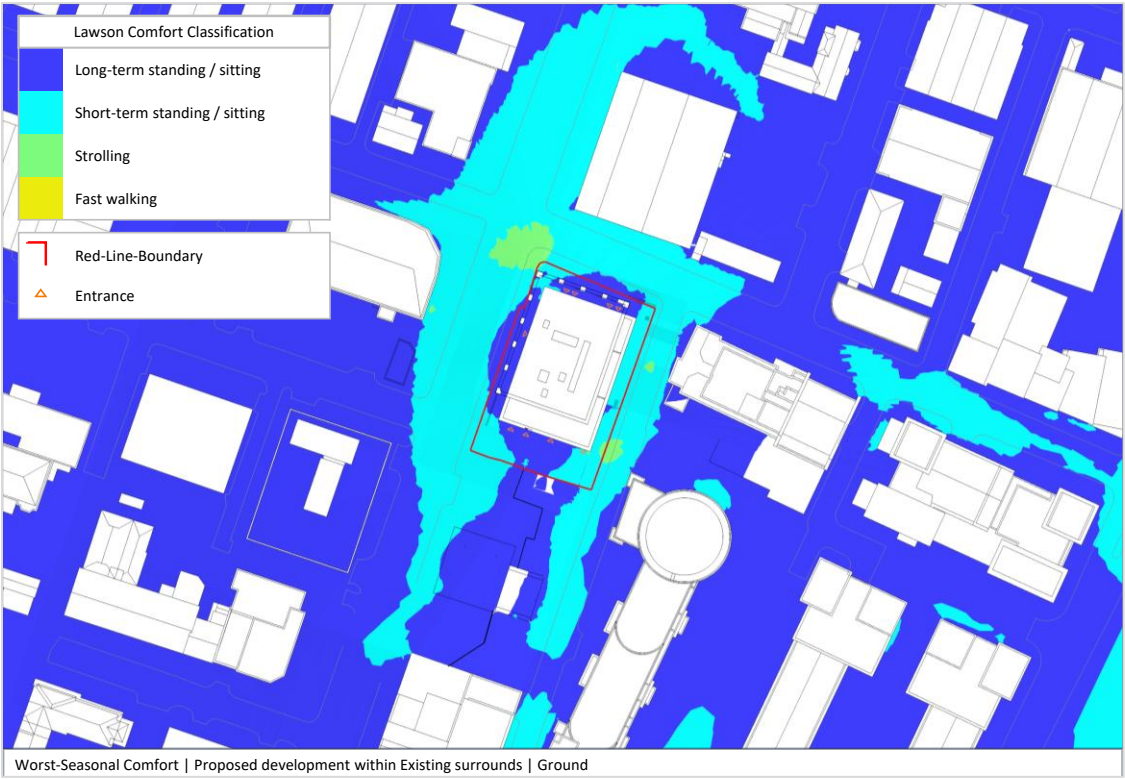


Figure 7.6: Configuration 2 - Proposed development within existing surrounds – Comfort – Worst seasonal

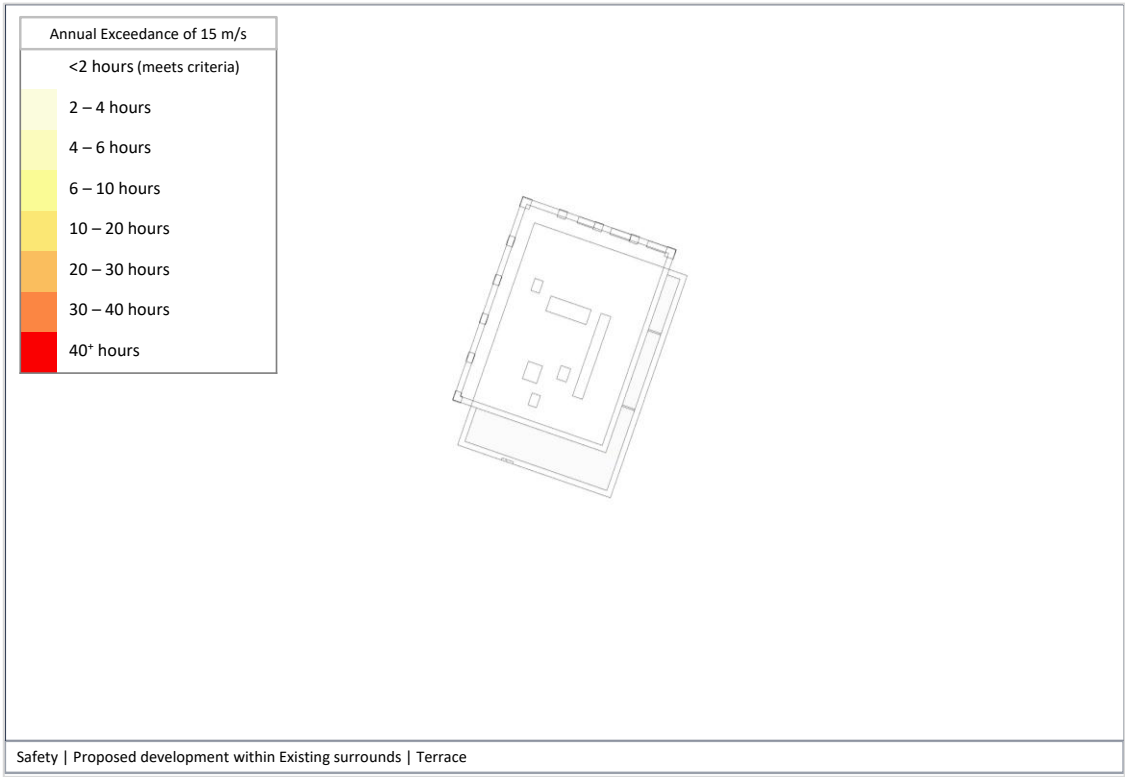


Figure 7.5: Configuration 2 - Proposed development within existing surrounds – Safety – Terrace

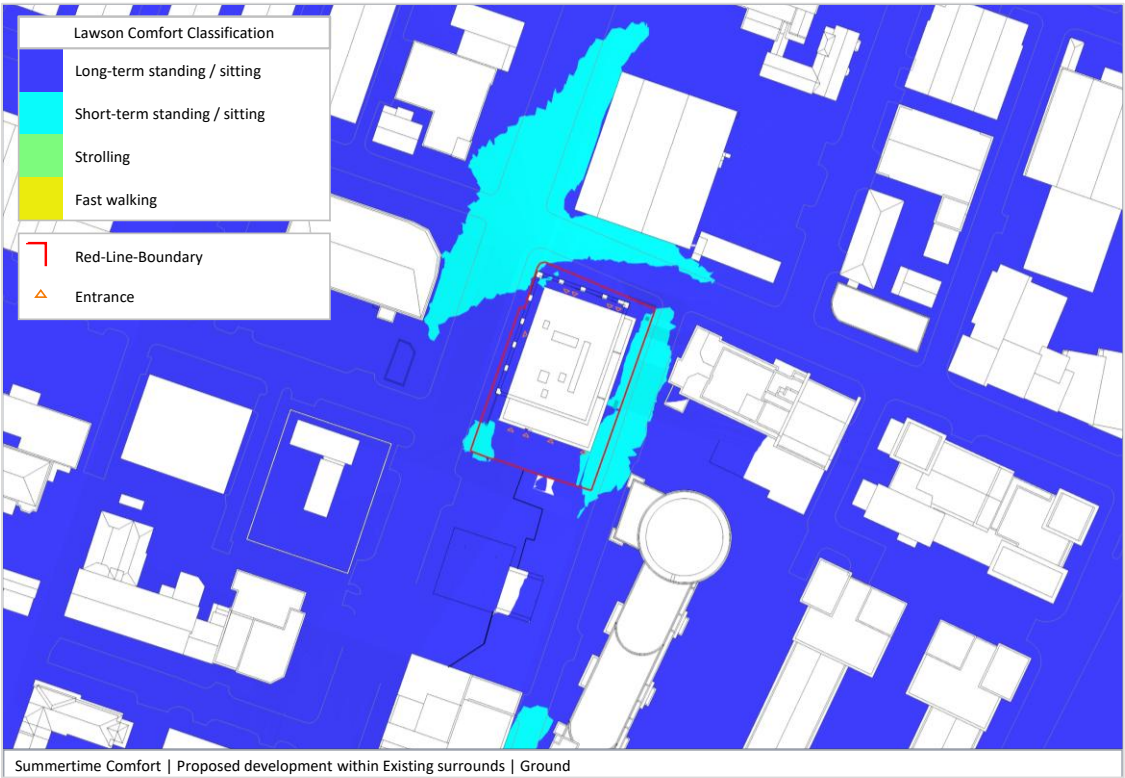


Figure 7.7: Configuration 2 - Proposed development within existing surrounds – Comfort – Summer season – Ground

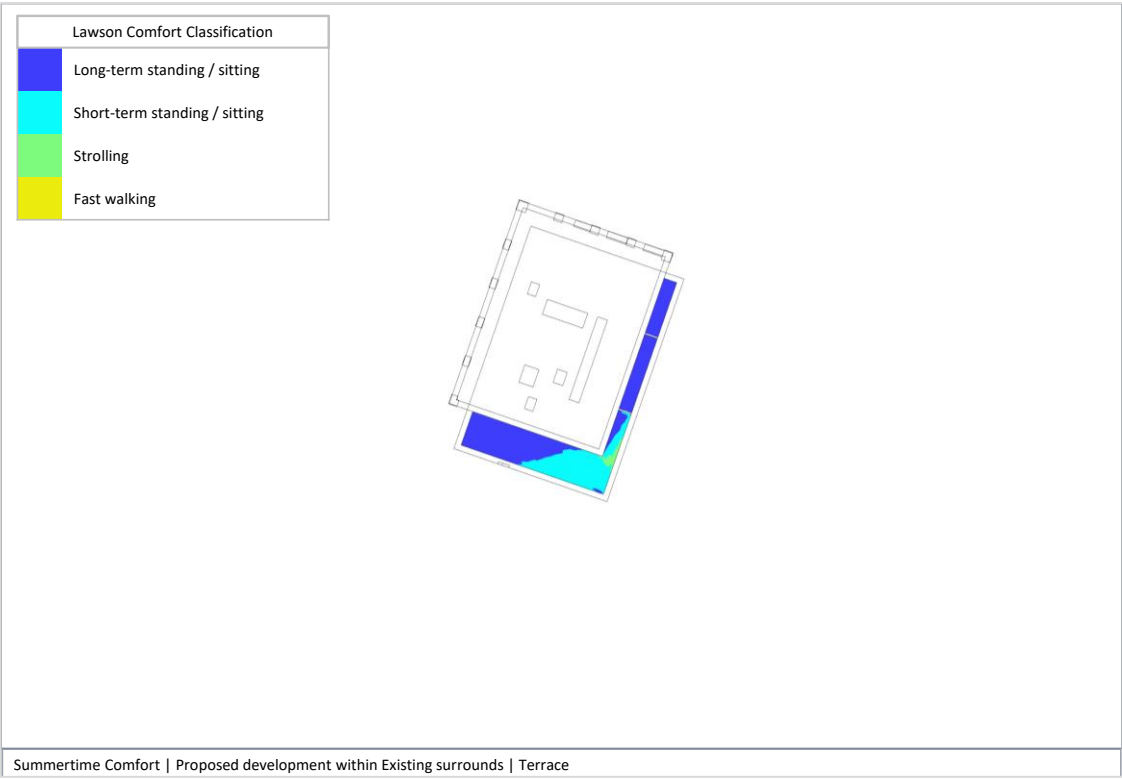


Figure 7.8: Configuration 2 - Proposed development within existing surrounds – Summer season – Terrace

Assessment of Residual Effects

Additional Mitigation

7.69 No additional mitigation measures are required as part of the design.

Demolition and Construction Stage

7.70 No significant effects are predicted and consequently no additional mitigation is required.

Completed Development Stage

7.71 No significant effects are predicted and consequently no additional mitigation is required.

Enhancement Measures

7.72 There would be no likely significant adverse environmental effects in relation to wind microclimate; therefore, no additional enhancement or mitigation measures are required.

Demolition and Construction Residual Effects

7.73 As no additional mitigation measures would be required, the residual demolition and construction effects remain as reported in the Demolition and Construction Effects section.

Completed Development Residual Effects

7.74 As no additional mitigation measures would be required, the residual completed development effects remain as reported in the Completed Development Effects section.

Summary of Residual Effects

7.75 Table 7.9 provides a tabulated summary of the outcomes of the assessment of the proposed development.

Table 7.9: Summary of Residual Effects									
Receptor	Description of Residual Effect	Additional Mitigation	Scale and Significance of Residual Effect **	Nature of Residual Effect*					
				+ +/- -	D I	P T	R IR	St Mt Lt	
Demolition and Construction									
Off-site pedestrians and demolition and construction workers	Wind conditions meeting safety standard criteria of wind conditions.	None required	Negligible (Not Significant)	+/-	D	T	R	St	
Completed Development									
Off- and on-site Pedestrians	Safety - Effect on pedestrian safety at the site and study area caused by wind conditions.	None required	Negligible (Not Significant)	+/-	D	P	IR	Lt	
	Throughfares - Wind conditions at all site throughfares are suitable for at least short-term standing conditions throughout the year	None required	Negligible (Not Significant)	+/-	D	P	IR	Lt	
	Entrances - Wind conditions at all site entrances are suitable for at least short-term standing condition throughout the year	None required	Negligible (Not Significant)	+/-	D	P	IR	Lt	
	Terraces - Wind conditions at all site terraces are suitable for at least short-term standing throughout the year	None required	Negligible Adverse(Not Significant)	+/-	D	P	IR	Lt	
	Surrounding areas - wind conditions are suitable for existing pedestrian activities	None required	Negligible Neutral (Not Significant)	+/-	D	P	IR	Lt	
Notes: * - = Adverse/ + = Beneficial/ +/- = Neutral; D = Direct/ I = Indirect; P = Permanent/ T = Temporary; R = Reversible/ IR = Irreversible; St = Short-term/ Mt = Medium-term/ Lt = Long-term. **Negligible/Minor/Moderate/Major									

Cumulative Effects

Intra-Project Effects

7.76 As explained in Chapter 2: EIA Process and Methodology, intra-project cumulative effects are discussed in Chapter 10: Cumulative Effects.

Inter-Project Effects

7.77 Table 7.10 provides a summary of the likely cumulative effects resulting from the proposed development and the cumulative developments.

Table 7.10: Inter-Project Cumulative Effects				
Cumulative Development	Demolition and Construction		Completed Development	
	Cumulative Effects Likely?	Reason	Cumulative Effects Likely?	Reason
Brewery Gardens	No	No significant changes to the wind microclimate are expected, given that the development is not located within pathways of the prevailing wind.	No	No significant changes to the wind microclimate are expected, given that the development is not located within pathways of the prevailing wind.
Land Bounded by The Travelodge and Surface Level Carparking to the North, Further Surface Level Carparking to The East, Manchester College to The South and Bury New Road to the West Manchester	No	No significant changes to the wind microclimate are expected as the scheme is located outside the study area.	No	No significant changes to the wind microclimate are expected as the scheme is located outside the study area.
Land Bounded by Great Ducie Street and Mirabel Street Manchester M3 1PJ	No	No significant changes to the wind microclimate are expected as the scheme is located outside the study area.	No	No significant changes to the wind microclimate are expected as the scheme is located outside the study area.
Salford City Council	No	No significant changes to the wind microclimate are expected as the scheme	No	No significant changes to the wind microclimate are expected as the scheme is located outside the study area.

Table 7.10: Inter-Project Cumulative Effects				
Cumulative Development	Demolition and Construction		Completed Development	
	Cumulative Effects Likely?	Reason	Cumulative Effects Likely?	Reason
		is located outside the study area.		
Former Boddingtons Brewery Site Dutton Street Manchester M3 1LE	No	No significant changes to the wind microclimate are expected as the scheme is located outside the study area.	No	No significant changes to the wind microclimate are expected as the scheme is located outside the study area.
Manchester College	No	No significant changes to the wind microclimate are expected as the scheme is already complete and has been treated as part of the existing environment.	No	No significant changes to the wind microclimate are expected as the scheme is already complete and has been treated as part of the existing environment.
Red Bank Victoria	No	No significant changes to the wind microclimate are expected, given that the development is not located within pathways of the prevailing wind.	No	No significant changes to the wind microclimate are expected, given that the development is not located within pathways of the prevailing wind.
Land At 33 - 41 Cheetham Hill Road Manchester M4 4FT	No	No significant changes to the wind microclimate are expected, given that the development is not located within pathways of the prevailing wind.	No	No significant changes to the wind microclimate are expected, given that the development is not located within pathways of the prevailing wind.
1 Park Place Manchester M4 4EZ	No	No significant changes to the wind microclimate are expected, given that the development is not located within pathways of the prevailing wind.	No	No significant changes to the wind microclimate are expected, given that the development is not located within pathways of the prevailing wind.
Land Bound by Dantzic Street, Gould Street, Williamson Street and Bromley Street (Known as Victoria Riverside)	No	No significant changes to the wind microclimate are expected as the scheme is under construction and has been treated as part of the existing environment.	No	No significant changes to the wind microclimate are expected as the scheme is under construction and has been treated as part of the existing environment.

Table 7.10: Inter-Project Cumulative Effects				
Cumulative Development	Demolition and Construction		Completed Development	
	Cumulative Effects Likely?	Reason	Cumulative Effects Likely?	Reason
Land Bounded by Dantzic Street & Aspin Lane, Land Bounded by Gould Street & Angel Meadows and Land bounded by Old Mount Street, School Street, Naples Street & Ludgate Street	No	No significant changes to the wind microclimate are expected, given that the development is not located within pathways of the prevailing wind.	No	No significant changes to the wind microclimate are expected, given that the development is not located within pathways of the prevailing wind.
Land at Corporation Street "New Victoria Phase 2"	No	No significant changes to the wind microclimate are expected as the scheme is located outside the study area.	No	No significant changes to the wind microclimate are expected as the scheme is located outside the study area.

- 7.78 When considered on an individual basis, none of the cumulative developments listed within Table 7.10, are expected to have a meaningful impact on the wind conditions within and around the Proposed Development, due to their distance from the site, specific location or scale. However, due to the number of cumulative developments, and thus the potential for compounding effects, it is considered prudent to assess a scenario including the cumulative developments; the results are outlined below.
- 7.79 Figures 7.9, 7.10, 7.11, 7.12 and 7.13 present the pedestrian comfort wind conditions for the proposed development within cumulative surrounds.

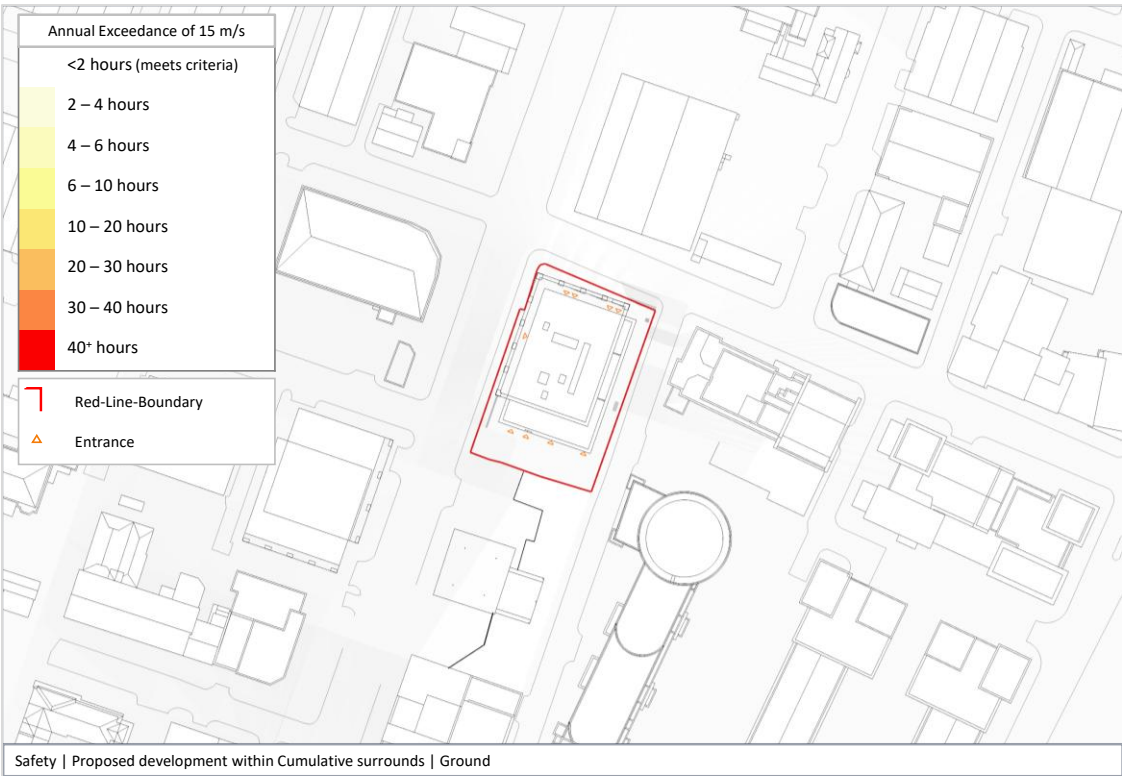


Figure 7.9: Configuration 3 - Proposed development within cumulative schemes – Safety – Ground

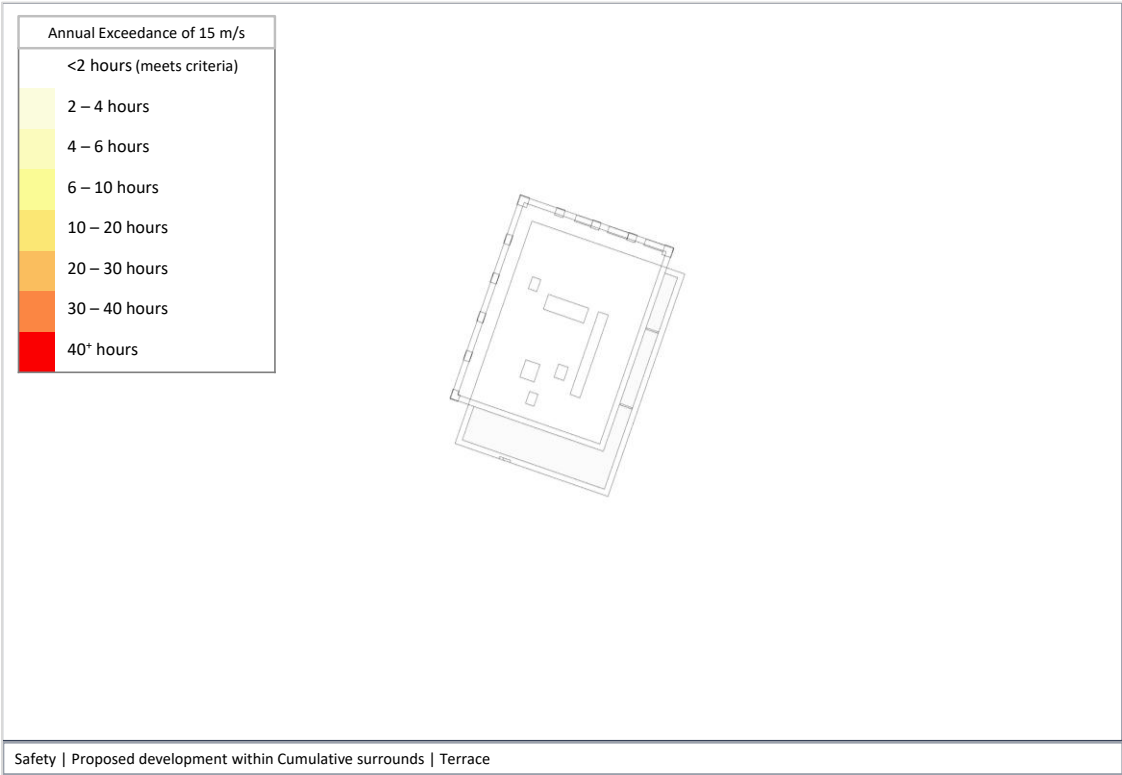


Figure 7.10: Configuration 3 - Proposed development within cumulative schemes – Safety – Terrace

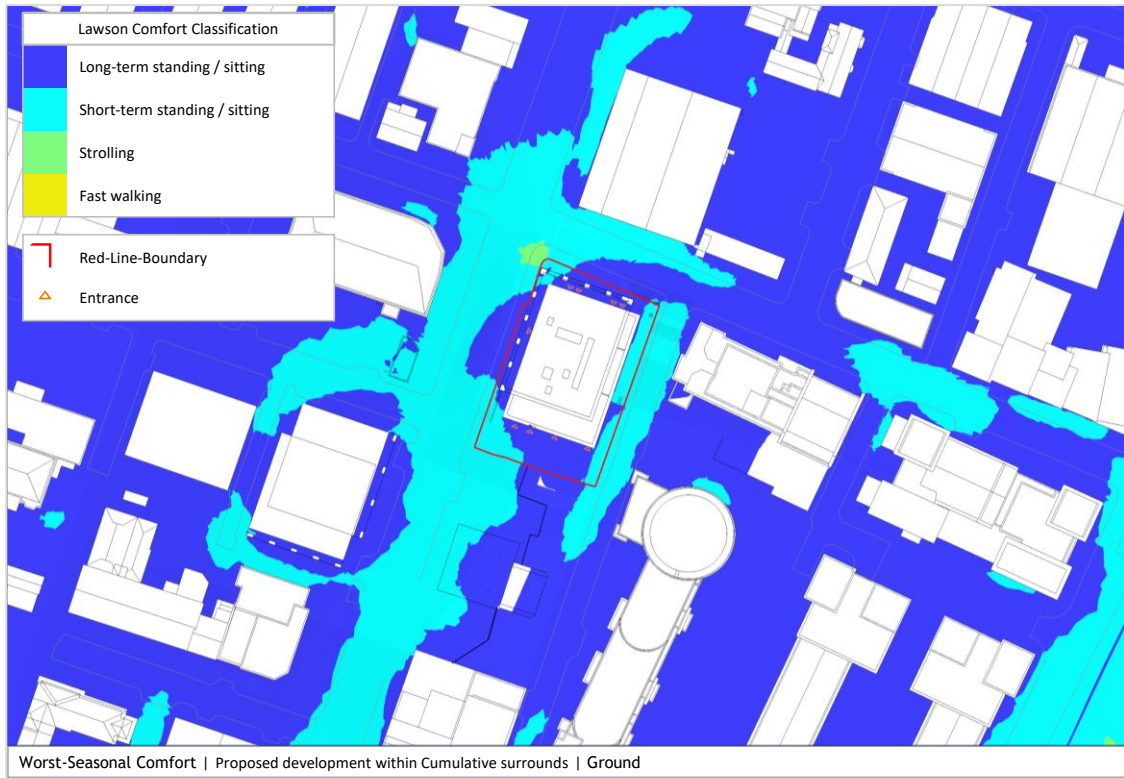


Figure 7.11: Configuration 3 - Proposed development within cumulative schemes – Comfort – Worst seasonal

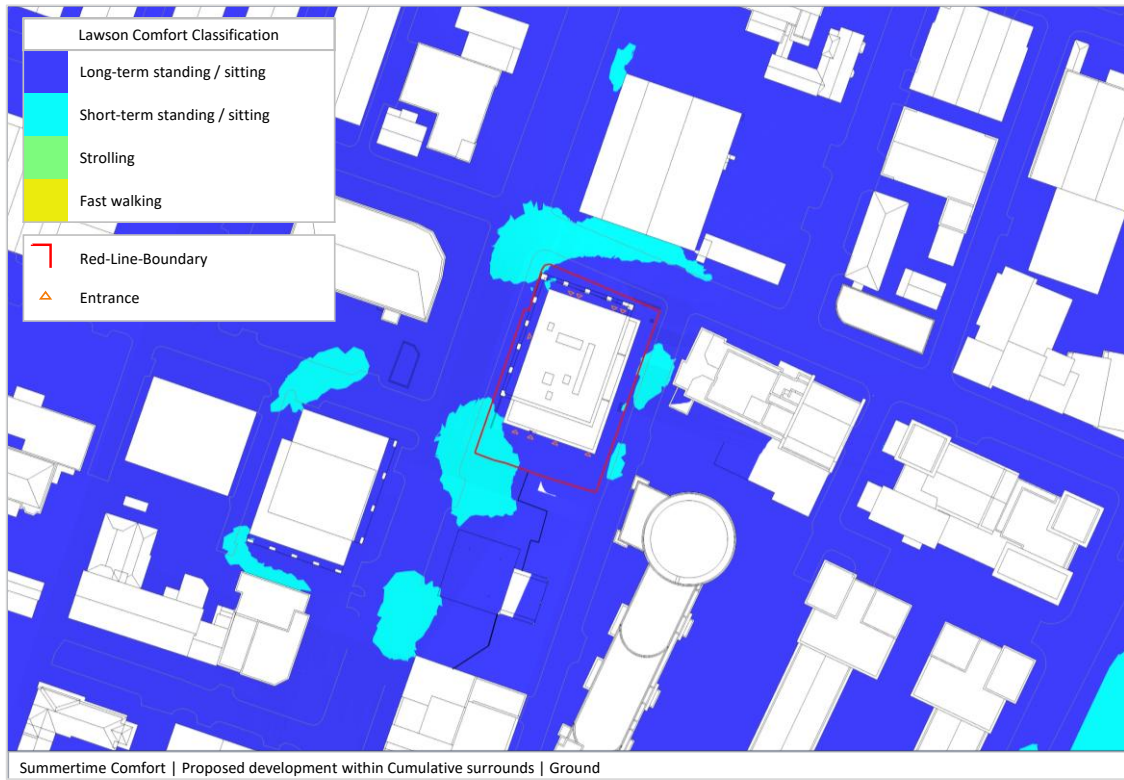


Figure 7.12: Configuration 3 - Proposed development within cumulative schemes – Comfort – Summer season – Ground

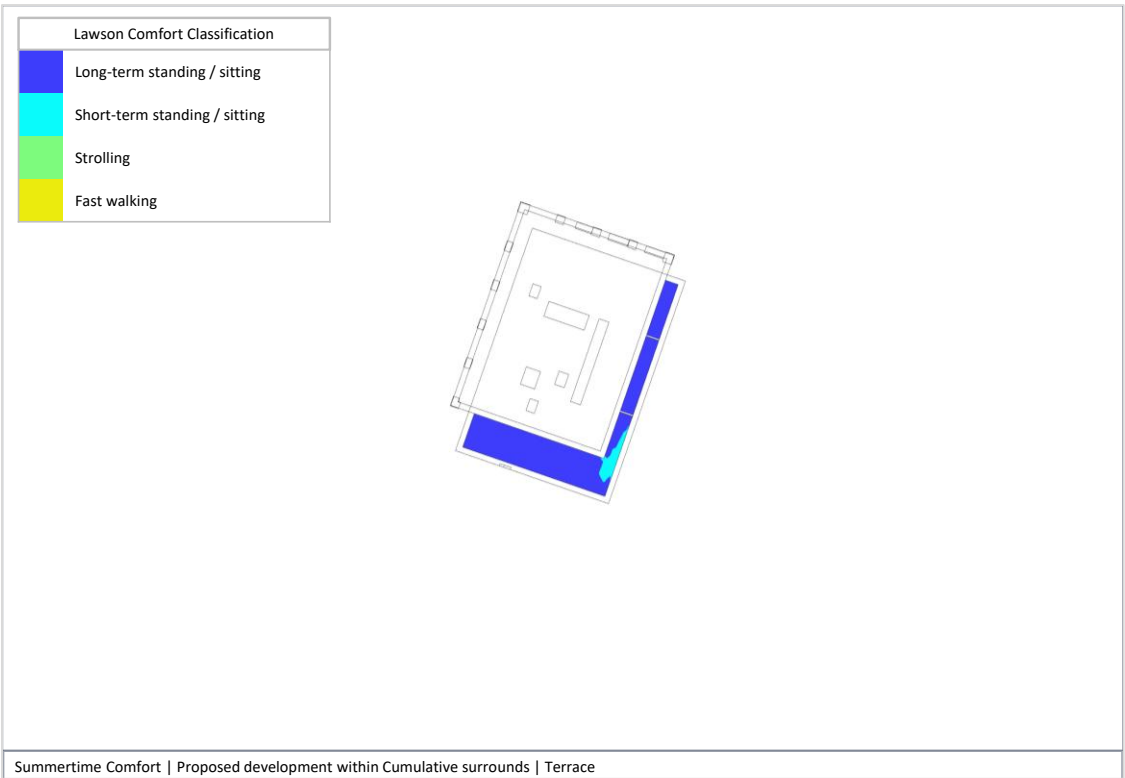


Figure 7.13: Configuration 3 – Proposed development within cumulative schemes – Comfort – Summer season – Terrace

Demolition and Construction Cumulative Effects

7.80 The cumulative effects during demolition and construction are expected to be temporary, short-term, **Negligible**.

Completed Development Cumulative Effects

7.81 The cumulative effect during completed development is expected to be permanent, long-term, **Negligible**.

Summary of Assessment (NTS) Background

- 7.82 This chapter has detailed the potential wind microclimate effects due to the demolition and construction stage and the completed development stages of the proposed development. The assessment has been undertaken taking into account the relevant national, regional and local legislation, policy and guidance.
- 7.83 For the demolition and construction stage wind conditions have been assessed qualitatively, using professional judgement of an experienced wind engineer, based on an assessment of the background wind climate at the site and the results from the computer modelling.
- 7.84 For the completed development stage, computer modelling was undertaken. Three configurations were tested using a digital model of the proposed development and the study area taking into account the existing baseline and future baseline with cumulative schemes.
- 7.85 Meteorological data for the site shows prevailing winds from the south throughout the year with a secondary peak from the west, mainly during the summer months.

- 7.86 Baseline conditions meet the safety criteria and are suitable for at least short-term standing or better throughout the year. Thus, wind conditions are comfortable for pedestrian movement and access at building entrances throughout the study area.

Demolition and Construction Effects

- 7.87 During the demolition and construction works, there would be potential for wind to blow into and across any open areas of the site. However, the construction site would be occupied only by site workers, whose sensitivity to windy conditions would be reduced, while pedestrians moving elsewhere in the study area would be too far to notice any effect of a cleared site due to site hoardings. As a result, during demolition and construction works, there are no significant effects predicted on off-site and on-site receptors and consequently no additional mitigation is required.

Completed Development Effects

- 7.88 During the completed development stage, the wind conditions within and around the site would continue to meet the wind safety and comfort criteria.
- 7.89 The inclusion of cumulative developments leads to an improvement on the terrace where strolling conditions are no longer present, adjusting the negligible adverse effect to negligible neutral effect (remaining not significant).
- 7.90 Overall, it is considered that the completed proposed development would result in **Negligible** effects on the wind microclimate and identified receptors and as such would not give rise to significant effects on the wind microclimate conditions.

Cumulative Effects

- 7.91 Following the introduction of the completed proposed development, the wind conditions within and around the site would continue to meet the wind safety and comfort criteria.
- 7.92 Overall, it is considered that the completed proposed development would result in **Negligible** effects on the wind microclimate and identified receptors, and as such would not give rise to significant effects on the wind microclimate conditions.

8 SOCIOECONOMICS AND HUMAN HEALTH

Introduction

- 8.1 This chapter of the ES reports on the likely significant socioeconomics and human health effects to arise from the demolition and construction stage and the completed development stage of the proposed development.
- 8.2 The chapter describes
- the socioeconomics and human health policy context;
 - the methods used to assess the potential impacts and likely effects;
 - the baseline conditions at the site and within the study area;
 - the effects taking into consideration embedded mitigation;
 - the need for additional mitigation and enhancement;
 - the significance of residual effects; and
 - inter-project cumulative effects.
- 8.3 The chapter is supported by the following technical appendices in ES Volume 3:
- Technical Appendix 8.1: Policy and Guidance

Methodology

- 8.4 The assessment has been informed by the following legislation, policies and published guidance:
- International Legislation:
 - There is no international legislation relating to the assessment of socio-economics;
 - There is no international legislation relating to the assessment of human health;
 - National Legislation, Policy and Guidance:
 - National Planning Policy Framework (2024);
 - Regional Policy and Guidance:
 - Greater Manchester Combined Authority Places (GMCA) for Everyone Joint Development Plan;
 - Greater Manchester Combined Authority Strategy (GMCA) 2024-203; and
 - Greater Manchester Combined Authority (GMCA) Housing Strategy 2024;
 - Local Policy and Guidance:
 - Manchester City Council (MCC) Local Plan;
 - Manchester City Council (MCC) Core Strategy Development Plan Document; and
 - Relevant Supplementary Planning Documents.
 - Topic Specific Guidance and Industry Standards:
 - Additionality Guide (2014);
 - Institute of Sustainability and Environmental Professionals (ISEP) (formerly IEMA) publications including
 - Social Impact Assessment in EIA in the UK;
 - Delivering Proportionate EIA;
 - Demystifying Cumulative Effects;

- Determining Significance for Human Health in Environmental Impact Assessment and other good practice guidance.
- ISEP Guide to Scoping in Human Health Assessment and Health in Environmental Impact Assessment; and
- HUDU and other relevant guidance on planning for health, health infrastructure and healthy built environments.

8.5 Further details are provided in ES Volume 3: Technical Appendix 8.1: Policy and Guidance.

Consultation

- 8.6 At the time of writing, consultation relevant to socioeconomics and human health has comprised of the formal EIA scoping process with Manchester City Council (MCC) and Statement of Community Involvement (SCI) through which the proposed scope and methodology for this topic have been presented and agreed in principle. No separate topic-specific consultation has been undertaken beyond the scoping process.
- 8.7 Table 8.1 summarises the consultation that has been undertaken with respect to the human health and socioeconomics assessment.

Table 8.1: Summary of Consultation		
Consultee and Form/Date of Consultation	Summary of Comments	Where in this Chapter Comments are addressed
EIA Scoping Opinion		
Manchester City Council, Scoping Opinion Report, 5 th January 2026	The comments within your Scoping Report are noted and are acceptable in terms of their consideration in the ES.	N/A
Other Consultation		
Statement of Community Involvement (SCI) – Public consultation event and online consultation, held 2 December 2025 (SCI dated 17/12/2025)	A public consultation event was held and promoted via a dedicated website, leaflet drop (approximately 1,500 leaflets) and email invitations to local Councillors. No members of the public attended the event and no responses were received via the online survey. One Councillor responded by email, raising comments relating to the consultation process, venue accessibility and affordable housing provision.	The consultation process and outcomes are summarised in ES Chapter 6 (Consultation). No socio-economic or human health issues were raised through public consultation that require assessment or mitigation within this chapter. The absence of public representations is noted in the baseline and assumptions for the socioeconomics and human health assessment.

Assessment Scope

- 8.8 The socioeconomics and human health assessment has followed a proportionate, pathway-based approach in line with relevant ISEP guidance on social impact assessment, human health and proportionate EIA. The assessment has focussed on those determinants of health and socioeconomic

impacts that, as identified through scoping, have reasonable potential to result in significant effects for a development of this nature. Professional judgement has been applied within the structured framework set out in this chapter.

Technical Scope

- 8.9 Consistent with the EIA scoping report, the technical scope of the assessment has considered the following impact pathways:
- Housing: Provision of housing to meet local and wider needs and any implications for housing supply and choice;
 - Open space, leisure and play: Change in demand for open space, leisure and play space arising from the introduction of new residents or loss of open space;
 - Employment and income (construction): Temporary employment and income generation associated with demolition and construction activities, including for local residents and the wider Greater Manchester labour market; and
 - Built environment and design: Potential effects on daylight and sunlight and wind microclimate as these relate to residential amenity and health, drawing on the Daylight, Sunlight and Overshadowing and Wind Microclimate Assessments; and design aspects of the proposed development relevant to inclusive, safe and healthy environments, including private and community amenity space and access.
- 8.10 Determinants such as air quality, noise and vibration, climate change mitigation and adaptation, land quality, risk-taking behaviour, diet and nutrition, relocation, community identity, social participation, education and training, health and social care services, and crime and safety have been considered at scoping and, for reasons set out in the EIA Scoping Report, are not expected to give rise to likely significant effects from the proposed development and are therefore scoped out of detailed assessment.

Spatial Scope

- 8.11 The study area comprises have been determined by means of professional judgement, and industry best practice. The study areas used for each of the assessment topics, are outlined in Table 8.2 below, as well as Figure 8.1.

Table 8.2: Study Areas	
Impact/Receptor/Infrastructure	Study Area
Population (including relating to health)	Cheetham ward
Housing	MCC area and GMCA area
Open space, leisure and play space	Cheetham ward
Employment and income	MCC area and GMCA area
Built Environment	For Daylight, Sunlight and Overshadowing, the site and immediate surroundings. For Wind Microclimate, the site and all relevant build structures in the immediate surroundings.

¹ Office for National Statistics (2025) Census 2021. Available at: https://www.nomisweb.co.uk/sources/census_2021
² Ministry of Housing, Community and Local Government (2025) Indices of Multiple Deprivation 2025. Available at: <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2025>
³ Including the Business Register and Employment Survey 2025 and Annual population Survey 2025.

Temporal Scope

- 8.12 The assessment has considered impacts arising during the demolition and construction stage. These would be expected to be temporary and short to medium-term (5-10 years). The completed development stage, on the other hand, would be expected to be permanent and long-term (i.e. more than 10 years).

Baseline Characterisation Method

Desk Study

- 8.13 Baseline conditions for socioeconomics and human health have been established by desk-based review of publicly available data and published sources. Data was obtained from the following sources:
- Office for National Statistics (ONS) Census 2021¹
 - Indices of Multiple Deprivation (2025)²
 - Business Register and Employment Survey, Claimant Count and other ONS labour market statistics³
 - Public Health England data (as reported in the Fingertips service)^{4,5}

Field Study

- 8.14 The socioeconomics and human health assessment has been based on secondary data. No primary surveys or monitoring were required. The data available from secondary sources is considered adequate and representative for the purposes of this assessment.

Assessment Method

- 8.15 The assessment has adopted the overall EIA methodology described in ES Chapter 2 and the approach to human health and social impact assessment set out in relevant ISEP guidance.
- 8.16 The method comprises:
- identifying relevant socioeconomic and heath impact pathways for the proposed development;
 - establishing the existing, and where appropriate, future baseline conditions;
 - identifying sensitive receptors, including vulnerable population groups;
 - assessing the magnitude of change for each impact pathway, informed by quantitative estimates of population, child yield and construction employment where feasible;
 - assigning receptor sensitivity;
 - combining magnitude and sensitivity to determine the scale and significance of effects, using professional judgement; and
 - identifying additional mitigation, and where relevant, enhancement measures and reassessing residual effects.

Demolition and Construction Stage

- 8.17 For the demolition and constructions stage, the assessment has focussed on:
- temporary direct and indirect employment and income generation associated with the demolition and construction programme;

Completed Development Stage

- 8.18 For the completed development stage, the assessment has focussed on:

⁴ Public Health England (2025) Fingertips – Local health, public health data for small geographic areas. Available at: <https://fingertips.phe.org.uk/profile/local-health/data#page/1/qid/1938133180/pat/6/ati/501/are/E08000003/iid/93084/age/169/sex/4/cat/-1/ctp/-1/yr/1/cid/4/tbm/1>
⁵ Public Health England (2025) Fingertips – Ward Data (October 2025). Available at: <https://fingertips.phe.org.uk/profile/local-health>

- the contribution of 251 new homes to local and wider housing needs, having regard to type and mix;
- changes in demand for open space, leisure and play associated with the new resident population;
- the quality of the built environment and residential amenity (including daylight/sunlight and wind microclimate effects provided by the relevant technical assessments); and
- implications for human health and health inequalities via these determinants.

Cumulative Stage

8.19 The assessment of inter-project cumulative effects has considered the proposed development in combination with the cumulative schemes identified in the EIA Scoping Report and ES Chapter 5, where these are likely to interact spatially and temporally with the proposed development for socio-economic and human health outcomes.

Assessment Criteria

8.20 The criteria used to assess if an effect is significant or not, is set out in subsequent sub-sections. This is determined by consideration of the sensitivity of the receptor, magnitude of impact and scale of the effect. In considering the significance of an effect, consideration has been given to the duration of the effect, the geographical extent of the effect and the application of professional judgement. The assessment of socioeconomic and human health effects has been undertaken in accordance with the method set out by ISEP’s *Determining Significance for Human Health in Environmental Impact Assessment (2022)*.

Receptor Sensitivity

8.21 The sensitivity of receptors has been classified as low, medium or high, in accordance with the criteria set out in Table 8.3.

Table 8.3: Receptor Sensitivity Criteria	
Sensitivity	Criteria
Low	Receptors with low vulnerability and high adaptive capacity, for whom the change would represent a small proportion of total activity or wellbeing.
Medium	Receptors with some vulnerability and moderate adaptive capacity.
High	Receptors with high vulnerability and/or limited adaptive capacity, or for whom policy places particular emphasis.

Impact Magnitude Criteria

8.22 The magnitude of impact has been classified as low, medium or high, in accordance with the criteria set out in Table 8.4.

Table 8.4: Impact Magnitude Criteria	
Magnitude of Impact	Criteria
Low	Small change to the baseline; affects a small proportion of the receptor; short-term or limited in geographic extent.
Medium	Noticeable change in level or quality of provision, access our outcome; affects a moderate proportion

Table 8.4: Impact Magnitude Criteria	
Magnitude of Impact	Criteria
	of the receptor or area; may require some adjustment b the receptor.
High	Substantial change in level or quality of provision, access or outcome; affects a large proportion of the receptor or area; maybe compromise continued functioning of services or lead to substantial changes in socioeconomic or health outcomes.

Significance Criteria

8.23 Impacts have been assessed on the basis of the value/sensitivity of receptors against the magnitude of impact to determine the scale of effect as presented in Table 8.5.

Table 8.5: Significance Criteria			
Magnitude of Impact	Sensitivity of Receptors		
	Low	Medium	High
Low	Negligible	Negligible - Minor	Minor
Medium	Negligible - Minor	Minor	Moderate
High	Minor	Moderate	Major

8.24 Based on professional judgement, moderate and major effects are considered significant in EIA terms.

8.25 In determining the significance of reported effects, consideration has been given to the type of effect i.e. direct, indirect or secondary, the geographical extent of the effect and the duration of the effect i.e. temporary which is considered to be either short term (up to five years) or medium term (5-10 years) or permanent (10 years or more).

8.26 Duration of effect has been described as short-, medium- or long-term-, in accordance with the criteria set out in Table 8.8.

Table 8.6: Duration of Effects Criteria	
Duration	Criteria
Short	Effects lasting up to 5 years, typically associated with the demolition and construction stage. These effects are temporary, limited in duration, and generally reversible once construction activities conclude.
Medium	Effects lasting between 5 and 10 years, extending beyond completion into early occupation and operation. These may persist through initial phases of resident settlement or local service adjustment, and may be reversible depending on the nature of the impact.
Long	Effects lasting more than 10 years during the operational life of the proposed development. These may be permanent or difficult to reverse, and are often associated with sustained changes in population, housing, access to services, amenity or community infrastructure.

Nature of Effect Criteria

- 8.27 The nature of the effect has been described as either adverse, neutral or beneficial as follows:
- Beneficial – An advantageous effect to a receptor;
 - Neutral – An effect that on balance, is neither beneficial nor adverse to a receptor or is equally beneficial and adverse to a receptor; or
 - Adverse – A detrimental effect to a receptor.

Assumptions and Limitations

- 8.28 This socioeconomics and human health assessment has been undertaken using a proportionate, evidence-led approach in accordance with ISEP guidance and the overall EIA methodology set out in ES Volume 2 Chapter 2: EIA Process and Methodology. The assessment has relied on publicly available secondary data sources, professional judgement and information provided by the project team regarding the proposed development. No primary data collection, surveys or monitoring have been undertaken as part of this assessment.
- 8.29 Baseline socio-economic and population characteristics have been derived primarily from the Office for National Statistics Census 2021¹, Indices of Multiple Deprivation 2025², labour market statistics³ and publicly available health datasets, including Fingertips profiles^{4,5}. It is assumed that these datasets accurately reflect prevailing conditions within Cheetham ward and the wider Manchester context. While some datasets may not fully capture more recent post-pandemic changes or short-term population movements, they are considered sufficiently robust and appropriate for the purposes of this assessment.
- 8.30 The assessment of open space, leisure and play has been undertaken on a qualitative basis. MCC does not currently apply a single adopted quantitative open space or play space standard expressed as a fixed square-metre requirement per resident. As a result, the assessment has focused on accessibility, availability of nearby facilities and housing mix. Professional judgement, rather than the application of numerical standards, has been applied in reaching conclusions. This approach is considered appropriate and proportionate in the absence of locally defined quantum benchmarks.
- 8.31 The assessment of built environment and design effects, including daylight, sunlight and wind microclimate, has drawn upon the findings of the relevant technical assessments reported in separate ES chapters. This chapter does not replicate those technical analyses but interprets their findings in socio-economic and human health terms. It is assumed that the conclusions of those technical assessments are accurate and robust.
- 8.32 The assessment has not considered individual behavioural responses or personal lifestyle choices, which can influence health outcomes, as these are inherently uncertain and outside the control of the proposed development. Instead, the assessment focuses on population-level effects and reasonable worst-case assumptions.

Baseline Conditions

Existing Baseline

Introduction to the Area, Local Population and Key Receptors

- 8.33 The proposed development is located in the ward of Cheetham, to the north of Manchester city centre, in the district area of Manchester City Council, as outlined in Figure 8.1.
- 8.34 The overall proposed development aims to deliver:
- 251 residential units;
 - a mix of 1- and 2-bedroom mix of 1- and 2-bedroom apartments;
 - 4 townhouses;

- dedicated cycle facilities; and
- associated basement and ground floor works.

8.35 The characteristics of the resident population of the study area are outlined below. Data for the study area relates to the Cheetham ward.

Population

- 8.36 Recent population statistics from ONS Census 2021 note there are 21,475 residents in Cheetham ward.
- 8.37 Cheetham ward’s population equates to 3.89% of Manchester’s total population of 551,934.

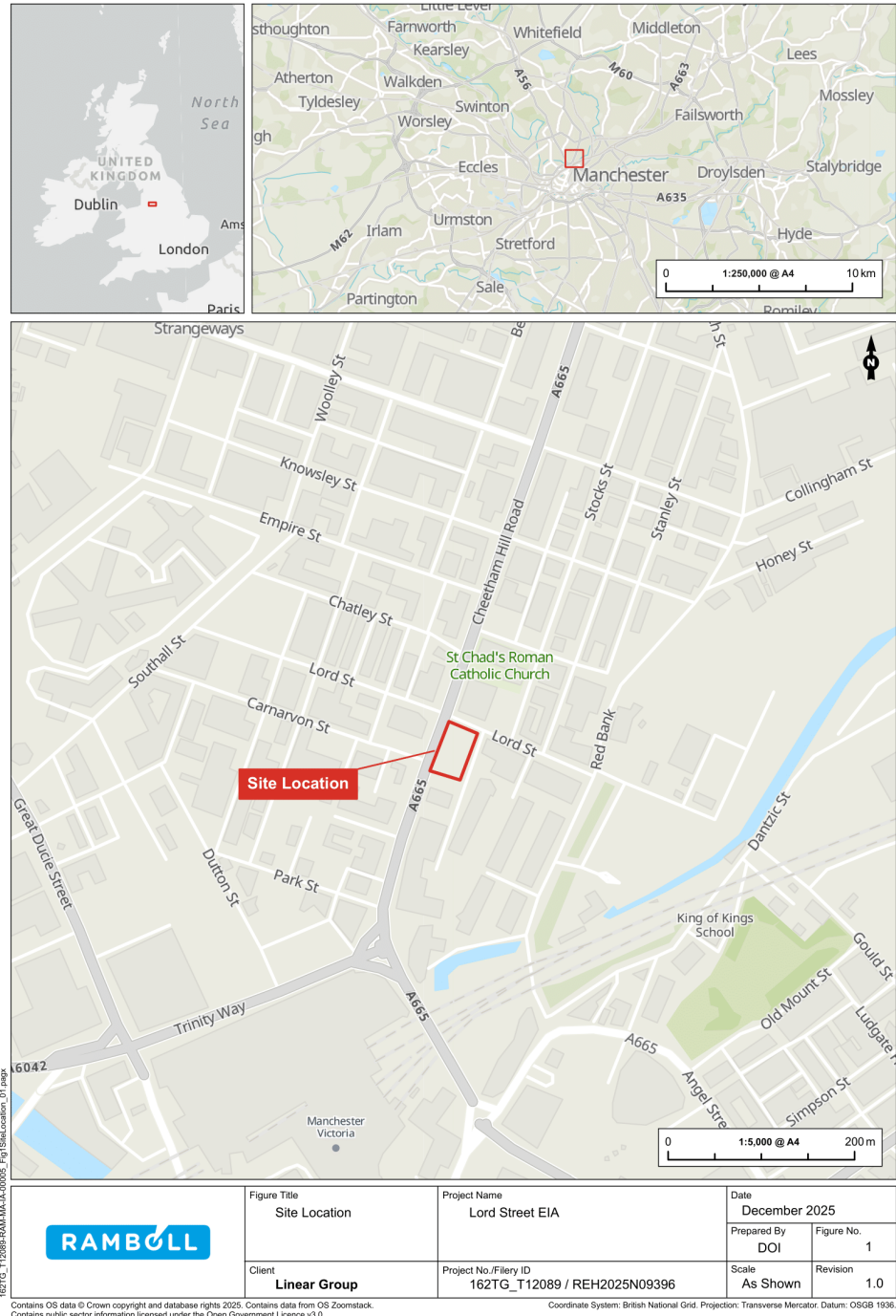


Figure 8.1 Site Location Map

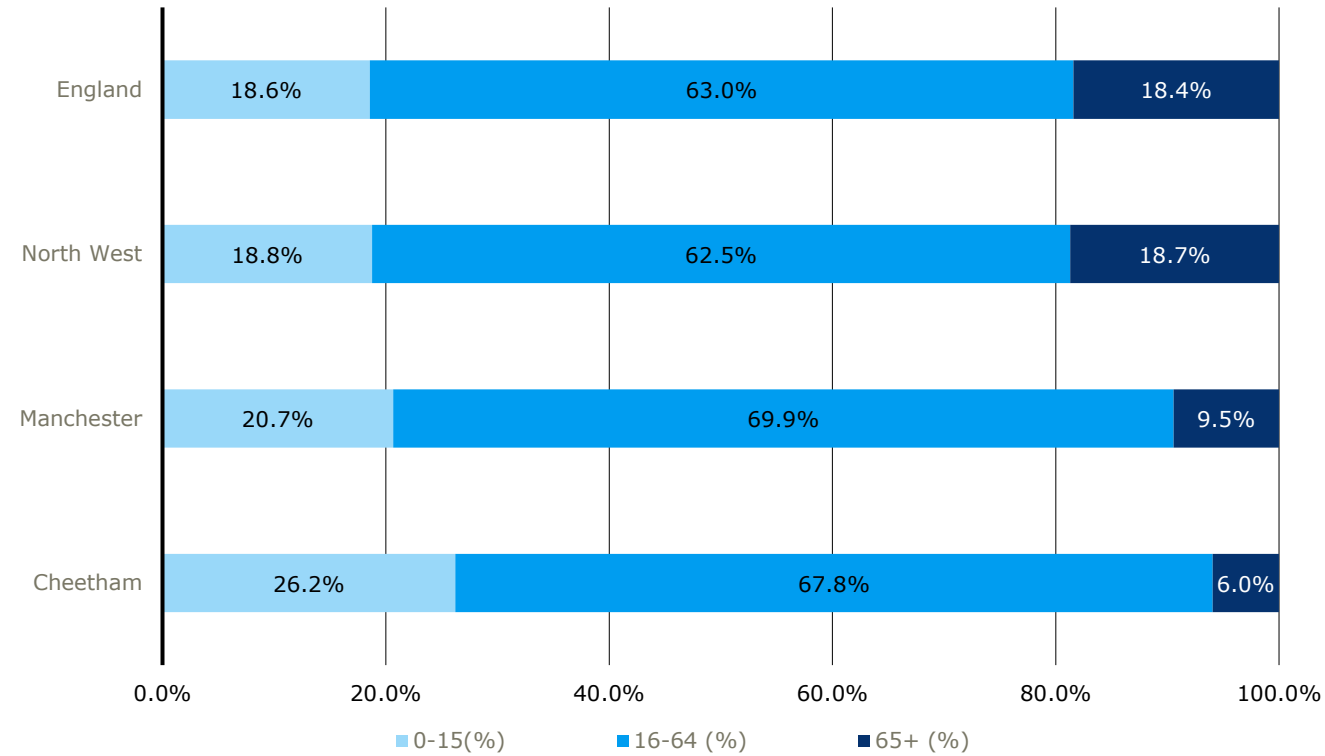


Figure 8.2 Population by Age (% of Total Population)

Source: ONS Census 2021

- 8.38 In terms of age structure, the proportion of residents who were of working age (18-64 years) in Cheetham was 67.8%. This is marginally lower than the rate for Manchester as a whole (69.9%), yet higher than both the North West regional average (62.5%) and the national figure (63.0%).
- 8.39 The ward also has a comparatively young profile. Only 8.0% of Cheetham’s population were aged 65 years and over, which is somewhat below the proportions for Manchester (9.5%), the North West (18.7%) and England (18.4 %).
- 8.40 Children and young people (0-15 years) accounted for 28.2% of Cheetham’s residents. This is somewhat higher than Manchester (20.7%), the North West (18.8%) and England (18.6%).

Ethnicity

- 8.41 Cheetham ward’s ethnic profile diverges markedly from wider comparators (see Figure 8.2). White residents comprise just 28.7%, compared with 58.8% in Manchester, 85.6% across the North West and 81.0% nationally.
- 8.42 By contrast, 48.1% of Cheetham’s population identify as Asian, Asian British or Asian Welsh. This is more than double the Manchester average of 20.9% and around five times the national figure of 9.6%. The ward also records higher proportions of people from Mixed or Multiple ethnic groups (11.5%) relative to Manchester 5.3%, the North West 2.3% and England 3.0%.
- 8.43 Black, Black British, Black Welsh, Caribbean or African communities account for 5.0%, below Manchester 11.9% but above the regional 2.2% and close to England 4.2%. A further 8.7% of residents identify with Other ethnic groups, exceeding the shares for Manchester 5.1%, the North West 1.5% and England 2.2%.

8.44 Overall, these figures highlight Cheetham’s ethnic diversity, characterised by a markedly lower proportion of White residents, and significantly higher representations of Asian and Mixed ethnic groups than are evident at city-wide, regional and national scales.

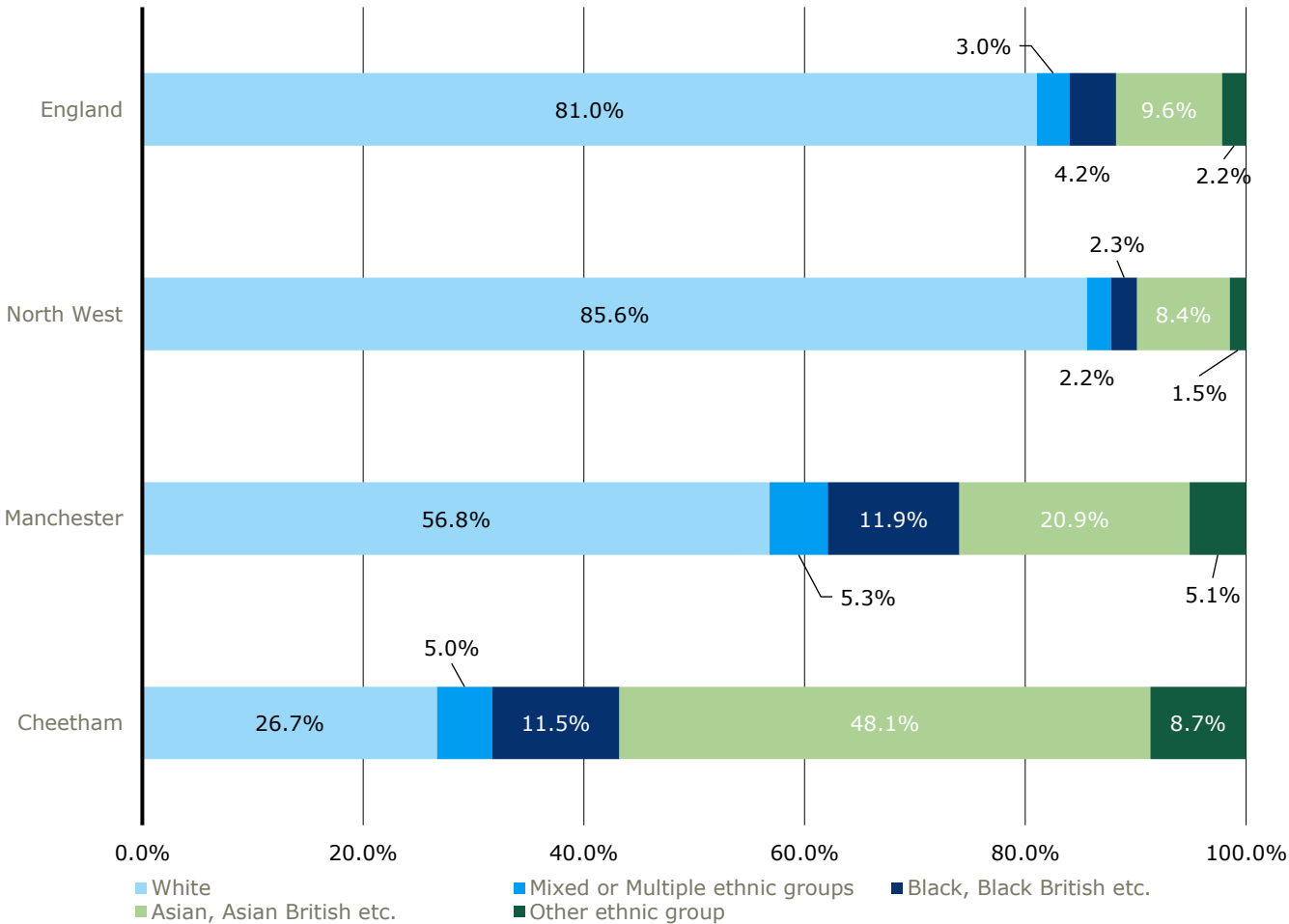


Figure 8.3 Ethnicity distribution (% of Total Population)

Source: ONS Census 2021

Religion

- 8.45 Table 8.7 indicates that more than half of Cheetham’s residents identify as Muslim (54.3%), a share that is over twice the Manchester average of 22.3% and about seven times higher than the regional 7.6% and national 8.7% figures.
- 8.46 Conversely, only 20.6% of the ward’s population identify as Christian, below Manchester’s 38.2%, the North West at 52.5% and England at 48.3%.
- 8.47 Just 14.8% of residents report having no religion, less than half the proportions recorded for Manchester 32.4%, the North West 32.6% and England 38.7%, indicating a comparatively high level of religious affiliation in the ward.
- 8.48 Other faith groups are present in smaller numbers, such as Hindu 1.4%, Sikh 1.7%, Buddhist 0.6% and Jewish 0.6%. While each of these figures is broadly in line with or slightly above city and national averages, they collectively reinforce Cheetham’s position as one of Manchester’s most religiously diverse wards.

Table 8.7 Religion distribution (% of Total Population)

Self-Reported Religion	Cheetham	Manchester	North West	England
No Religion	14.8%	32.4%	32.6%	38.7%
Christian	20.6%	38.2%	52.5%	48.3%
Buddhist	0.6%	0.6%	0.3%	0.5%
Hindu	1.4%	1.1%	0.7%	1.8%
Jewish	0.6%	0.5%	0.4%	0.5%
Muslim	54.3%	22.3%	7.6%	8.7%
Sikh	1.7%	0.5%	0.2%	0.9%
Other Religion	0.2%	0.5%	0.4%	0.6%
Not Answered	5.8%	5.9%	5.3%	8.0%

Source: ONS Census 2021

Deprivation

- 8.49 The Indices of Multiple Deprivation (IMD) (2025) measure relative deprivation in small areas in England, known as lower-layer super output areas (LSOAs), typically containing around 1,500 residents or 650 households. Deprivation is assessed based on seven domains, which are combined to form an overall index: income; employment; health deprivation and disability; education and skills training; crime; barriers to housing and services; and living environment.
- 8.50 Figure 8.4 illustrates overall deprivation in the ward of Cheetham, using smaller Lower Layer Super Output Areas (LSOAs).
- 8.51 Of the 9 LSOAs within the Cheetham ward, six (Manchester 058A, Manchester 056A, Manchester 008A, Manchester 058B, Manchester 008C, and Manchester 056B) are ranked among the 10% most deprived areas in terms of overall deprivation. These LSOAs particularly exhibit high levels of deprivation in the income and employment domains, indicating substantial socio-economic challenges. For example, Manchester 058A, 056A, 008A, and 058B all score a 1 in overall deprivation, highlighting the highest levels of deprivation.
- 8.52 The remaining three LSOAs (Manchester 056C, Manchester 058C, and Manchester 008H) show varied levels of deprivation. Manchester 056C, in particular, is ranked as decile 7 overall, placing it among the 30% least deprived areas nationally. These LSOAs demonstrate mixed outcomes across different domains, with improvements in education, skills training, and barriers to housing and services, as depicted in Table 8.8 and Figure 8.4. This analysis underscores significant deprivation issues within the Cheetham ward, especially in income, employment, health, and education domains.

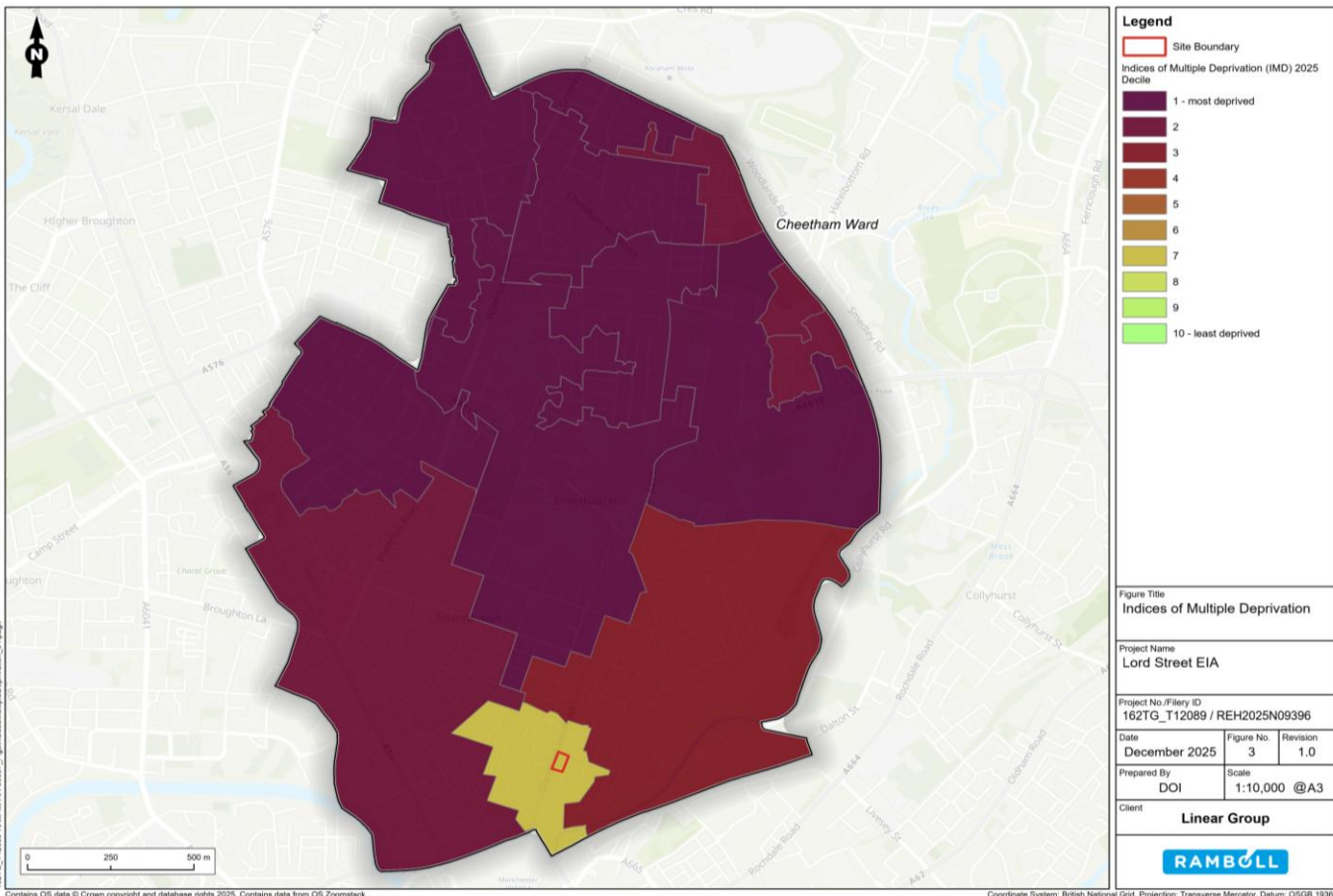


Figure 8.4 IMD map of Study Area

Table 8.8 Indices of Multiple Deprivation 2025 for Cheetham ward

LSOA name (2021)	Overall	Income	Employment	Education, Skills and Training	Health	Crime	Barriers to Housing and Services	Living Environment
Manchester 058A	1	1	1	1	1	1	1	7
Manchester 056A	1	1	2	2	2	3	1	1
Manchester 008A	1	1	2	2	3	3	1	2
Manchester 058B	1	1	2	2	2	1	1	6
Manchester 008C	1	1	3	1	3	5	1	1
Manchester 056B	7	10	10	7	3	4	3	4
Manchester 056C	3	5	7	2	1	2	2	5
Manchester 058C	2	3	5	4	1	1	2	4
Manchester 058D	1	1	2	3	2	2	2	8
Manchester 056D	1	1	1	2	1	1	1	4
Manchester 008H	2	1	2	3	3	3	1	3

Source: MHCLG, October 2025

Health

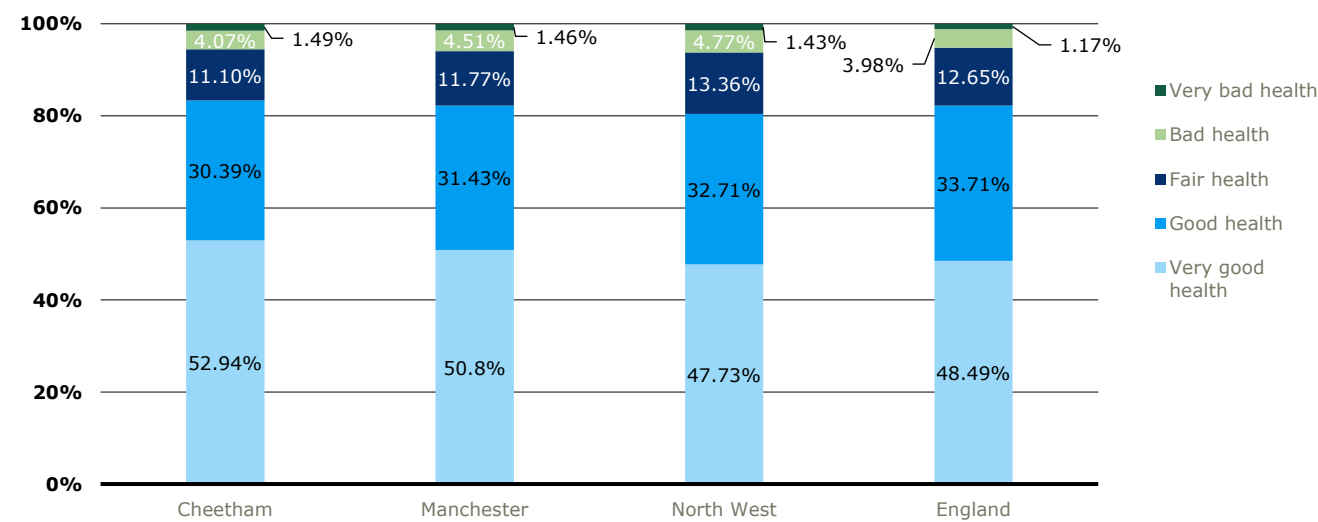


Figure 8.5 Self-Reported Health Outcomes (% of Total population)

Source: ONS Census 2021

- 8.53 Self-reported health provides a high-level indicator of population health and wellbeing, reflecting both physical and mental health status, and broader social determinants. Figure 8.5 presents Census 2021 self-reported health outcomes for Cheetham ward compared with Manchester, the North West and England.
- 8.54 In Cheetham, 52.9% of residents report their health as “very good” and a further 30.4% report “good” health. Approximately 11.1% of residents report “fair” health, while around 4.1% report “bad” or “very bad” health. The proportion of residents reporting “very good” health is marginally higher than the Manchester average, but lower than the England average. The combined proportion of residents reporting “fair”, “bad” or “very bad” health, is broadly comparable with Manchester and higher than the national average.
- 8.55 Data indicates that a notable proportion of Cheetham’s population experiences less than good self-reported health. While self-reported health is subjective, higher proportions of “fair” and “bad” health are commonly associated with increased prevalence of long-term conditions, reduced wellbeing and greater reliance on health and support services. These patterns are consistent with the ward’s demographic profile, and levels of deprivation identified elsewhere in this baseline.

Table 8.9 Obesity rates for Cheetham ward and comparators

	Cheetham	Manchester	North West	England
Reception prevalence of obesity (including severe obesity) (% of population)	11.6	11.5	10.5	9.8
Reception prevalence of overweight (including obesity) (% of population)	21.1	23.9	23.7	22.3
Year 6 prevalence of obesity (including severe obesity) (% of population)	29.6	27.6	23.6	22.3
Year 6 prevalence of overweight (including obesity) (% of population)	48.0	42.0	37.8	38.2

Source: PHE Fingertips

- 8.56 Prevalence rates of obesity and overweight conditions in early childhood provide a measure of public health, indicating risk factors for long-term health issues and highlighting areas in need of targeted interventions. Table 8.9 shows data from PHE Fingertips on the prevalence of obesity and overweight conditions in Reception and Year 6 children in Cheetham ward, compared to Manchester, the North West, and England.
- 8.57 In Cheetham, the reception prevalence of obesity (including severe obesity) is 11.6%, slightly higher than both the Manchester average of 11.5% and the North West average of 10.5%, and notably higher than the England average of 9.8%. Additionally, 21.1% of Reception children in Cheetham are classified as overweight (including obesity), which is lower than the Manchester and North West averages but comparable to the national average of 22.3%.
- 8.58 By Year 6, the prevalence of obesity (including severe obesity) in Cheetham rises significantly to 29.6%, surpassing the Manchester average of 27.6%, the North West average of 23.6%, and the England average of 22.3%.
- 8.59 Furthermore, 48.0% of Year 6 children in Cheetham are overweight (including obesity), which is higher than the Manchester average of 42.0%, the North West average of 37.8%, and the national average of 38.2%.

Table 8.10 Hospital admission rates in Cheetham ward and comparators

	Cheetham	Manchester	North West	England
Emergency hospital admissions: all causes (Standardised Admission Ratio)	135.7	131.1	NA	100
Cancer incidence: all cancers (Standardised Admission Ratio)	101.9	118.6	NA	100
Intentional self-harm: emergency hospital admissions (Standardised Admission Ratio)	67.4	80.8	NA	100
Alcohol-related conditions: admission episodes (Standardised Admission Ratio)	128.7	137.0	NA	100

Source: PHE Fingertips

- 8.60 Standardised Admission Ratios (‘SARs’) provide insight into the health status of a population and the burden placed on healthcare services. Table 8.10 presents PHE Fingertips data on emergency hospital admissions for various causes in Cheetham ward, compared to Manchester and England.
- 8.61 In Cheetham, the SAR for emergency hospital admissions from all causes stands at 135.7, which is higher than the Manchester average of 131.1 and significantly above the England standard of 100. The cancer incidence SAR in Cheetham is 101.9, lower than the Manchester average of 118.6 but slightly above the national standard of 100. Cheetham reports a SAR of 67.4 for emergency hospital admissions due to intentional self-harm, which is notably lower than the Manchester average of 80.8 and the England standard of 100.
- 8.62 The SAR for alcohol-related conditions in Cheetham is 128.7, below the Manchester average of 137.0 but significantly above the England standard of 100. This indicates a higher prevalence of alcohol-related admissions in Cheetham compared to the national average, although it is less severe than in Manchester overall. These statistics reveal important health challenges within Cheetham ward, with elevated rates of emergency admissions for various causes, and a notable burden of alcohol-related conditions.

Table 8.11 Mortality rates and life expectancy for Cheetham ward and comparators

	Cheetham	Manchester	North West	England
Mortality from all causes (Standardised Ratio, per 100)	124.0	138.1	112.3	100
Mortality from cancer (Standardised Ratio, per 100)	98.9	128.8	107.9	100
Mortality from cardiovascular disease (Standardised Ratio, per 100)	154.9	138.4	110.0	100
Mortality from coronary heart disease (Standardised Ratio, per 100)	187.2	165.3	118.2	100
Mortality from stroke (Standardised Ratio, per 100)	168.6	122.7	109.4	100
Mortality from respiratory diseases (Standardised Ratio, per 100)	148.2	165.2	124.2	100
Life expectancy at birth (Male)	75.7	75.2	77.6	79.1
Life expectancy at birth (Female)	81.0	79.6	81.6	83.0
Mortality from causes considered preventable (aged under 75)	149.5	165.6	125.0	100

Source: PHE Fingertips

- 8.63 Standardised Mortality Ratios ('SMRs') provide critical insight into the health status and mortality risks within a population, highlighting areas in need of targeted health interventions and preventive measures.
- 8.64 Table 8.11 presents PHE Fingertips data on mortality from various causes and life expectancy in Cheetham ward, compared to Manchester, the North West, and England. In Cheetham, the SMR for mortality from all causes is 124.0, which is lower than the Manchester average of 138.1 but higher than the North West average of 112.3 and significantly above the England standard of 100. The SMR for cancer mortality in Cheetham is 98.9, which is below the Manchester average of 128.8 and also slightly less than the North West average of 107.9. This indicates that Cheetham has a lower cancer mortality rate compared to Manchester and the North West but slightly higher than the national average.
- 8.65 Conversely, Cheetham has a significantly higher SMR for mortality from cardiovascular diseases at 154.9, which surpasses the Manchester average of 138.4 and the North West average of 110.0. The SMR for coronary heart disease in Cheetham stands at 187.2, notably higher than Manchester's average of 165.3 and the North West average of 118.2. Stroke mortality in Cheetham is also higher, with an SMR of 168.6, compared to 122.7 in Manchester and 109.4 in the North West. Mortality from respiratory diseases in Cheetham is elevated at 148.2, lower than Manchester's 165.2 but still above the North West average of 124.2.
- 8.66 Life expectancy at birth is another crucial indicator, where males in Cheetham have an expectancy of 75.7 years, slightly higher than the Manchester average of 75.2 years but lower than the North West average of 77.6 years and the national average of 79.1 years. Females in Cheetham have a life expectancy of 81.0 years, which is lower than both the Manchester average of 79.6 years and the North West average of 81.6 years and significantly below the national average of 83.0 years. Lastly, the SMR for mortality from causes considered preventable (aged under 75) in Cheetham is 149.5, which is lower than Manchester's 165.6 but higher than the North West average of 125.0 and substantially above the England standard of 100.

Housing

Household Size and Bedroom Provision

- 8.67 Household composition and dwelling size provide important context for understanding housing need, overcrowding risk and suitability of the existing housing stock, all of which are relevant to socio-economic conditions and human health. Figure 8.4 illustrates the distribution of households by number of bedrooms in Cheetham ward compared with Manchester, the North West and England.
- 8.68 The baseline indicates that Cheetham ward has a relatively high proportion of smaller dwellings. Approximately 17.3% of households occupy one-bedroom homes and 35.3% occupy two-bedroom homes. Combined, over half of all households in the ward live in dwellings with one or two bedrooms. This proportion is higher than the Manchester average, and notably higher than the England average, reflecting the dense urban nature of the area, and a prevalence of smaller housing units.
- 8.69 By contrast, the proportion of households living in larger homes is lower in Cheetham. Around 38.5% of households occupy three-bedroom dwellings, while only 11.0% live in homes with four or more bedrooms. This is substantially below the proportion of larger homes recorded nationally, where over one-fifth of households occupy dwellings with four or more bedrooms. The limited availability of larger homes in Cheetham has implications for larger households, including families with children, and may contribute to risks of overcrowding where household sizes exceed available bedroom space.
- 8.70 From a health perspective, higher concentrations of smaller dwellings can be associated with increased risks of overcrowding, reduced privacy and poorer mental wellbeing, particularly in areas with higher proportions of children and larger household sizes. These factors are relevant in Cheetham, given the ward's younger age profile and higher proportion of children compared with Manchester and wider comparators.

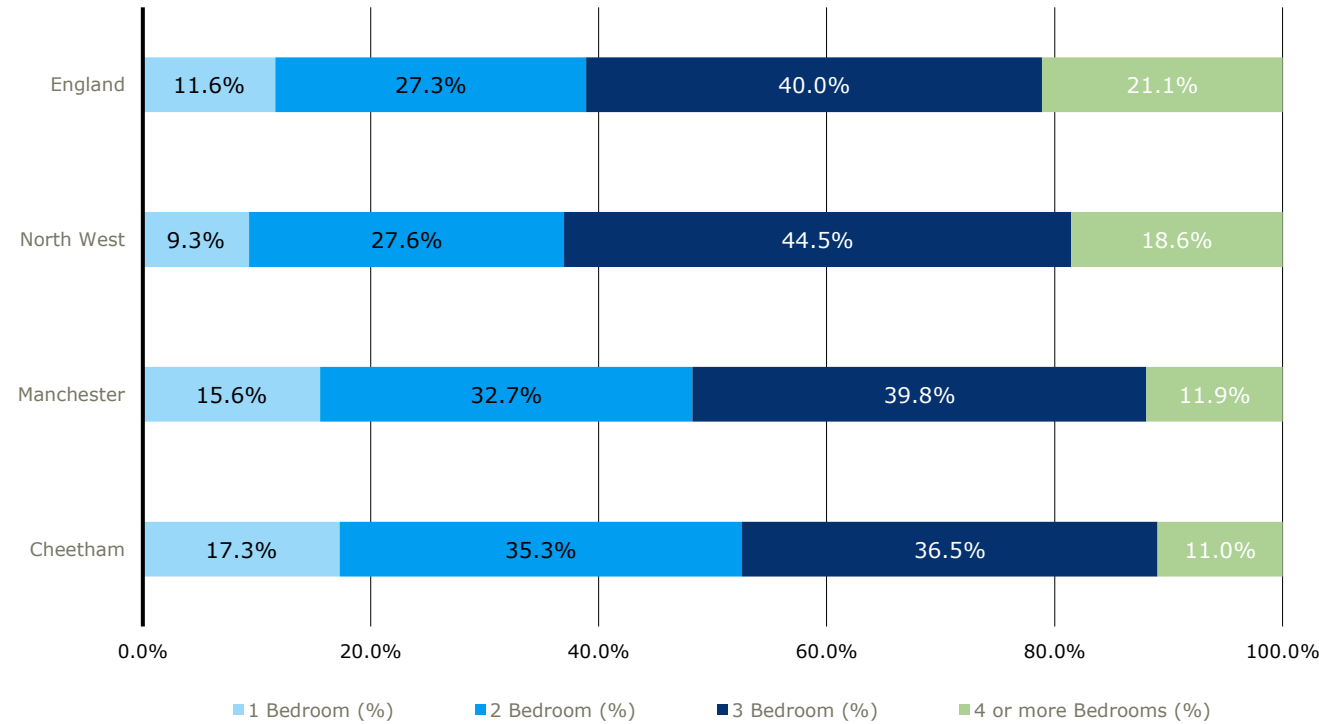


Figure 8.6 Households by number of Bedrooms (% of Total Households)

Source: ONS Census 2021

Households by Tenure

- 8.71 Housing tenure patterns provide further insight into affordability, housing security and socio-economic vulnerability. Figure 8.6 illustrates tenure distribution across Cheetham ward, Manchester, the North West and England.
- 8.72 Cheetham ward is characterised by a high reliance on the private rented sector. A substantial proportion of households are privately rented or living rent-free, significantly exceeding the proportions recorded for Manchester as a whole and markedly higher than regional and national averages. This contrasts with lower levels of owner occupation, both outright and with a mortgage, within the ward.
- 8.73 The proportion of households living in social rented accommodation in Cheetham is also notable, although private renting remains the dominant tenure. High levels of private renting are commonly associated with reduced housing security, higher housing costs relative to income and more frequent residential mobility. These characteristics can contribute to financial stress and poorer health outcomes, particularly for lower-income households and families with children.
- 8.74 Lower levels of owner occupation in Cheetham reflect wider socio-economic conditions, including lower average incomes and higher levels of deprivation. From a health perspective, tenure insecurity and affordability pressures are recognised determinants of mental health and wellbeing and can exacerbate existing health inequalities.

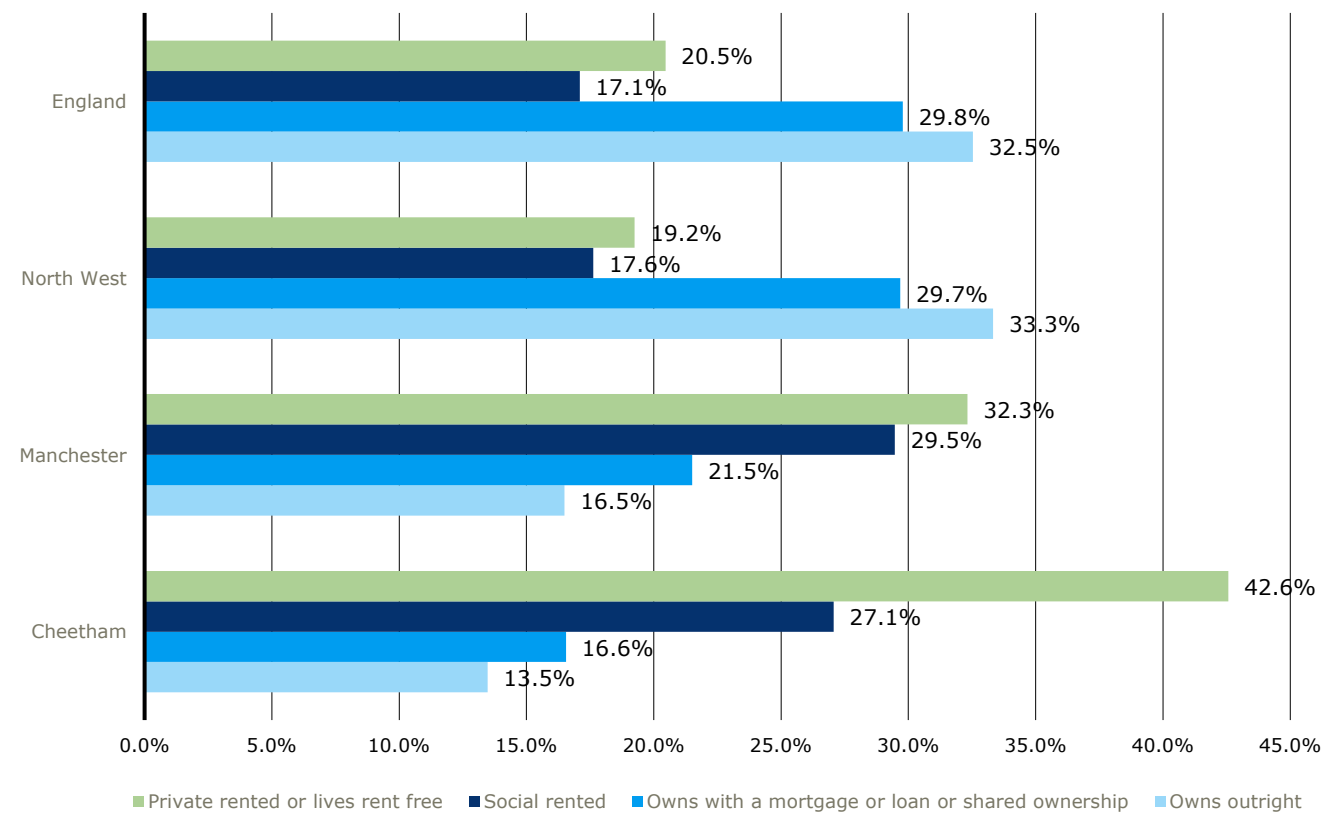


Figure 8.7 Households by number of Bedrooms (% of Total Households)

Source: ONS Census 2021

Housing Affordability

- 8.75 Housing affordability indicators further demonstrate baseline pressures within Manchester. Housing affordability ratios measure the relationship between median house prices and median income levels within a given area. Specifically, the ratio is calculated by dividing the median house price by the median annual earnings. A higher ratio indicates less affordable housing, meaning that a larger portion of median

earnings is required to purchase a median-priced home. Conversely, a lower ratio suggests more affordable housing relative to local incomes.

- 8.76 The median house price to median earnings ratio in Manchester for 2025 is approximately 8.5, compared with around 5.9 across the North West region. This indicates that housing in Manchester is less affordable relative to local incomes than the regional average. Over the past five years, the ratio in Manchester has been reported at 8.7 compared to 8.3 in the region, underscoring persistent affordability challenges in the city. The higher housing affordability ratio in Manchester signifies that residents need a larger proportion of their income to afford a home and exacerbating economic pressures.

Open space, Leisure and Play space

- 8.77 Cheetham ward is characterised by a dense urban form with a mix of residential, commercial and institutional land uses, and limited provision of large, high-quality public open space within the immediate neighbourhood, as illustrated in Figures 8.8 and 8.9.
- 8.78 Existing open space provision within the ward comprises a combination of formal parks, small landscaped spaces and incidental green areas, which together provide opportunities for recreation, walking and informal leisure. However, the quantity and accessibility of open space is constrained by the built-up nature of the area and historic patterns of development.

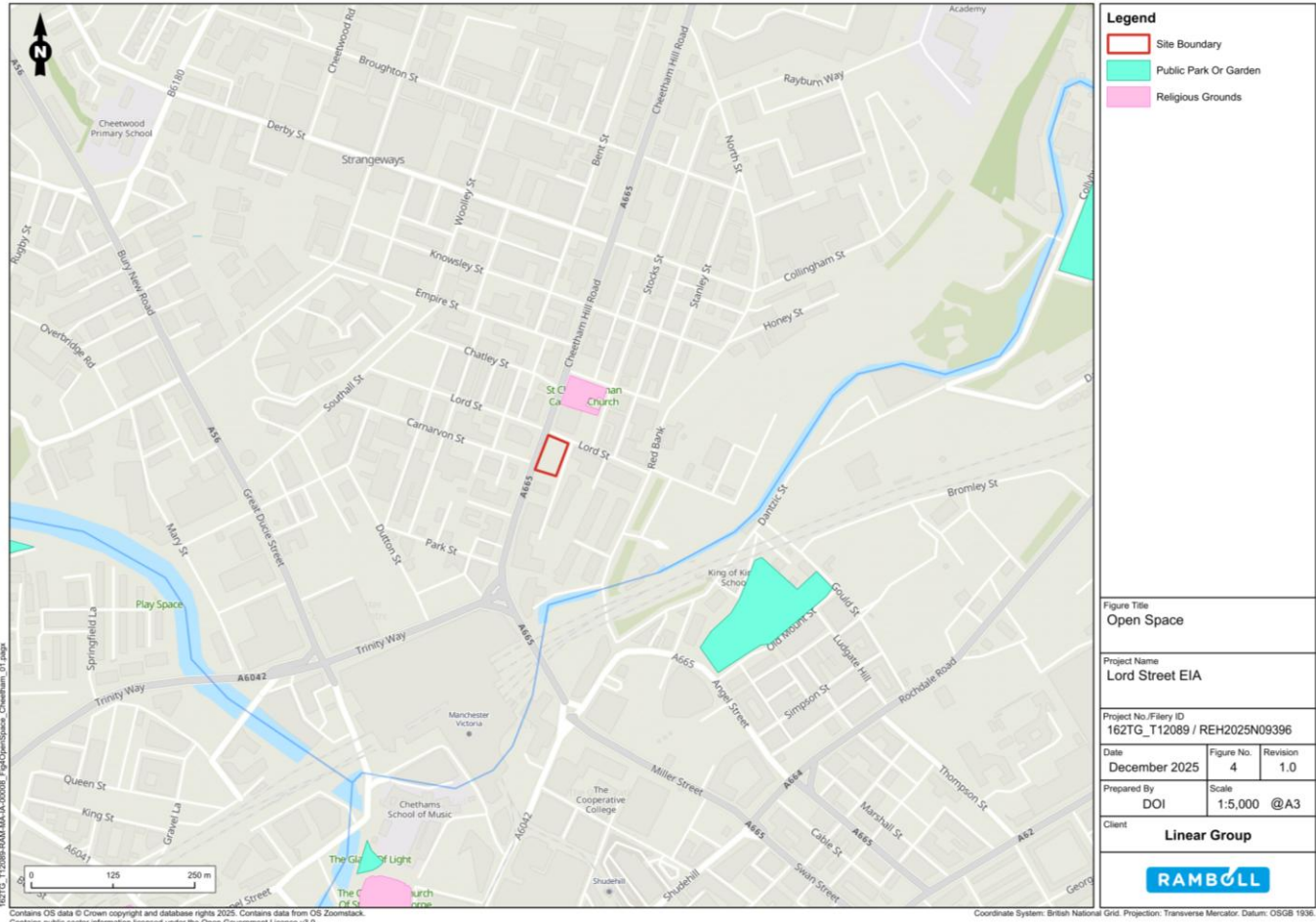


Figure 8.8 Open spaces in Study Area

- 8.79 Publicly accessible open spaces serving the ward include St Michael's Flags and Angel Meadow Park, Bellott Street Park and Cheetham Park. These spaces vary in size, function and quality, with larger parks such as Cheetham Park providing a wider range of recreational opportunities, while smaller spaces primarily support informal use, seating and pedestrian movement. Access to these spaces is generally on foot for local residents, although walking distances and route quality vary across the ward.

- 8.80 Baseline evidence indicates that parts of Cheetham ward experience high levels of deprivation, including within the living environment and health domains of the Indices of Multiple Deprivation. In this context, access to good-quality public open space is particularly important, as residents in more deprived areas are more likely to rely on public provision for outdoor recreation, physical activity and social interaction. Limitations in the quantity, capacity or quality of local open space may therefore have disproportionate implications for wellbeing and quality of life among existing residents.
- 8.81 Provision of dedicated children’s play space within Cheetham ward is limited and unevenly distributed. Formal play facilities are primarily located within larger parks, such as Cheetham Park, which includes a children’s play area and a multi-use games area. Other nearby open spaces offer limited or no dedicated play infrastructure and are more suited to informal recreation or passive use.

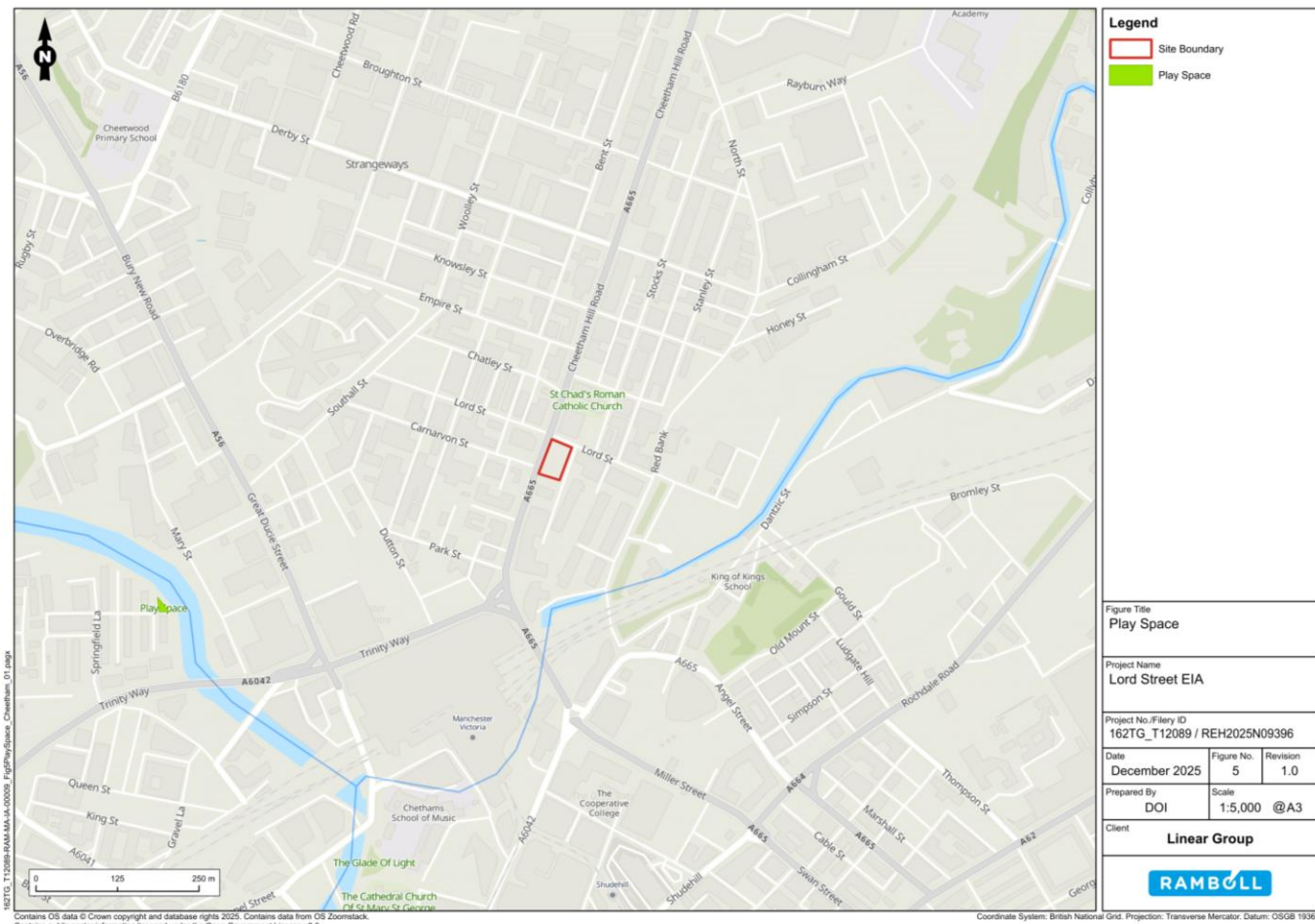


Figure 8.9 Play spaces in Study Area

- 8.82 The ward has a relatively young population profile compared with Manchester, the North West and England, with a higher proportion of children and young people. This demographic profile indicates an existing baseline demand for children’s play opportunities and youth recreation. Where access to formal play space is constrained by distance, capacity or quality, children and young people may have fewer opportunities for regular outdoor play and physical activity, which is recognised as an important determinant of physical health, mental wellbeing and social development.
- 8.83 Overall, the baseline position is one in which existing open space and play provision serves the ward but is limited in quantity relative to population density and demographic need. Children, young people and households in areas of higher deprivation are considered to be more sensitive to changes in access to open space and play facilities, given their greater reliance on local, publicly accessible provision.

Employment and Income
Employment Rates

- 8.84 Employment indicators provide context for baseline socio-economic conditions, and are closely linked to income, health outcomes and resilience to change. Data from the Annual Population Survey for the 12 months to June 2025 indicates that employment rates among working-age residents (aged 16–64) in Manchester are lower than those recorded for both the North West and England as a whole. Correspondingly, unemployment and economic inactivity rates are higher in Manchester relative to regional and national averages.
- 8.85 This pattern reflects the presence of structural labour market challenges within the city, including concentrations of deprivation, health-related economic inactivity and barriers to employment for some population groups. Within this context, employment conditions in wards such as Cheetham are influenced by both local labour market opportunities and city-wide economic trends. Higher levels of unemployment and economic inactivity are recognised as contributors to poorer health outcomes and reduced household resilience, particularly in communities experiencing multiple forms of deprivation.
- 8.86 Overall, baseline employment conditions indicate that parts of the local population may have increased sensitivity to changes affecting employment opportunities, income stability and access to local economic activity.

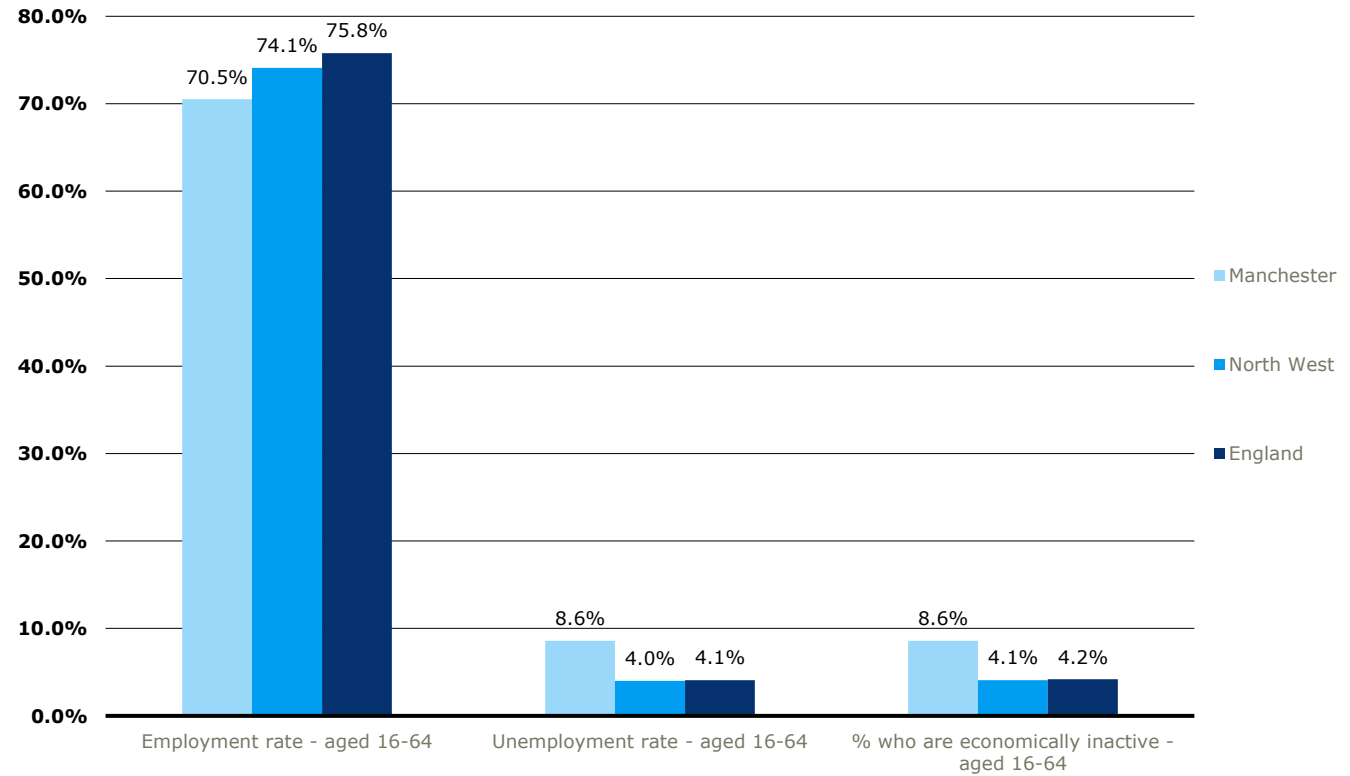


Figure 8.10 Employment rates (% of Total Population)
Source: Annual Population Survey (12 months to June 2025)

Occupation Distribution

- 8.87 The occupational structure of Manchester’s workforce provides further insight into baseline socio-economic conditions. As shown in Table 8.12, Manchester has a higher proportion of residents employed in professional occupations compared with the North West and England, reflecting the city’s role as a regional centre for higher-value service sectors, including professional services, education and healthcare.

- 8.88 At the same time, Manchester has lower proportions of residents employed in administrative and secretarial roles and skilled trades compared with regional and national averages. The city also has a broadly comparable proportion of residents employed in elementary occupations, caring and leisure roles, and process or plant operatives, indicating a mixed occupational profile that includes both higher-skilled and lower-paid employment.
- 8.89 This occupational distribution suggests that while parts of the workforce benefit from access to higher-skilled employment, a substantial proportion of residents remain employed in sectors that are more vulnerable to economic fluctuation and are often associated with lower pay and less secure working conditions. These factors are relevant to understanding baseline income levels and potential vulnerability to socio-economic change.

Table 8.12 Occupation Distribution (% of Active Workers)

Occupation Class	Manchester	North West	England
1: Managers, Directors and Senior Officials	8.8%	10.0%	11.5%
2: Professional Occupa-tions	34.9%	28.7%	27.2%
3: Associate Professional Occupations	12.7%	14.0%	15.1%
4: Administrative and Secretarial Occupations	5.5%	9.1%	9.2%
5: Skilled Trades Occupa-tions	5.6%	8.1%	8.3%
6: Caring, Leisure and Other Service Occupa-tions	9.4%	9.5%	8.4%
7: Sales and Customer Service Occupations	8.1%	8.4%	5.6%
8: Process, Plant and Ma-chine Operatives	7.7%	8.4%	5.6%
9: Elementary Occupa-tions	9.2%	9.5%	8.9%

Source: Business Register and Employment Survey 2024

Educational Attainment

- 8.90 Educational attainment within Cheetham ward is lower than that recorded for Manchester, the North West and England. Census 2021 data indicates that 25.0% of Cheetham’s working-age population have no formal qualifications, compared with 19.7% across Manchester and approximately 18–19% at regional and national levels.
- 8.91 Although over one-third of Cheetham residents hold Level 4 qualifications or above, the ward has lower proportions of residents with intermediate qualifications (Levels 2 and 3) compared with wider comparators. This polarised qualification profile reflects underlying inequalities in access to education and skills development and may contribute to barriers to employment progression and income growth for parts of the local population.
- 8.92 Lower qualification levels are also associated with poorer health outcomes and increased economic inactivity, reinforcing the sensitivity of the local population to changes affecting employment opportunities and the local economy.

Table 8.13 Highest Level of Qualification (% of Working Population)

Area	No Quali-fications	L1 and entry level	Appren-ticeship	L2 quali-fication	L3 quali-fication	L4 qualifi-cations or above	Other qualifica-tions
Cheetham	25.0%	9.7%	10.9%	3.0%	12.5%	35.1%	3.8%
Manchester	19.7%	8.0%	10.3%	3.5%	18.2%	37.6%	2.7%
North West	19.5%	9.7%	13.6%	5.9%	17.6%	31.2%	2.5%
England	18.1%	9.7%	13.3%	5.3%	18.9%	33.9%	2.8%

Source: ONS Census 2021

Income levels

- 8.93 Income data from the Annual Survey of Hours and Earnings for 2025, further illustrates baseline socio-economic conditions within Manchester. Median weekly earnings for Manchester residents are lower than those recorded for both the North West and England as a whole, with a median weekly income of £589 compared with £616 regionally and £648 nationally. Median annual earnings in Manchester (£36,278) are also below the North West (£37,445) and England (£39,243).
- 8.94 Lower median income levels reduce household resilience to cost pressures and are associated with increased risks of financial stress, poorer housing outcomes and adverse health effects. In wards such as Cheetham, where income deprivation is already prevalent, lower earnings contribute to heightened sensitivity to changes affecting employment stability, living costs and access to local services.
- 8.95 Overall, the baseline employment and income profile indicates that parts of the local population experience economic vulnerability, which is relevant to the assessment of socio-economic and human health effects arising from the proposed development.

Future Baseline

The ‘Do Nothing’ Scenario

8.96 The site is currently occupied by a vacant brownfield site, which was previously seven commercial units.

Future Population

- 8.97 The proposed development would be constructed in approximately 150 weeks (equating to approximately 38 months). As per Table 5.1 in ES Volume 3 Chapter 5: Demolition and Construction Description, the proposed development is expected to start in Q1 2027 and be completed in Q1 2030.
- 8.98 The recently released ONS 2022-based Sub National Population Projections (SNPP)⁶ model that over the anticipated build period of the Proposed Development, the population of Manchester is expected to increase by 1.3% from 610,495 to 621,718. This is slightly below what is modelled at the national level, of 1.4%.

Future Households

- 8.99 The proposed development would be constructed in approximately 150 weeks (equating to approximately 38 months). As per Table 5.1 in ES Volume 3 Chapter 5: Demolition and Construction Description, the proposed development is expected to start in Q1 2027 and be completed in Q1 2030.
- 8.100 The recently released ONS 2022-based Sub National Household Projections (SNPP)⁷ model that over the anticipated build period of the Proposed Development, the number of households in Manchester will increase by 3.28%, from 235,555 to 243,277 households. This is a higher expected increase than in the North West (2.62%) and England (2.69%).

Sensitive Receptors

- 8.101 The receptors identified as sensitive to the proposed development and which have been ‘scoped-in’ to the assessment are summarised in Table 8.14.

Table 8.14: Summary of Sensitive Receptors	
Receptor	Sensitivity
Existing residents within Cheetham Ward	High - The local population includes communities experiencing high levels of deprivation, poorer baseline health outcomes and limited adaptive capacity. Changes affecting housing quality, residential amenity, access to open space and environmental conditions may disproportionately affect wellbeing and quality of life.
Neighbouring residential occupants (including Jefferson Place, Barton Place, Britton House, The Hallmark, Melia House and Masson Place)	High – Residents are directly exposed to changes in daylight, sunlight and wind conditions affecting primary living spaces and residential amenity. Residential receptors are considered highly sensitive in socio-economic and health terms due to the importance of housing quality for wellbeing.
Children (existing and future residents)	High – Children and young people are particularly sensitive to changes affecting housing quality, access to daylight, sunlight, open space and play, all of which influence physical development, mental wellbeing and social outcomes.

⁶ Office for National Statistics (2025) ONS 2022-based Sub National Population Projections. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/subnationalpopulationprojectionsforengland/2022based>

Table 8.14: Summary of Sensitive Receptors	
Receptor	Sensitivity
Older people	High – Older people may spend longer periods indoors and are therefore more sensitive to changes in daylight, sunlight and thermal comfort. Reduced adaptive capacity increases sensitivity to changes in residential amenity and environmental conditions.
People with long-term illness, disability or reduced mobility	High – Individuals with underlying health conditions or mobility impairments may be more reliant on the quality of the indoor environment and nearby amenity space, and may be more vulnerable to reductions in comfort, daylight or opportunities for outdoor activity.
Local labour force	Low to Medium – The wider Greater Manchester labour market has a high adaptive capacity. Temporary employment effects are beneficial and short-term, and do not expose receptors to health risks.
Local economy and services	Low – The scale of population change associated with the development is small relative to the wider Manchester context, and local services and economic systems have high adaptive capacity.

Assessment of Effects

Demolition and Construction Effects

- 8.102 This section reports the likely socio-economic and human health effects arising during the demolition and construction stages. The assessment has considered the impact pathways identified in Section 8.9 and the duration and nature of construction activities as outlined in ES Vol 2 Chapter 4: Proposed Development. Effects have been assessed using the ISEP-aligned sensitivity–magnitude–significance framework set out in Section 8.24.

Temporary Construction Employment and Income

- 8.103 The demolition and construction phase of the proposed development is estimated to generate 401 person years of employment. The 150 weeks (3 years) of demolition and construction works are anticipated to generate approximately **134 FTE** direct and indirect demolition and construction jobs.
- 8.104 For a development of this scale, it is likely that some of the construction workers would travel from other areas to the proposed development, which would result in some economic benefits being realised outside of Manchester city centre.
- 8.105 As such, there is a requirement to calculate the number of ‘net’ construction jobs, to quantify the increase in construction employment. It is anticipated that **113 FTE** jobs would be retained within Manchester

⁷ Office for National Statistics (2025) ONS 2022-based Sub National Household projections. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/householdprojectionsforengland>

- city centre and the wider Greater Manchester area. The net job figure considers the below Additionality Guide⁸ factors:
- Leakage of 25% - A reasonably high proportion of benefits would be retained within the target area/target group;
 - Displacement at 25% - There are expected to be some displacement effects, although only to a limited extent; and
 - Multiplier effect at 1.50 - Limited local supply linkages and induced or income effects.

Table 8.15: Proposed Development – Gross/Net Construction Jobs			
Additionality Guide Factors	Proposed Development	Reference Case	Additionality Factor
Gross Direct Jobs	134	No on-site job loss accounted for due to vacant site	-
Estimated Leakage (25%)	-		33
Gross Local Direct Effects	100		-
Displacement (25%)	-		25
Net Local Direct Effects	75		-
Multiplier (1.5)	-		38
Total Net Jobs	113		-

- 8.106 In the context of the Manchester and GMCA construction labour markets, the scale of change is likely to represent a low magnitude beneficial impact. Given the low sensitivity of the local labour force the socio-economic effect is assessed as a Minor Beneficial, temporary, direct effect (not significant).

Temporary Construction Income Generation

- 8.107 As detailed above, approximately 113 FTE temporary net demolition and construction FTE jobs are anticipated to be generated during the demolition and construction phase of the proposed development. It is also estimated that UK employees spend an average of £18.73⁹ per day (adjusted for inflation).
- 8.108 It is accepted that not all the gross expenditure from the proposed development’s construction workers would be spent within the Manchester city centre and Greater Manchester geographies. Some leakage is likely to occur, and thus a 25% leakage factor has been applied to demolition and construction worker expenditure, using professional judgement. This is based upon large inward commuting figures into Manchester city centre¹⁰.
- 8.109 Therefore, it is assumed that 75% of total construction worker expenditure would be retained within GMCA study area, which includes Manchester city centre. Taking this factor into account, it is estimated that total net additional spending of approximately £356,543 per annum would be created by new demolition and construction workers, and be retained within the local economy. Table 8.16 illustrate how this figure was calculated.

Table 8.16: Proposed Development – Gross/Net Construction Jobs	
Additionality Guide Factors	Proposed Development
A: Estimated spending per construction worker (accounting for inflation)	£18.73

⁸ Homes and Communities Agency (2014) Additionality Guide 4th Edition 2014. Available at: https://assets.publishing.service.gov.uk/media/5a7ec4b9e5274a2e87db1c92/additionality_guide_2014_full.pdf

⁹ Visa Europe. (2014). UK Working Day Spending Report. Adjusted using Bank of England inflation calculator (available here: <https://www.bankofengland.co.uk/monetary-policy/inflation/inflation-calculator>), assessing change from 2014 to Nov 2025.

Table 8.16: Proposed Development – Gross/Net Construction Jobs	
Additionality Guide Factors	Proposed Development
B: Average number of days worked per year as per the ONS (accounting for bank holidays, 260-8)	252
C: Total net local jobs	113
Total gross spend (A*B*C)	£475,390.79
Total net spend retained in the Study Area (75%)	£356,543.09

- 8.110 In the context of the Manchester and GMCA economies, the scale of change is likely to represent a low magnitude beneficial impact. Given the low sensitivity of the local economy the socio-economic effect is assessed as a Minor Beneficial, temporary, direct effect (not significant).

Completed Development Effects

- 8.111 This section assesses socio-economic and human health effects arising once the proposed development is complete and occupied. Effects are considered permanent and long-term. The analysis draws on the development quantum described in ES Vol 2 Chapter 4: Proposed Development and baseline data set out in Section 8.34.
- Housing
- 8.112 Housing is a key determinant of both socio-economic conditions and human health. At a socio-economic level, the provision of new homes contributes to meeting identified needs, can increase housing choice, and supports the functioning of the local housing market (including by helping to accommodate population growth and reduce pressure on existing stock).
- 8.113 For human health, the availability of safe, secure and good-quality housing is strongly associated with improved wellbeing and reduced health risks, including through reduced overcrowding, improved thermal comfort, better living conditions, and greater residential stability. Conversely, limited supply and poor affordability can contribute to housing stress, insecurity and inequalities, which may disproportionately affect vulnerable groups.
- 8.114 Baseline evidence indicates that housing affordability pressures exist within Manchester, and that Cheetham contains areas of high deprivation, including domains related to income, employment and health. The ward also has a relatively young population profile and higher proportions of children and young people than Manchester and wider comparators, which can increase demand for appropriately sized and affordable homes. Future residents (including lower-income households, larger households, and those at risk of overcrowding) are considered to be of high sensitivity to changes in housing supply, affordability and quality.
- 8.115 The proposed development would deliver 251 new residential units, comprising one- and two-bedroom apartments and four townhouses. This represents a net increase in housing supply within Manchester City Council’s administrative area, and would contribute to strategic objectives for housing delivery and housing choice across the city and the Greater Manchester area.
- 8.116 Manchester City Council’s most recent Five-year Housing Supply Statement for 2025¹¹ notes that ‘Manchester’s final total housing requirement from 1st April 2025 to 31st March 2030 is 21,287 or 4,257 per year’ (as per paragraph 3.2). Over the construction period between 2027 and 2030, this equates to a housing requirement of 12,771 housing units. As such, the delivery of 251 units from the proposed

¹⁰ GMCA (2022) Greater Manchester Independent Prosperity Review Evidence Update: Transport. Available at: <https://www.greatermanchester-ca.gov.uk/media/6719/gmipr-evidence-update-transport.pdf>

¹¹ Manchester City Council (2025) MCC Five-year Housing Supply Statement at 1 April 2025. Available at: https://www.manchester.gov.uk/downloads/download/7384/five-year_housing_land_supply_statement

development will provide 1.97% of Manchester’s housing requirement for the period during which it is built out.

- 8.117 Local planning policy establishes clear expectations for the delivery of affordable housing. Manchester Core Strategy Policy H8 requires that residential developments of 15 dwellings or more, or on sites of 0.5 hectares or greater, make provision for affordable housing, subject to site viability and other material considerations. Policy H8 historically sought up to 20% affordable housing on qualifying sites, recognising that delivery may vary depending on viability, location and scheme characteristics.
- 8.118 In addition, the Manchester Housing Strategy 2022–2032 sets out a strategic ambition to deliver 36,000 new homes across the city by 2032, including at least 10,000 affordable homes, with a strong emphasis on social rent and genuinely affordable tenures. The Strategy identifies affordability as a critical determinant of health and wellbeing and highlights the need for new development to contribute to inclusive growth and the reduction of health inequalities.
- 8.119 There is no on-site affordable housing provision as part of the development. While this reflects viability and market considerations typical of high-density city-centre developments, the absence of affordable housing means that the proposal does not directly contribute to meeting identified affordable housing needs within Manchester, or to the strategic targets set out in the Manchester Housing Strategy.
- 8.120 The provision of 251 new homes would provide additional housing stock, supporting local and city-wide housing delivery and increasing choice, particularly for smaller households. In the context of the Manchester and GMCA housing markets, the scale of change is likely to represent a low to medium magnitude beneficial impact (noticeable locally, but a small proportion of total housing supply at the city-region scale). Given the high sensitivity of receptors (including households affected by affordability pressures and deprivation), the socio-economic effect is assessed as a Minor Beneficial, long-term, direct effect (not significant).
- 8.121 The introduction of new housing has the potential to support improved health outcomes by providing additional opportunities for residents to access stable accommodation. New-build homes also typically provide improved baseline living conditions compared with older or poorer-quality stock (e.g. better safety and thermal performance), which can support physical health and mental wellbeing.
- 8.122 On the basis of the information available, the delivery of 251 homes is expected to result in a low to medium magnitude beneficial change for health outcomes (through increased supply and potential improvements to housing conditions for new occupiers). Given high receptor sensitivity in the local context, the overall human health effect is assessed as Minor Beneficial, long-term, direct effect (not significant).
- 8.123 No significant adverse effects are identified for housing in socio-economic or health terms. The overall conclusion is that the proposed development would deliver a net beneficial contribution to housing supply and associated determinants of health, with effects assessed as Minor Beneficial and not significant in EIA terms.

Open Space, Leisure and Play

- 8.124 Access to open space, leisure and play facilities is an important determinant of both socio-economic outcomes and human health. Public and communal open spaces support opportunities for physical activity, social interaction and recreation, which are associated with improved physical health, mental wellbeing and social cohesion. At a socio-economic level, the availability and quality of open space can influence residential amenity, neighbourhood attractiveness and overall quality of life, particularly in higher-density urban areas.
- 8.125 Children’s play space is particularly important for supporting child development, physical activity and social skills, while access to informal and formal open space is also beneficial for older people and other

vulnerable groups by providing opportunities for walking, rest, social contact and stress reduction. Where access to open space is limited, there can be disproportionate effects on communities experiencing higher levels of deprivation, who may have fewer alternatives for leisure and recreation.

- 8.126 There is no existing open space or play space within the site, as it is currently a vacant brownfield site comprising derelict hardstanding and overgrown vegetation.
- 8.127 Several areas of public open space are located within walking distance of the site:
- St Michael’s Flags and Angel Meadow Park, a park and garden to the site east of the site. It provides formal landscaping, paths and seatings;
 - Bellott Street Park, to the north of the site, an open landscaped space with seating; and
 - Cheetham Park, north of the site, which provides a park with children’s play area and multi-use games area (‘MUGA’), alongside other recreational facilities.
- 8.128 The proposed development would introduce 251 new homes, generating an estimated population of around 635 residents¹². This additional population would increase demand for general open space and outdoor recreation, communal and private amenity space and children’s play space.
- 8.129 The majority of units are currently expected to be 1 and 2-bedroom homes, which typically generate a lower child yield compared to family housing. While this reduces the expected demand for formal children’s play provision relative to family-oriented schemes, some demand for play opportunities and informal outdoor space would nonetheless arise, particularly for younger children and visiting family members.
- 8.130 Manchester City Council does not currently set a single adopted quantitative standard for open space or play space expressed as a fixed square-metre requirement per resident. Instead, policy and supporting evidence place emphasis on the accessibility, quality and functionality of open space, and on ensuring that new development does not result in unacceptable pressure on existing provision. In the absence of a locally defined quantum standard, this assessment has therefore taken a qualitative, accessibility-led approach, informed by professional judgement and relevant health and social impact guidance.
- 8.131 The proposed development would provide a total of approximately 490 m² of private on-site amenity space for residents, alongside approximately 350 m² of publicly accessible amenity space at ground level. In addition, the scheme includes approximately 605 m² of accessible open space comprising hard landscaped areas, circulation space and seating areas, as illustrated on the submitted Areas Plan. These spaces are intended to support informal recreation, social interaction, relaxation and pedestrian movement, and would contribute positively to residential amenity in a high-density urban context.
- 8.132 Residents of the proposed development and surrounding area, particularly children and young people, older people and households experiencing higher levels of deprivation, are considered to have high sensitivity to changes in access to open space and play opportunities. Given the absence of on-site provision, there is potential for some additional pressure on nearby open spaces. However, the availability of several public parks and play facilities within walking distance, combined with the relatively modest scale of population increase and lower expected child yield, means that the magnitude of change is assessed as low.
- 8.133 On this basis, the socio-economic effect of the completed development on open space, leisure and play is assessed as Minor Adverse, long-term and direct, and not significant in EIA terms. In human health terms, reliance on off-site facilities may marginally reduce convenience of access for some residents but is not expected to lead to measurable adverse health outcomes at a population level. Health effects are therefore assessed as Minor Adverse, long-term and not significant.

¹² This population yield is calculated by multiplying the total number of units with Manchester’s average number of persons per household of 2.57 (as per ONS Census 2021). This figure is slightly lower than a population yield of 760, based on full occupancy, thus it is considered a reasonable ‘worst case’ scenario.

Daylight, Sunlight and Overshadowing

- 8.134 Daylight, sunlight and overshadowing are relevant to socio-economic conditions and human health because they influence residential amenity, wellbeing, comfort, and the usability of internal and external spaces. Adequate access to daylight and sunlight is associated with positive mental health outcomes, reduced stress, improved sleep regulation and visual comfort, and supports the quality of living environments. Poor daylight conditions can contribute to dissatisfaction with housing, reduced wellbeing and, in some cases, disproportionate effects on vulnerable groups such as older people, children, and those spending more time indoors. From a socio-economic perspective, daylight and sunlight affect housing quality, residential satisfaction and neighbourhood attractiveness, which in turn can influence stability, turnover and perceptions of place. In higher-density urban contexts, some reduction in daylight and sunlight is expected, and guidance such as the BRE recognises the need to balance optimisation of light access with efficient land use and housing delivery.
- 8.135 Potential daylight, sunlight and overshadowing effects associated with the proposed development have been assessed in detail in Chapter 6: Daylight, Sunlight and Overshadowing, with reference to the BRE Guidance (2022) and the use of alternative targets to reflect the high-density urban context. The assessment focuses on neighbouring residential receptors and external amenity spaces where there is a reasonable expectation of daylight and/or sunlight.
- 8.136 The technical assessment concludes that most neighbouring buildings would experience either no material change or only minor reductions in daylight that remain within BRE guidance or acceptable alternative thresholds. For a number of neighbouring buildings, including Britton House, The Hallmark, Melia House, Masson Place and St Chad's Presbytery, overall effects on daylight amenity are assessed as Minor Adverse and not significant, reflecting the localised nature of impacts and the fact that many affected rooms are of lower daylight sensitivity or continue to achieve acceptable internal daylight distribution.
- 8.137 For Jefferson Place and Barton Place, the assessment identifies Moderate Adverse effects on daylight amenity overall, with reductions concentrated on parts of these buildings that are in closest proximity to the Site. In these locations, a proportion of habitable rooms would experience reductions in daylight that exceed BRE thresholds and alternative targets, and these effects are therefore considered significant in EIA terms for the daylight discipline.
- 8.138 With respect to sunlight, the assessment identifies that effects on neighbouring buildings and external amenity spaces are limited. St Chad's Presbytery would continue to meet sunlight targets, and Britton House would experience overall Minor Adverse (and not significant) effects on sunlight amenity. The external amenity spaces associated with Britton House and St Chad's Presbytery would remain well sunlit and continue to achieve the relevant time-in-sun criteria.
- 8.139 The receptors affected by daylight and sunlight changes are existing residential occupants, who are considered to be of high sensitivity where changes affect primary living spaces. For the majority of neighbouring buildings, where daylight effects are Minor Adverse and localised, the magnitude of change is considered low to medium at the building scale and does not materially alter the overall quality or usability of the housing stock. In socio-economic terms, these effects are assessed as Minor Adverse, permanent, long-term and direct, and not significant.
- 8.140 For Jefferson Place and Barton Place, where Moderate Adverse daylight effects are identified, there is potential for localised adverse effects on residential amenity and perceived housing quality for affected occupants. Given the high sensitivity of receptors and the magnitude of change for some rooms, the socio-economic effect for these receptors is assessed as Moderate Adverse, permanent, long-term and direct, and therefore significant. These effects are confined to a limited number of neighbouring properties and do not affect wider housing delivery, economic activity or access to services at the ward or city level.
- 8.141 In human health terms, daylight and sunlight primarily influence comfort and mental wellbeing rather than physical health or safety. For the majority of neighbouring receptors, where effects are Negligible

or Minor Adverse, changes in daylight and sunlight are not expected to result in measurable changes in health outcomes. Human health effects for these receptors are therefore assessed as Minor Adverse, permanent, long-term and direct, and not significant.

- 8.142 For residents of Jefferson Place and Barton Place who experience greater reductions in daylight to primary living spaces, there is potential for localised adverse effects on comfort and wellbeing, particularly for individuals who spend a high proportion of time indoors. However, these effects do not give rise to risks to physical health, do not affect sunlight to external amenity spaces, and affect a limited population. Applying professional judgement consistent with established health assessment guidance, the human health effects associated with daylight and sunlight are therefore assessed as Minor Adverse and not significant in EIA terms.
- 8.143 Overall, the proposed development would result in adverse effects on daylight amenity for some neighbouring receptors, including significant effects in EIA terms for daylight at Jefferson Place and Barton Place. However, these effects are localised and relate to residential amenity in a high-density urban context. In socio-economic terms, the effects are limited to residential amenity for specific neighbouring properties and do not affect wider socio-economic conditions. In human health terms, effects are primarily related to comfort and wellbeing and do not result in significant health effects at a population level. No additional mitigation is proposed, and residual effects remain as identified in the technical Daylight, Sunlight and Overshadowing assessment.

Wind Microclimate

- 8.144 Wind microclimate can influence socio-economic conditions and human health by affecting the safety, comfort and usability of external spaces, including pedestrian routes, building entrances, communal terraces and areas of open space and play. Excessive wind speeds can discourage people from using outdoor areas, reduce dwell time, and limit opportunities for social interaction and physical activity. From a health perspective, strong or uncomfortable winds can increase the risk of instability or falls, particularly for older people, children and those with mobility impairments, and may deter walking or outdoor recreation.
- 8.145 Potential wind microclimate effects associated with the proposed development have been assessed in detail in Chapter 7: Wind Microclimate, using CFD modelling informed by the LDDC variant of the Lawson Comfort Criteria, with a qualitative assessment undertaken for the demolition and construction stage.
- 8.146 During the demolition and construction stage, wind conditions are predicted to remain acceptable for pedestrians in the surrounding area and for construction workers on site, whose sensitivity is reduced. Effects during this phase are assessed as temporary, short-term and Negligible Neutral (not significant).
- 8.147 Given that wind safety and comfort criteria are met for the intended uses of pedestrian routes, entrances and communal amenity spaces, wind microclimate effects are not expected to reduce the usability of on-site open space, leisure or play areas, nor to discourage pedestrian movement or access to surrounding services. The proposed development would therefore not give rise to adverse socio-economic effects related to wind microclimate, such as reduced footfall, reduced use of outdoor amenity space or diminished residential amenity. Similarly, no adverse effects on human health are anticipated in relation to pedestrian safety, comfort or opportunities for outdoor activity.
- 8.148 Overall, wind microclimate effects are assessed as Negligible Neutral (not significant) for both socio-economic conditions and human health.

Local Economy

- 8.149 The completed development has the potential to impact the local economy, primarily through changes in population, household expenditure and indirect support for local services and businesses. From a socio-economic perspective, the introduction of new residents can contribute to demand for local goods and services, support the viability of nearby shops, cafés and services, and increase footfall in the surrounding area. From a human health perspective, a stable and functioning local economy can

indirectly support wellbeing by sustaining employment opportunities, accessible services and neighbourhood vitality, which are recognised social determinants of health.

- 8.150 The proposed development would deliver 251 new homes, with an estimated resident population of approximately 635 people. This represents a modest increase in population relative to the size of Cheetham ward and the wider Manchester City Council area. The majority of residents are expected to be economically active adults or smaller households, as per the predominance of one- and two-bedroom units. As such, the development would be expected to generate additional local expenditure on furnishings, everyday goods and services, including food retail, leisure, personal services and transport.
- 8.151 It is estimated that the average homeowner spends approximately £7,667.92 (original figure updated for inflation) to make their house 'feel like home' when moving into a property¹³. This money is generally spent on furnishing and decorating a property. This expenditure would generate a range of economic benefits for the local economy by supporting indirect and induced jobs within local businesses. By applying this average level of one-off spending on household products and services, it is estimated that (considering an approximate figure of 50% to account for leakage, as per the Additionality Guide¹⁴, related to spending on both comparison and convenience goods) £1,527,126 of spending would occur. This injection of resident spending into the local economy would support local businesses and increase work prospects in the area.
- 8.152 According to the most recent ONS Family Spending data¹⁵, it is estimated that each household within the North West region spends on average £381.10 per week on household expenditure (this is calculated by subtracting average housing, and gas and electricity costs of £88.60 per week, from an average total expenditure of £469.70 per week). This would equate to £18,761.60 per year on average, when multiplying weekly expenditure by 52. Adjusted for inflation, this results in a final figure of £19,533.63 per year.
- 8.153 To apply a 'worst case' scenario, it is assumed that some of those moving to the new market homes would already be residents of Manchester and would thus not generate new net expenditure. Therefore, a displacement factor of 25% has been applied to the spending of the additional population. This considers a scenario in which there are expected to be some displacement effects of household expenditure, to a limited extent.
- 8.154 Using estimates of average expenditure for households in the North West region, an assessment has been made of the additional spending on local convenience goods and leisure services, and of the employment that would be supported.
- 8.155 Approximately £4.90 million per year is expected to be spent by residents living in the proposed development, though this is not confined to a geographic scope, and some displacement effects are likely. Of this (£4.90 million per year), Manchester and other shopping destinations geographically local to Manchester, are expected to retain around £3.68 million per year of the proposed development's expenditure.
- 8.156 In socio-economic terms, the local economy and business base within Manchester and Cheetham ward are considered to be of low to medium sensitivity, reflecting the scale and diversity of the city's economy and its capacity to absorb incremental population growth. The magnitude of change associated with the completed development is assessed as low, as the additional population represents a small proportion of the existing ward and city population and would not materially alter economic performance at a local or sub-regional scale.
- 8.157 In human health terms, any economic effects associated with the completed development are indirect and relate to the potential for improved access to local services, increased neighbourhood activity and perceptions of vitality. These pathways can contribute positively to mental wellbeing and social cohesion,

particularly where services are accessible on foot. However, given the modest scale of change and the absence of evidence of pressure on local services or displacement of existing economic activity, the magnitude of impact on health determinants is assessed as low.

- 8.158 The local population, including future residents, is therefore considered to experience a Minor Beneficial effect on health via economic pathways, which is not significant in EIA terms. No adverse health effects related to the local economy are anticipated as a result of the completed development.

Assessment of Residual Effects

Additional Mitigation

Demolition and Construction Stage

- 8.159 No significant socio-economic or human health effects are predicted to arise during the demolition and construction stage beyond the temporary employment and income benefits reported in Section 8.75 to 8.78. Embedded mitigation measures set out in ES Chapter 4 (including construction management and good practice controls) would be implemented as part of the project design and delivery. Accordingly, no additional mitigation measures are required for socioeconomics and human health during the demolition and construction stage.

Completed Development Stage

- 8.160 For the completed development stage, the assessment identifies Minor Beneficial effects relating to housing supply and the local economy, and Negligible to Minor effects for wind microclimate. Daylight, sunlight and overshadowing effects include Moderate Adverse effects for a localised set of neighbouring receptors (as reported in the technical Daylight, Sunlight and Overshadowing chapter). These effects are inherent to the built form in a high-density urban context and have been assessed as residual in the technical chapter. No additional socioeconomics and human health mitigation measures are proposed in this chapter. Residual effects therefore remain as set out in the Assessment of Effects section.

Enhancement Measures

- 8.161 While no additional mitigation is required to address significant adverse socio-economic or human health effects, a number of non-essential enhancement measures could be incorporated by the Applicant to further optimise positive outcomes associated with the proposed development. These measures are not relied upon to conclude significance and are therefore voluntary in nature.
- **Local Employment and Skills Opportunities** – The Applicant could seek to maximise local socio-economic benefits during demolition and construction through voluntary engagement with local employment, training and apprenticeship initiatives (e.g. via existing Manchester or GMCA employment programmes). This could increase access to construction-related employment and skills development for residents in Cheetham ward and other priority areas, supporting inclusive economic growth.
 - **Supply Chain Engagement** – Where practicable, the use of local contractors and suppliers could be encouraged, helping to retain a greater proportion of construction-related expenditure within the local economy and reinforcing positive indirect economic effects.
 - **Information for New Residents** – Provision of welcome information for new residents, highlighting nearby parks, walking routes, play spaces, community facilities, healthcare services and sustainable travel options, could help promote healthier lifestyles and encourage integration with the surrounding neighbourhood.

¹³ Research carried out by OnePoll on behalf of Barratt Homes, August 2014. Original figure of £5,500 updated using Bank of England Inflation calculator to assess change from 2014 to November 2025.

¹⁴ Homes and Communities Agency (2014) Additionality Guide 4th Edition 2014. Available at: https://assets.publishing.service.gov.uk/media/5a7ec4b9e5274a2e87db1c92/additionality_guide_2014_full.pdf

¹⁵ Office for National Statistics (2024) Family Spending Workbook 3: Expenditure by Region – FYE 2024 edition of this dataset, Table A33, adjusted for inflation from 2024 to Nov 2025 using Bank of England inflation calculator. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure/datasets/familyspendingworkbook3expenditurebyregion>

- **Contribution to Local Area Quality** – While not required to mitigate impacts, opportunities could be explored (subject to agreement with Manchester City Council) for the development to contribute indirectly to the quality or accessibility of nearby public realm or open space through design integration, improved pedestrian permeability or wayfinding, enhancing the usability of existing facilities for both new and existing residents.
- 8.162 These enhancement measures would reinforce the Minor Beneficial effects identified for housing, the local economy and health-related determinants, but are not necessary to make the development acceptable in EIA terms. The assessment conclusions and significance determinations set out in this chapter remain valid without their implementation.

Demolition and Construction Residual Effects

- 8.163 As no additional mitigation is required, the residual demolition and construction effects remain as reported in the assessment of effects section. These comprise a Minor Beneficial effect on employment and income generation for the wider labour market and supply chain, which is temporary, short-term and not significant in EIA terms.

Completed Development Residual Effects

- 8.164 As no additional mitigation would be required, the residual completed development effects remain as reported in the assessment of effects section.

Summary of Residual Effects

- 8.165 In summary, the residual completed development effects comprise Minor Beneficial effects relating to housing supply and the local economy, Negligible Neutral effects for wind microclimate, and Minor to Moderate Adverse effects relating to daylight and sunlight amenity for a small number of neighbouring residential receptors. The Moderate Adverse socio-economic amenity effects identified for Jefferson Place and Barton Place remain significant in EIA terms at the local receptor level, consistent with the technical Daylight, Sunlight and Overshadowing assessment. The corresponding human health effects associated with daylight and sunlight are assessed as not significant in EIA terms, as they relate primarily to amenity and wellbeing pathways affecting a limited population without evidence of population-level health outcomes.
- 8.166 Table 8.17 provides a tabulated summary of the outcomes of the assessment of the proposed development.

Table 8.17: Summary of Residual Effects								
Receptor	Description of Residual Effect	Additional Mitigation	Scale and Significance of Residual Effect **	Nature of Residual Effect*				
				+	D	P	R	St
				+/-	I	T	IR	Mt
				-				Lt
Demolition and Construction								
Local Residents and Economy	Creation of Demolition and Construction Employment	None required	Minor beneficial (not significant)	+	D	T	R	St
Local Economy	Temporary retail spending of temporary Demolition and Construction Workers	None required	Minor beneficial (not significant)	+	D	T	R	St
Completed Development								

Table 8.17: Summary of Residual Effects								
Receptor	Description of Residual Effect	Additional Mitigation	Scale and Significance of Residual Effect **	Nature of Residual Effect*				
				+	D	P	R	St
				+/-	I	T	IR	Mt
				-				Lt
Existing and future residents	Net increase in housing supply through delivery of 251 new homes, contributing to housing delivery and choice	None required	Minor beneficial (not significant)	+	D	P	IR	Lt
Existing and future residents	Increased demand for open space, leisure and play facilities due to additional resident population	Non required	Minor adverse (not significant)	-	D	P	IR	Lt
Existing and future residents	Changes in residential amenity arising from daylight and sunlight effects to neighbouring properties (Jefferson Place and Barton Place)	None required	Moderate adverse (significant)	-	D	P	IR	Lt
Existing and future residents	Changes in residential amenity arising from daylight and sunlight effects to other neighbouring properties	None required	Minor adverse (not significant)	-	D	P	IR	Lt
Existing and future residents	Wind microclimate conditions affecting pedestrian comfort and safety	None required	Negligible (not significant)	+/-	D	P	IR	Lt
Existing and future residents	Increased local expenditure and support for local services arising from new resident population	None required	Minor beneficial (not significant)	+	I	P	IR	Lt
Notes:								
* - = Adverse/ + = Beneficial/ +/- = Neutral; D = Direct/ I = Indirect; P = Permanent/ T = Temporary; R = Reversible/ IR = Irreversible; St = Short-term/ Mt = Medium-term/ Lt = Long-term.								
**Negligible/Minor/Moderate/Major								

Cumulative Effects
Intra-Project Effects

- 8.167 As explained in Chapter 2: EIA Process and Methodology, intra-project cumulative effects are discussed in Chapter 10: Cumulative Effects.

Inter-Project Effects

- 8.168 Inter-project cumulative effects for socioeconomics and human health consider whether the proposed development, when taken together with other existing, approved or under-construction developments in the vicinity, could result in materially different outcomes for the receptors identified in Table X.6. The assessment is informed by the cumulative schemes list in Appendix 2 of the EIA Scoping Report and focuses on schemes that are spatially and temporally capable of interacting with the proposed

- development through shared pathways, including population-driven demand effects, local economy effects and, where relevant, overlapping construction programmes.
- 8.169 Table 8.18 identifies the cumulative schemes with the greatest potential to interact with the proposed development for socio-economic and human health outcomes. Schemes that are either too distant, too small, or unlikely to materially combine with the proposed development for the pathways scoped into this chapter are not expected to give rise to cumulative effects that would alter the conclusions of the assessment.
- 8.170 Table 8.18 provides a summary of the likely cumulative effects resulting from the proposed development and the cumulative developments.

Table 8.18: Inter-Project Cumulative Effects				
Cumulative Development	Demolition and Construction		Completed Development	
	Cumulative Effects Likely?	Reason	Cumulative Effects Likely?	Reason
Land at 33–41 Cheetham Hill Road (237 apartments, approx. 50m)	Yes	There is potential for overlap in construction programmes in the same locality, which could combine to increase short-term construction employment demand and supply-chain activity within the same labour market.	Yes	The additional residential population in close proximity could combine with the proposed development to incrementally increase local expenditure and demand for nearby open space and local services.
1 Park Place (154 apartments, approx. 110m)	Yes	Potential temporal overlap could add to short-term construction employment activity and local supply-chain demand, although effects remain beneficial and temporary.		The combined additional residents could contribute to a modest cumulative increase in footfall and expenditure in the surrounding area and marginally increase demand for open space/leisure provision.
Red Bank Victoria (outline/approved, up to 4,800 units, approx. 210m)	Yes	If construction phases overlap, there is potential for a combined uplift in construction employment and local expenditure associated with construction workers and procurement, though this would remain temporary and beneficial at the labour market scale.	Yes	The scale of additional housing in the wider area has potential to cumulatively increase demand for parks/open space and to support local services and business viability through higher footfall and spending.
Victoria Riverside (up to 634 apartments, under	Yes		Yes	Additional residents could contribute to

Table 8.18: Inter-Project Cumulative Effects				
Cumulative Development	Demolition and Construction		Completed Development	
	Cumulative Effects Likely?	Reason	Cumulative Effects Likely?	Reason
construction, approx. 425m)		Where construction phases overlap, combined construction activity could increase short-term employment and supply-chain benefits, but this would not change the nature of effects identified for this chapter.		incremental cumulative demand for open space and local services and modestly strengthen the local economy through expenditure effects.
Brewery Gardens (505 apartments, under construction)	Yes	There is potential for overlap in construction employment activity, reinforcing beneficial employment effects at the city labour market scale.	Yes	As a residential-led scheme, it could add to cumulative population growth locally, increasing demand for open space and supporting local businesses, while remaining proportionate in the Manchester context.

- 8.171 The cumulative schemes above are residential-led and within close proximity to the site, meaning they are most likely to interact with the pathways scoped into this chapter. They are also of a scale that could plausibly combine with the proposed development for population-driven effects, including open space and play demand and local expenditure effects, and for short-term construction employment effects if construction phases overlap.

Demolition and Construction Cumulative Effects

- 8.172 The demolition and construction stage effects scoped into this chapter relate primarily to temporary employment and income generation. In the cumulative context, where construction programmes overlap with nearby schemes, there is potential for a combined uplift in construction employment, local procurement and associated short-term expenditure in the surrounding area.
- 8.173 The receptors for construction employment effects comprise the Greater Manchester labour market and associated supply chains, which have low to medium sensitivity due to their scale and adaptive capacity. The magnitude of the cumulative effect is assessed as low to medium beneficial, because construction employment is temporary, the labour market is broad, and the combined activity does not represent a step-change in economic conditions at the Manchester or GMCA scale.
- 8.174 Accordingly, cumulative demolition and construction effects on employment and income are assessed as Minor Beneficial, temporary and short-term, and not significant in EIA terms.

Completed Development Cumulative Effects

- 8.175 In the completed development cumulative context, the principal mechanism for inter-project cumulative socio-economic and health effects is the combined increase in residential population arising from the proposed development together with nearby residential-led schemes.

- 8.176 In socio-economic terms, the combined additional residents would be expected to increase local expenditure and footfall, supporting the vitality and viability of local shops, services and leisure uses. Given the diversity and scale of the Manchester economy and the existing capacity of local economic systems to respond to changes in demand, the sensitivity of the local economy and services receptor remains low to medium. The magnitude of cumulative change is assessed as low to medium beneficial, reflecting that the combined schemes could produce a noticeable local uplift in activity but would not materially alter economic structure or performance at a city-wide scale.
- 8.177 The resulting cumulative effect on the local economy is therefore assessed as Minor Beneficial, permanent and long-term, and not significant in EIA terms.
- 8.178 For open space, leisure and play, the cumulative schemes would collectively increase population in the surrounding area and therefore increase demand for public open space and play opportunities. The sensitivity of residents, particularly children, older people and groups experiencing deprivation, remains high. However, for this chapter the magnitude of cumulative change is assessed as low to medium, because the proposed development itself generates a modest population increase and the additional demand is distributed across multiple spaces and facilities within the wider ward and city context.
- 8.179 On this basis, the cumulative effect on open space, leisure and play is assessed as Minor Adverse at most, permanent and long-term, and not significant. This conclusion reflects that the cumulative change is not anticipated to compromise access to open space at the ward level, and it does not introduce a pathway likely to result in significant population health effects, although it may incrementally increase local competition for space at peak times.
- 8.180 In human health terms, cumulative effects associated with the local economy are expected to be indirect and beneficial, relating to increased neighbourhood vitality, walkable access to services and strengthened viability of local amenities. Given that these effects are modest and operate at the level of determinants rather than direct exposures, the magnitude of cumulative health impact is assessed as low beneficial. The resulting cumulative human health effect is therefore Minor Beneficial, long-term, and not significant.
- 8.181 The built environment pathways (including daylight, sunlight and wind microclimate) have been assessed in the relevant technical chapters using cumulative massing scenarios. For the purposes of this socioeconomics and human health chapter, those cumulative built environment findings do not materially alter the conclusions reached for population health, because the relevant effects are localised to specific receptors and relate primarily to amenity and comfort rather than determinants likely to drive measurable health outcomes at a population level.
- 8.182 Overall, the completed development cumulative effects for socioeconomics and human health are not significant in EIA terms.

Summary of Assessment (NTS)

Background

- 8.183 This chapter has detailed the potential socioeconomic and human health effects due to the construction and completed development stages of the proposed development. The assessment of construction and completed development stages has been undertaken taking into account the relevant national and local guidance and regulations.

Demolition and Construction Effects

- 8.184 During demolition and construction, the main socio-economic effects relate to the creation of temporary jobs and associated expenditure by the workforce and supply chain. This is expected to result in a Minor Beneficial, temporary effect for the wider labour market and local economy, which is not significant in EIA terms.

- 8.185 Standard construction management measures would be implemented as part of the project, and no additional mitigation is required for socio-economics and human health. Overall, demolition and construction are not expected to give rise to significant socio-economic or human health effects, and effects would cease once construction is complete.

Completed Development Effects

- 8.186 Once completed, the proposed development would provide 251 new homes, increasing housing supply and supporting housing delivery objectives. This is assessed as a Minor Beneficial, long-term socio-economic and human health effect (not significant). The development does not include on-site affordable housing and therefore does not directly contribute to meeting identified affordable housing needs, although it would add to overall housing stock and choice.
- 8.187 The additional resident population would increase day-to-day spending and support nearby services and businesses. This effect is assessed as Minor Beneficial and not significant.
- 8.188 The development would increase demand for local open space and recreation. With no on-site children's play space, future residents would rely on nearby parks and play facilities. Given the modest scale of population increase and availability of open space within walking distance, effects are assessed as Minor Adverse, long-term and not significant.
- 8.189 Residential amenity effects have been considered using the separate technical assessments of daylight/sunlight and wind microclimate. Wind effects are assessed as Negligible and not significant. For daylight, some neighbouring residents would experience noticeable reductions, and significant effects are identified for parts of Jefferson Place and Barton Place in relation to residential amenity. These effects are localised to specific neighbouring properties. For human health, daylight/sunlight effects are expected to relate primarily to amenity and wellbeing pathways affecting a limited population and are therefore not significant in EIA terms.
- 8.190 Overall, the completed development is expected to result in Minor Beneficial effects for housing supply and the local economy and no significant human health effects. A significant localised socio-economic amenity effect is identified for daylight impacts at Jefferson Place and Barton Place, consistent with the technical daylight assessment.

Cumulative Effects

- 8.191 Cumulative effects have been considered with other developments in the surrounding area. Overlapping construction activity could increase temporary employment and spending, which would be positive and not significant. In the completed development scenario, cumulative population growth could incrementally increase demand for parks and local services while also supporting local businesses. These cumulative effects are not expected to be significant for socioeconomics or human health, and they do not change the conclusion that the main significant effects identified relate to localised daylight impacts at specific neighbouring residential buildings.

9 CLIMATE CHANGE AND GREENHOUSE GASES

Introduction

- 9.1 This chapter of the ES reports on the likely significant Climate Change and Greenhouse Gas (GHG) effects to arise from the demolition and construction stage and the completed development stage of the proposed development.
- 9.2 The chapter describes the Climate Change and GHG policy context; the methods used to assess the potential impacts and likely effects; the baseline conditions at the site and within the study area; the effects taking into consideration embedded mitigation; the need for additional mitigation and enhancement; the significance of residual effects; and inter-project cumulative effects.
- 9.3 The chapter is supported by the following technical appendices in ES Volume 3:
- Technical Appendix 9.1: Climate Change and Greenhouse Gases Legislation and Policy Summary;
 - Technical Appendix 9.2: Life Cycle Assessment; and,
 - Technical Appendix 9.3: Carbon and Energy Statement.

Methodology

- 9.4 The assessment has been informed by the following legislation, policies and published guidance:
- International Legislation:
 - Paris Agreement (2015)¹.
 - National Legislation, Policy and Guidance:
 - Climate Change Act 2008 (2050 Target Amendment) Order 2019² (2019);
 - Carbon Budget Orders 2009³, 2011⁴, 2016⁵, 2021⁶;
 - National Planning Policy Framework⁷ (2024);
 - Planning Practice Guidance - Climate Change⁸ (2019); and,
 - Net Zero Strategy: Build Back Greener⁹ (2021).
 - Regional Policy and Guidance:
 - Greater Manchester Combined Authority (GMCA) Places for Everyone (PfE)¹⁰ (2024);
 - Policy JP-S1: Sustainable Development;
 - Policy JP-S2: Carbon and Energy;
 - Policy JP-S3: Heat and Energy Networks;
 - Policy JP-S6: Resource Efficiency;

- Policy JP-P1: Sustainable Places; and,
- Design Guidance for Net Zero¹¹ (2025).
- Local Policy and Guidance:
 - Manchester City Council (MCC) Core Strategy Development Plan Document¹² (2012);
 - Addendum to Manchester Core Strategy¹³ (2024);
 - Policy EN 4 - Reducing CO2 Emissions by Enabling Low and Zero Carbon Development;
 - Policy EN 5 - Strategic Areas for low and zero carbon decentralised energy infrastructure;
 - Policy EN 6 - Target Framework for CO₂ Reductions from Low or Zero Carbon Energy Supplies; and,
 - MCC Declaration of Climate Emergency¹⁴ (2019).
- Topic Specific Guidance and Industry Standards:
 - Chartered Institution of Building Services Engineers (CIBSE). TM54 Evaluating operational energy use at the design stage¹⁵ (2022);
 - Institute of Sustainability and Environmental Professionals (ISEP), formerly the Institute of Environmental Management and Assessment (IEMA) Guide: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition¹⁶ (2022);
 - IEMA GHG Management Hierarchy¹⁷ (2020);
 - Royal Institution of Chartered Surveyors (RICS). Whole life carbon assessment for the built environment 2nd Edition¹⁸ (2023); and,
 - World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). The Greenhouse Gas Protocol¹⁹ (2019).

- 9.5 Further details of the relevant International and National Legislation and Policy are provided in ES Volume 3: Technical Appendix 9.1. A review of the relevant Regional and Local Policies is provided in ES Volume 3: Technical Appendix 9.3.

Consultation

- 9.6 A request for a Scoping Opinion (reference: EIASCO/25/012) was submitted by the Applicant to MCC on 21st November 2025. This was accompanied by a Scoping Report prepared by Ramboll²⁰. A Scoping Opinion was issued by the MCC on 8th January 2026 which included comments from statutory consultees. Table 9.1 summarises key comments raised by the statutory consultees of relevance to this assessment, which accompanied the EIA Scoping Opinion, and how the assessment has responded to them.

¹ United Nations Framework Convention on Climate Change. 2015. Paris Agreement 2015.

² UK Government. 2019. The Climate Change Act 2008 (2050 Target Amendment) Order 2019.

³ Department of Business, Energy & Industrial Strategy (DBEIS). 2009. Carbon Budgets Order 2009.

⁴ DBEIS. 2011. Carbon Budgets Order 2011.

⁵ DBEIS. 2016. Carbon Budgets Order 2016.

⁶ DBEIS. 2021. Carbon Budgets Order 2021.

⁷ Department for Levelling Up, Housing and Communities, 2024. National Planning Policy Framework. London. HMSO.

⁸ <https://www.gov.uk/guidance/climate-change>. Accessed on 15th January 2026.

⁹ Department for Energy Security and Net Zero. 2022. Net Zero Strategy: Build Back Greener.

¹⁰ GMCA. 2024. Places for Everyone.

¹¹ GMCA. 2025. Design Guidance for Net Zero.

¹² MCC. 2012. Core Strategy Development plan Document.

¹³ https://www.manchester.gov.uk/info/200074/planning/6573/core_strategy_2012-2027/3. Accessed on 15th January 2026.

¹⁴ MCC. 2019. Declaration of a Climate Emergency.

¹⁵ CIBSE. 2022. TM54 Evaluating operational energy use at the design stage

¹⁶ IEMA. 2022. Assessing Greenhouse Gas Emissions and Evaluating their Significance.

¹⁷ IEMA. 2020. IEMA GHG Management Hierarchy.

¹⁸ RICS, 2023. Whole life carbon assessment for the built environment 2nd Edition.

¹⁹ WRI and WBCSD. 2019. The Greenhouse Gas Protocol

²⁰ Ramboll. 2025. Lord Street Scoping Opinion Request Report.

Table 9.1: Summary of Consultation		
Consultee and Form/Date of Consultation	Summary of Comments	Where in this Chapter Comments are addressed
EIA Scoping Opinion		
MCC / 8 th January 2026	The comments within your Scoping Report are noted and are acceptable in terms of their consideration in the ES	Comments are addressed throughout the chapter

Assessment Scope

- 9.7
- The proposed development has the potential to result in GHG emissions. As such, associated effects have been assessed in accordance with the IEMA guidance 'Assessing Greenhouse Gas Emissions and Evaluating their Significance'²¹. It is important to note that there is no singular industry approach to assessing GHG emissions and that there are a range of different methodologies associated with the built environment sector. The IEMA guidance²² does not specify a particular approach, but rather sets out advice as to the key components required to deliver a robust, appropriate, proportionate and consistent assessment.
- 9.8
- It should be noted that GHGs have the ability to influence the radiation balance of the earth. The extent to which a single molecule of gas can influence this balance varies dependent on the composition of the molecule. As such, different GHGs have different radiative forcing. For the purpose of this assessment, where possible, greenhouse gas impacts are measured in tonnes of equivalent carbon dioxide (tCO₂e). This measure describes the functionally equivalent mass of CO₂ as the reference - the amount CO₂ that would have the same effect as 'x' amount of that gas. For example, methane has a greater radiative forcing affect than CO₂ and as such the equivalent CO₂ is greater than one.

Technical Scope

- 9.9
- For the purposes of the assessment, GHG emissions generated by the proposed development have been calculated based on lifecycle stages, as presented within RICS 'Whole life carbon assessment for the built environment 2nd edition'²³. The lifecycle stages are detailed in Table 9.2.

Table 9.2: Lifecycle Stages		
Stage	Module	Description
Product Stage	A1 - Raw material supply	Includes extraction, transportation and manufacturing processes necessary to produce any construction products
	A2 - Transport	
	A3 - Manufacturing	
Construction Stage	A4 - Transport	Transportation of construction products and all construction processes, including wastage, up to project completion. This includes any on-site demolition or strip-out works required at the beginning of the project
	A5 - Construction and installation process	

²¹ IEMA. 2022. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition.
²² IEMA. 2022. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition.

Table 9.2: Lifecycle Stages		
Stage	Module	Description
In-use Stage	B1 - Use	Direct emissions and removals from construction products, such as emission of blowing agents from insulation, refrigerant leakage from equipment or removal of CO ₂ through carbonation of concrete
	B2 - Maintenance	Material-related emissions that occur from maintenance, repair and replacement of any construction products, components, or elements of the asset over the reference study period
	B3 - Repair	
	B4 - Replacement	
	B5 - Refurbishment	Any refurbishment, retrofit or change in performance of the asset planned at the outset of the project to occur at some point after construction is completed
Operational Carbon	B6 - Operational energy use	Energy use of the asset over the completed development stage
	B7 - Operational water use	Water use of the asset over the completed development stage
	B8 - Other operational uses	User activities not included elsewhere such as emissions from vehicles using a road over the completed development stage
End of Life Stage	C1 - Deconstruction and demolition	Impacts during the end-of-life stage of an asset. This includes deconstruction or demolition, waste processing, recovery or disposal and associated transport
	C2 - Transport	
	C3 - Waste processing	
	C4 - Disposal	

- 9.10
- The GHG Protocol²⁴ categorises direct and indirect emissions into three broad scopes:
- Scope 1: all direct GHG emissions;
 - Scope 2: indirect GHG emissions from the generation of purchased electricity, heat, or steam; and,
 - Scope 3: other indirect emissions, such as the extraction and production of purchased materials and fuels, electricity-related activities not covered in Scope 2, outsourced activities, waste disposal etc.

²³ RICS, 2023. Whole life carbon assessment for the built environment 2nd Edition.
²⁴ WRI and WBCSD. 2019. The Greenhouse Gas Protocol.

- 9.11 Indirect Scope 3 emissions are emitted from activities which are predominantly outside of the Applicant's control. However, in the supreme court judgment of *Finch v Surrey County Council*²⁵ it is made clear that Scope 3 emissions should be considered as leading to potential indirect effects of a development, but only if these are likely. For example, if information on which a reasoned conclusion could properly be based is available, such as when the end use of the material is certain.
- 9.12 The IEMA guidance²⁶ makes it clear that the scope of a GHG emissions assessment should be defined based on the likely proportion of emissions during a specific project stage. For example, if the majority of impacts occur during the operational phase of a project and construction impacts are negligible, then the GHG assessment can reflect this.
- 9.13 Details of the Scope 1, 2 and 3 emission sources across the lifetime of the proposed development have been identified and those scoped into the assessment are outlined in the following sections.

Demolition and Construction Stage

- 9.14 The following activities will contribute GHG emissions during the demolition and construction stage of the proposed development:
- Embodied carbon associated with the extraction and manufacturing of building materials (lifecycle modules A1 to A3). These fall within Scope 3 emissions; and,
 - Transport of construction materials to the site, demolition, site clearance and waste removal, and construction and installation of products on-site (lifecycle modules A4 to A5). These are predominantly Scope 1 emissions.

Completed Development Stage

- 9.15 The following activities will contribute GHG emissions during the completed development stage of the proposed development:
- Embodied carbon associated with maintenance, repair, replacement and refurbishment within the buildings (lifecycle modules B1 to B5). These fall within Scope 3 emissions;
 - Operational energy requirements associated with purchased electricity from the National Grid and distribution network (lifecycle module B6). These fall within Scope 2 and 3 emissions; and,
 - Operational water consumption associated with the supply of water to and extraction and processing of foul water from the proposed development (lifecycle module B7). These fall within Scope 3 emissions.

Emission Sources Scoped Out of Assessment

- 9.16 The IEMA guidance²⁷ recommends that activities with emissions that in total equate to less than 5% of the lifecycle emissions of the proposed development may be scoped out of the assessment. The following sources were therefore not considered further:
- GHG emissions from the treatment and disposal of waste materials during the completed development stage. It is noted these will be minimised through standard best practice including the implementation of an Operational Waste Management Plan. Further details are provided in Chapter 4: Proposed Development Description;
 - It is assumed that maintenance, refurbishment and repair to extend the operational lifetime of the buildings would be considered before decommissioning. Therefore, it is considered unlikely that the proposed development would be decommissioned at the end of the 60-year timeframe considered throughout this assessment. Furthermore, should the proposed development be decommissioned after the 60-year timeframe, any demolition activities, waste disposal and replacement development

- would be built to be net zero standards in line with the regulations at that time. As such, end of life emissions associated with the proposed development have been scoped out of the assessment; and,
- The proposed development is car-free and does not provide any car parking spaces. Therefore, GHG emissions associated with road vehicle exhaust emissions will be limited to delivery and servicing vehicles and likely to be minimal in comparison to other emission sources.

Spatial Scope

- 9.17 GHG emissions contribute to climate change, which is a global environmental effect. Therefore, the study area for the assessment is not limited by any specific geographical scope or defined by specific sensitive receptors. Nevertheless, the assessment has focused on emission sources associated with the proposed development over which the Applicant has some ability to control or influence.

Temporal Scope

- 9.18 The assessment has considered impacts arising across the lifetime of the proposed development, inclusive of the demolition and construction stage and completed development stage. The lifetime of the development has been considered to be 60-years, the standard assumed life of a building in line with RICS guidance²⁸.

Baseline Characterisation Method

Desk Study

- 9.19 The existing baseline represents GHG emissions from the site prior to development. This may include emissions from existing projects (e.g. energy consumption from a building which is scheduled for refurbishment, demolition or replacement) and infrastructure (e.g. current operational and end-user emissions of a road due to be upgraded). In the context of this assessment, the current baseline has considered potential GHG emissions from the existing site use, as well as establishing GHG emissions at a national and regional level.

Field Study

- 9.20 Not applicable to this chapter.

Assessment Method

Demolition and Construction Stage

Embodied Carbon (Lifecycle Modules A1 to A3) and Construction Process (Lifecycle Modules A4 to A5)

- 9.21 A Life Cycle Assessment (LCA) for the proposed development has been prepared by Element Sustainability and is presented in ES Volume 3: Technical Appendix 9.2. The LCA was undertaken to provide compliance with the requirements of the PfE Design Guidance for Net Zero²⁹.

²⁵ *Finch vs Surrey*. 2024. Judgement R (on the application of Finch on behalf of the Weald Action Group) (Appellant) v Surrey County Council and others (Respondents).

²⁶ IEMA. 2022. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition.

²⁷ IEMA. 2022. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition.

²⁸ RICS, 2023. Whole life carbon assessment for the built environment 2nd Edition.

²⁹ GMCA. 2025. Design Guidance for Net Zero.

- 9.22 The assessment calculated the whole life carbon impact of the proposed development in accordance with RICS guidance³⁰ methodology (incorporating all lifecycle modules), and to separately report on the upfront embodied carbon (lifecycle modules A1 to A5).
- 9.23 One Click LCA Software was used to undertake the LCA. The software is a recognised tool to conduct LCAs and complies with the following standards:
- BS EN 15978: 2011³¹ – Sustainability of Construction Works – Assessment of Environmental Performance of Buildings - Calculation Method;
 - ISO 14040 2006: Environmental Management³² – Lifecycle Assessment – Principles and Framework; and,
 - ISO 14044 2006: Environmental Management³³ – Lifecycle Assessment – Requirements and Guidelines.
- 9.24 A detailed methodology including relevant inputs, assumptions and limitations of the LCA are provided within ES Volume 3: Technical Appendix 9.2.

Completed Development Stage

Operational Embodied Carbon (Lifecycle Modules B1 to B5)

- 9.25 Operational embodied carbon (lifecycle modules B1 to B5) emissions were calculated within the LCA presented within ES Volume 3: Technical Appendix 9.2. The methodology for calculating GHG emissions is the same as detailed previously.

Operational Energy Use (Lifecycle Module B6)

- 9.26 A Carbon and Energy Statement for the proposed development has been prepared by Element Sustainability and is presented in ES Volume 3: Technical Appendix 9.3. The Carbon and Energy Statement was undertaken to provide compliance with the requirements of the PfE Design Guidance for Net Zero³⁴.
- 9.27 The energy performance of the proposed development was calculated using the CIBSE TM54³⁵ assessment methodology. The energy demand for the dwellings was calculated in DesignBuilder, a dynamic building simulation modelling (DSM) software package widely used for TM54 assessments. This software allows detailed modelling of building fabric, ventilation, internal gains and heating system performance to produce predictions of regulated energy use. The modelling provides a robust indication of the expected space heating and overall Energy Use Intensity (EUI).
- 9.28 A detailed methodology including relevant inputs, assumptions and limitations of the assessment is provided within ES Volume 3: Technical Appendix 9.3.
- 9.29 The proposed development will be fully electric. Therefore, indirect GHG emissions from the generation of purchased electricity from the National Grid and losses as a result of transmission and distribution of the electricity from source to site have been calculated based on the energy demand for the proposed development and emissions factors derived from the Department for Energy Security and Net Zero (DESNZ) published GHG Reporting: Conversion Factors 2025³⁶.
- 9.30 The proposed development will implement photovoltaic (PV) panels at roof level to provide on-site renewable electricity generation. The estimated energy generation of the PV array has been provided by Element Sustainability. On-site provision of energy will reduce the reliance on grid supplied electricity.

As such, a net reduction in total energy demand has been calculated to account for the on-site generation of electricity.

Operational Water Use (Lifecycle Module B7)

- 9.31 The projected water consumption and foul water production for the proposed development has been estimated based on the requirement of PfE³⁷ Policy JP-S4 - Flood Risk and Water Environment to achieve a daily consumption of less than 110 litres/person/day (l/p/d). The number of people in the residential units has been estimated based on the maximum occupancy for a worst-case assessment. It is assumed that the amount of daily foul water will be equal to daily water consumption.
- 9.32 Associated GHG emissions have been calculated by multiplying the calculated annual water consumption of the proposed development by emissions factors derived from DESNZ’s GHG Reporting: Conversion Factors 2025³⁸ for water supply and treatment of foul water.

Cumulative Stage

- 9.33 An overarching principle of the IEMA guidance is that GHG emissions from all global development cumulatively contribute to climate change and a change to the global environment. This, therefore, makes the assessment of GHG emissions a cumulative assessment by its very nature. As such, the combined effects of local committed development are not considered further.

Assessment Criteria

- 9.34 When determining the significance of effect, the IEMA guidance³⁹ states:
- "IEMA's 2010 principles on climate change mitigation and EIA identify climate change as one of the defining environmental policy drivers and that action to address GHG emissions is essential. Specifically, three overarching principles are particularly relevant to considering the aspect of significance:*

 - *The GHG emissions from all projects will contribute to climate change, the largest interrelated cumulative environmental effect.*
 - *The consequences of a changing climate have the potential to lead to significant environmental effects on all topics in the EIA Directive (e.g. human health, biodiversity, water, land use, air quality).*
 - *GHG emissions have a combined environmental effect that is approaching a scientifically defined environmental limit, as such any GHG emissions or reductions from a project might be considered to be significant."*
- 9.35 The IEMA guidance goes on to state:
- "When evaluating significance, all new GHG emissions contribute to a negative environmental impact; however, some projects will replace existing development or baseline activity that has a higher GHG profile. The significance of a project's emissions should therefore be based on its net impact over its lifetime, which may be positive, negative or negligible;*

Where GHG emissions cannot be avoided, the goal of the EIA process should be to reduce the project's residual emissions at all stages; and,

³⁰ RICS, 2023. Whole life carbon assessment for the built environment 2nd Edition.

³¹ European Standard. 2011. BS EN 15978: 2011 – Sustainability of Construction Works – Assessment of Environmental Performance of Buildings - Calculation Method.

³² International Organization for Standardization. 2006. ISO 14040 2006: Environmental Management – Lifecycle Assessment – Principles and Framework.

³³ International Organization for Standardization. 2006. ISO 14044 2006: Environmental Management – Lifecycle Assessment – Requirements and Guidelines

³⁴ GMCA. 2025. Design Guidance for Net Zero.

³⁵ CIBSE. 2022. TM54 Evaluating operational energy use at the design stage.

³⁶ DESNZ. 2025. GHG Reporting: Conversion Factors 2025.

³⁷ GMCA. 2024. Places for Everyone.

³⁸ DESNZ. 2025. GHG Reporting: Conversion Factors 2025.

³⁹ IEMA. 2022. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition.

Where GHG emissions remain significant, but cannot be further reduced, approaches to compensate the project's remaining emissions should be considered."

9.36 The above aligns with the IEMA mitigation hierarchy⁴⁰. When determining impact significance, the guidance indicates:

"The crux of significance therefore is not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050."

9.37 The assessment of the potential impacts and likely effects as a result of the proposed development has taken into account both the demolition and construction stage and completed development stage. In line with the IEMA guidance⁴¹, the sensitivity of the receptor (i.e., the global atmosphere) in relation to GHG emissions is always considered to be 'high'. The criteria for determining the significance of effects are outlined in Table 9.3. The significance level attributed to each effect is based on the best practice guidance from IEMA⁴².

Table 9.3: Significance of Effect	
Significance	Criteria
Major Adverse	The project's GHG impacts are not mitigated or are only compliant with do-minimum standards set through regulation, and do not provide further reductions required by existing local and national policy for projects of this type. A project with major adverse effects is locking in emissions and does not make a meaningful contribution to the UK's trajectory towards net zero
Moderate Adverse	The project's GHG impacts are partially mitigated and may partially meet the applicable existing and emerging policy requirements but would not fully contribute to decarbonisation in line with local and national policy goals for projects of this type. A project with moderate adverse effects falls short of fully contributing to the UK's trajectory towards net zero
Minor Adverse	The project's GHG impacts would be fully consistent with applicable existing and emerging policy requirements and good practice design standards for projects of this type. A project with minor adverse effects is fully in line with measures necessary to achieve the UK's trajectory towards net zero
Neutral	The project's GHG impacts would be reduced through measures that go well beyond existing and emerging policy and design standards for projects of this type, such that radical decarbonisation or net zero is achieved well before 2050. A project with negligible effects provides GHG performance that is well 'ahead of the curve' for the trajectory towards net zero and has minimal residual emissions
Beneficial	The project's net GHG impacts are below zero and it causes a reduction in atmospheric GHG concentration, whether directly or indirectly, compared to the without-project baseline. A project with beneficial effects substantially exceeds net zero requirements with a positive climate impact

9.38 All GHG emissions to the atmosphere have a lasting effect, accumulating and remaining in the atmosphere and contributing to global warming. As such, all effects are considered to be long term, permanent, direct and irreversible.

Assumptions and Limitations

9.39 The following assumptions and limitations were made when completing the assessment:

⁴⁰ IEMA. 2020. IEMA GHG Management Hierarchy.

⁴¹ IEMA. 2022. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition.

- The assessment has relied on data provided by Elemental Sustainability within the LCA and Carbon and Energy Statements. It has been assumed that these data sets have been reported correctly;
- The LCA was conducted during RIBA Stage 2 (concept design). Therefore, design detail is limited and will be considered further as the scheme progresses through to the Technical Design Stage. A number of assumptions were consequently used in order to complete the baseline assessment. The RICS Professional Statement has provided reasonable assumptions, based on UK average industry standard practice, which must be used during early design phase whole life carbon assessments that are to act as baselines for progressive reporting. A 15% early design stage contingency factor was applied to account for uncertainty and lack of detailed design information;
- The proposed development will generate road vehicle emissions during the demolition and construction stage. GHG emissions have been incorporated into the embodied carbon calculations undertaken as part of the LCA;
- Eight representative dwellings were chosen to reflect the range of apartment and townhouse layouts across the development for the energy demand calculations with the average EUI calculated based on these dwelling types. This is considered a robust approach at early design stage. However, it is also recommended that a TM54: Operational Energy Performance assessment is conducted on the entire building in order to accurately assess the operational energy of the development once detailed design is complete. Any such changes are considered unlikely to materially change the determined magnitude of effect or significance identified within this chapter;
- 2025 GHG emission factors for electricity obtained from the National Grid and losses due to transmission and distribution of electricity have been applied across the lifetime of the proposed development. This is considered to be a worst-case approach as the National Grid continues to decarbonise towards Net Zero in 2050 with increasing supply from renewable sources;
- Operational water consumption emissions were calculated based on the Applicant achieving the maximum permitted 110l/p/d in line with PfE requirements. Following detailed design and specification of water saving techniques to be implemented it is likely that water consumption across the site will be lower and the calculated emissions will be an overestimation;
- It is assumed that the aspirations presented in the below list are committed to by the Applicant throughout the lifetime of the proposed development. The following commitments have been considered when determining the significance of effect and further details are provided in ES Chapter 4: Proposed Development Description and ES Chapter 5: Demolition and Construction Description:
 - Construction Environmental Management Plan (CEMP);
 - Site Waste Management Plan (SWMP);
 - Construction Logistics Plan (CLP); and,
 - Water efficiency strategy.
- There is inherent uncertainty within all modelling and predictive software and emission factors.

Baseline Conditions

Existing Baseline

National and Regional Emissions

9.40 Within the context of GHG emissions assessment, the baseline is a reference point against which the impact of the proposed development can be compared against. This section establishes existing GHG emissions at a national and regional level.

⁴² IEMA. 2022. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition.

9.41 On 3rd July 2025, the Department for Energy Security and Net Zero (DESNZ) released the latest version of 'UK local authority and regional GHG emissions statistics, 2005 to 2023'⁴³. The data contains the most up to date available GHG emission estimates for the UK, England and MCC, presenting total and sectoral emissions. GHG emission estimates for 2023 are provided in Table 9.4.

Table 9.4: 2023 National and Regional Sectoral Emissions			
Sector	Annual Emissions (ktCO ₂ e)		
	UK	England	MCC
Industry	56,675	39,084	195
Commercial	29,590	25,312	338
Public Sector	10,380	8,599	182
Domestic	76,897	63,148	512
Transport	113,307	93,952	621
LULUCF ^(a)	1,119	-598	3
Agriculture	48,288	29,819	3
Waste	19,838	16,312	335
Total	356,094	275,589	2,189

Note: (a) Land use, land use change and forestry

9.42 As shown in Table 9.4, the transport and domestic sectors represent the highest contributions of GHG emissions throughout Manchester, England and the wider United Kingdom.

9.43 Target annual emissions for 2023 were derived by the University of Manchester’s Tyndall Centre for Climate Change Research using a science-based approach to set carbon budgets to achieve net zero by 2038, in line with MCC’s declaration of a climate emergency. The target annual emissions for 2023 was 975ktCO₂e. Based on the data presented in Table 9.4, MCC were significantly above their target in 2023 and further work is required if they are to be net zero by 2038.

Existing Land Use

9.44 In line with IEMA guidance⁴⁴, the existing baseline for the assessment is defined by the GHG emissions arising from current activities within the site boundary for the assessment year of 2026.

9.45 The site comprises brownfield land with a single storey derelict building occupying the south-west corner. The remainder of the site is occupied by hardstanding and vegetation which has encroached onto the plot since the demolition of previous structures. The site is currently vacant with no land uses. As such, for the purpose of this assessment, baseline emissions from the site are considered to be zero.

Future Baseline

9.46 The future baseline represents a scenario without the proposed development, with the site remaining in its current state over the study period. As there are currently no GHG emissions associated with the site, this will continue should the proposed development not come forward. Therefore, all emissions generated by the proposed development will be in excess of existing and future baseline of the site.

Sensitive Receptors

⁴³ DESNZ. 2025. UK local authority and regional GHG emissions statistics, 2005 to 2023.
⁴⁴ IEMA. 2022. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition.
⁴⁵ IEMA. 2022. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition.

9.47 As outlined in Table 9.5, the sensitive receptor affected by GHG emissions considered in the assessment is the global atmosphere. In line with the IEMA guidance⁴⁵, the sensitivity of the global atmosphere to increases in GHG emissions is 'high'.

Table 9.5: Summary of Sensitive Receptors	
Receptor	Sensitivity
Global atmosphere	High

Assessment of Effects

Demolition and Construction Effects

9.48 This section identifies and assesses the scale and nature of the main effects arising from the proposed development during the demolition and construction stage.

Embodied Carbon (Lifecycle Modules A1 to A3) and Construction Process (Lifecycle Modules A4 to A5)

9.49 A LCA has been undertaken for the proposed development as provided in ES Volume 3: Technical Appendix 9.2. A breakdown of the total GHG emissions for the demolition and construction stage is provided in Table 9.6.

Table 9.6: Calculated Demolition and Construction Stage GHG Emissions	
Lifecycle Module	Emissions (kgCO ₂ e)
A1 - A3: Product Stage	11,011,789
A4: Transport	729,072
A5: Construction and Installation Process	1,494,586
Total	13,180,004

9.50 The total GHG emissions from the demolition and construction stage were calculated to be 13,180,004kgCO₂e.

9.51 As part of PfE, GMCA released the 'Design Guidance for Net Zero'⁴⁶, providing a series of metrics and Key Performance Indicators (KPIs) to be met for new development. The KPIs include upfront embodied carbon targets for minor and major developments, providing a measure of the success of how design decisions have influenced the carbon performance of the building. The proposed development is defined as a 'Large Major Development' as the number of residential units is greater than 150. The representative target for 'Upfront Embodied Carbon - Flats' is <600 kgCO₂e/m².

9.52 As stated in ES Volume 3: Technical Appendix 9.2, the calculated upfront embodied carbon for the proposed development is 593.69 kgCO₂e/m². This is below the PfE Design Guidance for Net Zero⁴⁷ target value.

9.53 The following efforts will be committed to by the Applicant in order to minimise embodied carbon as the project progresses through to Detailed Design stage:

- Materials will be selected based on their environmental performance and how they will be sourced. Indirect carbon emissions will therefore be taken into account, including those involved in the

⁴⁶ GMCA. 2025. Design Guidance for Net Zero.
⁴⁷ GMCA. 2025. Design Guidance for Net Zero.

- extraction and cultivation, manufacture and handling processes and subsequent, in-life emissions resulting from the use of those materials within the proposed development;
 - Materials with a low environmental impact throughout their lifecycle will be prioritised within the new building. Additionally, materials with associated Environmental Performance Declarations (EPD) will be favoured;
 - Responsibly sourced materials from suppliers operating an Environmental Management System and procuring timber verified by either the Forest Stewardship Council (FSC) or Programme for the Endorsement of Forest Certification standard (PEFC) will be prioritised; and,
 - Material selection will be carefully considered to avoid the use of toxic materials, such as Volatile Organic Compounds (VOCs) and contribute towards creating a healthy indoor environment.
- 9.54 Additionally, Chapter 5: Demolition and Construction Description of this ES commits to producing and adhering to the following documents in order to implement sustainable construction practices and to reduce GHG emissions throughout the demolition and construction stage:
- CEMP - to detail control measures and activities to be undertaken to minimise likely environmental impacts, as well as associated roles and responsibilities;
 - CLP - implemented to manage the sustainable delivery of goods; and,
 - SWMP - to identify waste management options in consideration of the waste hierarchy, on- and off-site options, and the arrangements for identifying and managing any hazardous wastes produced.
- 9.55 The proposed development is below the relevant target for upfront embodied carbon stipulated within PFE Design Guidance for Net Zero⁴⁸ and commits to minimising embodied carbon and GHG emissions throughout the demolition and construction stage. Therefore, the project's GHG impacts are considered to be fully consistent with applicable existing and emerging policy requirements and good practice design standards for projects of this type. In line with IEMA guidance⁴⁹, the effects are considered to be **minor adverse** and therefore **not significant**.

Completed Development Effects

- 9.56 This section identifies and assesses the scale and nature of the main effects arising from the proposed development during the completed development stage.

Operational Embodied Carbon (Lifecycle Modules B1 - B5)

- 9.57 A LCA has been undertaken for the proposed development as provided in ES Volume 3: Technical Appendix 9.2. A breakdown of the total GHG emissions for lifecycle stages B1 to B5 for the 'In-use Stage' referring to the use, maintenance, repair, refurbishment and replacement of materials is provided in Table 9.7.

Table 9.7: Calculated Completed Development In-use Embodied Carbon GHG Emissions	
Lifecycle Module	Emissions (kgCO ₂ e)
B1 - B5: In-use Stage	2,349,675

- 9.58 The total GHG emissions from operational embodied carbon throughout the completed development stage were calculated to be 2,349,675kgCO₂e.
- 9.59 There are no standards or targets for 'In-use Stage' embodied carbon emissions. However, through the measures highlighted to reduce embodied carbon throughout the design and construction stage, materials will inherently be of lower embodied carbon if required to be repaired, refurbished or replaced. Additionally, through the Detailed Design stage the Applicant has committed to prioritising materials, plant, fixtures and fittings based on their durability and longevity. Therefore, the project's GHG impacts are considered to be fully consistent with applicable existing and emerging policy requirements and good

practice design standards for projects of this type. In line with IEMA guidance⁵⁰, the effects are considered to be **minor adverse** and therefore **not significant**.

Operational Energy Use (Lifecycle Module B6)

- 9.60 A Carbon and Energy Statement has been undertaken for the proposed development as provided in ES Volume 3: Technical Appendix 9.3. The calculated average EUI of the proposed development is 29.90 kWh/m²/year. Based on a GIA of 22,203 m², the annual energy demand of the proposed development is 663,870 kWh/yr.
- 9.61 Estimated energy generated by the proposed PV panels has been provided by Element Sustainability at 39,239.25 kWh/yr based on the following assumptions:
- PV footprint: 339 m²;
 - Provision of 500 Watt PV panels, with area 2 m²;
 - 84.75 kilowatt-peak (kWp) total installed PV capacity; and,
 - 1 kWp PV generates 463 kWh/yr electricity (derived from SAP10 for south facing panel, no overshadowing).
- 9.62 Based on the above, the PV panels will provide approximately 6% of the total energy demand, reducing the amount of electricity required by the grid to 624,631 kWh.
- 9.63 The calculated energy demand has been converted to GHG emissions based on DESNZ's GHG Reporting: Conversion Factors 2025⁵¹ for electricity produced by the National Grid and associated transmission and distribution losses between supply and use of the electricity. The calculated GHG emissions are provided in Table 9.8.

Table 9.8: Calculated Completed Development Operational Energy Use GHG Emissions				
Emission Source	Emission Factor (kgCO ₂ e/kWh)	Energy Demand (kWh/yr)	Annual Emissions (kgCO ₂ e/yr)	Lifetime Emissions (kgCO ₂ e)
UK Grid Electricity	0.17700	624,631	110,997	6,659,820
Transmission and Distribution	0.01853	624,631	11,574	694,440
Total			122,571	7,354,260

- 9.64 The total GHG emissions from operational energy use throughout the completed development stage were calculated to be 7,354,260 kgCO₂e.
- 9.65 In order to limit energy demand and GHG emissions during the completed development stage, the following design features will be integrated into the scheme to collectively contribute towards emission reductions:
- High performance thermal insulation;
 - Low air permeability;
 - Air Source Heat Pumps (ASHPs) to provide hot water;
 - Mechanical Ventilation with Heat Recovery (MVHR);
 - PV panel array;
 - Sophisticated heating controls;
 - Appliances and white goods specified will be highly energy efficient; and,
 - Each dwelling will be specified with a smart meter to enable occupant to effectively monitor and manage their energy consumption.

⁴⁸ GMCA. 2025. Design Guidance for Net Zero.
⁴⁹ IEMA. 2022. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition.

⁵⁰ IEMA. 2022. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition.
⁵¹ DESNZ. 2025. GHG Reporting: Conversion Factors 2025.

- 9.66 As detailed in ES Volume 3: Technical Appendix 9.3, based on the proposed energy strategy, the proposed development achieves a space heating demand of 6.51 kWh/m²/yr and an average EUI of 29.90 kWh/m²/yr respectively. Both metrics are below the PfE Design Guidance for Net Zero⁵² KPIs of 15 kWh/m²/yr for space heating and 35 kWh/m²/yr for EUI. Additionally, the provision of PV panels will be equivalent of 41% of the ground floor space, above the 40% KPI of the PfE Design Guidance for Net Zero⁵³.
- 9.67 Based on the design of the scheme meeting the PfE Design Guidance for Net Zero targets and incorporated measures to reduce energy demand, the project's GHG impacts are considered to be fully consistent with applicable existing and emerging policy requirements and good practice design standards for projects of this type. In line with IEMA guidance⁵⁴, the effects are considered to be **minor adverse** and therefore **not significant**.

Operational Water Consumption (Lifecycle Module B7)

- 9.68 The proposed development will be designed to reduce mains and potable water consumption and will include the following water efficient designs and equipment:
- A water efficiency strategy will be determined for the site and will include for the provision of 'A' rated appliances as a minimum; and,
 - Water efficient sanitary fittings such as low flush WCs and low flow taps and showers with flow regulators would be installed in the dwellings.
- 9.69 It is anticipated that with the proposed measures in place, the proposed development will achieve a calculated daily consumption of less than 110 l/d/p in line with PfE⁵⁵ Policy JP-S4 - Flood Risk and the Water Environment.
- 9.70 GHG emissions have been calculated based on a maximum level of 110 l/p/d for water consumption and foul water and emission factors derived from DESNZ's GHG Reporting: Conversion Factors 2025⁵⁶ for water supply and water treatment. The calculated GHG emissions are provided in Table 9.9.

Table 9.9: Calculated Completed Development Operational Water Consumption GHG Emissions				
Emission Source	Emission Factor (kgCO ₂ e/MI)	Water Consumption (MI/yr)	Annual Emissions (kgCO ₂ e/yr)	Lifetime Emissions (kgCO ₂ e)
Water Supply	191.3	30.3	5,791	347,477
Water Treatment	170.9	30.3	5,173	310,376
Total			10,964	657,853

- 9.71 The total GHG emissions from operational water consumption throughout the completed development stage were calculated to be 657,853 kgCO₂e.
- 9.72 Based on the design of the proposed development meeting the Policy JP-S4 - Flood Risk and the Water Environment and incorporated measures to reduce water consumption, the project's GHG impacts are considered to be fully consistent with applicable existing and emerging policy requirements and good practice design standards for projects of this type. In line with IEMA guidance⁵⁷, the effects are considered to be **minor adverse** and therefore **not significant**.

Lifetime Development Effects

- 9.73 A summary of the calculated GHG emissions for the proposed development, inclusive of both the demolition and construction stage and completed development stage is provided in Table 9.10.

Table 9.10: Calculated GHG Emissions from Proposed Development			
Development Stage	Emission Source	Lifetime Emissions (tCO ₂ e)	Proportion of Total Emissions (%)
Demolition and Construction	Embodied carbon (lifecycle modules A1 to A3) and construction process (lifecycle modules A4 to A5)	13,180	56.0
Completed Development	Operational embodied carbon (lifecycle modules B1 - B5)	2,350	10.0
Completed Development	Operational energy use (lifecycle module B6)	7,354	31.2
Completed Development	Operational water consumption (lifecycle module B7)	658	2.8
Total		23,542	100

- 9.74 As shown in Table 9.10, total GHG emissions generated over the lifetime of the development is 23,542 tCO₂e. Over a lifetime of 60-years, average annual emissions generated by the scheme are predicted to be 392.3 tCO₂e/yr. Embodied carbon during the demolition and construction phase and operational energy usage contribute the vast majority of GHG emissions associated with the scheme. During the Detailed Design stage of the proposed development, opportunities should be sought to further reduce embodied carbon within materials and the energy demand where practicable.
- 9.75 In order to provide context to the assessment results, annual GHG emissions have been compared to the Carbon Budget for MCC derived by the University of Manchester's Tyndall Centre for Climate Change Research for the opening year of the scheme 2032. The carbon budget for MCC in 2032 is 290.4 ktCO₂e. Annually averaged emissions from the proposed development represent 0.14% of the total budget, a subjectively small proportion.

Assessment of Residual Effects

Additional Mitigation

Demolition and Construction Stage

- 9.76 No significant effects are predicted and consequently no additional mitigation is required for the demolition and construction stage. However, an updated LCA should be conducted at the Detailed Design stage when increasing levels of detail in the design and specification of the built asset will become available to ensure compliance with the PfE Design Guidance for Net Zero Upfront Embodied Carbon KPI and the conclusions drawn within this assessment. Opportunities should be sought where possible to further reduce embodied carbon within the specified construction materials. This can be secured via planning condition to be submitted prior to commencement of the development.

⁵² GMCA. 2025. Design Guidance for Net Zero.
⁵³ GMCA. 2025. Design Guidance for Net Zero.
⁵⁴ IEMA. 2022. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition.

⁵⁵ GMCA. 2024. Places for Everyone.
⁵⁶ DESNZ. 2025. GHG Reporting: Conversion Factors 2025
⁵⁷ IEMA. 2022. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition.

Completed Development Stage

- 9.77 No significant effects are predicted and consequently no additional mitigation is required for the completed development stage. However, the following recommendations are made to ensure compliance with the conclusions of this assessment as the project progresses through to Detailed Design stage:
- In relation to embodied carbon during the completed development stage (lifecycle modules B1 - B5), an updated LCA should be conducted at the Detailed Design stage when increasing levels of detail in the design and specification of the built asset will become available. Opportunities should be sought to minimise less durable materials that require more frequent refurbishment or replacement and specify materials with extended lifespans and warranties. This can be secured via planning condition to be submitted prior to commencement of the development; and,
 - In relation to operational water consumption (lifecycle module B7), during the Detailed Design stage, A water efficiency strategy should be developed and specify the water efficient sanitary fittings such as low flush toilets and low flow taps and showers with flow regulators that will be installed in the dwellings to ensure compliance with the PfE⁵⁸ Policy JP-S4 - Flood Risk and the Water Environment daily consumption targets. This can be secured via planning condition to be submitted prior to commencement of the development.

Enhancement Measures

- 9.78 No enhancement measures are proposed in respect of Climate Change and GHG effect.

Demolition and Construction Residual Effects

- 9.79 As no additional mitigation would be required, the residual completed development effects remain as reported in the assessment of effects section:
- GHG emissions as a result of embodied carbon in construction materials, construction transport and demolition and construction processes (lifecycle modules A1 - A5) are considered to have a **minor adverse** and therefore **not significant** effect.

Completed Development Residual Effects

- 9.80 As no additional mitigation would be required, the residual completed development effects remain as reported in the assessment of effects section:
- GHG emissions as a result of in-use stage embodied carbon (lifecycle modules B1 - B5) are considered to have a **minor adverse** and therefore **not significant** effect;
 - GHG emissions as a result of operational energy use (lifecycle module B6) are considered to have a **minor adverse** and therefore **not significant** effect; and,
 - GHG emissions as a result of operational water consumption (lifecycle module B7) are considered to have a **minor adverse** and therefore **not significant** effect.

Summary of Residual Effects

- 9.81 Table 9.11 provides a tabulated summary of the outcomes of the assessment of the proposed development.

Table 9.11: Summary of Residual Effects									
Receptor	Description of Residual Effect	Additional Mitigation	Scale and Significance of Residual Effect **	Nature of Residual Effect*					
				+	D	P	R	St	
				+/-	I	T	IR	Mt	Lt
Demolition and Construction									
Global Atmosphere	GHG emissions as a result of embodied carbon in construction materials, construction transport and demolition and construction processes (lifecycle modules A1 - A5)	Updated LCA at detailed design stage	Minor adverse (not significant)	+	D	P	R		Lt
Completed Development									
Global Atmosphere	GHG emissions as a result of in-use stage embodied carbon (lifecycle modules B1 - B5)	Updated LCA at detailed design stage	Minor adverse (not significant)	+	D	P	R		Lt
Global Atmosphere	GHG emissions as a result of operational energy use (lifecycle module B6)	None required	Minor adverse (not significant)	+	D	P	R		Lt
Global Atmosphere	GHG emissions as a result of operational water consumption (lifecycle module B7)	Water efficiency strategy at detailed design stage	Minor adverse (not significant)	+	D	P	R		Lt
Notes: * - = Adverse/ + = Beneficial/ +/- = Neutral; D = Direct/ I = Indirect; P = Permanent/ T = Temporary; R = Reversible/ IR = Irreversible; St = Short-term/ Mt = Medium-term/ Lt = Long-term. **Negligible/Minor/Moderate/Major									

Cumulative Effects
Intra-Project Effects

- 9.82 As explained in Chapter 2: EIA Process and Methodology, intra-project cumulative effects are discussed in Chapter 10: Cumulative Effects.

Inter-Project Effects

- 9.83 As stated previously, an overarching principle of the IEMA guidance⁵⁹ is that GHG emissions from all global development cumulatively contribute to climate change and a change to the global environment. This, therefore, makes the assessment of GHG emissions a cumulative assessment by its very nature. As such, the combined effects of local committed development have not been considered further.

⁵⁸ GMCA. 2024. Places for Everyone.

⁵⁹ IEMA. 2022. Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition.

Summary of Assessment (NTS)

Background

9.84 Potential Climate Change and Greenhouse Gas effects due to the demolition and construction and completed development stages of the proposed development have been assessed. This has been undertaken taking into account the relevant national and local guidance and regulations.

Baseline

9.85 A desktop assessment of baseline greenhouse gas emissions from the site in its current layout was undertaken. As the site is currently vacant there are no greenhouse gas emissions generated from the site. Therefore, any future development on the site will lead to an increase in greenhouse gas emissions to the atmosphere.

Demolition and Construction Effects

- 9.86 During demolition and construction works greenhouse gas emissions may be generated directly through the burning of fuels for construction transport, plant and generators, or indirectly as a result of electricity use from the national grid and carbon emissions generated during the manufacture and transport of materials used within the construction of the proposed development.
- 9.87 A lifecycle carbon assessment has been produced calculating all greenhouse gas emissions generated during the demolition and construction stage of the proposed development. The total emissions during the construction stage of the proposed development were compared against regional net zero targets for large scale developments and were found to be below the target level.
- 9.88 As the project progresses the life cycle assessment will be updated to reflect exact specifications and quantities of materials utilised through the construction of the development. Locally sourced materials and materials with lower associated carbon emissions will be prioritised to minimise greenhouse gases generated by the proposed development.
- 9.89 Additionally, a number of management plans will be utilised throughout the demolition and construction stage to ensure sustainable practices in relation to transport, waste and the environment are adhered to throughout its duration.
- 9.90 Overall, it is considered that the demolition of the existing site and construction of the proposed development would result in a minor effect on as a result of greenhouse gases to the global atmosphere, and as such would not give rise to significant effects on Climate Change.

Completed Development Effects

- 9.91 Once construction of the proposed development is complete and the building occupied, greenhouse gases may be generated as a result of energy supplied to the building, vehicle emissions, water usage or the maintenance, repairs or replacement of materials over the lifetime of the development.
- 9.92 A Carbon and Energy Statement has been produced to determine the energy requirements of the proposed development. The development has been designed to be thermally efficient, fully electric and utilise solar power panels to produce renewable energy onsite and reduce reliance on the grid. The calculated energy demand for the proposed development has been compared to regional net zero targets for large scale developments and found to be below the target level.
- 9.93 The proposed development will not provide car parking, limiting associated vehicle emissions from the scheme.
- 9.94 As part of the design process, materials fixtures and fittings installed within the proposed development will be prioritised based on their durability and longevity, reducing the requirement to replace or refurbish

the proposed development. Furthermore, fixtures will be selected to with high energy and water efficiency ratings to reduce overall consumption from the proposed development.

9.95 Overall, it is considered that the completed proposed development has taken significant steps to minimise the amount of greenhouse gases emitted to the atmosphere. As such, residual effects are not considered to be significant.

10 CUMULATIVE EFFECTS

Introduction

- 10.1 The EIA Regulations require that the likely significant environmental effects of a development are taken into account, including any likely cumulative effects.
- 10.2 ISEP Guidance (formerly IEMA) Guidance¹ identifies two types of cumulative effects:
- Inter-project effects - incremental changes caused by other development schemes occurring together with the proposed development and the cumulative effects combining to worsen the effect of a particular impact; and
 - Intra-project effects - those effects that occur as a result of impact interaction between different environmental topics within the same project. For example, a project might affect bird species as a result of direct loss of habitat and by noise and light disturbance. Each of these when considered in isolation may have a limited effect but taken together the sum is greater than the parts.

Inter-Project Cumulative Effects

- 10.3 A list of cumulative schemes for consideration in the inter-project cumulative effect assessment was presented to MCC as part of the EIA Scoping Opinion Request Report on 17th November 2025 (ES Volume 3: Technical Appendix 2.1). Following the EIA Scoping Process the agreed list was maintained and updated to account for the status of each scheme and any new potential, qualifying schemes. Details of the most up-to-date list of cumulative schemes considered in Chapter 2: EIA Process and Methodology of this ES Volume.
- 10.4 Inter-project effects have been addressed in each technical chapter of the ES (Chapters 6-9) of ES Volume 1 and ES Volume 2, as appropriate. To avoid significant repetition, information on the potential combined effects of the proposed development together with cumulative schemes is not presented within this chapter of the ES.

Intra-Project Cumulative Effects

- 10.5 The potential for intra-project cumulative effects is considered within this chapter.

Intra-Project Cumulative Effects

Assessment Approach

- 10.6 Ramboll has developed an approach to the cumulative assessment which uses the defined residual effects of the proposed development to determine the potential for interactions between effects and

consequently the potential for significant intra-project cumulative effects to arise. This is a tried, tested and robust approach that has been implemented and accepted on a wide range of urban development applications over many years.

- 10.7 The approach comprised the following steps:
- First, a review of the likely residual effects (and in particular, the likely significant environmental effects) presented within the assessments of the ES was undertaken;
 - Second, the likely receptors or receptor groups were identified;
 - Third, the individual effects which may impact a singular receptor or receptor group were listed in a matrix format;
 - Fourth, the potential for individual effects to interact for a given receptor was identified; and
 - Fifth, the scale of the combined intra-project cumulative effects was assessed.
- 10.8 To ensure a proportionate approach, all negligible effects have been disregarded in the intra cumulative assessment. Where a range of effects has been predicted, the full range has been considered (i.e. negligible to minor).
- 10.9 It is noted that intra-project cumulative effects are more likely to arise when the receptor or receptor group is of higher sensitivity to change, such as human receptors, for example existing residential neighbours.
- 10.10 Where there is more than one effect is identified as likely to arise on a particular receptor or receptor group, the potential for effect interactions and the scale of the combined effect have been determined based on professional judgement and experience.

Intra-Project Cumulative Assessment Results

- 10.11 The results of the intra assessment are presented within a matrix format in the Assessment Results section as Tables 10.1 and 10.2 for the demolition and construction stage and completed development stage effects respectively.

Demolition and Construction

- 10.12 Table 10.1 presents this summary assessment of the intra cumulative assessment for the demolition and construction stage. No potential for intra-cumulative effects have occurred during the demolition and construction stage of the proposed development. No additional mitigation is required.

¹ ISEP: The State of Environmental Impact Assessment Practice in the UK. 2011.

Likely Residual Effects					
		Labour Market	Existing Off-site Residential	Global Climate	Existing Townscape
Socio-Economics and Human Health	Employment during construction				
Daylight, Sunlight and Overshadowing	Loss of daylight to homes				
	Loss of sunlight to homes				
	Overshadowing of open spaces				
Climate Change	Greenhouse Gas Emissions				
Townscape and Visual	Effects on townscape character				
	Effects on views				
Potential for effect interactions?		No	No	No	No

	Major Beneficial
	Moderate Beneficial
	Minor to Moderate Beneficial
	Minor Beneficial
	Minor Adverse to Minor Beneficial
	Neutral
	Major Adverse
	Moderate to Major Adverse
	Moderate Adverse
	Minor to Moderate Adverse
	Minor Adverse
	Negligible to Minor Adverse

Table 17.1 Intra-project effects during demolition and construction stage

Likely Residual Effects						
		Labour Market	Existing Off-site Residential Receptors and Users of Public Open Space	Global Climate	Existing Townscape Character	Future residents
Socio-Economics and Human Health	Provision of housing					
	Increased demand for open and play space					
	Changes in residential amenity from daylight and sunlight effects (Jefferson and Barton Place)					
Daylight, Sunlight and Overshadowing	Reduction in daylight amenity					
Climate Change	Greenhouse gas emissions					
Townscape and Visual	Effects on townscape character areas					
	Visual effects on views (View C)					
Potential for effect interactions?		No	Yes	No	No	No

	Major Beneficial
	Moderate Beneficial
	Minor to Moderate Beneficial
	Minor Beneficial
	Minor Adverse to Minor Beneficial
	Neutral
	Major Adverse
	Moderate to Major Adverse
	Moderate Adverse
	Minor to Moderate Adverse
	Minor Adverse
	Negligible to Minor Adverse

Table 17.2 Intra-project effects during the completed development stage

Completed Development

- 10.13 Table 10.2 presents the summary assessment of the intra-cumulative effects summary for the completed development stage.
- 10.14 During the completed development, the potential for intra cumulative effects has been identified for the following receptors/receptor groups:
- Existing off site receptors including residents, pedestrians and users of open space.
- 10.15 Existing off site residential receptors may be subject to effect interactions associated with:
- Townscape and visual effects with regards to appearance of the proposed development in the view and subsequent visual amenity;
 - Loss of amenity daylight and sunlight and overshadowing of open spaces in the immediate surroundings; and
 - Increased demand for open and play spaces for local residents.
- 10.16 The majority of the townscape and visual effects would be beneficial or neutral to the surrounding setting and views. The loss of daylight and sunlight effects and socio-economic effects do not interact with each other, and it is not expected to result in any new or materially different significant effect on the receptors.

Conclusions

- 10.17 No significant adverse or beneficial effects have been identified during the demolition and construction stage in respect of and receptors. As such, no further additional mitigation would be required to stop any intra-project cumulative effects.
- 10.18 In respect of the completed development stage, existing off-site residential receptors would experience adverse effects relating to socioeconomics and human health simultaneously to effects from daylight and sunlight. The loss of daylight and sunlight effects and socio-economic effects do not interact with each other, and it is not expected to result in any new or materially different significant effect on the receptors as a result of effect interactions.

11 SUMMARY OF MITIGATION AND RESIDUAL EFFECTS

Introduction

11.1 This chapter summarises the additional mitigation measures, the enhancement measures and the residual effects identified in the technical assessments of ES Volume 1 (Chapters 6-9) and ES Volume 2.

Additional Mitigation and Enhancement

11.2 As set out in Chapter 2: EIA Process and Methodology, the aim of an EIA is to develop measures to avoid, offset or reduce the significant adverse environmental effects of a project and to enhance any beneficial effects.

Additional Mitigation

11.3 Within each of the technical assessments, the need for additional mitigation measures has been considered in respect of likely significant adverse effects as far as reasonably possible. In addition, opportunities for environmental enhancement have been explored where practicable. The proposed additional mitigation and enhancement measures are in addition to the embedded design and operational mitigation measures (as described in ES Chapter 4: Proposed Development Description) and standard embedded demolition and construction mitigation measures (as described in ES Chapter 5: Demolition and Construction Description), which have been considered within the technical assessments.

11.4 Table 11.1 presents a summary of the additional mitigation measures that have been identified over the course of the EIA of the proposed development categorised under the following stages:

- Demolition and Construction; and
- Completed Development.

11.5 Reference should be made to individual technical assessments for more detail.

Table 11.1: Summary of Proposed Additional Mitigation	
Topic	Proposed Additional Mitigation
Demolition and Construction	
Daylight, Sunlight and Overshadowing	None.
Wind Microclimate	None.
Socio-Economics and Human Health	None.
Climate Change	None.

Table 11.1: Summary of Proposed Additional Mitigation	
Topic	Proposed Additional Mitigation
Townscape and Visual Impact Assessment	None.
Completed Development	
Daylight, Sunlight and Overshadowing	None.
Wind Microclimate	None.
Socio-Economics and Human Health	None required. However, financial contributions through section 106 obligations and the Community Infrastructure Levy (CIL) would be secured to support improvements in the local area.
Climate Change	None required, however an updated LCA could be conducted at the detailed design stage to further limit embodied carbon and operational water consumption.
Townscape and Visual Impact Assessment	None.

Enhancement Measures

11.6 The following enhancement measures have been identified within the individual technical assessments:

- Socioeconomics and Human Health: Local employment and skills opportunities; supply chain engagement; information for new residents; and contribution to the quality of the local area.

Residual Effects

11.7 This section summarises the likely residual environmental effects of the proposed development following the adoption and inclusion of the additional mitigation measures that are set out in Table 11.1.

11.8 Reference should be made to ES Chapters 6-9 in ES Volume 1 and ES Volume 2 for a detailed description of likely significant residual environmental effects.

Demolition and Construction Residual Effects

11.9 Table 11.2 summarises the residual effects which have been identified by the individual technical assessments as likely to arise from the demolition and construction stage of the proposed development.

11.10 No significant effects have been identified for the demolition and construction phase of the proposed development.

Table 11.2: Demolition and Construction Residual Effects									
Topic	Receptor	Description of Residual Effect	Additional Mitigation	Scale and Significance of Residual Effect **	Nature of Residual Effect*				
					+ -	D I	P T	R IR	St Mt Lt
Daylight, Sunlight and Overshadowing	N/A	N/A	N/A	N/A					
Wind Microclimate	Pedestrian and construction workers	Wind conditions within the site and immediate surrounding area.	None required	Negligible (not significant)	+/-	D	T	R	St
Socio-economics and Human Health	Local Residents and Economy	Creation of demolition and construction employment	None required	Minor Beneficial (not significant)	+	D	T	R	St
	Local Economy	Temporary retail spending of temporary demolition and construction workers	None required	Minor Beneficial (Not significant)	+	D	T	R	St
Climate Change and Greenhouse Gases	In-Combination Climate Impacts								
	Daylight, Sunlight and Overshadowing	Potential interactions of climate change with the identified DSO effects	None required	Not significant	N/A	N/A	N/A	N/A	N/A
	Socio-Economics receptors	Potential interactions of climate change with the identified socio-economic effects	None required	Not Significant	N/A	N/A	N/A	N/A	N/A
	Wind Microclimate receptors	Potential interactions of climate change with identified Wind Microclimate effects.	None required	Not Significant	N/A	N/A	N/A	N/A	N/A
	Greenhouse Gas Emissions								
	Global Climate	GHG Emissions.	Updated LCA at detailed design stage	Minor Adverse (not significant)	-	D	P	IR	Lt
Built Heritage, Townscape and Visual	Townscape								
	Townscape Character Area 1: Cheetham Hill Road Corridor	Appearance of demolition and construction activities in the wider townscape area surrounding the receptor.	None required.	Minor-Moderate Beneficial (not significant)	+	D	T	R	St-Mt
	Townscape Character Area 2: Lord Street/Fernie Street	Appearance of demolition and construction activities in the wider townscape area surrounding the receptor.	None required.	Minor-Moderate Beneficial (not significant)	+	D	T	R	St-Mt
	Townscape Character Area 3: Green Quarter Cluster	Appearance of demolition and construction activities in the wider townscape area surrounding the receptor.	None required.	Minor-Moderate Beneficial (not significant)	+	D	T	R	St-Mt
	Townscape Character Area 4: NOMA/Victoria North	Appearance of demolition and construction activities in the wider townscape area surrounding the receptor.	None required	Minor-Moderate Beneficial (not significant)	+	D	T	R	St-Mt
* - = Adverse; + = Beneficial; +/- = Neutral; D = Direct; I = Indirect; P = Permanent; T = Temporary; R = Reversible; IR= Irreversible; St = Short-term; Mt = Medium-term; Lt = Long-term.									

Completed Development Residual Effects

11.11 Table 11.3 summarises the residual effects which have been identified by the individual technical assessments as likely to arise within the completed development stage of the proposed development.

11.12 The following significant adverse environmental effects for the completed development have been identified and are highlighted in red text in Table 11.3:

- Daylight, Sunlight and Overshadowing: A Moderate Adverse (Significant) loss in daylight amenity for Jefferson Place and Barton Place;

- Socioeconomics and Human Health: A Moderate Adverse (Significant) change in residential amenity from loss of daylight and sunlight effects; and
- Townscape and Visual Impact: A Moderate-Major Neutral (Significant) change from Viewpoint C – Lord Street/Strangeways.

Table 11.3: Completed Development Residual Effects									
Topic	Receptor	Description of Residual Effect	Additional Mitigation	Scale and Significance of Residual Effect **	Nature of Residual Effect*				
					+ -	D I	P T	R IR	St Mt Lt
Daylight, Sunlight and Overshadowing	St Chad's Presbytery	Reduction in daylight amenity	None required	Negligible Adverse (not significant)	+/-	D	P	IR	LT
	Britton House	Reduction in daylight amenity	None required	Minor Adverse (not significant)					
	Jefferson Place	Reduction in daylight amenity	None required	Moderate Adverse (significant)	-	D	P	IR	Lt
	The Hallmark	Reduction in daylight amenity	None required	Minor Adverse (not significant)	-	D	P	IR	Lt
	Melia House	Reduction in daylight amenity	None required	Minor Adverse (not significant)	-	D	P	IR	Lt
	Barton Place	Reduction in daylight amenity	None required	Moderate Adverse (significant)	-	D	P	IR	Lt
	Masson Place	Reduction in daylight amenity	None required	Minor Adverse (not significant)	-	D	P	IR	Lt
	Britton Place	Reduction in sunlight amenity	None required	Minor Adverse (not significant)	+/-	D	P	IR	Lt
	St Chad's Presbytery	Reduction in sunlight amenity	None required	Negligible Adverse (not significant)	+/-	D	P	IR	Lt
	Britton House - Lawn	Reduction in sunlight amenity	None required	Negligible Neutral (not significant)	+/-	D	P	IR	Lt
	St Chad's Presbytery - Gardens	Reduction in sunlight amenity	None required	Negligible Neutral (not significant)	+/-	D	P	IR	Lt
Wind Microclimate	Pedestrians	Safety – effect on pedestrian safety at the site and study area caused by wind conditions	None required	Negligible (not significant)	+/-	D	P	IR	Lt
		Thoroughfares – wind conditions at all site thoroughfares are suitable for at least short term standing conditions year-round	None required	Negligible (not significant)	+/-	D	P	IR	Lt

Table 11.3: Completed Development Residual Effects									
Topic	Receptor	Description of Residual Effect	Additional Mitigation	Scale and Significance of Residual Effect **	Nature of Residual Effect*				
					+ -	D I	P T	R IR	St Mt Lt
		Entrances – wind conditions at all site entrances are suitable for at least short-term standing conditions throughout the year	None required	Negligible (not significant)	+/-	D	P	IR	Lt
		Terraces – wind conditions at all site terraces are suitable for at least short-term standing throughout the year	None required	Negligible adverse (not significant)	+/-	D	P	IR	Lt
		Surrounding areas – wind conditions are suitable for existing pedestrian activities	None required	Negligible (not significant)	+/-	D	P	IR	Lt
Socio-Economics and Human Health	Future Residents	Net increase in housing supply through delivery of 251 new homes	None required	Minor Beneficial (Not significant)	+	D	T	R	LT
		Increased demand for open and play space	None required	Minor Adverse (not significant)	+	I	T	R	LT
		Changes in residential amenity from daylight and sunlight effects to Jefferson Place and Barton Place	None required	Moderate Adverse (significant)	+	D	T	R	LT
		Changes in residential amenity from daylight and sunlight effects to other residential properties	None required	Minor Adverse (not significant)	+	D	P	R	LT
		Wind microclimate conditions affecting pedestrian comfort and safety	None required	Negligible (not significant)	+	D	P	R	LT
		Increased local expenditure and support for local services arising from new resident population	None required	Minor beneficial (not significant)	+	I	P	R	LT
Climate Change	Global Atmosphere	GHG emissions as a result of in-use stage embodied carbon	Updated LCA at detailed design stage	Minor Adverse (not significant)	-	D	P	IR	Lt
		GHG emissions as a result of operational energy use	None required	Minor Adverse (not significant)	-	D	P	IR	Lt
		GHG emissions as a result of operational water usage	Updated LCA at detailed design stage	Minor Adverse (not significant)	-	D	P	IR	Lt

Table 11.3: Completed Development Residual Effects									
Topic	Receptor	Description of Residual Effect	Additional Mitigation	Scale and Significance of Residual Effect **	Nature of Residual Effect*				
					+ -	D I	P T	R IR	St Mt Lt
	In-Combination Climate Impacts								
	Daylight, Sunlight and Overshadowing	Potential interactions of climate change with identified DSO	None required	None	N/A	N/A	N/A	N/A	N/A
	Wind Microclimate	Potential interactions of climate change with the identified wind microclimate effects	None required	None	N/A	N/A	N/A	N/A	N/A
	Socio-Economics and Human Health receptors	Potential interactions of climate change with identified socioeconomic effects	None required	None	N/A	N/A	N/A	N/A	N/A
Built Heritage, Townscape and Visual	Townscape								
	Townscape Character Area 1: Cheetham Hill Road Corridor	Appearance of proposed development within wider townscape area surrounding the receptor	None required	Minor-Moderate Beneficial (not significant)	+	D	P	IR	Lt
	Townscape Character Area 2: Lord Street/Fernie Street	Appearance of proposed development within wider townscape area surrounding the receptor	None required	Minor-Moderate Beneficial (not significant)	+	D	P	IR	Lt
	Townscape Character Area 3: Green Quarter Cluster	Appearance of proposed development on the site which is located in this Character Area	None required	Minor-Moderate Beneficial (not significant)	+	D	P	IR	Lt
	Townscape Character Area 4: NOMA/Victoria North	Appearance of proposed development on the site which is located in this Character Area	None required	Minor-Moderate Beneficial (not significant)	+	D	P	IR	Lt
	Visual								
	View A – Manchester Fort	Appearance of proposed development on the site	None required	Minor Neutral (not significant)	+/-	D	P	IR	Lt
	View B – Manchester Jewish Museum	Appearance of proposed development on the site	None required	Minor-Moderate neutral (not significant)	+/-	D	P	IR	Lt
	View C – Lord Street / Strangeways	Appearance of proposed development on the site	None required	Moderate-Major Neutral (significant)	+/-	D	P	IR	Lt
	View D – Manchester Oratory	Appearance of proposed development on the site	None required	Minor–Moderate Beneficial (not significant)	+	D	P	IR	Lt
	View E – Cheetham Hill Road / Park Street	Appearance of proposed development on the site	None required	Minor Beneficial (not significant)	+	D	P	IR	Lt

Table 11.3: Completed Development Residual Effects

Topic	Receptor	Description of Residual Effect	Additional Mitigation	Scale and Significance of Residual Effect **	Nature of Residual Effect*				
					+ -	D I	P T	R IR	St Mt Lt
	View F – Manchester Cathedral	Appearance of proposed development on the site	None required	Minor–Moderate Neutral (not significant)	+/-	D	P	IR	Lt
	View G – Angel Gardens	Appearance of proposed development on the site	None required	Minor–Moderate Neutral (not significant)	+/-	D	P	IR	Lt
	View H – Roger Street	Appearance of proposed development on the site	None required	Minor–Moderate Neutral (not significant)	+/-	D	P	IR	Lt
	View I – Green Quarter	Appearance of proposed development on the site	None required	Minor Neutral (not significant)	+/-	D	P	IR	Lt
	View J – Blackfriars Street	Appearance of proposed development on the site	None required	Minor–Moderate Neutral (not significant)	+/-	D	P	IR	Lt
	View K – Greengate West	Appearance of proposed development on the site	None required	Minor Neutral (not significant)	+/-	D	P	IR	Lt
	View L – Angel Meadows	Appearance of proposed development on the site	None required	Minor–Moderate Neutral (not significant)	+/-	D	P	IR	Lt
	View M – Collyhurst Road	Appearance of proposed development on the site	None required	Negligible Neutral (not significant)	+/-	D	P	IR	Lt
	View N – Cathedral Gardens	Appearance of proposed development on the site	None required	Minor–Moderate Neutral (not significant)	+/-	D	P	IR	Lt

Notes:

* - = Adverse/ + = Beneficial/ +/- Neutral; D = Direct/ I = Indirect; P = Permanent/ T = Temporary; R=Reversible/ IR= Irreversible; St = Short-term/ Mt = Medium-term/ Lt = Long-term

**Negligible/Minor/Moderate/Major

Significant residual adverse effects

Significant residual beneficial effects