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1. Introduction

- 1.1. This Environmental Statement ('ES') accompanies an application for Full Planning Permission to deliver a residential development of 359 residential units comprising apartments and townhouses, with supporting residential amenity spaces, private terraces, and private garden to the rear ('the Proposed Development'). The Applicant is Foras (Sparkle Street) Ltd.
- 1.2. The Site comprises 0.39 hectares of vacant land located close to Manchester Piccadilly Station and falls within the HS2 Piccadilly Strategic Regeneration Framework (SRF) area. The site is bounded by Store Street to the north, a future development site to the east, Chapeltown Wharf to the south and Sparkle Street to the west ('the Site'). A Site location plan is shown at **Figure 1.1**.
- 1.3. The Site is currently vacant, with its former use being a telephone exchange along with surface car parking and two buildings that were partly used for storage and distribution. The buildings are screened from the road on two sides by existing vegetation and an access route for vehicles is provided from Store Street.
- 1.4. The Planning Application seeks permission for the following description of development:

"Full Planning Permission for demolition of existing vacant buildings and erection of a part 10 storey, part 28 storey residential development comprising 359 homes (Use Class C3) with supporting amenity spaces, and associated highways works, landscaping, plant areas, and other associated works."
- 1.5. The Proposed Development is outlined in detail at Chapter 4 of this ES and is hereafter referred to as the 'Proposed Development'.
- 1.6. The ES sets out the findings of an Environmental Impact Assessment (EIA) carried out in respect of the Proposed Development of the Site.

Requirements for EIA

- 1.7. The EIA process is the mechanism by which development proposals are appraised in terms of their likely environmental effects, in addition to engineering and technical considerations.
- 1.8. The purpose of the EIA is to establish the nature of the Proposed Development and the environment in which it is likely to take place, during both construction and operational phases, so as to identify the likely significant effects on the environment. The assessment compares the existing situation at the start of the work (baseline) with the situation during demolition (as relevant) and construction, and when the Proposed Development is operational.
- 1.9. The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the "EIA Regulations") require that any Proposed Development falling within the description of a 'Schedule 2 development' (as defined within the meaning of the EIA Regulations), will be subject to an EIA where such development is likely to have 'significant' effects on the environment by virtue of such factors as its nature, size or location (EIA Regulation Schedule 3).
- 1.10. The Proposed Development is considered to fall under the category of 'urban development projects' (EIA Regulations Schedule 2, 10, (b)) where:
 - The development includes more than 1 hectare of urban development which is not a dwellinghouse development; or
 - The development includes more than 150 dwellings; or
 - The overall area of the development exceeds 5 hectares.

1.11. In accordance with the EIA Regulations, this ES sets out the following information:

- A description of the development, including in particular:
 - a) a description of the location of the development;
 - b) a description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;
 - c) a description of the main characteristics of the operational phase of the development; and,
 - d) an estimate, by type and quantity, of expected residues and emissions during the construction and operation phases.
- A description of the reasonable alternatives studied, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.
- A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.
- A description of the factors specified in regulation 4(2) likely to be significantly affected by the development.
- A description of the likely significant effects of the development on the environment resulting from, inter alia:
 - a) the construction and existence of the development, including, where relevant, demolition works;
 - 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.
- A description of the likely significant effects on the factors specified in Regulation 4(2) that covers 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.
- 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.
- 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).
- 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.
- A non-technical summary of the information.

- A reference list detailing the sources used for the descriptions and assessments included.

Project Team

- 1.12. Deloitte has extensive experience and expertise in managing the EIA process and holds the IEMA EIA Quality Mark. Deloitte has managed the EIA process and the production of the ES for Sparkle Street and has received technical input from a range of suitably qualified and experienced technical consultees, together “the Consultants”.

Table 1.1 ES Project Team

Topic	Assessment carried out by	Qualifications
Town Planning, EIA Coordination, Socio-Economic	Deloitte LLP	RTPI, RICS, IEMA EIA Quality Mark
Architect	Simpson Haugh and Partners	RIBA
Climate Change	Deloitte LLP	RTPI, RICS, IEMA EIA Quality Mark, ICE and CMI
Daylight, Sunlight and Overshadowing	GIA	BSc (Hons) MRICS
Townscape and Visual Impact	Re-form	CMLI, PG Dip Landscape Architecture, BA (Hons) Landscape Architecture
Wind Microclimate	GIA	MEng, PhD
Human Health	Enfusion	

Organisation of the Environmental Statement

- 1.13. This ES comprises 11 chapters and is supported by figures (located at the back of each chapter within Volume 1) and technical appendices (within a separate Volume 2), which are set out in full in the Contents section of this ES. A Non-Technical Summary (‘NTS’) of the full ES is provided as a separate standalone document.
- 1.14. Figures have been referenced using the chapter numbers as a prefix followed by the number of the figure within a given chapter. Appendices have been referenced in the same way but due to their size they are contained separately in Volume 2.
- 1.15. **Important notice:** This Environmental Statement has been prepared by Deloitte, with technical input from the Consultants. **Table 1.2** below sets out the structure and parties responsible for the technical content within Chapters 6-11 of this ES. Although we have read the Consultants’ reports for consistency and provide our observations based on our knowledge and experience, we accept no liability or responsibility for the Consultants’ Reports and the technical content within Chapters 6-11 of this ES.

Table 1.2 ES Structure

Chapter No.	Chapter Title	Responsibility	Description
Volume 1			
1.	Introduction	Deloitte	Introduction to the ES, EIA requirements, details of the project team, ES organisation and availability.
2.	EIA Methodology	Deloitte	Methods used to prepare each chapter, description of ES structure and content, generic significance criteria, scoping and consultation.
3.	Alternatives and Design Evolution	Deloitte with input from Simpson Haugh and Partners ('SHP')	Outline of the main alternatives considered by the Applicant.
4.	Site, Surroundings and Description of Development	Deloitte with input from SHP	Site description and details of the Proposed Development.
5.	Demolition Method Statement and Construction Management and Phasing	Midgard	Details of anticipated programme for development and construction methodology are also included.
6.	Climate Change	Deloitte	Assessment of the Proposed Development and its potential impact in relation to climate change.
7.	Daylight, Sunlight and Overshadowing	GIA	Assess the effects of the Proposed Development on sunlight and daylight as well as overshadowing impacts on amenity areas/public spaces.
8.	Townscape and Visual Impact	Reform	Potential impacts and likely effects of the Proposed Development on the townscape character and visual amenity of the site and the surrounding area.
9.	Wind Microclimate	GIA	Assess impacts on pedestrian comfort and safety as a consequence of wind effects.
10.	Human Health	Enfusion	Assess the impact of the proposed development with regard to human health indicators.
11.	Socio-economic	Deloitte	Assess the impact of the proposed development on socio-economic indicators
12.	Summary of Residual Impacts	Based on conclusions of technical chapters	Summary of the effects that remain after mitigation.
13.	Type 1 Cumulative Effects	Deloitte	Review of inter project effects, which are combined effects arising from the Proposed Development on defined sensitive receptors.

Chapter No.	Chapter Title	Responsibility	Description
Volume 2 – Technical Appendices			
Volume 3 - Non-Technical Summary			

Other Documents

- 1.16. Together with the ES, the following documents in **Table 1.3** will be submitted to Manchester City Council (MCC) as the Local Planning Authority (LPA) in support of the Planning Application.

Table 1.3: List of documents submitted in support of this Planning Application.

Document	Responsibility
Application Forms and Certificates	Deloitte
Accommodation Schedule	Simpson Haugh
Site Location Plan and Existing Site Plan	Simpson Haugh
Proposed Plans, Sections and Elevations	Simpson Haugh
Demolition Plan	Simpson Haugh
Landscape Plans	Reform
Design and Access Statement	Simpson Haugh
Public Realm Strategy (including lighting strategy)	Reform
Heritage Assessment	Salford Archaeology
Planning and Tall Building Statement	Deloitte
Statement of Consultation	Deloitte
Construction Management Plan (including Demolition Method Statement and Demolition Management Plan)	Midgard
Archaeological Assessment	Salford Archaeology
Environmental Standards Statement	Watts
Energy Statement	JRL Sustainability
Ecological Assessment	ERAP
Biodiversity Net Gain Assessment	ERAP
Crime Impact Statement	GMP: Secure by Design
Transport Assessment	Curtins
Framework Travel Plan	Curtins
Waste Management Strategy	Curtins
TV Reception Survey	Watts
Broadband Connectivity Assessment	Watts
Ventilation Strategy	Watts

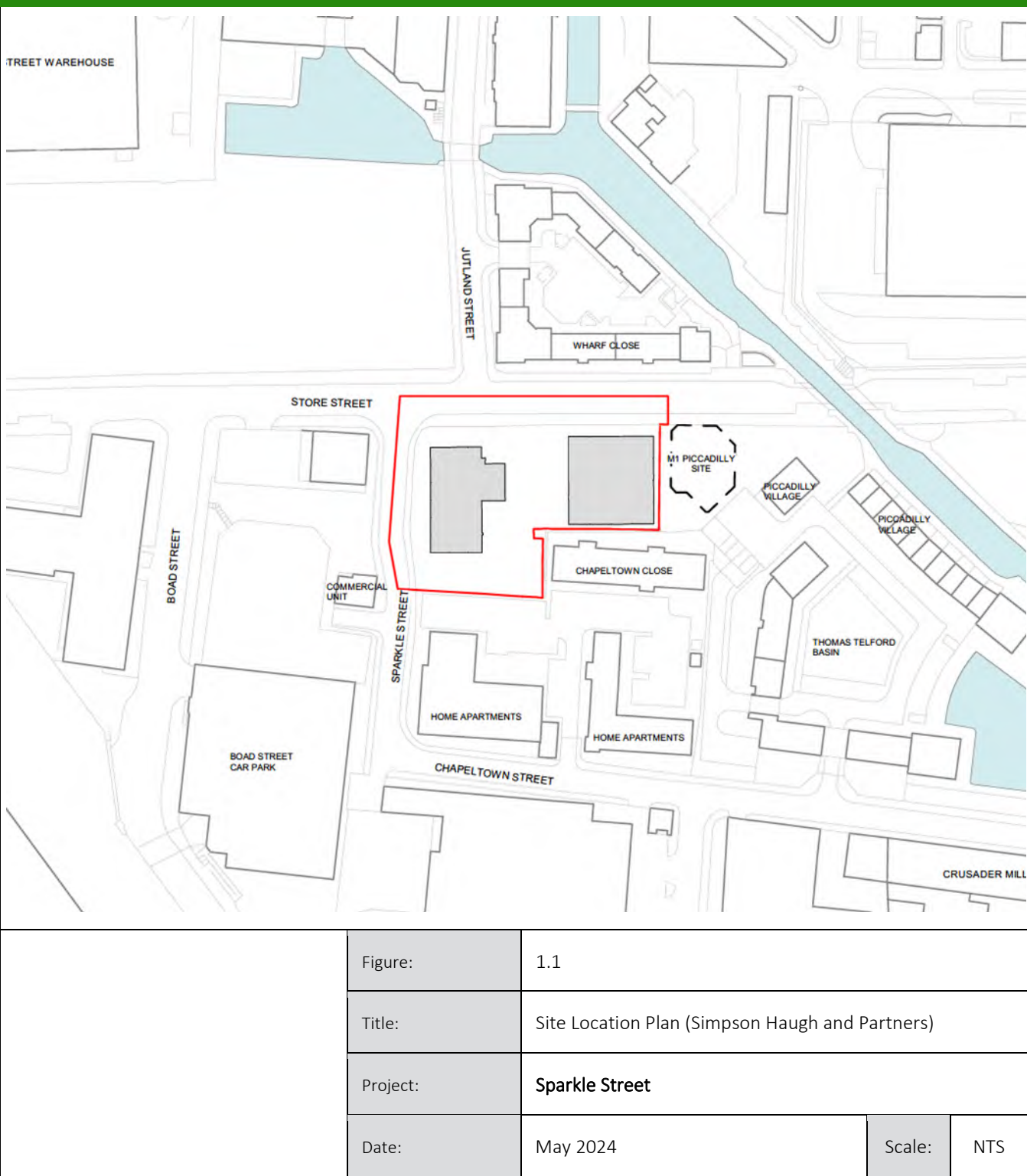
Document	Responsibility
Viability Assessment	CBRE
Aviation Safety Assessment	Pager Power
Arboricultural Impact Assessment	Bowlands
Air Quality Assessment	Cass Allen
Acoustic Assessment	Cass Allen
Fire Statement	Clarke Banks
Flood Risk Assessment and Drainage Strategy	Curtins
Phase 1 Preliminary Risk Assessment and UXO Survey	Curtins
Phase 2 Site Investigation Report	Curtins

EIA Scenarios

- 1.17. So that environmental effects arising from the Proposed Development are robustly assessed, unless stated otherwise due to the nature of the technical chapters, the scenarios tested are as follows:
1. Baseline, including developments under construction
 2. Baseline, including developments under construction, with Proposed Development
 3. Scenario 2 plus cumulative schemes with permission but not yet under construction

Environmental Statement Availability

- 1.18. The ES is available for public viewing on MCC's Public Access website at the following address:
<http://pa.manchester.gov.uk/online-applications/> once the application has been submitted and validated.
- 1.19. The ES may be purchased in volumes, the costs of which are set out below:
- Volume 1: ES Main Text and Figures - £150
 - Volume 2: ES Appendices - £150
 - Volume 3: Non-Technical Summary (NTS) - £15
 - Full Copy (Volumes 1, 2 and 3) of the ES on CD - £15
- 1.20. For copies of any of the above, please contact the Manchester Planning Team at Deloitte:
- Sparkle Street Team – Planning and EIA
Deloitte
The Hanover Building
Corporation Street
Manchester
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2. Environmental Impact Assessment Methodology

Introduction

- 2.1. This Chapter sets out the methodology used to prepare each Chapter of the ES and describes its structure and content. It sets out the process of identifying and assessing the likely significant effects of the Proposed Development on the environment as defined in Chapter 1 and described in detail in Chapter 4.
- 2.2. It is accompanied by the following technical appendices:
- **Appendix 2.1** – ES Screening and Scoping Report
 - **Appendix 2.2** – Committed Developments
 - **Appendix 2.3** – Manchester City Council EIA Scoping Opinion

Legislation and Guidance

- 2.3. The ES has been prepared to comply with EIA Regulations, which implement European Council Directive No. 85/337/EEC as amended by Directive 2014/52/EU and entered into force on 17 May 2017.
- 2.4. Reference has also been made to currently available good practice guidance in EIA including:
- The European Commission's numerous EIA guidance documents available here: <http://ec.europa.eu/environment/eia/eia-support.htm>
 - National Planning Practice Guidance – Department for Communities and Local Government (March 2014 and continuously updated as a 'live' resource)
 - Reference has been made to the Institute of Environmental Management and Assessment (IEMA) publications, including:
 - IEMA ES Review Criteria
 - IEMA Guidelines for Environmental Impact Assessment (2004)
 - IEMA Special Report into the State of Environmental Impact Assessment Practice in the UK (2011)
 - IEMA Shaping Quality Development (2015)
 - IEMA Delivering Quality Development (2016)
 - IEMA Delivering a Proportionate EIA (2017)
- 2.5. The ES has also had regard to the National Planning Policy Framework 2021 (NPPF). The NPPF sets out the Government's economic, environmental, and social planning policies for England, articulating the Government's aspiration for sustainable development. The NPPF has been considered where it is relevant to EIA.
- 2.6. It is considered that there is no relevant regional planning policy and guidance of relevance to this ES.
- 2.7. As relevant to the ES technical chapter's scope, methodology and assessment of effects, key local planning policy and guidance documents have been considered. These include:
- Manchester City Council Core Strategy (2012)

- Places for Everyone (2024)
- Saved Unitary Development Plan Policies (1995)

2.8. Any additional planning policy or guidance documents considered relevant have been identified within the relevant technical chapters.

Screening, Scoping and Consultation

2.9. An EIA Screening and Scoping Opinion Request was issued to Manchester City Council on the 31st of July 2023 (see **Appendix 2.1**) and a formal scoping opinion was received in May 2024 (**Appendix 2.3**). As part of this process, the EIA Scoping Request set out that the following disciplines were found to not give rise to likely significant effects on the environment and would therefore not require inclusion in the ES, for which an explanation for each discipline is provided in the EIA Scoping Report in **Appendix 2.1**:

- Agricultural circumstances;
- Acoustic and Vibration;
- Air quality and dust;
- Archaeology;
- Aviation;
- Heritage;
- Ecology and nature conservation;
- Traffic and Transport;
- Ground conditions;
- Flood Risk and Drainage, and
- TV and Telecommunications.

2.10. The EIA Scoping Request submitted to the LPA set out that there was an intention to omit both Human Health and Socio-economic chapters from the assessment based on the reason assumption that significant effects were not anticipated.

2.11. The LPA however responded in their EIA Scoping Response (**Appendix 2.3**) to state that both chapters would be required as they now consider these mandatory to support any EIA development. Therefore, both chapters have been included within this Environmental Statement for completeness. Similarly, the LPA requested that an additional scheme be included in the cumulative scenario as it had been amended and commenced construction since the original EIA Scoping Opinion was submitted.

Approach to Technical Studies

2.12. Various technical studies were commenced at an early stage in the development process. The findings of the baseline environmental studies have played an important role in the design of the Proposed Development by defining the environmental sensitivities, constraints and opportunities associated with the Site.

2.13. Design team reviews, attended by members of the project team, were held throughout the pre-application process. These reviews provided a valuable forum for the exchange of information and ensured that the design team was fully aware of the environmental constraints and opportunities and of the interactions between disciplines. Meetings were also held with MCC as the Local Planning and Highway Authority.

2.14. The technical studies have been undertaken in accordance with current best practice. Specific guidance used is referenced within each of the respective assessment chapters.

2.15. The majority of assessments involved consultations with statutory and non-statutory bodies, desk-based research, site inspections and surveys, impact prediction and mitigation.

- 2.16. The assessment and conclusions of the ES are based on the description of the Proposed Development provided in Chapter 4.

Structure of Technical Chapters

- 2.17. Each technical chapter of the ES (Chapters 6 to 11) has been set out broadly in line with **Table 2.1**; any variation from this structure is explained within the chapter.

Table 2.1: Structure of ES Technical Chapters

Technical Chapter Structure	
Introduction	Each of the technical chapters begins with an introduction providing context to the EIA completed.
Policy Context	This section includes a summary of legislation and of national and local policies relevant to the environmental discipline and explains its purpose in the context of the Proposed Development and the ES.
Assessment Methodology and Significance Criteria	This section describes the method or approach employed in the assessment of impacts, the criteria against which the significance of effects has been evaluated, the sources of information used, and any technical difficulties encountered. Relevant legislation is also identified.
Assumptions and Limitations	This section describes any assumptions and limitations which have been made that are relevant to the environmental disciplines.
Baseline Conditions	This section describes and evaluates the baseline environmental conditions i.e. the current situation and anticipated changes over time assuming the Site remains unchanged. This is a critical part of the EIA process as it provides a measure against which potential environmental effects can be assessed.
Identification and Evaluation of Key Impacts	This section identifies the likely significant effects on the environment resulting from the Proposed Development. A description of the likely effects of the Proposed Development and an assessment of their predicted significance is provided. The assessment of effect significance has been undertaken using appropriate national and international quality standards. Where no such standards exist, the judgments that underpin the attribution of significance are described. The guidelines, methods and techniques used in the process of determining significance of effects are contained within each of the technical chapters presented.
Mitigation Measures	One of the main aims of the EIA process is to develop suitable mitigation measures to avoid, reduce or compensate for any significant adverse effects of a project. This section of each technical chapter describes the measures which would be implemented to mitigate potential adverse effects. Where possible, enhancement measures have also been proposed.
Cumulative Effects	This section considers the cumulative effects of the Proposed Development identified within the vicinity of the Site. Any likely significant effects on the environment arising in this respect are set out in this section. There are two distinct types of cumulative effects:

Technical Chapter Structure	
	Type 1 - Cumulative effects are the interactions between effects of the Proposed Development on a single receptor. These are addressed in Chapter 11. Type 2 - Cumulative effects are those that arise from incremental changes caused by other consented or reasonably foreseeable activities ('committed developments') together with the Proposed Development.
Residual Effects	The residual effects, i.e. the remaining effects of the Proposed Development assuming implementation of the proposed mitigation measures, have been estimated and presented. The methods used to make these estimates are described and proposed methods of treatment for any residual effects have been identified and quantified where possible.
Summary	Each technical chapter concludes with a summary outlining the potential residual effects of the Proposed Development.

- 2.18. Chapter 5 provides information to allow the construction phase of the Proposed Development to be assessed by the disciplines set out in Chapters 6 to 11.

Assessment and Evaluation of Significant Effects

- 2.19. The assessment of effect significance has been undertaken using appropriate national and international quality standards. Where no such standards exist, the judgments that underpin the attribution of significance are described. The guidelines, methods and techniques used in the process of determining significance of effects are contained within each of the technical chapters presented.

Magnitude

- 2.20. The methodology for determining the scale, or magnitude of effect as set out in **Table 2.2**.

Table 2.2: Methodology for Assessing Magnitude

Magnitude of Impact	Criteria for Assessing Effect
Major	Total loss or major/substantial alteration to key elements/features of the baseline conditions such that the post development character/composition/attributes will be fundamentally changed.
Moderate	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.
Minor	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 predevelopment circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

Sensitivity

- 2.21. The sensitivity of a receptor is based upon the relative importance of the receptor using the scale in **Table 2.3**.

Table 2.3: Methodology for Assessing Sensitivity

Sensitivity	Examples of Receptor
High	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.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance

Significance

- 2.22. The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the impacts can be positive or negative. **Table 2.4** below shows how magnitude and sensitivity interact to derive effect significance.

Table 2.4: Methodology for Assessing Significance

Magnitude	Sensitivity		
	High	Medium	Low
Major	Major Adverse/Beneficial	Major-Moderate Adverse/Beneficial	Moderate-Minor Adverse/Beneficial
Moderate	Major-Moderate Adverse/Beneficial	Moderate Adverse/Beneficial	Minor Adverse/Beneficial
Minor	Moderate-Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor-Negligible
Negligible	Negligible	Negligible	Negligible

- 2.23. The above magnitude and significance criteria have been provided as a guide for technical specialists to assess impact significance. Where discipline specific methodology has been applied that differs from the generic criteria above, this has been clearly explained within the given chapter under the heading of 'Assessment Methodology and Significance Criteria'.
- 2.24. For the purposes of this ES, an effect will be considered to be 'significant' if it is classed as either 'moderate' or 'major'.

Baseline Conditions

- 2.25. Each technical chapter includes a section which describes and evaluates the baseline environmental conditions (i.e. the current situation and anticipated changes over time assuming the Site remains unchanged). Baseline data has been obtained from a variety of sources, including published documents,

maps, historical information and site survey data. Given the complex nature of the Site and surroundings, each technical chapter (Chapters 6 to 11) includes a clear description of what is assumed as the baseline against which the assessment is being made.

- 2.26. The baseline includes nearby schemes under construction. The method used to obtain baseline information, where relevant and possible, has been clearly identified within each technical chapter and agreed in advance with statutory consultees.

Mitigation

- 2.27. Any adverse environmental effects have been considered for mitigation at the design stage and, where practicable, specific measures have been put forward. Measures have been considered based on the following hierarchy of mitigation:
- Avoidance.
 - Reduction.
 - Compensation.
 - Remediation.
 - Enhancement.
- 2.28. Where the effectiveness of the mitigation proposed has been considered uncertain, or where it depends upon assumptions of operating procedures, data and/or professional judgement has been introduced to support these assumptions.
- 2.29. Detailed mitigation recommended during the demolition and construction phase will be set out in the Demolition and Construction Management to be agreed with MCC prior to the commencement of work and implemented throughout the duration of the works. Outline mitigation measures to be provisionally included are set out in Chapter 5: Demolition Method Statement and Construction Management and Phasing
- 2.30. Mitigation to be implemented during the operational phase will be secured through approved documents, planning conditions and obligations.

Residual Effects

- 2.31. The likely significant effects on the environment, assuming the successful implementation of mitigation measures proposed, have been estimated within each chapter. These are termed 'residual effects'.

Cumulative Effects

- 2.32. The ES considers the potential for likely significant effects on the environment resulting from consented or reasonably foreseeable activities or developments in the area, which could lead to potentially significant cumulative effects in conjunction with the Proposed Development ('Committed Developments'). These include:
- Approved but unimplemented projects;
 - Plans or projects for which an application has been made and which are under consideration by the consenting authorities; and,
 - Certain projects which are reasonably foreseeable, i.e. projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative effects.
- 2.33. A search of MCC's planning applications database and knowledge of the area has identified several schemes for which cumulative effects are considered likely. A full list, as of May 2023 and submitted as part of the EIA Screening and Scoping Request, is contained at **Appendix 2.2**.

- 2.34. Each technical chapter (Chapters 6-11) has assessed the potential for likely significant effects on the environment because of the above committed developments, together with the Proposed Development.
- 2.35. In addition, Chapter 13 assesses the Type 1 Cumulative effects.

Assumptions and Limitations

- 2.36. The principal assumptions that have been made and any limitations that have been identified in preparing the ES are set out in each technical chapter. General assumptions include the following:
- All of the principal land uses adjoining the Site remain. Where redevelopment proposals have been granted Planning Permission, the effect of those proposals are considered as part of the Cumulative Impacts;
 - Baseline conditions have been established in 2023 from a variety of sources, including historical data, but due to the dynamic nature of certain aspects of the environment, conditions will change during the Proposed Development;
 - Information received from third parties is complete and up to date;
 - The various stages of the Proposed Development will satisfy minimum environmental standards, consistent with contemporary legislation, practice and knowledge;
 - Assessments are based upon, and conclude, the “worst case” effects that would arise from the application as defined by the description of development set out in Chapter 4, Site Surroundings and Description of the proposals;
 - Construction and demolition methods and phasing will follow the timetable and methods set out in Chapter 5: Demolition Method Statement and Construction Management and Phasing.
 - Conditions will be attached to the Planning Permission that will control disturbance during the Proposed Development; and
 - Necessary off-site services infrastructure for the Proposed Development will be provided by statutory undertakers.

Objectivity

- 2.37. The technical studies undertaken within the ES have been progressed in a transparent, impartial, and unbiased way with equal weight attached, as appropriate, to beneficial and adverse effects. Where possible, this has been based upon quantitative and accepted criteria together with the use of value judgements and expert interpretations.

3. Alternatives and Design Evolution

Introduction

- 3.1. Regulation 18(3) and Paragraph 2 of Schedule 4 of the EIA Regulations requires the Applicant to provide an outline of the main alternatives studied and an indication of the main reasons for the choice made, considering the environmental effects.
- 3.2. The form of the Proposed Development has been influenced by a range of factors, including location, surrounding land use and input from MCC, Statutory and Non-Statutory Consultees and other stakeholders.
- 3.3. This chapter reviews the principal land use and siting options explored and the reasoning for the selection of the current design for the Proposed Development which forms the subject of assessment within the ES.
- 3.4. This chapter considers the following four options in the context of the existing Development Brief:
 - The 'do nothing' alternative where the Proposed Development is not progressed.
 - Alternative locations for the Proposed Development.
 - Alternative Uses for the Site.
 - Alternative Scale and Massing for the Proposed Development.

The 'do nothing' Alternative

- 3.5. The 'do nothing' scenario refers to the option of leaving the Site in its current state. This Site is not making an efficient use of land in its existing condition as a low-rise commercial use and is a negative contributor to the local environment and street scene in terms of its visual appearance. It detracts from the character of the area and effectively creates a 'gap-site' between Piccadilly Station and Ancoats and New Islington.
- 3.1. Given Sparkle Street's strategic location, it is geographically well-placed to play a significant role in satisfying this demand for new homes to support population and economic growth. The City Centre location offers many of the ingredients sought by residents in terms of location, scale, accessibility to public transport and employment.
- 3.2. The Site falls within the boundary of the HS2 Piccadilly Station SRF (2014) and Manchester Piccadilly SRF (2018) which identified the Site as an opportunity for development within a wider regeneration initiative involving the areas surrounding Piccadilly Station that ultimately aims to unlock the economic potential of the arrival of HS2. Although the proposals for HS2 are no longer due to arrive in Manchester as planned, there are significant improvements proposed via Network North, coupled with the significantly underutilised potential of this part of the city, it is imperative that redevelopment proposals come forward to reflect the opportunity in this part of the City Centre.
- 3.3. The Site itself could help to contribute to the ambitions of the city by supporting the creation of a new, best-in-class residential community within a 'neighbourhood of choice' on land that is currently limited by its existing use. Building on the success of recently approved applications for development coming forward in this part of the City Centre, Sparkle Street could further help to forge the area as a vibrant neighbourhood and will provide a catalyst for other schemes to come forward and support the realisation of the potential in this part of the city.

- 3.4. Therefore, the 'do nothing' scenario has been discounted due to the established need for regeneration of this part of the City Centre as well as providing suitable land for the strong demand for high quality housing required by Manchester's growing population.

Consideration of Alternative Locations

- 3.5. The Proposed Development is directly associated in addressing the under-utilisation and strategic location of the Site. The Site is in a highly accessible City Centre location and is identified for redevelopment within the HS2 Piccadilly SRF (2018). The SRF (2018) was brought forward to leverage the economic prosperity brought forward by the anticipated arrival of HS2 into Manchester City Centre. The framework anticipated that several benefits can be achieved through the regeneration of this part of the City Centre:
- The connectivity associated with a best-in-class multimodal transport hub
 - 4,500 new homes
 - 625,000 sqm of commercial office space
 - 100,000 sqm of retail space
 - 1,000 new hotel rooms
 - The creation of numerous high quality public spaces
 - A string of cultural and community use buildings
- 3.6. Although HS2 legs 2a and 2b were cancelled by the UK Government in favour of Network North, these ambitions remain in the endorsed SRF, and the characteristics make the Site a highly suitable location for the Proposed Development. The principle remains the same in terms of the connectivity that Piccadilly Station provides and therefore there are few alternative locations in the city that could be better suited to this form of residential development.
- 3.7. The SRF splits Piccadilly into different character areas which each have their own distinct development principles according to their immediate context. The Site is located within 'Piccadilly Central', which envisages a dense, mixed-use district focused on high quality public space, with supporting social infrastructure.
- 3.8. As such, there is a clear opportunity for Sparkle Street to contribute directly to securing the economic potential of the current station and any future transport improvements at Piccadilly through new, high quality residential development in what is considered integral to the success of the Framework. Whilst there are a range of sites available for large scale residential development, they are also needed to meet Manchester's housing targets on a local and regional level alongside other economic priorities around job creation and social infrastructure.
- 3.9. Therefore, this Chapter does not consider alternative sites within the context of the planning application as there is an identified need to redevelop this Site as a key contributor to this regeneration area in Manchester City Centre.

Consideration of Alternative Uses for the Site

- 3.10. In its existing context, the surrounding area in which the Site is located is predominantly residential with Piccadilly Village to the east, as well as other urban residential buildings along Store Street toward Great Ancoats Street and beyond.
- 3.11. As highlighted within the SRF, the Site is located within 'Piccadilly Central', which envisages a dense, mixed-use district centred on high quality public space, with supporting social infrastructure. In this area, a mixture of uses is promoted to create a diverse urban environment whilst ensuring economic sustainability.
- 3.12. The Site itself is partially allocated for residential and commercial and shows a revised location for Sparkle Street running through the Site. It was envisioned in the SRF that a more comprehensive redevelopment of

the whole area would take place with revised street alignments and wholesale changes to the urban fabric, which is no longer considered to be appropriate and could be accommodated through working with the existing streets and built form.

- 3.13. The commercial element of the scheme within the SRF also extends beyond the site boundary to the southwest. It would not be practical to bring forward the form of commercial development shown in the endorsed SRF due to the compromised smaller commercial floorplates this would deliver. Instead, a comprehensive redevelopment of the existing site solely for residential does work within the parameters of the Site's allocation within the SRF and therefore has been the focus of design development.
- 3.14. The Proposed Development is therefore a high-density residential scheme comprising of a range high quality 1, 2 and 3 bed apartments for those seeking to live within the City Centre and the social and economic benefits that provides. There is a clearly identified need for City Centre housing to meeting residential demand as identified within MCC's Core Strategy and Greater Manchester Combined Authorities' 'Places for Everyone' (2024) plan which emphasises the City Centre as providing a significant number of new homes for the region.
- 3.15. For the reasons above, alternative uses were discounted as the proposed residential scheme is considered the most appropriate in the context of this location, responds to identified regeneration priorities and housing need.

Consideration of Alternative Scale and Massing

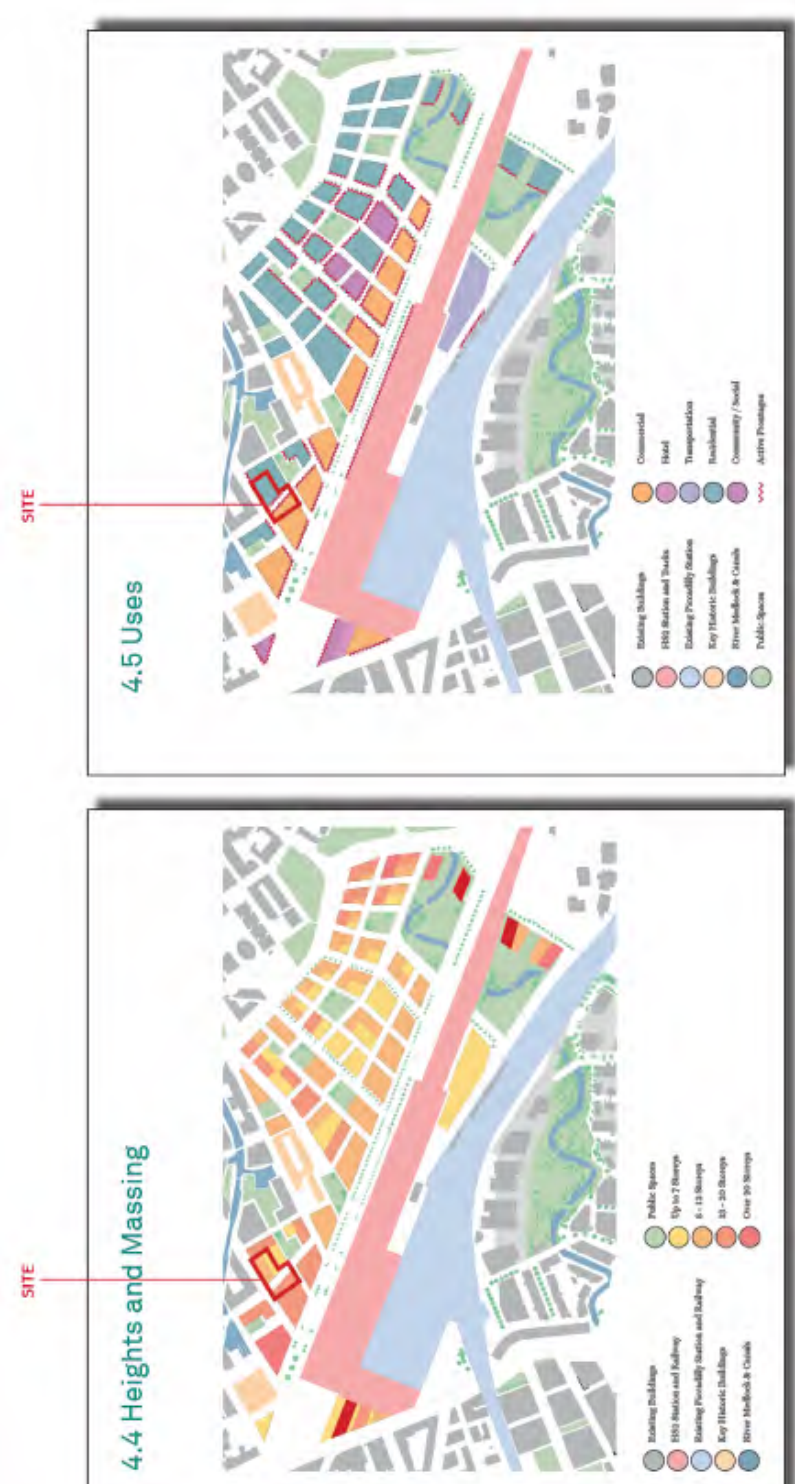
- 3.16. Different scales and massing options have been considered for the Proposed Development during design development. The aim has been to develop proposals in the context of the SRF that will create a viable scheme that provides a wide range of public benefits and addresses strategic policy aims whilst minimising negative impacts on adjacent land uses and the environment.
- 3.17. The design team has undertaken detailed analysis informed by expert townscape, heritage, and microclimate advice and assessments to design an appropriate response to the Site's context. These studies have informed the design development as discussed in this Chapter of the Environmental Impact Assessment.
- 3.18. Options testing has allowed for the development of a high-quality building that seeks to acknowledge surrounding development alongside the future aspirations for the area that will see it grow in terms of population and economic activity over time, despite the cancellation of HS2. With a particular focus on density that is reinforced by the target of 4,500 new homes for the SRF area, the SRF envisages an ambitious level of development considered for the wider area around the new station.
- 3.19. Landmark buildings such as the Proposed Development would bookend Store Street and the new envisioned boulevard, forming markers in the city and creating a gateway point of entry. Residential proposals in the SRF range from medium rise to high rise, promoting variety and a mixed offer of housing types such as the Proposed Development.
- 3.20. As highlighted in **Figure 3.1 and 3.2**, the HS2 Piccadilly SRF identifies the Site as being suitable for residential and commercial land uses. Where the taller element of the massing sits on the corner of Store Street and Sparkle Street, the SRF has identified this as commercial which can rise up to 20 (commercial) storeys, whilst heights up to 12 (residential) storeys is identified on the remaining segment of the site area.
- 3.21. To contextualise these indicative height parameters, Simpson Haugh have undertaken an exercise which draws on examples of high-density office schemes in Manchester and seeks to demonstrate what the typical height of a 'commercial storey' equates to in metres, therefore helping to establish height equivalent indicative height parameters for residential.
- 3.22. As shown in **Figure 3.2**, the proposed building height is 86.25m, which is below a robustly established datum of an average 20 storey commercial building. Therefore, it can be demonstrated that the Proposed Development is compliant with parameters set by the approved SRF. By focusing height on this part of the

Site, and with lower elements on the shoulder to the tower, this helps to reduce any potential impacts on amenity to the bordering development of lower heights to the south and east.

- 3.23. Furthermore, it is also important to understand the existing and emerging context of development coming forward as the surrounding area undergoes regeneration. The diagram in **Figure 3.3**, prepared by Simpson Haugh overlays the proposed indicative massing of the masterplan shown within the HS2 Piccadilly SRF as well as other consented development sites and schemes under construction.
- 3.24. In a very effective way, the diagram illustrates the direction of development coming forward in this part of the city centre and the way in which the density responds to the existing station and the ambitions in the future to maximise its potential through Network North. Behind the existing Oxygen tower (32 storeys) future developments of scale are under construction such as The Castings (25 storeys), Victoria House (25 storeys) and the Fairfax (29 storeys), establishing new height datums to the east.
- 3.25. For further information please refer to the Design and Access Statement prepared by SHP. For the reasons above, the proposed scale and massing options is the most suitable solution to delivering the most efficient use of land and leveraging the highest amount of social and economic benefits for Manchester.

Summary

- 3.26. Where possible, alternative options have been considered throughout the design process and the above summary has set out why the Site is considered suitable for the Proposed Development. This process has been informed by the SRF, viability, and the desire to create a positive relationship with the surrounding developments.
- 3.27. The Proposed Development has been influenced by pre-application consultation with key stakeholders including local landowners, residents, businesses, statutory consultees, as well as with MCC. On this basis, Regulation 18(3) and Paragraph 2 of Schedule 4 of the EIA Regulations has been considered.

				
	Figure:	3.1		
	Title:	HS2 Manchester Piccadilly SRF: Site Specific Allocations		
	Project:	Sparkle Street		
	Date:	May 2024	Scale:	NTS

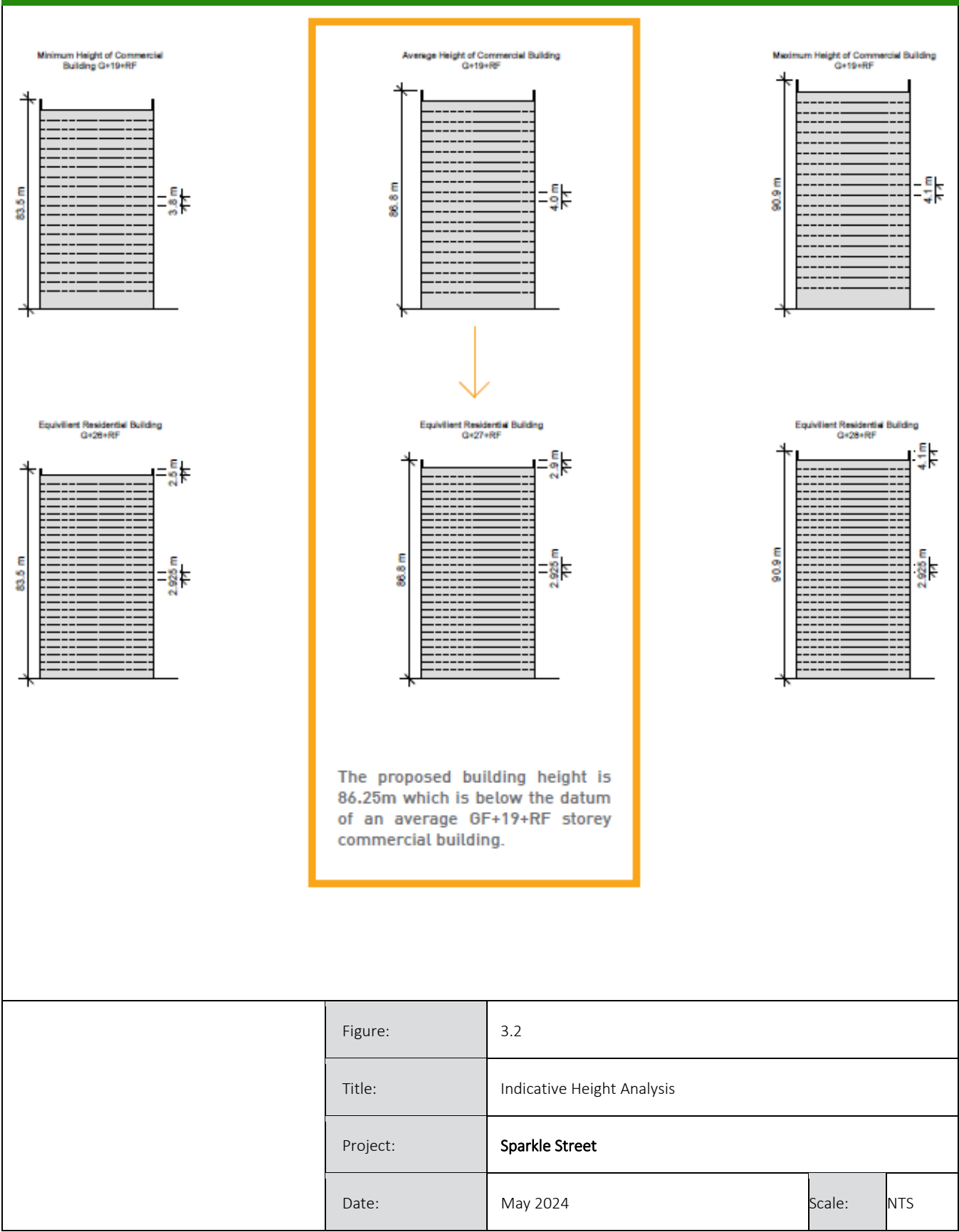




	Figure:	3.2		
	Title:	Emerging Development Context		
	Project:	Sparkle Street		
	Date:	May 2024	Scale:	NTS

4. Site, Surroundings and Description of Proposals

- 4.1. This Chapter includes a description of the Site, its surrounding context, a more detailed description of the Proposed Development as well as the Site's suitability for the Proposed Development.

The Site

- 4.2. The Site is located adjacent to Sparkle Street and Store Street, approximately 100 metres north of Piccadilly Railway Station in Manchester City Centre and is approximately 0.39 hectare in size. The Site is largely unoccupied, with its former use being a telephone exchange along with surface car parking and two buildings that are partly used for storage and distribution.
- 4.3. The buildings are screened from the road on two sides by existing vegetation and an access route for vehicles is provided from Store Street. The Site is negative contributor to the local environment and street scene in terms of its visual appearance and does not contribute to the City in any meaningful way from a social or economic perspective.
- 4.4. It currently sits as low-rise poor-quality, now defunct, infrastructure that offers no contribution to strategic objectives for the area and will remain as an inactive part of the area until suitable development proposals come forward. It represents a missed opportunity to support a key linkage between Piccadilly Station and communities to the north east of the City Centre, including Ancoats and New Islington, Holt Town and beyond toward the Etihad, which is now a vital hub of activity for the city region from a leisure perspective.
- 4.5. The Site is located to the southwest of Piccadilly Village and includes other existing residential properties to the west, east and north. Much of the immediate surrounding area underwent a period of transformation in the 1990s with the various canal-side redevelopments to the east of the Site. Existing residential buildings at the Site's boundaries are generally circa 5-storeys in height, although the Chapeltown Apartments sit on a bank of made ground and retaining wall that is approximately 3.5m in height, which is the equivalent of one and a half storeys. A 15-storey building known as M1 (Ref. 132626/FO/2022) has recently been approved on land immediately to the east of the Site, fronting onto Store Street
- 4.6. Today, the surrounding area is identified as a priority for regeneration, insofar as it falls outside of the area safeguarded in relation to the delivery of HS2 and this area is rapidly changing, with significant levels of investment and development having accelerated in the last 5 years.
- 4.7. Completed in late 2021, Oxygen Tower is located 250m to the northeast of the Site and was originally approved on 04 March 2016 (110276/FO/2015/C2 as amended under LPA Ref.: 122258/JO/2018). The proposals approved the construction of 12 townhouses, 345 apartments and several ground floor commercial units within a part 31, part 15, part 9 storey building, rising in scale toward Great Ancoats Street.
- 4.8. Directly adjacent to the Site to the east, planning permission (LPA Reference: 132626/FO/2022) was granted (subject to S.106) for a 15-storey building comprising 54 apartments (Use Class C3) with associated residential facilities (residents lounge and terrace and office space), 2 car parking spaces and 57 cycle parking spaces, landscaping, access and associated development.
- 4.9. Other recent permanent development proposals, as highlighted on **Figure 4.1**, located within 200m include:
1. Crusader Works (113363/FO/2016 as amended) – 126 new homes in converted mill and new build extension containing 107 apartments in a 10-storey building, now complete as of October 2022.

2. Leonardo Hotel (129248/JO/2021) – 275 no. bedroom hotel in 15-storey building, recently completed development.
3. The Castings (127317/FO/2020) – 352 apartments in a building ranging from 7 to 25 storeys, with ground floor commercial units currently under construction and due for completion by summer 2024. This is a development also being delivered by the same Applicant, who would also deliver the Proposed Development and replicate the level of quality within the scheme.
4. Piccadilly Central Public Realm (121467/FO/2018) – demolition of existing buildings and delivery of public realm, including hard and soft landscaping, tree planting, street furniture, highways improvements and associated works.
5. Portugal Street East (121099/FO/2018) – 488 apartments in a part 29, part 23 storey building that has recently commenced construction and is due for completion by mid-2025.
6. Mayfield (various) – large scale regeneration project including the delivery of the new park, Freight Island and the Mayfield Depot. Three buildings are due to commence construction by the end of 2023 and are likely to be completed by the end of 2025.
7. London Road Fire Station – conversion of the Grade II* listed building, which is currently nearing completion located at the end of Store Street, adjacent to London Road and Whitworth Street. This is proposed to be a mixed-use hotel, office, and leisure destination.
8. Presbar Diecast Works – an operational flexible entertainment, food, and beverage venue, which is located between Laystall Street and Store Street to the north east of the Site.
9. Electric Park – a campus development of 5 commercial office buildings centred on the New Islington Metrolink Station comprising 47,000 sq. m. of employment space.
10. IQ Manchester

- 4.10. In summary, much of the surrounding area has either been redeveloped or is in the process of coming forward with site specific proposals. The remaining sites within this area are safeguarded by the HS2 development zone. This Site therefore comprises one of the few remaining sites along Store Street to come forward with redevelopment proposals. It represents a major gap in the important linkage between Piccadilly and the Etihad Campus.

Site Accessibility

- 4.11. The Site is one of the most accessible in the city, being adjacent to Manchester Piccadilly. This provides local, regional, and national train services, as well as access to all Metrolink lines to offer onward journeys across destinations in Greater Manchester. The Site is also near several bus stops on Great Ancoats Street and London Road, providing services across Greater Manchester, including the free shuttle bus services located adjacent to the railway station that run in a circular route in and around Manchester City Centre. As such the Site is well serviced by a variety of public transport options and scores highly on the GMAL Score (8/8).
- 4.12. A full account of the Site's accessibility by different modes of transport is provided in the Transport Statement, prepared by Curtins and submitted with this Application. These locational benefits help to support the case for higher density development.

Site Specific Environmental Designations

Heritage

- 4.13. The Site is not located within or adjacent to any designated Conservation Areas (CA). The closest Conservation Areas are the Whitworth Street CA that is 280m to the southwest and Stevenson Square CA located 250m to the northwest. There are no World Heritage sites, Scheduled Ancient Monuments,

Registered Parks and Gardens, Registered Battlefields or Protected Wrecks identified on the Site or within its immediate vicinity. The Site is therefore not located within or adjacent to a sensitive area.

4.14. There are no nationally listed heritage assets on the site however, there are a number of nearby listed assets:

- Approximately 50m northeast of the Site is the Grade II* listed Ashton Canal Aqueduct.
- The London Warehouse is located 125m to the west of the Site and is Grade II Listed.
- Piccadilly Station is Grade II Listed, located 100m to the south of the Site.
- Crusader Works, recently refurbished and located 100m to the east, is Grade II Listed.
- London Road Fire Station is Grade II* Listed and is located 120m to the southwest of the Site.

4.15. Given their proximity to the Site, the proposals may have some effect on these nearby buildings and structures.

Flood Risk and Drainage

4.16. The UK Government's long term flood risk map in the context of the Site shows it located within Flood Zone 1 and is therefore at low risk of flooding, which has been assessed as part of the Flood Risk and Drainage Strategy prepared by Curtins and submitted with this Application. In summary:

- The full area of the Site is identified as being at 'low' and 'medium' risk of flooding from surface water. The adjoining Store Street highway is identified to be at 'medium' and 'high' risk of flooding from surface water. The flood identified to both areas is affiliated to surface water runoff from adjacent areas flowing along the highways and reaching a low topographical area immediately north of the site in Store Street.
- The Site is located in an area that is considered to be very low risk from fluvial sources (e.g. either rivers or the sea), which is less than 0.1%.
- The Site is located partially within a Canal Breach Zone and therefore the risk of the canal flooding is low-medium and requires further assessment.
- The Site is at low risk of groundwater sources of flooding as site investigations have indicated the ground is dry up to 10m deep at least.
- The Site is at low risk of being affected by sources of flooding associated with public sewers or highway drainage flooding.
- As with the majority of the Regional Centre, the Site is located within the Conurbation Core Critical Drainage Area, as defined in the Manchester, Salford, Trafford Strategic Flood Risk Assessment (SFRA).

4.17. Considering the above information, the risk of surface water flooding to the site is generally considered to be low to medium and requires further assessment, as well as the risk of flooding from canal sources.

4.18. Developers are responsible for ensuring that new development does not increase the flood risk elsewhere. As part of the development, a positive drainage network has been designed and will be installed to mitigate the risk from surface water flooding to the building and the surrounding site.

Air Quality

4.19. The Site is located within the Greater Manchester Air Quality Management Area (AQMA). Pollutant concentrations in the vicinity of the site were below the relevant air quality objectives (AQOs) in the two most recent monitoring years, 2020 and 2021, although it should be noted that results from these years are likely to be atypical due to COVID-19 travel restrictions. Exceedances of the AQO were recorded at both locations throughout 2017-2019, though both locations are adjacent to busy arterial routes through the city.

- 4.20. No monitoring of PM₁₀ or PM_{2.5} is undertaken in the vicinity of the site, though DEFRA predicted background concentrations for 2019 and 2026 are below the relevant AQOs for these pollutants, and NO₂.

Ecology

- 4.21. The Ashton Canal SBI is located 40m to the north of the Site, located above the ground within the Store Street Viaduct. There are no other statutory ecological designations on or within a reasonable distance to the Site.
- 4.22. The Site contains or is adjacent to 17 shrubs and trees that could be affected by the proposals, which are classed as follows:
- 2 category U groupings of trees and scrub vegetation;
 - 10 category C trees and 2 category C hedges; and
 - 3 category B trees.
- 4.23. 7 of these trees recorded are located outside the site boundary and will be unaffected by the development and retained, including 2 of the category B trees.

Planning History

- 4.24. The approved planning permissions of most relevance on Site are set out in **Table 3.1** below.

Table 3.1 Planning History

PP Reference	Description	Status
F13257	Change of use of 5 industrial units to 5 Warehouse units with associated circulation and car parking.	Approved May 1980
046556/DF/CMDC/94	Erection of steel palisade fencing around perimeter of estate and change of use of Unit 2A to telecommunications purposes	Approved December 1994
049693/FO/CITY3/96	Extension to existing premises to form a telecommunications super switch site	Approved September 1996

The Proposed Development

- 4.25. The description of the Proposed Development is as follows:

“Full Planning Permission for demolition of existing low rise commercial units and erection of ground + 27 storey residential development with supporting residential amenity, private terraces and private shared garden.”

- 4.26. The proposed uses, mix, number of residential units within each building is broken down in Table 4.3.

Table 4.3: Proposed Development Parameters

Measurement	Proposed Parameters
Site area	0.39 hectares
Residential Use (Use Class C3)	354 residential apartments and 5 townhouses (1, 2 and 3 bed types)
Other uses	713 sq. m. (GIA) internal amenity space
Building Height	28 storeys (ground plus 27 storeys; +124.250m AOD or 86.25m AGL)
External Areas	Residents’ garden at level 1 is approximately 600 sq. m. Residents’ terrace at level 10 is approximately 600 sq. m.
Parking	Two on street accessible bays and one car club space. 100% secure cycle parking provision (359 spaces)



	Figure:	4.1		
	Title:	Plan of nearby developments		
	Project:	Sparkle Street		
	Date:	May 2024	Scale:	NTS

5. Construction Management and Phasing

Introduction

- 5.1. This Chapter of the ES has been prepared by Midgard Limited and assesses the likely demolition and construction impacts of the proposals, as described in Section 4 of this EIA, upon the site and surrounding area.
- 5.2. This Chapter also describes the methods used to assess these impacts, the existing baseline conditions, the proposed mitigation measures required to prevent, reduce or offset any significant negative impacts and the likely residual impacts after these methods have been adopted.
- 5.3. This Chapter is accompanied by the following technical Appendices.
- Appendix 5.1: Demolition Management Plan
 - Appendix 5.2: Construction Environmental Management Plan
- 5.4. Throughout the demolition and construction periods, appropriate measures will be implemented to minimise and mitigate impact upon the on the surrounding properties and roadways. Close collaboration with all project teams of any impacting construction projects will be maintained at all times to achieve this aim.
- 5.5. The following narrative explains this methodology and timescales envisaged at the time of the Application for securing Full Planning Permission. More detailed proposals will be developed once contractors are appointed and prior to commencement on site. This will include preparation of detailed plans to incorporate Construction Management, Construction Phase Health and Safety, Environmental Management as well as Site Waste Management, Logistics and Traffic Management.

Programme

- 5.6. The total construction programme will span a period of approximately three years and will be undertaken in one construction phase. In advance of the main construction works commencing on site there will be a pre-construction period, which will allow for the delivery of a number of key utility diversions and demolition to take place. Third party notifications and approvals will be discharged during this enabling works stage.
- 5.7. The project is to construct a part ten, part twenty eight-storey tower, with ground floor comprising plantrooms, cycle store and bin store, along with 5 townhouses and then twenty seven floors of apartments. The Proposed Development consists of 359 residential apartments and associated communal areas. Resident's roof terraces areas are also included at Level 1 and 10.
- 5.8. The project will include landscaped areas around the buildings. The demolition works will be carried out by JRL Group and the methodology is captured in a Demolition Environmental Management Plan (DEMP) (Appendix 5.1). Midgard Limited is the Principal Contractor for the works. Midgard Limited is a company of the JRL Group of Companies, and hence can at any time during the construction of the works, call upon the directly controlled resources of the Group.
- 5.9. The main construction activities are planned to commence from July 2024, with an approximate contract programme duration of 91 weeks leading to an anticipated practical completion in March 2026.

- 5.10. This is an indicative construction programme, and the Applicant highlights that there are multiple risks involved in the development process. The Applicant notes that this programme may ultimately be extended in the event delays caused by sustained periods of poor weather, existing structure issues, unexpected ground conditions or other abnormals, including volatility in economic and housing markets, political uncertainty, and the availability of funding.
- 5.11. The programme is based upon normal working hours in line with Manchester City Council Guidance of 7.30hrs to 1800hrs Monday to Friday and 0800hrs to 1400hrs on Saturdays.
- 5.12. On Sundays and Bank Holidays noisy working will generally not be planned. On some occasions there are certain operations that maybe required to proceed during these periods, for example tower crane erection and dismantling. These will be infrequent and will be agreed with the Environmental Health Officer (EHO) and local residents through a series of neighbourly engagements. The frequency of these will vary and respond to demand. Access to the Site will be permitted 30 minutes prior to working day commencing with noise being kept to a minimum for the first half hour of each day.
- 5.13. The Applicant acknowledges the close proximity of the neighbouring residents and will endeavour at all times to ensure the working hours are adhered to in order to protect this residential amenity.

Construction Methodology

- 5.14. The following is a brief overview of the methodology to be adopted for the enabling works, demolition, construction and fit out of the Proposed Development. The section also considers general construction logistics as well as traffic management from the movement of material to the disposal of waste.
- 5.15. Within the appended documents (Appendix 5.1 and Appendix 5.2) the following key construction elements have been addressed including:-
- Management of the works
 - Health and Safety objectives
 - Risk assessment and safe working
 - Monitoring and auditing of environmental effects, including noise, vibration and dust control during the construction works
 - Site setup and communication with residents
 - Site security and briefing
 - Welfare and first aid
 - Incident reporting and fire procedures
 - Permits for work
 - Plant and equipment
 - Materials storage and disposal

Site Logistics

- 5.16. In developing the construction and logistics proposals for the Proposed Development there are several project specific challenges and constraints that will need to be resolved. The documentation included in the

appendices identifies the logistical approach to both the construction works and the retained tenants / public interface of the site.

- 5.17. To facilitate construction, a partial road closure would be required, and traffic will likely travel in a south westerly direction on Store Street, down from Great Ancoats Street. There is a height restriction on the existing aqueduct on Store Street at 4.6m. If vehicles exceed this height, then they would be required to access the site via Adair Street leading to Sheffield Street and Boad Street. The one-way site access and egress system will then come into operation with access into the Site from temporary site crossovers and entrance.
- 5.18. The live construction site will be fully secured with a full height close boarded hoarding to the site perimeter. Pedestrian and vehicular access to the Site will be fully security controlled. Localised areas will require hoarding off to undertake specific works at various stages of the construction programme.
- 5.19. Where possible vehicle off-loading points will be located within the site boundary, where this is not possible crane off load points will be located on the highway in approved loading bay positions on Store Street. Encapsulation scaffolds will be erected to areas of demolition and structural alteration works.
- 5.20. Vertical material distribution will be provided through a combination of mobile craneage, tower cranes and goods hoists which will be located at key positions for both the enabling and new build works.
- 5.21. A detailed Construction Management Plan will be developed based on the above documentation and agreed with traffic plan will be agreed with the Highways Authority in advance of starting works on Site.
- 5.22. It is envisaged that the temporary site establishment and welfare space will be either located within areas of the existing structure or by the provision of good quality temporary cabins branded with the Applicant and Principal Contractor logo. The welfare facilities will be suitably sized to suit the anticipated number of operatives. The welfare facilities will be located within the boundaries of the Site.
- 5.23. Any temporary public road or footpath closures associated with the construction phase will be agreed with Manchester City Council highways department and relevant diversion signage put in place.
- 5.24. Access to the site entrances will be controlled by biometric scanner through a secure metal turnstile. This will monitor project office staff, visitors and construction operative's movements and prevent unauthorised public access to the Site. The main gates will be locked always secured with the exception of when a delivery is being made. The gates will be manned by qualified banksmen who will co-ordinate traffic, bank deliveries as well as ensure the road and pavement areas are kept clean.
- 5.25. Where required, appropriate wheel and vehicle wash facilities will be in place to ensure vehicles leave the Site clean and tidy this will be further supplemented during the groundworks stage of the project with cleaning of the adjacent roads by a visiting road sweeper.
- 5.26. Waste materials will be placed in skips, and these will be removed on a regular basis. Food waste from canteens and eating areas will be contained within a smaller covered skip to prevent vermin.
- 5.27. The Site Contractor will employ security guards as appropriate to prevent and discourage nuisance. Regular patrols will take place throughout the shift. As an additional measure, CCTV will be installed to elements of the Site and compound to aid early identification of potential issues.
- 5.28. The Construction works generally comprise of the following scope:
- Enabling works and demolition of existing site structures
 - Discharging all required third party approvals and notifications
 - Utility diversion and reinforcement works including elements within the Public Highway

- Establishment of HV temporary substation
- Enabling works within the existing structures to allow the continued occupation of existing tenants throughout the period of the construction works
- Advanced street works and Highways adaptations
- Site investigation and survey works
- Erection of tower crane and goods hoists including associated enabling works
- Decommissioning of existing services
- Soft strip demolition and structural demolition
- Localised groundworks to areas of new structure
- Piling and associated groundworks to form new basement extension
- Piling and associated groundworks to form new core bases and pile caps for new structural columns
- Slipform new building core
- Construction of reinforced concrete frame with post tensioned slabs
- Installation of precast and pre glazed cladding to external facades
- Roof finishes and plantroom construction
- Installation of internal mechanical and electrical systems including risers, residential fit out, plantrooms and lift installation
- External hard and soft landscaping to public realm areas including required s106 and 278 works
- Reconfigure site hoarding and logistics
- Residential Fit out
- Fit out to common areas and stairwells
- Removal of tower crane and goods hoist
- Infill cladding / final fit out to hoist locations
- Removal of site set up / hoardings

Traffic Management Plan

- 5.29. The Site is well served by the local road network. The proposed vehicle routing approach avoids as far as practicable the need for traffic to access via the city centre to the north of the Site.
- 5.30. Following review of the physical location of access nodes to the Site, potential routes during the enabling, demolition and construction stage have been identified.

- 5.31. The primary construction access and egress route to the Site for demolition and construction HGVs have been considered carefully to reduce the impact of vehicle movements on the local community and road network alike.
- 5.32. Following this assessment and review of the local traffic movements and associated survey data, vehicle access and egress routes from the north and south have been identified to ensure efficient links back to the primary road network.
- 5.33. With the Proposed Development effectively forming as island there is good access available from the streets bounding the Site and these are the focus for the routing to be used for construction vehicle access and egress.
- 5.34. The primary access and egress routes detailed below identify the optimum route for not only HGVs, but all other vehicle types arriving and leaving the site with swept path reviews carried out at key interfaces entering and exiting the site.
- 5.35. Any other measures to ensure the safe integration of pedestrians, cyclists, and road users both on, off and surrounding the development. In preparation of the detailed construction management and logistics plan, the Principal Contractor will manage the timed and booked deliveries, off peak deliveries and prefabrication will be incorporated to the final design approach where possible.
- 5.36. To ensure the contractors compliance during the demolition and construction phases, details of the construction traffic access routes detailed below will be issued as part of the Employer's Requirements.

Health and Safety

- 5.37. The project will be carried out in accordance with the Construction, (Design and Management) Regulations 2015, and all other relevant legislation and guidance.
- 5.38. The Principal Contractor will have a track record that demonstrates their competency in the management and execution of Health and Safety. The Principal Contractor will have the appropriately trained management resource and procedures in place to oversee the activities of a complex, phased city centre construction project and be experienced in managing the various constraints in relation to existing tenants during the demolition and construction phases of the works.
- 5.39. The Principal Contractor will work closely with the Principal Designer throughout the early stages of the project and will influence the detailed design to remove construction and residual safety risks.
- 5.40. The Principal Contractor will produce a Construction Phase Health and Safety Plan prior to works commencing on site which will be reviewed and signed off by the Client and their appointed Principal Designer. This document will form the basis of the procedure for managing Health and Safety during the construction phase and will be periodically reviewed and updated accordingly as the works progress.

Site Security and Safety

- 5.41. Before works commence, the entire site perimeter will be contained by a 2.4m high solid timber hoarding. Hoardings will be subject to licence application with final height and materials to comply with Manchester City Council Highways requirements and the installation observing the 16 November - 4 January annual embargo applying to hoardings and scaffolding.
- 5.42. The hoardings will be lit with energy efficient LED lighting sited so to minimise visual intrusion and light spillage/ pollution at the nearby properties but will comply with regulations to ensure safe passage around the perimeter. The hoarding is to include (where appropriate) public viewing panels that allow children and adults to observe operations and a Freephone contact number to the Logistics and Neighbourhood Liaison Manager.

- 5.43. To facilitate the delivery of the Development, a series of footpath closures will be implemented to secure and maintain the sites with public safety the priority. Pedestrian routes will be segregated from vehicle and plant routes. These routes will be coordinated on a day-to-day basis with a drawing of the current routes displayed at the entrances to the site at the start of the working week. Clear warning signs will highlight when extra care is required at cross over points.
- 5.44. Protecting the public and existing tenants that are to remain in occupation during certain phases of the works from risks to their health and safety arising from the construction work is a high priority. Every care will be exercised to prevent risk to members of the public and appropriate action, including dust and noise control and the erection of perimeter fencing to a specified standard, will be taken.
- 5.45. Separate gated access will be established to provide segregation between vehicle access and pedestrians to the site which will be controlled by the Principal Contractor to manage the interaction with pedestrians and all road users.
- 5.46. Vandalism and theft of plant, equipment, materials and fuel is possible throughout the duration of the development. The Principal Contractor will take appropriate action, as described in previous sections, to ensure the site is secure at all times from unauthorised access. The Site will be controlled via an access system controlled by an individual proximity fob system.
- 5.47. The provision of CCTV would be considered if required to main site points and compound areas to assist in the prevention of unauthorised activities in particular at interfaces with existing tenants.

Environmental Management

- 5.48. An Environmental Management Plan, in line with the Principal Contractors Environmental Management System, will be developed to address and monitor the following issues:
- Applicable environmental legislation.
 - Pollution.
 - Nuisance (Noise, vibration, dust emission, and light).
 - Public relations.

Environmental Legislation

- 5.49. Applicable environmental legislation will be identified in a register, to ensure that appropriate systems are put in place to comply with the legal requirements in question.

Pollution

- 5.50. The Principal Contractor will establish procedures, to ensure the prevention of water and ground pollution, relating to the following risk activities:
- De-watering of the site (if required).
 - Soil contamination remediation.
 - Earthworks (including piling, spoil movement and removal, and movement of contaminated soils).
 - Concrete works (including washing out of concrete delivery vehicles and pumps).
 - Storage and movement of fuels, oils, chemicals and other such fluids.

- Cleaning (including plant, machinery and wheel washing).

5.51. The following measures are to be undertaken to reduce the effects construction vehicles and plant exhaust have on the environment:

- An inventory of all machinery used on site (including date of manufacture, hours of operation, service history, fuel type and emission control devices installed) should be kept on site by the construction site manager. Modern machinery, with adequate pollution control devices (such as catalytic converters), is to be used.
- Optimise the use of all construction vehicles and plant by minimising idling, improving the efficiency of trip times and reducing double handling through appropriate placement of stockpiles, site offices and working areas. This will also aid fuel efficiency and assist in reducing overall fuel costs associated with unnecessary fuel consumption.
- Use of appropriate fuels, including ultra / low-sulphur diesel and unleaded petrol as per manufacturer's instructions.
- Regular maintenance and inspection programme to be implemented for all construction vehicles and plant (to be documented and checked by construction site manager's representative).
- All vehicles and other construction plant and equipment to switch off engines when not in use to limit unnecessary or inadvertent idling.
- On-road vehicles (i.e. construction worker cars / vans, delivery lorries) to comply with the requirements of Manchester's proposed Clean Air Low Emissions Zone.
- Fit enclosing shields or filters on plant likely to generate excessive quantities of dust such as dust extractors, filters and collectors on drilling rigs or excavators.
- Smoky equipment should be given a defect notice and taken out of service until repaired and approved for re-deployment by construction site manager.

Nuisance (Noise, Vibration & Dust)

Noise and Vibration

- 5.52. To mitigate construction noise and vibration, all works will employ the 'Best Practicable Means'. Best Practicable Means (BPM) as defined in Section 72 of the Control of Pollution Act 1974 would be employed to keep the level of noise and vibration generated on Site as low as reasonably practicable. Measures to be considered in implementing best practicable means would be consistent with recommendations of British Standard (BS) 5228-1:2009+A1:2014.
- 5.53. The principal concerns relating to the nuisances of noise and vibration arise from construction activities such as demolition, excavation, cutting, breaking out and plant movements. Mitigation measures will be considered to include low noise options, noise attenuation techniques and carrying out certain activities during agreed hours of the day.
- 5.54. In order to minimise the impact of noise arising from the works, the Principal Contractor will ensure:
- Any compressors brought on to the site to be silenced or sound reduced models fitted with acoustic enclosures;
 - All pneumatic tools to be fitted with silencers or mufflers where available;

- Care to be taken when erecting or striking scaffolds to avoid impact noise from banging steel. All operatives undertaking such activities to be instructed on the importance of handling the scaffolds to reduce noise to a minimum;
- The majority of deliveries to be programmed to arrive during normal working hours only. Care to be taken when unloading vehicles to minimise noise. Delivery vehicles to be routed so as to minimise disturbance to local residents. Delivery vehicles to be prohibited from waiting within or in the vicinity of the Site with their engines running;
- All plant is properly maintained and operated according to manufacturers' recommendations in such a manner as to avoid causing excessive noise;
- Where possible, all plant to be sited so that the noise impact at nearby noise sensitive properties is minimised;
- Local hoarding, screens or barriers to be erected as necessary to shield particularly noisy activities; and,
- Problems concerning noise from construction works can often be avoided by taking a considerate and neighbourly approach to relations with the local residents, visitors and existing tenants. Where possible, works should only take place during given periods, e.g. during normal construction hours and not at night.

5.55. In order to minimise the impact of vibration arising from the works, the Principal Contractor will ensure:

- Adoption of low vibration working methods. Consideration should be given to use of the most suitable plant;
- Where processes could potentially give rise to significant levels of vibration, on - site vibration levels should be monitored regularly by a suitably qualified person;
- Where piling is to take place, any obstructions should first be removed;
- The provision of cut-off trenches in order to interrupt the direct transmission path of vibrations; and,
- Application of piling techniques aimed at reducing resistance to penetration e.g. pre-boring for driven piles and adding water to the hole for impact bored piles.

Dust

5.56. The principal concerns relating to air quality and emissions from construction activities are in the form of dust and fumes. The degree of dust deposition is usually dependant on the nature of the works. Increased levels of dust are most likely to occur during site activities related to demolition, piling, moving construction traffic and ground works.

5.57. In order to minimise the impact of dust and fumes arising from the works, the Principal Contractor will ensure:

- Hard surfaces are provided where vehicle movements occur;
- Control measures and dust suppression techniques;
- Minimising stock piling and positioning in a manner that reduces risk of dust arising through wind action;
- Measures such as screening and covering;
- Installation of appropriate wheel and body wash facilities;

- Keeping of adjacent roads and pavements clean;
- Ensure plant is turned off and not left running when not in use; and,
- Selection of electrically powered plant where possible in lieu of diesel or petrol plant.

Public Relations

- 5.58. The successful Principal Contractor will ensure that regular contact is made with local residents and community groups to ensure they are kept up to date with general progress on the site. This is especially important for major work elements such as piling and tower crane erection due to our close proximity to adjacent residential schemes. The external hoardings surrounding the site will display a contact number in the event or any complaints which will be operational 24/7.
- 5.59. It will be a requirement that the appointed Contractor enrolls the project in the “Considerate Contractors Scheme” (CCS) and that the project will be managed in a manner to achieve a high score of 41/50 or higher equivalent to attaining ‘Exceptional’.
- 5.60. The name and contact details of the Principal Contractors Project Manager will be provided on appointment and always be displayed on the CCS poster located at the entrance of the site.
- 5.61. At this stage it is not possible to provide Considerate Constructors Scheme (CCS) registration, but this will be provided on appointment of the Principal Contractors for Demolition and Main Construction Works.
- 5.62. A member of the Principal Contractor's Project Staff will be appointed as Liaison Officer; they will work with the Client's Development team, local residents, the business community and Manchester City Council. They will always be available and be a dedicated point of contact. Posters will be displayed on the site boundary advising the contractors' names, the name of your liaison officer, and a contact number and address for complaints, details of the Considerate Constructors Scheme registration and a 24hr contact number.
- 5.63. The Liaison Officer will be responsible for the logging of complaints and ensuring appropriate action is taken and recorded along with steps to avoid recurrence.
- 5.64. The specific liaison measures to be implemented by the Principal Contractor will include:
- Plan and inform on the nature and timing of all main site activities relating to the CoCP, particularly the demolition, new structure and external envelope.
 - All site construction staff will be made aware of the requirements of the code and will be made responsible for its implementation.
 - Sufficiently in advance of works, the Principal Contractor will prepare a full programme of works, which will be maintained in a current format for the duration of the works and will be available for inspection when required. This will include an outline method statement for works and any activities affecting the highway.
 - Detailed method statements for specific/special activities affecting the environs of the site in line with the principle identified in this report. Temporary works, removal of demolition and excavation material, concrete pours, deliveries of plant.
 - Details of site traffic movements showing the projected number of vehicles, what is being delivered, when peaks in activities occur, traffic marshalling arrangements, holding areas, etc.
 - Routes to site for deliveries.
 - A Health and Safety Plan.

- 5.65. The Principal Contractor will provide an information and reporting telephone 'Hot Line', staffed during working hours. Information on this facility shall be prominently displayed on site hoardings. The Principal Contractor's nominated person will attend monthly reviews with Manchester City Council's Environmental Team, or otherwise as requested.
- 5.66. At least two weeks before any work commences, leaflets will be sent to the local residential and commercial community advising the start and likely completion dates for the works and providing the name and contact details for the liaison officer. During the progress of the works regular updates will be sent out, particularly should there be any change in Liaison Officer or if works have been agreed by Camden to be undertaken outside normal hours.
- 5.67. In the case of work required in response to an emergency, Manchester City Council, and all neighbours, will be advised as soon as reasonably practicable that emergency work is taking place. Potentially affected occupiers will also be notified of the 'hotline' number, which will operate during working hours.
- 5.68. Should there be the need to undertake works outside of normal hours that may disturb residents this will be notified to Manchester City Council a minimum of 7 days in advance for approval.

Waste Management Strategy

- 5.69. In line with the "Site Waste Management Plan Regulations 2008", a Site Waste Management Plan (SWMP) A Site Waste Management Plan (SWMP) will be completed and agreed with Manchester City Council site setting out targets for waste management, redirect from landfill and recycling and reuse rates.
- 5.70. The Waste and Resources Action Programme (WRAP) template will be used to record volumes of waste and ways which waste volumes and tonnage can be reduced. Initiatives which will be put forward to increase diversion of waste from landfill and reduce waste volume include:
- The use and segregation of the materials brought to the waste transfer station for recycling will provide a reduction in waste generated on site.
 - Targets will be set around 90% for recycling.
 - Packaging will be reduced or eliminated to reduce the amount of plastic sent to landfill.
 - The SWMP will be reviewed along with the contractor's supply chain during the procurement stages and pre start meetings to identify ways to reduce waste from occurring during the project.

Operational Waste Removal

- 5.71. The reuse of Site-won materials should be undertaken in accordance with the CL:AIRE Definition of Waste: Development Industry Code of Practice to minimise the off-Site disposal of materials and the WRAP End of Waste Criteria for the Production of Aggregates.
- 5.72. Any waste that is generated and cannot be recycled or reused will be segregated and collected by a licensed waste contractor. The Principal Contractor will consider the following measures to minimise the production of waste in accordance with the Contractors Construction CMP:
- Aggregate from demolition arising will be considered for use in blinding, mass fill, hardcore and piling mats.
 - Measures will be put in place to minimise the quantity of materials ordered and used.
 - Consideration of the use of the excavated gravels for use as aggregate, either on the development site or for re-use locally.

- Where practical all concrete arising will be crushed on-site and re-used.
- 5.73. The Contractor will be required to investigate opportunities to minimise and reduce the use of water during demolition and construction. These may include:
- Selection and specification of equipment.
 - Implementation of staff-based initiatives such as turning off taps, plant and equipment when not in use.
 - Use of recycling water systems in functions such as wheel washes and toilets.
 - Rainwater harvesting system for equipment and vehicle washing.
 - Where possible, water from excavation would be used for dust suppression.
- 5.74. Waste generated during the construction phase is to be cleared on a daily basis to a main holding skip. Each floor plate will have a designated waste area that will see bins located within it that can be emptied at the end of each shift.
- 5.75. During relatively high waste fit-out activities, this waste removal may need to occur several times a day via the hoists and as such general operatives will be employed to ensure this will occur. Hazardous waste will be stored and disposed of separately, but main waste will enter a common skip where the waste supplier will sort at their transfer station before issuing recycling percentages and data.
- 5.76. To reduce the volume of waste sent to landfill, all non-recyclable waste from site will be segregated at the waste transfer station into the following categories:
- CAT A: Hazardous waste – Paint tins, mastic etc
 - CAT B: Metal
 - CAT C: Timber
 - CAT D: Plasterboard
 - CAT E: General Waste
- 5.77. All carriers of waste will hold a valid waste transfer licence and provide certification to the Principal Contractor for all elements of the process.

Summary

- 5.78. Prior to the commencement of development a detailed Construction Management Plan will be provided.
- 5.79. The Construction (Design and Management) Regulations 2015 will apply to this project and all appropriate controls and systems will be in place to comply with the standards of the Regulations and associated guidance.
- 5.80. Every stage of the project will be pre risk assessed and appropriate controls applied, sub- contractors will be pre vetted and will be subject to extensive pre contract requirements of information transfer and risk assessment.
- 5.81. A fundamental aspect of Midgard's role is the development of a Construction Management Plan, which will take account of all known risks, which have been identified at pre- construction stage by the Principal Designer/CDM Consultant, the Design Team and also through site investigations.

- 5.82. The Construction Management Plan will describe arrangements and procedures for managing these key risk areas in more detail, as well as any future risk, and also the resources, including personnel, which will be applied to the scheme, and which will ensure the Health and Safety of all those working on or affected by the project works.
- 5.83. The Midgard will have an on-going process of monitoring health and safety standards throughout its organisation. This is normally carried directly by the site management team through regular inspections, toolbox talks etc. and also via the risk assessment process both during the completion of risk assessments and then by monitoring the effectiveness of risk control measures, which have been implemented.
- 5.84. Health and safety is also incorporated as a fundamental aspect of the overall project review, Midgard will be required to demonstrate competency in the management and execution of Health and Safety. Midgard will work closely with the Principal Designer at this early stage of the project and will influence the detailed design to remove construction and residual safety risks.
- 5.85. Midgard will at the earliest possible stage of the project enter into dialogue with all relevant parties, including neighbours to ensure there is effective coordination throughout all stages of construction.

Sparkle Street Logistic Proposals

Welfare



Figure:

5.1

Title:

Logistics Plan

Project:

Sparkle Street

Date:

May 2024

Scale:

NTS

6. Climate Change

Introduction

Introduction

- 6.1. This Chapter of the ES has been prepared by Deloitte and comprises assessing the likely impacts from greenhouse gas (GHG) emissions of the proposals upon the Site.
- 6.2. This Chapter also describes the methods used to assess these impacts, the existing baseline conditions, the proposed mitigation measures required to prevent, reduce, or offset any significant negative impacts and the likely residual impacts after these methods have been adopted.
- 6.3. The qualifications and professional memberships of the consultant and organisation have been identified below.

Technical Competence in GHG and EIA		
	Lead Author	Reviewer
Name	Michael Percival	Jo Hills
Company	Deloitte	Deloitte
Qualifications/Accreditations relevant to technical area	MPlan, MRTPI	Fellow ICE and CMI CEng BEng Civil Engineering
Does the practitioner hold any IEMA qualification?	Nil	Nil
Company hold IEMA QMark?	Yes	
Years technical experience (in technical area)	2 years (10 years in planning overall)	30
Number of EIA's delivered to date	15+	5+

- 6.4. The requirement is to consider a project's impact on and vulnerability to climate change results from the 2014 amendment to the EIA Directive (2014/52). The Directive has been fully transposed into UK law in the EIA Regulations. The Directive requires: "A description of the likely significant effects of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change."
- 6.5. In line with the EIA Scoping Report submitted to the Local Planning Authority, the Site and Proposed Development is not anticipated to be vulnerable to climate change effects and has been designed with topic areas such as ventilation, overheating, thermal comfort, wind microclimate, flood risk and drainage in mind as covered by other elements of the planning submission. The effects have been assessed in other chapters of this Environmental Statement with regard to wind microclimate and are not significant. Ventilation and overheating and flood risk has been set out in detail within non-EIA elements of the planning submission to which this EIA relates.

- 6.6. This EIA Chapter therefore solely focuses on the likely significant effects of the project on climate i.e., the nature and magnitude of greenhouse gas emissions and climate change mitigation assessment.

Legislative and Policy Context

- 6.7. The applicable legislative context for the assessment of the Proposed Development comprises:

Climate Change Act 2008 (2050 Target Amendment) Order 2019: The Climate Change Act 2008 sets targets for reducing the UK's impacts on climate change and the need to prepare for managing the impacts. The Act sets a target of 80% CO₂ emissions reduction by 2050 (against a 1990 baseline) and sets interim targets to ensure progress towards this target. The Act also requires a Climate Change Risk Assessment to be used to assess the risks from the impact of Climate Change to the UK. The first UK Climate Change Risk Assessment (CCRA) was presented to Parliament in an Evidence Report in 2012, with the second presented in 2017. The overall aim of the Evidence Report is to assess the urgency of further action to tackle current and future risks, and realise opportunities, arising for the UK from climate change. The Act also requires the production of a National Adaptation Plan for the UK Government to implement to be ready for the challenges of climate change.

Planning and Energy Act 2008: The Planning and Energy Act 2008 enables local planning authorities in England and Wales to set requirements for energy use and energy efficiency by including policies in local plans imposing reasonable requirements for the use of energy from renewable sources and low carbon energy. The Act enables local planning authorities to ensure that development in the area complies with energy efficiency standards that exceed the energy requirements for building regulations.

Carbon Budget Order 2021: Carbon Budget Order places restrictions on the amount of GHG the UK can emit over a five-year period. The UK is the first country to set legally binding carbon budgets. Every tonne of GHG emitted between now and 2050 will be counted towards the budget. If emissions rise in one sector, the UK will have to reduce emissions in another sector to balance the budget. The carbon budget for the fifth budgetary period covering 2028 to 2032 was at 1,725 MtCO₂e. The current, sixth carbon budget for the period of 2033-2037 has been set at 965 MtCO₂e.

The Carbon Plan: Delivering our Low Carbon Future (2011): The Plan sets out how the UK will achieve decarbonisation within the framework of its energy policy to make the transition to a low carbon economy while maintaining energy security and minimising costs to consumers, particularly those in the poorer households. The document envisions to cut down emissions from various sectors including buildings, transport, industry, electricity, and agriculture through greater energy efficiency and use of low carbon technology.

Future policy direction as set in the British Energy Security Strategy, April 2022: This strategy sets out the intended future roll out of net zero policy. Any buildings constructed today that do not comply with these will need to be retrofitted to meet these requirements. It requires that by 2030, fuel poor/social housing homes should meet EPC C, with all homes at that target by 2035, and sale of new and replacement gas boilers also phased out that year.

Building Regulations

- 6.8. The applicable building regulations for the assessment of the Proposed Development comprise:

- **The Building Regulations 2010, Approved Document L1A:** conservation of fuel and power in dwellings, 2021 edition with 2016 amendments

- 6.9. The Building Regulations Part L governs the conservation of fuel and power in both new construction and refurbishment of the England and Wales building stock. Compliance with the Building Regulations is a regulatory requirement for all new developments. Carbon emissions of a development comparative to compliance with Part L is the key performance indicator for achieving many carbon targets.

National Planning Policy

- 6.10. **National Planning Policy Framework 2021:** The National Planning Policy Framework sets out the Government's Planning Policies for England and how these are to be applied. Guidance relating to the reduction of Greenhouse Gases is set out in Section 14 "Meeting the Challenge of Climate Change, Flooding and Coastal Change". Within paragraph 8, it is stated that the purpose of the planning system is to contribute to the achievement of sustainable development, which includes economic, social, and environmental dimensions. The policies set out in paragraph 8, 20, 148, 150 and 154 all support the reduction of GHG emissions.
- 6.11. The document highlights that planning process should take a proactive approach to mitigating and adapting to climate change and policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate related impacts.

Planning Practice Guidance

- 6.12. The guidance advises how to identify suitable mitigation and adaptation measures in the planning process. This would require the implementation of appropriate measures by the local planning authorities. The guidance particularly recommends the use of local risk assessments to identify climate-related risks and their implications for the built environment, biodiversity and vulnerable groups and communities.

Local Planning Policy

- 6.13. **Manchester City Council Climate Change Action Plan 2020-2025:** The Climate Change Action Plan (CCAP) of the Manchester City Council has a target to reduce direct emissions of CO₂ by 50% over the five-year period up to 2025. To achieve this, the Council aims to reduce its emissions by 13% every year, for five years. The CCAP also sets a carbon budget of 119,917 tonnes of CO₂ for the five-year period of 2020-25, calculated using science-based targets. Within this, the carbon budget for 2021-22 is 27,056 tonnes. There is also an over-arching target to be zero carbon across the city by 2038, well within the life-span of buildings that are currently going through planning.

Guidance and Best Practice

- 6.14. The guidance and best practice relevant to GHG assessment are listed below:
- **Environmental Impact Assessment Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance (IEMA) 2022:** The IEMA guidance for assessing greenhouse gas emissions and evaluating their significance aims to assist GHG practitioners with undertaking GHG emissions assessments, identifying mitigation and reporting within statutory and non-statutory EIA.
 - **RIBA 2030 Climate Change Targets version 2 (2021):** The Royal Institute of British Architects (RIBA) has developed voluntary performance targets for operational energy use, water use and embodied carbon. The performance targets align with the future legislative horizon of the UK and set out a trajectory to achieve significant reductions necessary by 2030 in order to make net zero carbon a realistic prospect from the whole UK building stock by 2050.
 - **National Planning Practice Guidance on Climate Change:** The guidance advises how to identify suitable mitigation and adaptation measures in the planning process. This would require robust evaluation of future emissions from different sources at the local authority level to make informed emission reduction decisions.

Assessment Methodology and Significance Criteria

Limitations and Assumptions

6.15. Assumptions made in the assessment and potential limitations include:

- Future improvements to vehicle fuel efficiency and electrification have not been considered in the assessment. Future technological development and changes in trip numbers is likely to result in reduced emissions in comparison to those used in the assessment.
- For the purposes of this assessment, it will be assumed that the Proposed Development would be operational for 60 years, which is the average lifespan for this type of development.
- Due to limitation in the availability of data, operational carbon emissions for the existing baseline have not been included in this stage of the assessment.
- The significance of effects determined in this GHG assessment are based on current design and estimates based on industry benchmarks. The design has the potential to change at detailed design stage and mitigation measures for reducing carbon emissions from the Proposed Development should be considered at further design stages.
- In addition to the embodied carbon assessment undertaken for this chapter, a Sustainability Statement and Energy Statement has been prepared and submitted in support of the Planning Application. The assessments utilise different methodologies, with the assessment presented in this Chapter aligned to One Click. In addition, this assessment uses Environmental Product Declaration (EPD) information sourced from One Click LCA, which includes nearly all publicly available EPDs globally.
- Calculations are based on quantum of materials provided by the architectural design team (Simpson Haugh) and structural engineer (Curtins) in their REVIT models, which aligns with the cost plan prepared for the development. It is anticipated that the figures generated within this assessment will be used as the baseline and LETI will be used as a benchmark rather than a target.

Scope of the Assessment

6.16. The emissions sources, described as elements with their associated Lifecycle Stage during the Proposed Development's lifespan, have been identified using guidance from IEMA (Ref. 14.9). Professional judgement has been used to determine which sources to scope in and out of further assessment, as outlined in the previous scoping report and in Table 6.1.

Table 6.1 - Elements scoped in and out of the assessment

Element	Phase	Scoped in	Scoped out	Justification
Product stage (manufacture and transport of raw materials to suppliers) A1-A3	Construction	✓		Raw materials required for the Proposed Development will result in embodied emissions and have the potential to be large.
Transport of materials to site A4	Construction	✓		Construction stage emissions from fuel / energy consumption due to the delivery of materials to site have the potential to be large.

Element	Phase	Scoped in	Scoped out	Justification
Plant and equipment used during construction A5	Construction	✓		Fuel / energy consumption of plant and equipment used during construction would generate GHG emissions.
Land use, land use change and forestry A5	Construction		✓	Emissions from the disposal of biomass are not expected to be large as land use, land use change and forestry will not be in scope due to the type and scale of the project.
Disposal of waste A5	Construction (demolition)		✓	Emissions from the disposal of waste are not likely to be large, due to the demolition of the existing buildings on site.
Replacement and refurbishment B4-B5	Operation	✓		The Proposed Development would release a potentially large magnitude of emissions during construction
Operational Energy Use B6	Operation	✓		Emissions will be released on an annual basis due to the building use from heating, cooling, ventilation, domestic hot water, lighting, and auxiliary systems.
Operational Water Use B7	Operation		✓	Water rates are below the 110l/per person/per day specified by Building Regulations Part G, at a maximum of 106l/per person/per day, and therefore are not anticipated to be significant.
End-user emissions (regional traffic flows) – traffic B9/D	Operation		✓	Significant changes to regional traffic flows are not expected and therefore the Proposed Development does not have the potential to result in a large change in GHG emissions due to operational transport emissions.

Element	Phase	Scoped in	Scoped out	Justification
In-use Emissions B1	Operation		✓	This includes the release of GHGs from products and materials (e.g., refrigerants, paints, carpets) during the normal operation of the building. This is not considered to be a large emission source.
Maintenance and repair B2-B3	Operation		✓	Maintenance associated with the Proposed Development is not considered to be a large emissions source as only a nominal amount. Will only arise from repair to MEP equipment, fixtures and fittings.
Land use, land use change and forestry B8	Operation		✓	The reduction in carbon sequestration due to the Proposed Development is not considered to be large. Land use, land use change and forestry will not be in scope due to the type and scale of the project.
Decommissioning process C1-C4	End of Life	✓		Emissions are likely to arise from decommissioning, stripping out, disassembly, deconstruction, and demolition operations as well as from transport, processing, and disposal of materials at the end of life of the project.

- 6.17. The scope of the assessment is consistent with the framework for the quantification of GHG emissions presented in British Standard (BS) EN 15978:2011 'Sustainability of construction works - Assessment of environmental performance of buildings - Calculation method' and Whole life carbon assessment for the built environment professional statement (RICS PS) (2017).

Assessment Methodology

- 6.18. The assessment follows the Environmental Impact Assessment Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance (IEMA) 2022. This guidance advocates a 'good practice' approach where GHG emissions are always considered and reported but at varying degrees of detail depending on the EIA and the project in question.
- 6.19. In line with the guidance, this section sets out the methodological approach that has been taken to assess GHG emissions associated with the Proposed Development. This includes calculating the baseline emissions, determining the significance of each GHG emission source scoped into the assessment and setting out strategies for mitigation.

- 6.20. Existing sources of GHG emissions prior to construction and operation of the Proposed Development (i.e., without development) have not been identified to assess the current baseline. The Site is currently not in active use and the emissions from the existing Site are expected to be minimal. Therefore, the GHG baseline emissions have assumed to be nil and sources of GHG emissions following the construction and during operation of the Proposed Development have then been assessed, which determines the significance, mitigation measures and residual effects.
- 6.21. To assess the significance of effects of the Proposed Development on climate, the following emissions have been considered:
- **Whole life embodied carbon emissions:** These are embodied carbon emissions from the construction process and materials used, throughout the lifespan of the building. This includes emissions during construction, construction transport emissions, emissions from replacement/repair work during the operational phase and end-of-life emissions; and
 - **Operational carbon emissions:** These include carbon emissions from energy consumption during the operational phase of the development,
- 6.22. Further details on these are provided below.

Whole Life Embodied Carbon Emissions

- 6.23. The scope of whole life embodied carbon emissions includes lifecycle modules A1-A3 (Materials and products); A4 (transport of materials and products to construction site); A5 (Construction site impacts); B1-B5 (Maintenance and replacement) and C1-C5 (end-of-life disposal).
- 6.24. One Click software has been used to calculate the embodied carbon emissions for the proposed buildings. This procedure is suitable for early-stage projects where building shape and areas are available. Inputs used to inform the software were based on floor area provided, number of floors, buildings use and material assumptions that were coordinated with the design of the Proposed Development. The result includes data related to manufacturing, transport, construction/installation, replacement, and disposal of the proposed building elements.
- 6.25. RIBA 2030 Climate Challenge (2021) document has developed targets for embodied carbon and operational energy use. These consider the latest recommendations from the Green Construction Board and have been developed by the RIBA in consultation with other UK professional bodies. The targets are progressive yet realistic, and a vital first step to ensure the construction industry delivers the significant reductions necessary by 2030 to have a realistic prospect of achieving net zero carbon for the whole UK building stock by 2050. Table 6.2 gives the RIBA 2030 targets for embodied carbon for domestic and non-domestic buildings.

Table 6.2 - RIBA 2030 Climate Challenge targets for embodied carbon for domestic buildings

RIBA sustainable outcome metrics	Business as usual	2025 Targets	2030 Targets	Notes
Domestic				
Embodied Carbon kgCO ₂ e/m ²	1,200 kgCO ₂ e/m ²	<800 kgCO ₂ e/m ²	<625 kgCO ₂ e/m ²	Use RICS Whole Life Carbon (modules A1-A5, B1-B5, C1-C4 including sequestration). Analysis should include minimum of 95% of cost, include substructure, superstructure, finishes, fixed FF&E, building services and associated refrigerant leakage. Business as usual is aligned with LETI band E; 2025 target aligned with LETI band C and 2030 target aligned with LETI band B

Operational Carbon Emissions

- 6.26. The operational phase of the Proposed Development is expected to start from 2027. Since the expected lifespan of developments of this nature are typically assumed to be 60 years, the operational part of the assessment covers the period of 2026-2086.
- 6.27. The assessment of significance of the effects from operational building and transport emissions has been undertaken on an annual basis. The results for critical climate period of 2026-2086 are also provided for the Proposed Development on a contextual basis, covering the whole life of the Proposed Development (60 years).
- 6.28. The RIBA benchmarks for annual operational energy consumption are stated in Table 6.3. Carbon emissions from operational energy use are assessed over the whole expected life (60 years) of the Proposed Development. While calculating the carbon emissions from operational energy use, the decarbonisation of grid electricity has been considered. This has been done by using the average predicted annual carbon factors for grid electricity, based on data published by the UK Government. These emission factors for grid electricity consider grid decarbonisation, and therefore the carbon emissions from grid electricity continue to remain consistent from 2050 until 2100.

Table 6.3 - RIBA 2030 Climate Challenge target for operational energy for domestic buildings

RIBA sustainable outcome metrics	Business as usual (new build, compliance approach)	2025 Targets	2030 Targets
Domestic			
Operational Energy kWh/m ² /y	120 kWh/m ² /y	<60 kWh/m ² /y	<35 kWh/m ² /y

Significance criteria

- 6.29. With regards to assigning significance, the 2nd edition of the IEMA guidance on Assessing Greenhouse Gas Emissions and Evaluating their Significance (2022), provides five distinct levels of significance which are not solely based on whether a project emits GHG emissions alone, but how the project makes a relative contribution towards achieving a science-based 1.5°C aligned transition towards net zero (Table 6.4). Specifically, when considering the aspect of significance, IEMA guidance on GHG assessment states:

“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...”

and

.... 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.”

Figure 6.1 illustrates how the significance of a project’s whole life GHG emissions can be determined with respect to the UK's net zero compatible trajectory.

Table 6.4 - The levels of significance as defined in the IEMA guidance

Level of significance	Description
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.
Negligible	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.
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.
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.
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.

- 6.30. As per the IEMA guidance, "Major or moderate adverse effects and beneficial effects are considered to be significant. Minor adverse and negligible effects are not considered to be significant".
- 6.31. Contextualising the GHG emissions from a project helps to determine whether it supports or undermines the UK's trajectory towards net zero. IEMA guidance further suggests that "It is down to the practitioner's professional judgement on how best to contextualise a project's GHG impact".
- 6.32. Therefore, apart from the RIBA 2030 Climate Change targets (2021) described before in Table 6.2 and Table 6.3, the carbon emissions of the Proposed Development will also be compared to the UK Carbon Budgets and the Manchester City Council Climate Change Action Plan (2020-2025) set out in Table 6.5 and Table 6.6 below.

Table 6.5 - UK Carbon Budgets (2021)

Carbon Budget Period	UK Carbon Budget (MtCO ₂ e)
Third: 2018-2022	2,544
Fourth: 2023-2027	1,950
Fifth: 2028-2032	1,725
Sixth: 2033-2037	965

Table 6.6 - Manchester City Council (MCC) Climate Change Action Plan 2020-2025

Carbon budget period	MCCs carbon budget
2022-23	0.023538 MtCO ₂ e
2023-24	0.020478 MtCO ₂ e
2024-25	0.017815 MtCO ₂ e
2025-26	0.015470 MtCO ₂ e
2026-27	0.013437 MtCO ₂ e

- 6.33. Based on this contextualisation and professional judgement, the overall significance of effect of the Proposed Development will be defined as outlined in Table 6.7, in accordance with the RIBA targets described in Table 6.2 and Table 6.3.

Table 6.7 - Definition of the overall significance of effect of the Proposed Development, in accordance with the RIBA targets

Significance of effect	Description
Negligible magnitude of impact	Where the Proposed Development exceeds the “2030 Targets” for the embodied carbon and operational energy performance respectively defined by the RIBA guidance
Minor magnitude of impact	Where the Proposed Development meets but does not exceed the “2030 Targets” for the embodied carbon and operational energy performance respectively defined by the RIBA guidance
Moderate magnitude of impact	Where the Proposed Development meets but does not exceed the “2025 Targets” for embodied carbon and operational energy performance respectively as defined by the RIBA guidance.
Major magnitude of impact	Where the Proposed Development meets but does not exceed the “Business as Usual” for embodied carbon and operational energy performance respectively as defined by the RIBA guidance.

Baseline Conditions

GHG

- 6.34. In the baseline scenario, GHG emissions occur constantly and widely as a result of human and natural activity including energy consumption (fuel, power), industrial processes, land use and land use change.

Current Baseline

- 6.35. The current baseline scenario reflects the existing GHG emissions from the Site. The existing Site for the Proposed Development comprises primarily the two small warehousing units that are currently vacant. The ‘Do minimum’ baseline scenario involves no construction activities and therefore, the construction baseline is zero emissions.

- 6.36. Since the Proposed Development is not a greenfield development, the existing baseline will include operational emissions (from but not limited to heating, cooling, lighting, and electricity) for the existing buildings on Site. Due to lack of availability of data, however, operational carbon emissions for the existing baseline have not been included at this stage.

Future Baseline

- 6.37. The future baseline scenario reflects the GHG emissions over the 60-year expected life period from the Site (without the Proposed Development) under 'business as usual'.
- 6.38. Regarding operational emissions, the UK electricity mix has decarbonised in recent years due to increasing deployment of low and zero carbon energy technologies supplying the electricity of the development. This has, and will continue to, result in a reduction of carbon emissions generated from grid-supplied electricity. As the grid decarbonises, lower emissions created will reduce the scheme's operational carbon impact.
- 6.39. The UK has committed to becoming net-zero carbon by 2050. GHG emissions need to be dramatically reduced and any remaining emissions will need to be offset. This will consequently help in neutralising environmental impact from GHG emissions and slowing climate change.

Identification and Evaluation of Significant Effects

Construction Phase

Embodied Carbon Emissions

- 6.40. Activities during the construction phase would generate GHG emissions from the manufacture of construction materials, transport of these materials to the construction site and from on-site works.
- 6.41. Table 6.9 provides the whole life embodied carbon emissions for the Proposed Development in the construction phase (A1-A5).

Table 6.9 - Embodied carbon emissions for the Proposed Development during construction phase

Building use	Embodied carbon emissions of the Proposed Development related to A1-A5 in the construction phase (tCO ₂ e)
Domestic	11,468 Tonnes CO ₂ e

- 6.42. The total embodied carbon emissions for the Proposed Development A1-A5 stage are estimated to be approximately 11,468 tCO₂e., which is 378kgCO₂e/m². At this stage, white goods for each of the apartments have not been included as the choice of the supplier has not been confirmed.

Operational Phase

Embodied Carbon Emissions

- 6.43. Activities during the operational phase would generate GHG emissions, particularly from the replacement and refurbishment of building elements.
- 6.44. The embodied carbon emissions generated during the operational phase of the Proposed Development are provided in Table 6.10.

Table 6.10- Embodied carbon emissions for the Proposed Development during operational phase

Building use	Embodied carbon emissions of the Proposed Development related to B4-B5 in the operational phase (tCO ₂ e)
Domestic	4,014

- 6.45. The embodied carbon emissions estimated to be generated during the operational (B4 and B5) phase of the Proposed Development is 4,014 tCO₂e., which is 132.4kgCO₂e/m²

Operational Energy Emissions

- 6.46. The Proposed Development comprises a domestic building (residential). To determine the operational energy emissions for the domestic building typologies, the individual units (1, 2 and 3 bed) were modelled to calculate the regulated energy demands. The weighted average (63 kWh/m²/yr.) of the energy results is further used for operational energy emission calculation of domestic typology.
- 6.47. Table 6.11 gives the annual operational energy use for the Proposed Development with respect to the domestic building typologies.

Table 6.11 - Annual operational energy use for the Proposed Development

Building use	Energy consumption (kWh/m ² /yr.)	GIA of the Proposed Development (m ²)	Total annual operational energy of the Proposed Development (kWh/yr.)
Domestic (total)	63	30,318	1,911,839

- 6.48. It is proposed that as the design develops further, it should aim to align the operational energy demand with the RIBA 2030 (<35 kWh/m²/y) Climate Challenge Target as specified in Table 3 of 2021 good practice benchmarks for new build (<90 kWh/m²/y). The Proposed Development is currently marginally above the energy consumption targets of RIBA 2025 (<60 kWh/m²/y).
- 6.49. The total annual energy consumption for the Proposed Development is estimated as approx. 1,911,839 kWh/yr. and represents overall total annual energy consumption rate of the Proposed Development. The total operational energy use over the 60-year expected life of the Proposed Development is estimated to be about 114,710 MWh.
- 6.50. Carbon emissions from operational energy use are assessed over the whole expected life (60 years) of the Proposed Development. While calculating the carbon emissions from operational energy use, the decarbonisation of grid electricity has been considered. This has been done by using the average predicted annual carbon factors for grid electricity, based on data published by the UK Government. These emission factors for grid electricity consider grid decarbonisation, and therefore the carbon emissions from grid electricity continue to remain consistent from 2050 until 2100.
- 6.51. The total tonnes of operational carbon emissions predicted to be generated by the Proposed Development due to energy use are therefore estimated to be about 3,292,569 kgCO₂e or 3,292.5 tCO₂e.

End of Life emissions

- 6.52. The quantity of end-of-life emissions is based upon the materials used to calculate the embodied carbon emissions and considering whether re-use, recycling or disposal is the likely result of decommissioning the building for each material. The aim is to minimise disposal and to maximise reuse on site. Where materials cannot be reused on site, consideration should be given to recycling and reuse.

- 6.53. The most significant element of the embodied carbon associated with the Proposed Development lies within the concrete and steel used in structural elements. These would typically be recycled offsite, with 90% of concrete recycled and 10% going to landfill, whilst steel could see up to 10% reused on site, 86% recycled and 4% disposed in landfill.

Whole Life Carbon

- 6.54. Based on the above paragraphs in this Chapter of the Environmental Statement, the table below sets out the total GHG emissions associated with each “scoped in” element of whole life carbon calculations.

Table 6.12 - Summary of total whole life embodied carbon

GHG emission category	Total GHG emissions (tCO ₂ e)
A1-A5: Embodied carbon emissions	11,468
B4 and B5: Embodied carbon emissions associated with refurbishment and replacement	4,014
C1 to C4: End of Life emissions	764.5
Total Whole Life Embodied Carbon Emissions	16,246.5
B6 and B7: Operational carbon emissions through energy use	3,292.5
Total Emissions over 60 years	19,539

- 6.55. Figure 6.2 provides the percentage of GHG emissions over the 60-year lifespan of the Proposed Development. The whole life embodied carbon emissions, i.e., carbon emissions from the construction, use, repair and maintenance, and end-of-life of the Proposed Development, are estimated to constitute most of the the total carbon emissions. Carbon emissions from operational energy use over a 60-year period are estimated to constitute 30% of the total carbon emissions from the Proposed Development.

Effect on Carbon Budget

- 6.56. In order to contextualise the GHG emissions generated by the Proposed Development, the results have been compared to the UK Fifth Carbon Budget in Table 6.14.

Table 6.14 - Comparison of GHG emissions from the Proposed Development with the UK Carbon Budget

Type of emissions	Carbon Emissions
Total Emissions for 60 years	19,539 tCO ₂ e
Comparison with UK Carbon Budget	
Total Emissions for the period of the Fifth Carbon Budget (FCB)	12,499 tCO ₂ e
UK Fifth Carbon Budget	1,725 MtCO ₂ e
Percentage over FCB	0.00072%

- 6.57. Emissions from the Proposed Development are expected to account for less than 0.00072% of the UK Fifth Carbon Budget. Hence, the Proposed Development is not expected to influence the achievement of the carbon budget throughout its construction, operation, and end-of-life phases.

Significance of effects based on RIBA targets

- 6.58. The whole life embodied carbon emissions estimated to be generated by the Proposed Development are 535kgCO₂e/m². This figure does not exceed the RIBA 2030 target (<625 kgCO₂e/m²). However, this figure does not include emissions from repair and maintenance (B2/B3 emissions), although this is expected to be minimal, and does not include the embodied carbon associated with white goods provided with each apartment, such as a washer-dryer, fridge-freezer, oven and hob and dishwasher, as well as each apartments' air source heat pump (A1-A3 emissions). This would likely push this figure of the RIBA 2030 target above the 625kgCO₂e/m² target, likely between 625 kgCO₂e/m² and 800 kgCO₂e/m² before mitigation. Therefore, the significance of effect of the embodied carbon emissions is likely to be **minor-moderate adverse**.
- 6.59. The operational energy estimated to be generated by the domestic part of the Proposed Development is 63 kWh/m²/y. This figure slightly exceeds the RIBA 2025 target (<60 kWh/m²/y). Therefore, the significance of effect of the operational carbon emissions is likely to be **moderate adverse**. These are set out in the table below for completeness.

	Business as usual	RIBA 2025	RIBA 2030	Proposed Development	Effect
Embodied Carbon kgCO₂e/m²	1,200 kgCO ₂ e/m ²	<800 kgCO ₂ e/m ²	<625 kgCO ₂ e/m ²	535kgCO ₂ e/m ² *	Minor-moderate adverse
Operational Energy kWh/m²/y	120 kWh/m ² /y	<60 kWh/m ² /y	<35 kWh/m ² /y	63 kWh/m ² /y	Moderate adverse

* does not include all embodied carbon figures

Mitigation Measures

GHG Assessment

- 6.60. Based on the GHG assessment, mitigation measures are suggested for the construction, operation and end-of-life phase of the Proposed Development as set out below.

Construction phase

Lean Design

- 6.61. A lean design philosophy drives both efficiency in terms of material use and therefore embodied carbon but can also provide financial and programme benefits. As set out in the Stage 2 Structural Report, the following have been considered and adopted during the design process:
- *Column arrangement* – the principles for an efficient flat slab design is to ensure the slab is supported on a regular grid to avoid any individual longer spans controlling the slab depth. The grid has been coordinated with the design team to achieve this and enable a 225mm slab.
 - *Transfer structure* – related to the above is the ability to limit transfer slabs or beams. Through this column coordination there is only a single transfer beam required on the project which saves on the embodied carbon.
 - *Screeds* – often secondary non-structural screeds are used to provide a suitable floor finish. By focusing on achieving the required finish to the unformed face of the concrete slab, screed has been removed which saves materials and removes the requirement for a secondary 'wet' trade. Direct applied finishes to the concrete slab will be adopted on this project.

- 6.62. *Modern Methods of Construction (MMC)* – Presently the design has been based on in-situ construction. However the current element sizes safeguard the potential to utilise elements which can be manufactured off site to reduce material use and waste. Opportunities for this project would be:
- Precast concrete columns, slabs and walls.
 - Precast Concrete Stairs (or other forms of pre-assembled stairs)
 - Pre-fabricated welded reinforcement – i.e. Bamtec
- 6.63. *Demolition / Earthworks* – minimise the volume of materials being taken off-site by crushing the existing hardstanding and brick obstructions to re-use for the piling matt and review of levels to achieve a cut and fill balance.

Concreting Works

- 6.64. The vast majority of the structure of the Proposed Development is to be reinforced concrete and thus the following measures are recommended to be adopted to improve the embodied carbon performance. It is important that the balance between the reduction of embodied CO₂ of concrete and the design, specification, construction method and contract programme are considered.
- 6.65. When developing the solution and the specification for the concrete, the following should be considered:
- Only specify responsibly sourced concrete and reinforcement.
 - Consider specifying strength at 56 days rather than the conventional 28 days, where early strength gains are not required as this reduces the required cement content. This may not be appropriate for the upper floor slabs due to the programme implications of being able to strike the formwork.
 - Specify cement replacement products such as Ground Granulated Blast-furnace Slag (GGBS), to reduce the Portland Cement content. The codes allow a maximum GGBS replacement of 70%, and whilst this significantly reduces the embodied carbon it does also slows down the concrete strength gain, which in turn maybe an issue specifically relating to the upper floor plates.
 - Permit the use of admixtures, admixtures can be used to enhance sustainability credentials and reduce the ECO₂ of concrete, as well as modifying its physical properties.
 - Permit the specification of recycled and secondary aggregates. BS8500 already allows producers to use up to 20% of recycled aggregates in many concretes, but an assessment must be made as it may not necessarily be the most sustainable option if they are not available locally.
 - Specify the largest maximum aggregate size conducive to achieving efficient placing and full compaction.
 - Whole life embodied carbon reduction measures including optimising material usage, use of low carbon materials, reducing construction waste and using fewer finish materials (for wall, floor, ceiling, façade).
- 6.66. Traffic management measures should be implemented to restrict construction vehicles in certain locations and routes at certain times of the day.
- 6.67. The main contractor will be responsible for monitoring the energy, water, and waste data during the construction phase to encourage transparency and accountability. It is necessary to ensure that this is diligently followed.

Operational phase

- 6.68. In addition to primary embedded mitigation within the design, the following measures for robust monitoring of energy consumption (i.e., smart metering) could be ensured:
- Energy efficient equipment should be used in both domestic buildings.
 - Selection of 100% renewable electricity contracts must be ensured, where possible.
 - Water-oriented strategies should be implemented including the installation of efficient plumbing fixtures to reduce 'non-revenue water' losses, rainwater harvesting, and xeriscaping.
 - Over the lifetime of the Proposed Development, as new technologies come in, the lighting and HVAC system should be upgraded, as much as feasible, giving preference to products that are more energy efficient and have an extended lifespan.
 - Measures proposed in the Interim Travel Plan of the Transport Assessment must be adopted which aim to increase the level of walking, cycling and public transport use to and from the site, and reduce reliance on private cars.

End of life phase

- 6.69. It is necessary to ensure that if the buildings were to be deconstructed, it should be at as late a date as possible. Careful design and specification will help extend the lifetime of the Proposed Development.
- 6.70. Consideration should be given to the proportion of landfilling and reuse and/or recycling materials at the end of life of the Proposed Development. These measures should be developed in accordance with the existing standards and best practices.

Cumulative Effects

- 6.71. The resilience assessment looks at potential impacts of changes in climate on the Proposed Development, rather than impacts of the Proposed Development on climate or on other developments. Cumulative effects will be assessed in each topic area which will, where relevant, incorporate climate impacts.

Residual Effects

GHG Emissions

- 6.72. Table 6.15 gives a summary of the GHG assessment and the post-mitigation residual effects for the Proposed Development.

Table 6.15 - Summary of Receptors, Likely Significant Effects, Mitigation Measures, and Residual Effects

Receptor(s)	Likely Significant Effects	Significance of Effects	Mitigation Measures	Residual Effects
Construction				
Embodied carbon emissions	Emissions associated with manufacture of construction materials, transport of these materials to the construction site, on-site works and disposal of construction waste.	Domestic: Moderate adverse (significant) P / D / LT	Optimising material usage, use of low carbon materials, reducing construction waste and using fewer finish materials (for wall, floor, ceiling, façade).	Minor adverse (not significant) P / D / LT

Receptor(s)	Likely Significant Effects	Significance of Effects	Mitigation Measures	Residual Effects
			Potential for materials to be reused in the Proposed Development should be continuously monitored. Consideration should be given to the robustness and durability of materials. Traffic management measures to restrict construction vehicles in certain locations and routes at certain times of the day. Considerate construction best practices (such as wheel washing, use of recyclable materials).	
Operational				
Embodied carbon emissions	Emissions associated with replacement/refurbishment of building parts	Minor adverse (significant) P / D / LT	Consideration should be given to the robustness and durability of materials and minimising material waste.	Minor adverse (not significant) P / D / LT
Operational energy emissions	Emissions associated with buildings' (operational) energy use	Moderate adverse (significant) P / D / LT	Robust monitoring of energy consumption (i.e., smart metering) must be ensured. Energy efficient equipment should be used in both domestic and non-domestic buildings. Selection of 100% renewable electricity contracts must be ensured, where possible. Installation of efficient plumbing fixtures to reduce 'non-revenue water' losses, rainwater harvesting, and xeriscaping.	Minor adverse (not significant) P / D / LT

Receptor(s)	Likely Significant Effects	Significance of Effects	Mitigation Measures	Residual Effects
			Over the lifetime of the Proposed Development, as new technologies come in, the lighting and HVAC system should be upgraded, giving preference to products that are more energy efficient and have an extended lifespan. For example, having a future connection into the district heat network.	
End-of-life				
Embodied carbon emissions	Emissions associated with decommissioning, deconstruction, and demolition	Moderate adverse (significant) P / D / LT	Careful design and specification will help extend the lifetime of the Proposed Development. Consideration should be given to the proportion of landfilling and reuse and/or recycling materials at the end of life of the Proposed Development.	Minor adverse (not significant) P / D / LT

Key to table:

P / T = Permanent or Temporary D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable

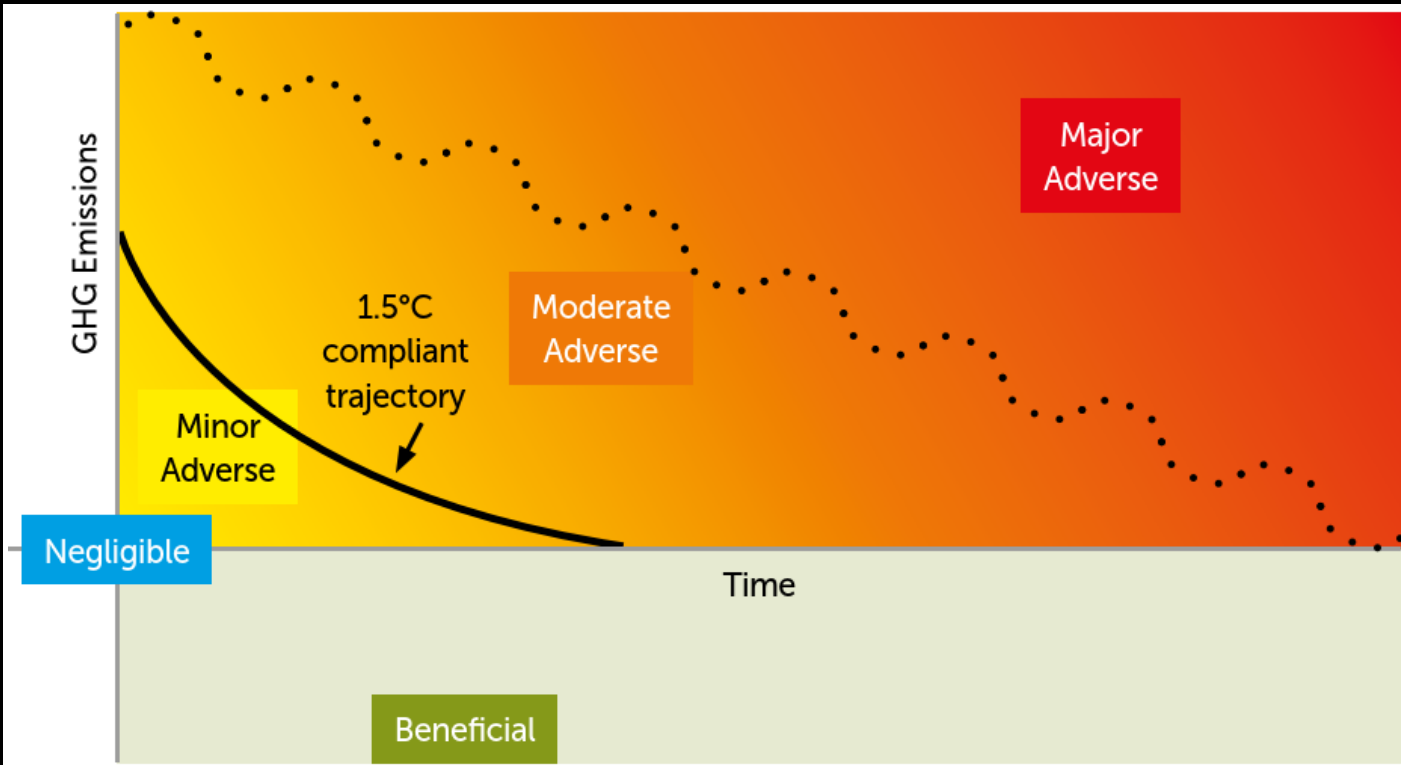


	Figure:	6.1		
	Title:	Different levels of significance plotted against the UK's net zero compatible trajectory (Source: IEMA (2021) Assessing Greenhouse Gas Emissions and Evaluating their Significance)		
	Project:	Sparkle Street		
	Date:	May 2024	Scale:	Scale /NTS

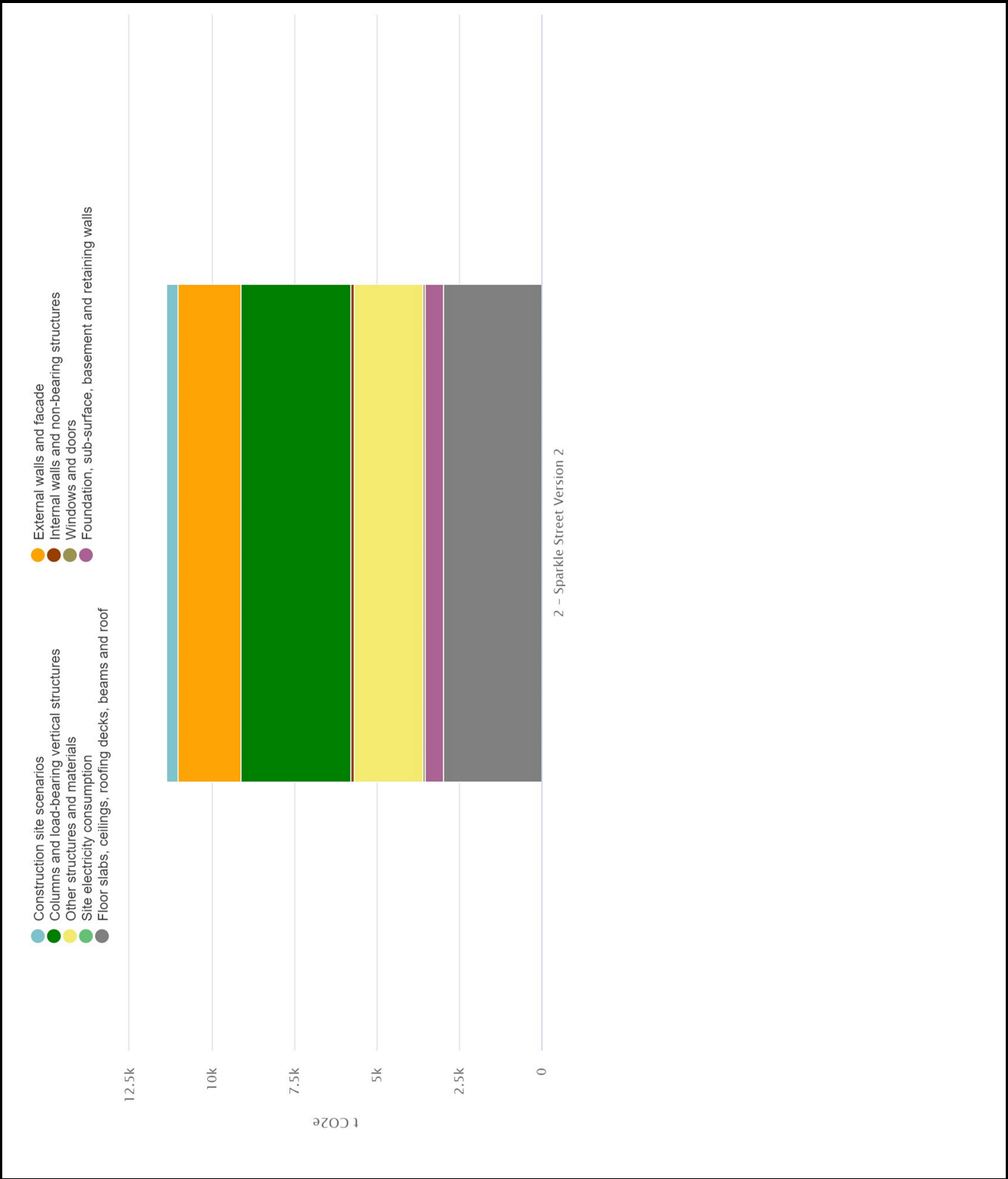


	Figure:	6.2		
	Title:	Embodied Carbon Calculations		
	Project:	Sparkle Street		
	Date:	May 2024	Scale:	Scale /NTS

7. Daylight, Sunlight and Overshadowing

Introduction

- 7.1 This Chapter of the ES has been prepared by GIA and assesses the likely significant effects of the Proposed Development with respect to daylight and sunlight. This chapter also describes the methods used to assess the effects; the baseline conditions currently existing at the Site and surrounding area; the mitigation measures required to prevent, reduce or offset any significant negative effects; and the likely residual effects after these measures have been adopted.
- 7.2 This Chapter of the ES was written by Michael Beatty BSc (Hons) MRICS. Michael is a Chartered Surveyor with eight years' experience specialising in daylight and sunlight. GIA are the largest specialist daylight and sunlight advisor in the UK, with over 29 years of specialisation and expertise, having advised on some of the largest developments within Greater Manchester and the United Kingdom.
- 7.3 This assessment and ES chapter has been produced by GIA and is supported by the following technical results within Appendix 7:
- **Appendix 7.1** – Drawings of the Baseline and Proposed Scenario;
 - **Appendix 7.2** – Daylight and Sunlight Results for Baseline v Proposed;

Legislative and Policy Context

Legislation

- 7.4 There is no legislation that governs daylight and sunlight, with the criteria for assessment relating to daylight and sunlight covered by national and local policy in addition to BRE guidance as set out below.

National Planning Policy

National Planning Policy Framework (2021)

- 7.5 The National Planning Policy Framework was updated on 20 July 2021. It stipulates that "...Planning policies and decisions should ensure that developments... create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users" (Paragraph 130).

Planning Practice Guidance (2019)

- 7.6 The Planning Practice Guidance (PPG) – Effective Use of Land, published on 22 July 2019, Paragraph: 006 Reference ID: 66-006-20190722 states that:
- "Where a planning application is submitted, local planning authorities will need to consider whether the Proposed Development would have an unreasonable impact on the daylight and sunlight levels enjoyed by neighbouring occupiers, as well as assessing whether daylight and sunlight within the development itself will provide satisfactory living conditions for future occupants."*
- 7.7 Paragraph 007 Reference ID: 66-007-20190722 also states:
- "All developments should maintain acceptable living standards. What this means in practice, in relation to assessing appropriate levels of sunlight and daylight, will depend to some extent on the context for the development as well as its detailed design. For example in areas of high-density historic buildings, or city centre locations where tall modern buildings predominate, lower daylight and sunlight levels at some windows may be unavoidable if new developments are to be in keeping with the general form of their*

surroundings.”

Local Planning Policy

Manchester Core Strategy (2012 – 2027)

- 7.8 Policy DM1 – Development Management – States that all developments should have regard to the effects on amenity including privacy, light, noise, vibration, air quality and odours.
- 7.9 Policy EN2 – Tall Buildings – States that, by their very size, tall buildings can have a significant impact on the local environment and its micro-climate. It is therefore expected that this impact be modelled and that submissions for tall buildings also include appropriate measures to create an attractive, pedestrian friendly local environment.

Guide to Development in Manchester Supplementary Planning Document and Planning Guidance (Adopted April 2007)

- 7.10 The SPD sets out a series of design principles which should be considered and implemented where necessary, those measures relevant to this assessment are:
- Minimise reliance on energy-using equipment for heating, cooling, lighting and natural ventilation.
 - Site layout and building design principles should maximise the capture and use of daylight and passive solar energy, whilst avoiding excessive solar gain in the summer.
 - Consider the impacts of overshadowing.

Guidance Documents and Standards

Building Research Establishment (BRE) ‘Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice’, Third Edition, 2022

- 7.11 The Building Research Establishment (BRE) Guidelines ‘Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice 2022, 3rd edition’ provides advice on site layout planning to achieve good sun lighting and daylighting within buildings, and in the open spaces between them. It is intended for use by building designers, developers, consultants and Local Planning Authorities (LPAs). The advice it gives is not mandatory and should not be used as an instrument of planning policy, it states:
- “This guide is a comprehensive revision of the 2011 edition of Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice. It is purely advisory and the numerical target values within it may be varied to meet the needs of the development and its location.”*
- 7.12 It also states:
- “The advice is given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. In special circumstances the developer or planning authority may wish to use different target values... in an area with modern high-rise buildings, a higher degree of obstruction maybe unavoidable if new developments are to match the height and proportions of existing building” (para.1.6).*
- 7.13 In addition, the BRE Guidelines state (para. 1.3) that:
- “it is intended to be read in conjunction with the interior daylighting recommendations in BS EN 17037 Daylighting in Buildings, and in the CIBSE publication LG 10 Daylighting – a guide for designers”.*

Assessment Methodology and Significance Criteria

Methodology for Determining Baseline Conditions and Sensitive Receptors

- 7.14 The BRE Guidelines suggest that residential properties have the highest requirement for daylight and sunlight and states that:

“the guidelines are intended for use for rooms in adjoining dwellings where light is required, including living rooms, kitchens and bedrooms.”

- 7.15 The scope of residential properties that have been assessed has been determined through professional judgement, considering their orientation and proximity to the Proposed Development.
- 7.16 The following properties are defined as receptors and will be considered due to their proximity to the Site, and their use:
- Wharf Close
 - Thomas Telford Basin
 - 37 Chapeltown Street
 - 39 Chapeltown Street
 - 35 Chapeltown Street
- 7.17 These properties are identified in the drawings contained at Appendix 7.1.
- 7.18 The assessment has considered other adjacent residential properties and due to the distance and orientation from the Proposed Development, they are unlikely to be affected, so they have not been assessed in detail.

Scenarios Assessed

- 7.19 The following scenarios have been assessed and are reported within this Chapter of the ES:
- Existing baseline; and
 - Existing site (baseline) with Proposed Development.
- 7.20 Where consented schemes have the potential to be affected by the Proposed Development, or cause cumulative impact to the existing surrounding residential buildings, these have been included in the baseline scenario and assessed individually in detail, so no separate technical assessment of the cumulative impact is required. This approach is in line with the BRE Guidelines.
- 7.21 The Baseline scenario considers the current baseline condition (as can be seen in June 2023). This scenario is depicted on drawing nos. 2188/01-03 (**Appendix 7.1**).
- 7.22 The Proposed Development is illustrated on drawing nos. 2188/04-06 (**Appendix 7.1**).

Methodology for Determining Demolition and Construction Effects

- 7.23 Owing to the evolving and changing nature of demolition and construction activities, the assessment of potential effects during demolition and construction of the Proposed Development on daylight and sunlight to surrounding properties has not been modelled.
- 7.24 Since the potential daylight and sunlight effects relating to demolition and construction works will vary throughout the construction programme and gradually increase to the potential effects identified for the completed Proposed Development, the interim construction effects are not assessed quantitatively as it is considered that the completed Proposed Development represents the worst case assessment in terms of likely daylight and sunlight.

Methodology for Determining Operational Effects

- 7.25 The following approaches are undertaken to assess the effect on the sensitive receptors of surrounding properties when the Proposed Development is completed and operational:
- Daylight
 - Vertical Sky Component (VSC); and
 - No Sky Line (NSL) Method.
 - Sunlight

- Annual Probable Sunlight Hours (APSH).
- Overshadowing
 - Sun Hours on Ground (SHOG).

Outline Approach for Daylight, Sunlight and Overshadowing Assessments

- 7.26 The technical analyses carried out to inform the daylight and sunlight assessment have been undertaken by creating a digital three-dimensional (3D) model of the existing Site and Proposed Development, based on measured survey data.
- 7.27 The 3D model uses Waldram Diagrams to establish the VSC and 3D geometric calculations for daylight distribution. This model (which is orientated to north by the use of Ordnance Survey (OS) information) enables the path of the sun to be tracked throughout the year to establish the shadow cast by the existing and proposed buildings and thus calculate the sun hours on ground in each scenario.
- 7.28 In accordance with the BRE Guidance, only those surrounding properties which have windows facing towards the Site were included in the assessment. If a nearby property has no windows facing the Site, these properties would not be affected by the Proposed Development in terms of light.

Daylight

Vertical Sky Component (VSC) Method

- 7.29 The VSC method of assessment is defined in the BRE Guidelines as the:
- “ratio of that part of illuminance at a point on a given vertical plane that is received directly from a CIE standard overcast sky, to illuminate on a horizontal plane due to an unobstructed hemisphere of this sky”.*
- 7.30 This ratio is the percentage of the total unobstructed view that is available, once obstructions (e.g. the Proposed Development), are placed in front of the point of view.
- 7.31 The assessment is calculated from the centre of a window on the outward face and measures the amount of light available on a vertical wall or window following the introduction of visible barriers, such as buildings. The VSC has been calculated using a 'Waldram Diagram'.
- 7.32 The Waldram Diagram is effectively a snapshot taken from that point of the sky in front of the window, together with all relevant obstructions to it, i.e. the buildings. For calculation purposes, trees may be ignored unless they form dense continuous belts.
- 7.33 Due to the limitations of peripheral vision, the maximum VSC value is almost 40% for a completely unobstructed vertical wall or window. In terms of assessment criteria, the BRE Guidelines state that:
- “if the VSC, with the development in place, is both less than 27% and less than 0.8 times its former value, occupants of the existing building will notice the reduction in the amount of skylight. The area lit by the window may appear more gloomy and electric lighting will be needed more of the time”.*

No Sky Line (NSL) Method

- 7.34 The BRE Guidelines provide that where room layouts are known, the effect on the daylight distribution can be calculated by plotting the NSL. In terms of the surrounding receptors, it has not been possible to obtain room layouts for all of the properties and therefore layouts have been assumed where information is not available.
- 7.35 The NSL method is a measure of the distribution of daylight at the 'working plane' within a room. The 'working plane' means a horizontal 'desktop' plane 0.85m in height for residential properties. The NSL divides those areas of the working plane which can receive direct sky light from those which cannot. If a significant area of the working plane lies beyond the NSL (i.e. it receives no direct sky light), then the distribution of daylight in the room will be poor and supplementary electric lighting may be required.

- 7.36 The potential effects of daylighting distribution in an existing building can be found by plotting the NSL in each of the main rooms. For houses, this will include living rooms, dining rooms and kitchens. Bedrooms should also be analysed, although the BRE state that they are less important. The BRE Guidelines identify that if the area of a room that does receive direct sky light is reduced to less than 0.8 times its baseline value, then this would be noticeable to its occupants.
- 7.37 Therefore, it is implied that an NSL of at least 80% would be considered satisfactory.
- 7.38 In regard to deep rooms which are lit by windows on one side, the BRE Guidelines state (para. 2.2.10):
"If an existing building contains rooms lit from one side only and greater than 5m deep, then a greater movement of the no sky line may be unavoidable."

Sunlight

Annual Probable Sunlight Hours

- 7.39 Sunlight is measured using a sun indicator which contains 100 spots, each representing 1% of APSH. Therefore, where no obstruction exists the total annual probable sunlight hours would amount to 1486, and each spot equates to 14.86 hours of the total annual sunlight hours.
- 7.40 The number of spots is calculated for the Baseline and Proposed Development scenarios during the year and also during the winter period, and a comparison made between the two. This provides a percentage of APSH for each of the time periods for each window assessed.
- 7.41 The BRE Guidelines note that:
"In housing, the main requirement for sunlight is in living rooms, where it is valued at any time of day, but especially in the afternoon."
"all main living rooms of dwellings...should be checked if they have a window facing within 90° of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun".
"If the main living room to a dwelling has a main window facing within 90° of due north, but a secondary window facing within 90° of due south, sunlight to the secondary window should be checked."
"...a south facing window will, in general, receive most sunlight, while a north facing one will receive it only on a handful of occasions. East and west facing windows will receive sunlight only at certain times of day".
- 7.42 Regarding existing surrounding receptors, the BRE Guidelines provide that a window may be adversely affected if a point at the centre of the window receives less than 25% of the APSH, including at least 5% of the APSH during the winter months (21 September to 21 March), or less than 0.8 times its baseline sunlight hours during either period, or if there is a reduction in total APSH which is greater than 4%.
- 7.43 As is often the case, it is not possible to determine the room uses within each of the neighbouring properties, nor is it clear which window should be considered as the 'main windows'. Therefore, unless the rooms use is known through plans, all the rooms with windows facing the Site and within 90 degrees of due south have been considered in the assessment. Windows that do not face within 90 degrees of due south do not have a realistic expectation of direct sunlight, due to their orientation and the sunlight path in the northern hemisphere.

Summary of Criteria for Daylight and Sunlight

- 7.44 The following table provides a summary of the criteria set out within the BRE Guidelines for daylight and sunlight.

Table 7.1 Summary of Daylight and Sunlight Assessment Criteria

Method	BRE Criteria
VSC	A window may be adversely affected if its VSC measured at the centre of the window is less than 27% and less than 0.8 times its former value.

Method	BRE Criteria
NSL	A room may be adversely affected if the daylight distribution (NSL) is reduced beyond 0.8 times its existing area.
APSH	A window may be adversely affected if a point at the centre of the window received for the whole year, less than 25% of the APSH including at least 5% of the APSH during the winter months (21 September to 21 March) and less than 0.8 times its former sunlight hours during either period, and for existing neighbouring buildings, if there is a reduction in total APSH which is greater than 4%.

Significance Evaluation Methodology

Daylight, Sunlight and Overshadowing Magnitude of Effect

7.45 For daylight and sunlight, the BRE Guidelines outline the approach within the accompanying appendix, in terms of assigning criteria to assess the effects:

“Adverse impacts occur when there is a significant decrease in the amount of skylight and sunlight reaching an existing building where it is required... The assessment of impact will depend on a combination of factors, and there is no simple rule of thumb that can be applied.”

“Where the loss of skylight or sunlight fully meets the guidelines, the impact is assessed as negligible or minor adverse. Where the loss of light is well within the guidelines, or only a small number of windows or limited area of open space lose light (within the guidelines), a classification of negligible impact is more appropriate. Where the loss of light is only just within the guidelines and a larger number of windows or open space are affected, a minor adverse impact would be more appropriate, especially if there is a particularly strong requirement for daylight and sunlight in the affected building or open space.”

“Where the loss of skylight or sunlight does not meet the guidelines in this book, the impact is assessed as minor, moderate or major adverse. Factors tending towards a minor adverse impact include:

- *Only a small number of windows are affected;*
- *The loss of light is only marginally outside the guidelines;*
- *An affected room has other sources of skylight or sunlight; and*
- *The affected building only has a low level of requirement for skylight or sunlight.”*

7.46 The classification of major adverse is documented within Paragraph 7 of the BRE Guidelines:

“Factors tending towards a major adverse impact include:

- *a large number of windows are affected;*
- *the loss of light is substantially outside the guidelines;*
- *all the windows in a particular property are affected; and*
- *the affected indoor spaces have a particular strong requirement for skylight or sunlight, e.g. a living room in a dwelling”.*

Beneficial impacts occur when there is a significant increase in the amount of skylight and sunlight reaching an existing building. Beneficial impacts should be worked out on the same principals as adverse impacts.”

7.47 The BRE Guidelines do not provide any guidance on what constitutes a moderate adverse impact. Best practice guidance and professional judgment will be used to determine any impacts based on the guidance set out in Appendix I of the BRE Guidelines. Potential effects will be identified as beneficial, adverse, or negligible, and their magnitude of effects will be set out as Minor, Moderate and Major.

7.48 The initial numerical criteria for determining the magnitude of effect is based on percentage alterations, as follows:

Table 7.2 – Daylight & Sunlight Magnitude of Effect

Method	Percentage Alteration from Baseline
Negligible	0-20%
Minor	20-29.9%
Moderate	30-39.9%
Major	40%+

Sensitivity of Identified Receptor

- 7.49 It is important that the location and nature of the Site and surrounding are considered when determining the significance of any impacts identified. The BRE Guide is very clear that the targets provided are not mandatory. The location of the development could be deemed to be special circumstances in which the planning authority may wish to use different target values. This scope and view should also be followed through to the sensitivity of the surrounding receptors. There should be an expectation that a higher degree of obstruction is inevitable in an area with modern high-rise buildings. This point is also made in the NPPF and NPPG.
- 7.50 For these reasons, the surrounding receptors may have a lower sensitivity to change in an urban location than those located in suburban, less dense areas. Sensitivity classification is assigned on how the proposed receptor is able to accommodate or adapt to the effect of the development. The existing residential receptors surrounding the Site are in a city centre location where there is an expectation for a higher density of development. The Site is currently occupied by low-rise industrial buildings. As such, the Site is underdeveloped given the dense, urban location, and the surrounding receptors are therefore receiving higher levels of daylight and sunlight than would typically be expected in a city centre location.
- 7.51 The following existing receptors are defined as having a medium sensitivity:
- Wharf Close
 - Thomas Telford Basin
 - 37 Chapeltown Street
 - 39 Chapeltown Street
 - 35 Chapeltown Street

Significance of Effects

- 7.52 The significance of any identified environmental effects is determined by the assessment of their magnitude against their sensitivity. The table below illustrates how the sensitivity of the receptors and the magnitude of any effect combine to confirm significance.

Table 7.3 – Significance of Effect

Magnitude	Sensitivity		
	High	Medium	Low
Major	Major Adverse / Beneficial*	Major Adverse / Beneficial*	Moderate – Minor Adverse / Beneficial
Moderate	Moderate Adverse / Beneficial*	Moderate Adverse / Beneficial*	Minor Adverse / Beneficial
Minor	Moderate – Minor Adverse / Beneficial	Minor Adverse / Beneficial	Minor – Negligible

Magnitude		Sensitivity	
Negligible	Negligible	Negligible	Negligible
Key		<i>*Significant in terms of EIA regulations</i>	

- 7.53 When assigning significance criteria for daylight and sunlight effects, professional judgement has been used. Consideration has been given to the proportion of rooms/windows affected, as well as the percentage alterations, absolute changes, sensitivity of the receptor, and any other relevant factors. There may be mitigating factors such as location and nature of development, balconies, overhangs or design features which may also affect the determination of assigning the criteria.

Significance of Effects in Context to the Locality

- 7.54 The context of the Site and surrounding area is key to understanding the sensitivity of the surrounding receptors and significance of daylight and sunlight effects.
- 7.55 The Manchester Piccadilly Strategic Regeneration Framework (March 2018) (the SRF) states that the “arrival of HS2 and Northern Powerhouse Rail into Manchester will be the catalyst for a ‘once-in-a-century’ opportunity to transform and regenerate the eastern side of the city centre”. The Site is located in Piccadilly Central, which is earmarked to be a “dense, residential-led neighbourhood.”
- 7.56 It is well established that the published targets within the BRE Guide are based on low rise, suburban development. The PPG – Making Effective Use of Land, updated 22 July 2019, Paragraph 007 Reference ID: 66-007-20190722 states:
- “All developments should maintain acceptable living standards. What this means in practice, in relation to assessing appropriate levels of sunlight and daylight, will depend to some extent on the context for the development as well as its detailed design. For example, in areas of high-density historic buildings, or city centre locations where tall modern buildings predominate, lower daylight and sunlight levels at some windows may be unavoidable if new developments are to be in keeping with the general form of their surroundings.”*
- 7.57 This is a key point to consider in respect of the Proposed Development and its impact on surrounding properties, particularly as it is situated in Manchester City Centre. The Manchester Core Strategy 2012-2027 sets out development principles for the city centre in Policy CC 6 (p60), which states the following:
- “City Centre development will generally be high-density. It is a location where land should be used to its maximum efficiency. The appropriate scale, massing and height of development in the City Centre will significantly exceed what is appropriate elsewhere in the City.”*
- 7.58 This is reinforced by the Manchester Piccadilly Strategic Regeneration Framework, which identifies a greater emerging density and an expectation for higher rise, and denser urban environment than other parts of the city. The endorsed SRF guidance identifies a high density built character for the SRF area. On this basis, and in accordance with BRE guidance, a different daylight benchmark for the surrounding sensitive receptors is considered to be appropriate.
- 7.59 This approach is also acknowledged in the BRE Guide, which states:
- “in special circumstances the developer or planning authority may wish to use different target values... in a historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings”.*
- 7.60 It would therefore be unrealistic for the surrounding residential properties to expect to maintain similar levels of daylight as those currently experienced, as the Site is underutilised with only very low structures. Furthermore, as the Site has been proposed for redevelopment in the SRF for several years, there is an expectation of high-density development coming forward, and an understanding since that time that the current daylight conditions would not be permanent.

Manchester City Centre Benchmarking

- 7.61 Considering the contextual discussion above, in order to fully understand the results in context, it is appropriate to consider what are deemed to be appropriate daylight levels in the city centre. The retained VSC daylight levels in established, successful residential areas in the city centre of Manchester have therefore been reviewed and are set out below. The areas reviewed all include residential buildings and are recognised as positive urban environments that people choose to live in. The locations give practical, recognisable examples of living conditions around the city centre. This is an evidential method of benchmarking daylight levels in a dense, urban area, which allows a better understanding of the application of the BRE guide in such locations.

Table 7.4 – Retained VSC Daylight Levels in Manchester City Centre

Address	Retained VSC Daylight Level
Deansgate Quay, Deansgate	4.0%
Boxworks, Castlefield	5.1%
MoHo, Castlefield	6.4%
Hill Quays, Great Jackson Street	6.2%
Anvil Street, McIntosh Village	8.0%
Lumiere, Great Jackson Street	7.1%
Princess House, Oxford Road	11.9%
The Hacienda, Whitworth Street West	13.6%
Gallery Gardens, Castlefield	13.9%
Britannia Mills, Castlefield	18.0%
Deansgate Square, Great Jackson Street	19.8%
12 Thomas Street, Northern Quarter	20.2%

- 7.62 The above table demonstrates that several of the most successful and desirable residential locations in Manchester City Centre do not meet the BRE target criteria. In some cases, the levels of retained daylight are substantially below the written BRE targets. The city centre context is such that deviations from the BRE target criteria are to be anticipated, and this sets the benchmark of what is acceptable in terms of daylight giving due consideration to the specific site characteristics, history and location. It is an inevitable consequence of living in a city centre that compromises are made on certain aspects, such as daylight amenity, in order to avail of other benefits that living in such a location provides.
- 7.63 The impacts discussed to the surrounding sensitive receptors below have therefore been considered in context to the BRE guidance, but also against what is considered acceptable in other residential locations in Manchester City Centre.

Limitations and Assumptions

- 7.64 Where actual room layouts were available on the planning portal, these have been considered in regard to the modelling of the internal layouts within the existing surrounding properties. Where layout information was not available, assumptions have been made as to the use and internal configuration of the rooms (from external observations during a site inspection) behind the fenestration observed.
- 7.65 In such cases a standard 4.2 metre (m) (14ft) room depth has been assumed, unless the building form dictated otherwise. This is common practice where access to buildings for surveying is unavailable. Obtaining these room layouts enables precise evaluation of the diffuse levels of daylight within each of the rooms via the NSL).
- 7.66 Floor levels have been assumed for adjoining properties assessed, where access has not been obtained. This dictates the level of the working plane which is relevant for the NSL assessments.

Baseline Conditions

Daylight and Sunlight

- 7.67 The full Baseline Daylight and Sunlight results can be found in Appendix 7.2 and are summarised in Table 7.4 below.
- 7.68 A total of 309 windows facing the Site serving 216 rooms within five receptors were assessed for VSC and NSL for daylight and 45 rooms were assessed for APSH sunlight within five receptors.
- 7.69 Out of the 309 windows assessed for daylight, 204 (66%) meet the BRE guidelines for VSC. For NSL, 170 (78%) of the 216 rooms assessed meet the BRE criteria. For sunlight, 43 (95%) of the 45 rooms assessed meet the BRE criteria for both Winter and Annual APSH.
- 7.70 Overall, this baseline scenario is considered a high level of compliance given the dense, urban context of the Site.
- 7.71 The Site is underdeveloped in the context to its surroundings and the height and scale anticipated by the Manchester Piccadilly SRF. The surrounding receptors are therefore unusually open aspect given the city centre location, which contributes to higher baseline daylight and sunlight levels.

Table 7.5 – Baseline Daylight and Sunlight results to surrounding sensitive receptors

Address	Total No. Windows That Meet VSC Criteria		Total No. of Rooms That Meet NSL Criteria		Total no. of Rooms That Meet APSH Criteria	
	Pass	Total	Pass	Total	Pass	Total
Wharf Close	77	85	72	80	14	14
Thomas Telford Basin	74	76	47	49	17	17
37 Chapeltown Street	18	28	16	19	3	4
39 Chapeltown Street	53	58	33	34	5	6
35 Chapeltown Street	24	62	31	34	4	4
Total	246	309	199	216	43	45

Identification and Evaluation of Significant Effects

Daylight to Surrounding Sensitive Receptors

- 7.72 The full Proposed Development daylight results can be found within Appendix 7.2 and are summarised in Tables 7.5 and 7.6 below.
- 7.73 A total of 309 windows serving 216 rooms were assessed for daylight within five sensitive receptors.
- 7.74 The breakdown of the baseline results against the Proposed Development for each of the individual buildings forming part of this assessment are discussed in more detail below.

Table 7.6 – Summary of VSC Daylight Results

VSC					
Below BRE Guidelines					
Address	Total No. Windows	No. of Windows That Meet BRE	Minor Adverse	Moderate Adverse	Major Adverse
Wharf Close	85	7	15	7	56
Thomas Telford Basin	76	76	0	0	0
37 Chapeltown Street	28	18	8	2	0
39 Chapeltown Street	58	17	4	1	36
35 Chapeltown Street	62	20	0	17	25
Total	309	138	27	27	117

Table 7.7 – Summary of NSL Daylight Results

NSL					
Below BRE Guidelines					
Address	Total No. Rooms	No. of Rooms That Meet BRE	Minor Adverse	Moderate Adverse	Major Adverse
Wharf Close	80	29	4	4	43
Thomas Telford Basin	49	43	4	2	0
37 Chapeltown Street	19	19	0	0	0
39 Chapeltown Street	34	20	2	6	6
35 Chapeltown Street	34	15	8	5	6
Total	216	126	18	17	55

Wharf Close

- 7.75 A total of 85 windows serving 80 rooms were assessed for daylight within this building to compare the baseline against the Proposed Development.
- 7.76 For VSC, seven (8%) of the 85 windows meet the BRE criteria. 15 of the affected windows will experience an alteration between 20-30%, seven of the affected windows will experience an alteration between 30-40%, and the remaining 56 windows will experience alterations in excess of 40% from the baseline value.
- 7.77 For NSL, 29 (36%) of the 80 rooms assessed will meet the BRE criteria. Four of the affected rooms will experience an alteration between 20-30%, four of the affected rooms will experience an alteration between 30-40%, and the remaining 43 rooms will experience alterations in excess of 40% from the baseline value.
- 7.78 There are several key points to consider in order to understand the results in context, the first being the emerging height and density in the area. Several new developments have been consented/constructed in the locality in recent years, which has increased the urban density in the area and therefore altered the local context of and the expectation for daylight in surrounding properties. In this new context, the Site is underdeveloped.
- 7.79 Given the underdeveloped nature of the Site, Wharf Close has unusually high baseline daylight levels for a residential property in a city centre, particularly for a site located in an area which is earmarked for significant redevelopment and regeneration.
- 7.80 Furthermore, the design of Wharf Close is such that deep, single aspect rooms are located on the boundary facing the development site.
- 7.81 The BRE discusses the neighbourliness of surrounding properties, stating that *“another important issue is whether the existing building is itself a good neighbour, standing a reasonable distance from the boundary and taking no more than its fair share of light”*.
- 7.82 The BRE states further that *“if an existing building contains rooms lit from one side only and greater than 5m deep, then a greater movement of the no sky line may be unavoidable”*. Wharf Close is therefore unneighbourly and, added to the underdeveloped nature of the Site, this places a high burden on the development to maintain the existing levels and leads to a number of windows and rooms not meeting the target criteria.
- 7.83 Notwithstanding the above, the levels of retained daylight with the Proposed Development in place will be in keeping with expectations for a dense, urban environment. A recent Appeal Decision (ref. APP/X5210/W/21/3284957) relating to a scheme on William Road in London assists with putting daylight and sunlight impacts in urban areas in context, particularly in respect of retained daylight and sunlight levels. The Appeal Decision states the following at Paragraph 74:
- “In conclusion, the assessment shows that there would be a noticeable change in the daylight levels within the rooms in question, which are either bedrooms or kitchen/living/dining rooms. There would also be a noticeable change in the daylight distribution within the rooms themselves. Although the balconies would account for some of the loss of light, the main effect would be from the proposed building. However, in this case, having regard to the context, it is reasonable and appropriate to adopt the “mid-teens” approach in respect of VSC.”*
- 7.84 This “mid-teens” approach is widely accepted when developments are proposed in areas of density, where it is acknowledged that a VSC daylight target of between 15-18% would be more appropriate. Retained VSC daylight levels to Wharf Close will be 15.24% with the Proposed Development in place, which is commensurate with levels in other successful residential buildings in Manchester, as shown in Table 7.4 above. This has previously been supported by the BRE and, most recently, The Planning Inspectorate, as per the recent Appeal Decision.
- 7.85 Overall, considering the city centre location, the emerging height and density in the locality and the alternative benchmarking appropriate in Manchester City Centre, the effect on daylight to this property is moderate adverse in significance.

7.86 The technically moderate adverse effect on daylight is, however, considered non-significant in EIA terms for the following reasons:

- The property has unusually high baseline daylight levels for its location in a city centre;
- The Site has been proposed for redevelopment in the SRF for several years, meaning there is an expectation of high-density development coming forward, and an understanding since that time that the current daylight conditions would not be permanent;
- The property is unneighbourly in its design given its proximity to the Site and the number of deep, single aspect rooms facing the Site directly; and
- The property will retain average VSC daylight levels of 15.24% with the Proposed Development in place, which is commensurate with expectations in Manchester City Centre and supported by the BRE and The Planning Inspectorate.

Thomas Telford Basin

7.87 A total of 76 windows serving 49 rooms were assessed for daylight within this building to compare the baseline against the Proposed Development.

7.88 For VSC, 76 (100%) of the 76 windows meet the BRE criteria.

7.89 For NSL, 43 (88%) of the 49 rooms assessed will meet the BRE criteria. Four of the affected rooms will experience an alteration between 20-30% and two of the affected rooms will experience an alteration between 30-40%. No rooms will experience alterations in excess of 40% from the baseline value.

7.90 All of the rooms that do not meet the NSL daylight criteria are bedrooms, which the BRE considers as having a lesser requirement for daylight. Furthermore, all will continue to receive daylight to at least 66% of their room area with the Proposed Development in place, which is very good for a residential property in a city centre.

7.91 Overall, considering the city centre location, the emerging height and density in the locality and the marginal impacts, the effect on daylight to this property is considered to be minor adverse in significance and non-significant in EIA terms.

37 Chapeltown Street

7.92 A total of 28 windows serving 219 rooms were assessed for daylight within this building to compare the baseline against the Proposed Development.

7.93 For VSC, 18 (64%) of the 28 windows meet the BRE criteria. Eight of the affected windows will experience an alteration between 20-30% and two of the affected windows will experience an alteration between 30-40%. No windows will experience alterations in excess of 40% from the baseline value.

7.94 For NSL, 19 (100%) of the 19 rooms assessed will meet the BRE criteria.

7.95 Eight of the nine windows which do not meet the VSC daylight criteria are reduced by between 20-29.9%, which is a minor impact, and the remaining two windows are reduced by 30.0%, which is marginally a moderate impact. As such, all of the effect on VSC daylight is considered to be minor, whilst all of the rooms assessed will meet the NSL daylight criteria.

7.96 Overall, considering the city centre location, the emerging height and density in the locality and the minor impacts, the effect on daylight to this property is considered to be minor adverse in significance and non-significant in EIA terms.

39 Chapeltown Street

7.97 A total of 58 windows serving 34 rooms were assessed for daylight within this building to compare the baseline against the Proposed Development.

7.98 For VSC, 17 (29%) of the 58 windows meet the BRE criteria. Four of the affected windows will experience an alteration between 20-30%, one of the affected windows will experience an alteration between 30-40%, and the remaining 36 windows will experience alterations in excess of 40% from the baseline value.

- 7.99 For NSL, 20 (59%) of the 34 rooms assessed will meet the BRE criteria. Two of the affected rooms will experience an alteration between 20-30%, six of the affected rooms will experience an alteration between 30-40%, and the remaining six rooms will experience alterations in excess of 40% from the baseline value.
- 7.100 Similarly to Wharf Close, given the underdeveloped nature of the Site, 39 Chapeltown Street has unusually high baseline daylight levels for a residential property in a city centre, particularly for a site located in an area which is earmarked for significant redevelopment and regeneration.
- 7.101 39 Chapeltown Street also has a similar design to Wharf Close and is located in close proximity to the Site, so a number of deep, single aspect rooms face the Proposed Development directly. It is therefore considered to be unneighbourly, taking its fair share of light and placing a high burden on the Site to maintain existing levels.
- 7.102 Notwithstanding, retained VSC daylight levels to 39 Chapeltown Street will be 17.53% with the Proposed Development in place, which is commensurate with levels in other successful residential buildings in Manchester, as shown in Table 7.4 above. This has previously been supported by the BRE and, most recently, The Planning Inspectorate, as per the recent Appeal Decision.
- 7.103 Overall, considering the city centre location, the emerging height and density in the locality and the alternative benchmarking appropriate in Manchester City Centre, the effect on daylight to this property is considered to be moderate adverse in significance.
- 7.104 The technically moderate adverse effect on daylight is, however, considered non-significant in EIA terms for the following reasons:
- The property has unusually high baseline daylight levels for its location in a city centre;
 - The Site has been proposed for redevelopment in the SRF for several years, meaning there is an expectation of high-density development coming forward, and an understanding since that time that the current daylight conditions would not be permanent;
 - The property is unneighbourly in its design given its proximity to the Site and the number of deep, single aspect rooms facing the Site directly; and
 - The property will retain average VSC daylight levels of 17.53% with the Proposed Development in place, which is commensurate with expectations in Manchester city centre and supported by the BRE and The Planning Inspectorate.

35 Chapeltown Street

- 7.105 A total of 62 windows serving 34 rooms were assessed for daylight within this building to compare the baseline against the Proposed Development.
- 7.106 For VSC, 20 (32%) of the 62 windows meet the BRE criteria. Two of the affected windows will experience an alteration between 20-30%, 20 of the affected windows will experience an alteration between 30-40%, and the remaining 20 windows will experience alterations in excess of 40% from the baseline value.
- 7.107 For NSL, 15 (44%) of the 34 rooms assessed will meet the BRE criteria. Eight of the affected rooms will experience an alteration between 20-30%, six of the affected rooms will experience an alteration between 30-40%, and the remaining five rooms will experience alterations in excess of 40% from the baseline value.
- 7.108 Average baseline levels to 35 Chapeltown Street are high given the city centre location, albeit the design of the building constrains the amount of daylight received to the living kitchen diners. These rooms include balconies, which provides residents with valuable outdoor amenity space, but they do limit the amount of daylight which can reach the window and penetrate into the rooms. The average baseline VSC daylight level to the living kitchen diners located beneath balconies is 15.12%, whilst the same windows to the third floor which are not located beneath a balcony average 33.25%. The building's design therefore places a burden on the development site to maintain existing VSC daylight levels which are already lower to these rooms. However, as previously stated, 35 Chapeltown Street is a desirable building to live in, and the low baseline levels to these rooms is evidence that lower levels of daylight in the area are to be expected and are considered acceptable by residents.

- 7.109 Similar to Wharf Close and 39 Chapeltown Street, retained VSC daylight levels to 35 Chapeltown Street will be acceptable in context to Manchester City Centre, and the building will retain average daylight levels of 16.00% with the Proposed Development in place. Again, this is supported by the BRE and The Planning Inspectorate.
- 7.110 Overall, considering the city centre location, the emerging height and density in the locality and the alternative benchmarking appropriate in Manchester City Centre, the effect on daylight to this property is considered to be moderate adverse in significance.
- 7.111 The technically moderate adverse effect on daylight is, however, considered non-significant in EIA terms for the following reasons:
- The property has high baseline daylight levels for its location in a city centre;
 - However, the design of the building limits the amount of daylight received to a number of habitable rooms and this places a burden on the Site to maintain lower existing daylight levels to these rooms;
 - The Site has been proposed for redevelopment in the SRF for several years, meaning there is an expectation of high-density development coming forward, and an understanding since that time that the current daylight conditions would not be permanent; and
 - The property will retain average VSC daylight levels of 16.00% with the Proposed Development in place, which is commensurate with expectations in Manchester city centre and supported by the BRE and The Planning Inspectorate.

Sunlight to Surrounding Sensitive Receptors

- 7.112 The Full Proposed Development Sunlight results can be found within Appendix 7.2 and are summarised in Tables 7.7 and 7.8 below.
- 7.113 A total of 1,429 living rooms were assessed for sunlight within 10 buildings considered sensitive receptors.
- 7.114 Windows that are not within 90 degrees of due south, or do not serve living rooms, were excluded from the assessment.
- 7.115 The buildings are discussed in more detail below.

Table 7.8 – Summary of Annual Sunlight Results

APSH					
Below threshold for Total APSH					
Address	Total No. Rooms	No. of Rooms That Meet BRE	Minor Adverse	Moderate Adverse	Major Adverse
Wharf Close	14	6	0	0	8
Thomas Telford Basin	17	17	0	0	0
37 Chapeltown Street	4	4	0	0	0
39 Chapeltown Street	6	5	0	0	1
35 Chapeltown Street	4	4	0	0	0
Total	45	36	0	0	9

Table 7.9 – Summary of Winter Sunlight Results

Winter APSH					
Below threshold for Total APSH					
Address	Total No. Rooms	No. of Rooms That Meet BRE	Minor Adverse	Moderate Adverse	Major Adverse
Wharf Close	14	7	0	0	7
Thomas Telford Basin	17	17	0	0	0
37 Chapeltown Street	4	4	0	0	0
39 Chapeltown Street	6	5	0	0	1
35 Chapeltown Street	4	4	0	0	0
Total	45	37	0	0	8

Wharf Close

- 7.116 A total of 14 rooms within this building were assessed for sunlight to compare the baseline against the Proposed Development.
- 7.117 Five (36%) of the 14 rooms meet the BRE criteria for both annual and winter PSH. For annual PSH, eight rooms will experience alterations in excess of 40% from the baseline value.
- 7.118 For winter PSH, seven rooms will experience an alteration in excess of 40% from the baseline value.
- 7.119 The design and ‘unneighbourly’ nature of Wharf Close means that deviations from the sunlight target criteria are inevitable given the underdeveloped Site and aspirations for regeneration in the area. Notwithstanding, only four rooms assessed will receive less than 21% annual PSH, the lowest being 15%. Furthermore, for winter PSH, one room will receive 2%, but the remaining rooms all receive at least 3% and five rooms will receive 7% or above, against a 5% target.
- 7.120 Additionally, average annual PSH levels with the Proposed Development in place will be 28.78% against a 25% target, whilst average winter PSH levels will be 4.92% against a 5% target. Both are considered wholly acceptable given the location.
- 7.121 Overall, considering the city centre location, the emerging height and density in the locality and the alternative benchmarking appropriate in Manchester City Centre, the effect on sunlight to this property is considered to be minor adverse in significance.

Thomas Telford Basin

- 7.122 A total of 17 rooms within this building were assessed for sunlight to compare the baseline against the Proposed Development.
- 7.123 17 (100%) of the 17 rooms meet the BRE criteria for annual and winter PSH.
- 7.124 The effect on daylight to this receptor is therefore considered to be **negligible** in significance.

37 Chapeltown Street

- 7.125 A total of four rooms within this building were assessed for sunlight to compare the baseline against the Proposed Development.
- 7.126 Four (100%) of the four rooms meet the BRE criteria for annual and winter PSH.
- 7.127 The effect on daylight to this receptor is therefore considered to be **negligible** in significance.

39 Chapeltown Street

- 7.128 A total of six rooms within this building were assessed for sunlight to compare the baseline against the Proposed Development.
- 7.129 Five (83%) of the six rooms meet the BRE criteria. For annual PSH, one room will experience alterations in excess of 40% from the baseline value.
- 7.130 For winter PSH, one room will experience an alteration in excess of 40% from the baseline value.
- 7.131 Given the context of the area, this receptor will continue to receive good levels of sunlight once the Proposed Development is in place. The impacts are limited and minor in context to the property as a whole, and are therefore considered acceptable given the location.
- 7.132 Overall, considering the city centre location, the emerging height and density in the locality and the alternative benchmarking appropriate in Manchester City Centre, the effect on sunlight to this property is considered to be **minor adverse** in significance.

35 Chapeltown Street

- 7.133 A total of four rooms within this building were assessed for sunlight to compare the baseline against the Proposed Development.
- 7.134 Four (100%) of the four rooms meet the BRE criteria for annual and winter PSH.
- 7.135 The effect on daylight to this receptor is therefore considered to be **negligible** in significance.

Mitigation Measures

Demolition and Construction

- 7.136 The potential daylight and sunlight effects during demolition and construction have been scoped out, as per paragraph 7.23 and 7.24.
- 7.137 Since the potential daylight and sunlight effects relating to demolition and construction works will vary throughout the construction programme and gradually increase to the potential effects identified for the completed Proposed Development, the interim construction effects are not assessed quantitatively as it is considered that the completed Proposed Development represents the worst case assessment in terms of likely daylight and sunlight.

Completed Development

- 7.138 Overall, the impact on daylight impacts to the surrounding properties is considered **negligible to moderate adverse** and the impact on sunlight is considered **negligible to minor adverse**. Overall, this is considered to result in non-significant effects. Given the context of the Site and nature of effects, no further mitigation is considered necessary.

Cumulative Effects

- 7.139 Where consented schemes have the potential to be affected by the Proposed Development, these have been included in the baseline scenario and assessed individually in detail, so no separate technical assessment of the cumulative impact is required. This approach is in line with the BRE Guidelines.

Residual Effects

Table 7.10 – Summary of Receptors, Likely Significant Effects, Mitigation Measures, and Residual Effects

Likely Significant Effect	Receptor	Mitigation	Residual Effect
Construction Phase			
Daylight	Scoped Out	-	-

Likely Significant Effect	Receptor	Mitigation	Residual Effect
Sunlight	Scoped Out	-	-
Operational Phase			
Daylight	Surrounding Residential Properties	None required	Negligible to Moderate Permanent Adverse (Non-Significant Effect)
Sunlight	Surrounding Residential Properties	None required	Negligible to Moderate Permanent Adverse (Non-Significant Effect)

References

7.140 This ES Chapter has been prepared by reference to the following:

- Ministry of Housing, Communities & Local Government (2021). National Planning Policy Framework. 2021.
- Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2021). Planning Policy Guidance. 2021.
- Manchester City Council (2012). Manchester Core Strategy (2012 – 2027).
- Manchester City Council (2007). Guide to Development in Manchester Supplementary Planning Document and Planning Guidance Adopted April 2007.
- Building Research Establishment (BRE) (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice, Third Edition.

8. Townscape and Visual Impact

Introduction

- 8.1. This Chapter of the ES has been prepared by re-form landscape architecture and assesses the likely townscape and visual impacts of the proposals upon the Site and surrounding area. This Chapter also describes the methods used to assess these impacts, the existing baseline conditions, the proposed mitigation measures required to prevent, reduce or offset any significant negative impacts and the likely residual impacts after these methods have been adopted.
- 8.2. This Chapter is accompanied by two technical appendices. All figures and viewpoints are within **Appendix 8.1** and the TVIA Methodology is within **Appendix 8.2**.
- 8.3. The author of this chapter is a chartered member of the Landscape Institute who has experience in preparing townscape and visual impact assessments for EIA developments.

Legislative and Policy Context

- 8.4. The relevant planning policies in respect of townscape and visual issues are set out in this section.

Legislation

- 8.5. There are two legislative documents of relevance that have been taken into consideration during the preparation of the TVIA:
- European Landscape Convention 2012 (Article 1)¹
 - Town and Country Planning Act 1990².

National Planning Policy

- 8.6. Relevant sections within the National Planning Policy Framework³ in respect of townscape and visual issues are described below.
- 8.7. Section 7 – Ensuring the vitality of town centres. This policy recognises that residential development can play an important role in the vitality of town centres and is therefore encouraged on appropriate sites (paragraph 86f). This is directly relevant to the Site due to its proposed residential use and city centre location.
- 8.8. Section 12 – Achieving well-designed places. The creation of high quality, beautiful and sustainable buildings is fundamental to what the planning and development process should achieve (paragraph 125). Developments should add to the overall quality of the area, be sympathetic to local character and history and establish or maintain a strong sense of place (paragraph 130). The Site requires a well-considered design due to its large massing and proximity to districts with distinct character and sense of place.
- 8.9. Section 16 – Conserving and enhancing the historic environment. This policy requires heritage assets that may be affected by a Proposed Development to be identified and assessed and to minimise any conflict between the heritage asset's conservation and any aspect of the Proposed Development (paragraph 195).

Local Planning Policy

- 8.10. The Site is located within the Manchester City Council area, and therefore any development proposals must be considered in respect of policies within Manchester's Local Development Framework Core Strategy 2012-2027⁴.

- 8.11. Additional guidance for planning within the Manchester comes from The Guide to Development in Manchester - Supplementary Planning Document and Planning Guidance⁶, adopted April 2007. This aims to support and enhance existing qualities and ongoing development in the City by providing a set of reasoned principles to guide developers, designers and residents.
- 8.12. Guidance for residential development within Manchester comes from the Residential Quality Guide⁷ which outlines the considerations, qualities and opportunities that will help to deliver high quality residential development as part of successful and sustainable neighbourhoods across Manchester.
- 8.13. The site is situated within the Manchester Piccadilly Strategic Regeneration Framework (SRF)⁸, and more specially it is allocated for new residential use within the 'Piccadilly Central' zone. This document includes guidance on development and enhancement opportunities for the area.
- 8.14. Those policies which are relevant to the Site with respect to townscape and visual issues are:
- Core Strategy Policy CC6: City Centre High Density Development
 - Core Strategy Policy CC9: Design and Heritage
 - Core Strategy Policy EN1: Design Principles and Strategic Character Areas
 - Core Strategy Policy EN2: Tall Buildings
 - Core Strategy Policy EN3: Heritage
 - Core Strategy Policy EN9: Green Infrastructure
 - SPD Key Issues for Design in the City Centre 12.26: Tall Buildings
 - Manchester Piccadilly SRF Principles
 - Residential Design Guide: Make it Manchester
 - Residential Design Guide: Make it animate streets and spaces
 - Residential Design Guide: Make it work with the landscape
- 8.15. The above policies are in line with the NPPF in respects to Sections 7, 12 and 16, which seek to ensure that new development is well designed, contributes to the thriving nature of the City Centre and protects the historic environment.

Core Strategy Policy CC6: City Centre High Density Development

- 8.16. This policy states: "City Centre development will generally be high-density. It is a location where land should be used to maximise its efficiency. The appropriate scale, massing and height of development in the City Centre will significantly exceed what is appropriate elsewhere in the City. Development will need to have regard to the Council's approach to tall buildings (policy EN2), but any proposals which do not reflect the importance of maximising the development opportunities in the City Centre will only be supported where this accords with wider Core Strategy objectives."
- 8.17. This policy is in line with the NPPF in respect to Section 12 which seeks to ensure new development is well designed. This policy seeks to support high density development within the City Centre, whilst still ensuring that development is managed to make the most efficient use of available land. It is expected that new development will provide or contribute towards green infrastructure within the City Centre.

Core Strategy Policy CC9: Design and Heritage

- 8.18. This policy states "Design of new buildings will need to be of the highest standard in terms of appearance and function. The standards and guidance explained in other LDF policies should be the basis for the approach to design, with particular attention to be given to the City Centre context and character. Development in Manchester City Centre should preserve or enhance the heritage assets that have been identified. Including listed buildings, conservation areas and scheduled ancient monuments. The Council will support high density and mixed-use development in the City Centre, but developers must recognise the

specific design challenges that must be overcome to ensure complementarity of function and form. New development must support the range of uses the Council expects in the City Centre and contribute to a coherent and integrated physical environment.”

- 8.19. This policy is in line with the NPPF in respect to Sections 12 and 16, which seek to ensure that new development is well designed and protects the historic environment. This policy seeks to protect the character and identity of Manchester’s cityscape, and in particular its historic environment and built heritage. This will be achieved by ensuring that new development enhances existing heritage assets both in terms of function and form.

Core Strategy Policy EN1: Design Principles and Strategic Character Areas

- 8.20. This policy states: “Developers will be expected to consider the City’s heritage and continue the rich pattern of activity in the core area. While there will be opportunities to create landmark buildings, developments should also contribute positively to the experience of all at street level. Wherever possible the opportunity should be realised to enhance existing and provide new areas of meaningful open space, and the maintenance and improvement of the City’s permeability should be considered in all proposals.”
- 8.21. This policy is in line with the NPPF in respects to Section 12 which seeks to ensure new development is well designed. This policy seeks to support high density development within the City Centre, whilst still ensuring that development is managed to make the most efficient use of available land. It is expected that new development will provide or contribute towards green infrastructure within the City Centre.

Core Strategy Policy EN2: Tall Buildings

- 8.22. This policy states: “Tall buildings are defined as buildings which are substantially taller than their neighbourhoods and/or which significantly change the skyline. Proposals for tall buildings will be supported where it can be demonstrated that they: are of excellent design quality, are appropriately located, contribute positively to sustainability, contribute positively to place making, for example as a landmark, by terminating a view, or by signposting a facility of significance, and will bring significant regeneration benefits. A fundamental design objective will be to ensure that tall buildings complement the City’s key existing building assets and make a positive contribution to the evolution of a unique, attractive and distinctive Manchester, including to its skyline and approach views. Suitable locations will include sites within and immediately adjacent to the City Centre with particular encouragement given to non-conservation areas and sites which can easily be served by public transport nodes. [...] By their very size tall buildings can have a significant impact on the local environment and its micro-climate. It is therefore expected that this impact be modelled and that submissions for tall buildings also include appropriate measures to create an attractive, pedestrian friendly local environment.”
- 8.23. This policy is in line with the NPPF in respect to Section 12 which seeks to ensure new development is well designed. This policy considers the City Centre to be an appropriate area for tall buildings. However, since they have such a large impact on the street scene, the policy considers it particularly important that they are designed to the highest quality, both in terms of appearance and their impact on the surrounding space. The above policy seeks to protect existing buildings and open space alongside the land value and market by ensuring tall buildings are viable and deliverable.

Core Strategy Policy EN3: Heritage

- 8.24. This policy states: “Throughout the City, the Council will encourage development that complements and takes advantage of the distinct historic and heritage features of its districts and neighbourhoods, including those of the City Centre. New developments must be designed so as to support the Council in preserving or, where possible, enhancing the historic environment, the character, setting and accessibility of areas and buildings of acknowledged importance, including scheduled ancient monuments, listed buildings, registered parks and gardens, conservation areas and archaeological remains. Proposals which enable the re-use of heritage assets will be encouraged where they are considered consistent with the significance of the heritage asset.”

- 8.25. This policy is in line with the NPPF in respect to Sections 12 and 16, which seek to ensure that new development is well designed and protects the historic environment. This policy seeks to protect the character and identity of Manchester's cityscape, and in particular its historic environment and built heritage. This will be achieved by ensuring that new development preserves and enhances existing heritage assets both in terms of function and form.

Core Strategy Policy EN9: Green Infrastructure

- 8.26. This policy states: "Key features of Manchester's green infrastructure will include: the continued development of a network of green spaces, water bodies, canals, paths and cycleways, with priority given to those parts of the City where there is an identified existing lack of open space. The Council will seek to protect existing street trees and promote new planting, particularly where this can enhance green links in the urban area. [...] The provision of new, and improvements to the quality and accessibility of existing green infrastructure assets, to mitigate for any loss of green infrastructure as a result of development such as the Metrolink extension programme. The encouragement of green roofs, green walls, tree planting and other forms of green infrastructure to allow for the adaptation to climate change in heavily urbanised areas. New green infrastructure provision should be an exemplar of best practice and innovation in terms of both its design and management.
- 8.27. This policy is in line with the NPPF in respect to Section 12 which seeks to ensure new development is well designed. This policy recognises that it is the more finely grained urban green infrastructure that helps give neighbourhoods their distinctive character and that they provide linkages between the green infrastructure network, particularly canals, towpaths and walkways in the City Centre. This policy seeks to develop and enhance the existing green infrastructure to create an integrated network of multifunctional spaces.

SPD Key Issues for Design in the City Centre 12.26: Tall Buildings

- 8.28. This guidance states: "The location and design of tall buildings needs careful consideration as they can be viewed from longer distances and have an impact on a much wider area, both within and outside of the City Centre. The effect of tall buildings is significant in a City Centre where its conservation area status means that the relationship of buildings and spaces is as important as the quality of individual buildings. Tall buildings provide very positive messages about Manchester and can significantly improve its image and peoples' perceptions of it. Conversely, badly located tall buildings could have an adverse effect and as such any proposals will always have to be fully justified and carefully considered. We would require any such proposals to be presented in context of the joint guidance produced by CABI and English Heritage for assessing tall buildings."
- 8.29. This guidance guideline is in line with the NPPF in respect to Section 12 which seeks to ensure new development is well designed. This guideline recognises the positive impact tall buildings can have on the City Centre, however, considers it particularly important that they are located appropriately and designed to the highest quality.

Manchester Piccadilly SRF Principles

- 8.30. The overarching principles set out within the SRF have been developed within the context of spatial and economic policies. They include maximising the opportunity of transport improvements, place making, townscape integration, neighbourhoods of choice, transport connectivity and market viability.
- 8.31. Within the Manchester Piccadilly SRF, there are several smaller neighbourhoods proposed. The Site is located within the Piccadilly Central neighbourhood, and there are several urban design principles outlined for this area:
- "The advent of HS2 and Northern Powerhouse Rail will be the catalyst for the major redevelopment of the eastern part of the city centre. This includes not only the transformation of Piccadilly Station into a world class transport hub, but the creation of a new, highly connected, mixed-use city centre district adjacent to the station, Piccadilly Central, upon previously underdeveloped industrial land."

- “The station integrates seamlessly into its context by connecting out in all directions. A new civic forecourt anchors the station into the city centre and generates an impressive sense of arrival for visitors.”
- “The new east-west Boulevard is the vital artery between Piccadilly Central and the rest of the city centre and station. This major new thoroughfare not only provides a clear channel for movement but is a bustling piece of high quality urban realm in its own right. It is a catalyst for commercial development, creating a new, prime business address.”
- “A new network of spaces, streets and urban blocks, that are sympathetic to the scale of Manchester’s historic grain, create a permeable addition to the city which is easy to navigate.”
- “A series of new public spaces are interspersed along connecting routes: a generous 6 acre river-side park, several pocket parks, and the aforementioned Boulevard and forecourt. Each is vital to ensure the area establishes a balance between a suitable quantum of development and the highest quality of urban realm for existing and future communities.”
- “The site can accommodate a high density of development, but principles have been established to ensure a high quality environment for users. Massing builds up towards the ring road at the perimeter, and steps down around public spaces to maximise views and natural light to residential plots and public realm [...] Similar height is achieved at the front of the station to mark the main concourse entrance.”
- “Piccadilly Central will be a commercially-led development, but will feature a mix of uses to promote diverse urban life and ensure economic sustainability. Active frontages along circulations routes will further help to animate the street level. In addition to differing uses, different types of residential properties will help to foster a balanced community.”

8.32. Within Piccadilly Central, the Site is allocated as residential use with between 8 and 20 storeys. Active frontages are proposed along the northern and western sides of the Site.

Residential Design Guide: Make it Manchester

8.33. This guidance states: “It is essential to reinforce the uniqueness of Manchester, strengthening its distinctive character while supporting new high quality residential development. [...] Consideration should be given to the types of views present; whether they are intimate or extensive and how the form of new development might contribute to this experience and sense of place. Proposals should also consider whether to introduce new views to surrounding landmarks or features that can provide new visual connections or reconnect old ones that have been lost. [...] Taller buildings require particular care and sensitivity, having a disproportionately large impact on the image of the city by virtue of their visibility and concentration of uses. Seen from distance, taller buildings can alter the city’s skyline and flatten the topography. [...] Developers and their design teams will be expected to demonstrate how the bulk, massing and scale of proposals have been considered in terms of its impact on the neighbourhood, street and block and how it influenced the architecture and design of the building and/or space. Wherever possible, the use of local materials should be considered [...]. Materials used within a single building must work together but should also fit within the context of the wider street, block and neighbourhood.”

Residential Design Guide: Make it animate streets and spaces

8.34. This guidance states: “Doorways should face towards the street, helping to create a strong degree of enclosure and a clear interrelationship between the building and the street and public realm. [...] The space in front of the building helps to determine the look and feel of the development and its contribution to the street network. The threshold also allows uses to spill out and extend into the public realm, providing opportunities for customisation and personalisation that help to inform the character of the area. [...] Public spaces and streets should be well overlooked by those with a direct relationship with the space and an implicit ownership of it.”

Residential Design Guide: Make it work with the landscape

- 8.35. This guidance states: “Residential developments should consider how they engage with and add to the existing green network. [...] Residential development should consider how it can work with nature to create attractive, sustainable environments, connecting into the wider network of green spaces to provide clear natural breathing spaces across the city. [...] Street trees can help to introduce a clear street hierarchy, defining green linkages in the wider landscape network. Pavements should be wide enough to accommodate trees, while retaining movement and access. [...] Buildings that are taller than their immediate surroundings will have an impact on the wind environment at street level. Where this is the case, wind analysis should be undertaken to understand and where required mitigate the effects of wind on pedestrian comfort and safety. [...] Incorporate sustainable urban drainage into the landscape.”

Tree preservation orders

- 8.36. From a desk-based assessment there are no trees on Site that are subject to individual Tree Preservation Orders.

Assessment Methodology and Significance Criteria

- 8.37. This Chapter will refer to the relevant national guidance for: the assessment of townscape character; making judgements about the visual qualities of the townscape and its capacity for accommodating development; methodology for the assessment of townscape and visual effects which is in accordance with the ‘Guidelines for Landscape and Visual Impact Assessment’, Third Edition⁹. Both a desk study and a visual site analysis have been undertaken. Refer to Appendix 8.2 TVA Assessment Methodology for a detailed description of the methodology.
- 8.38. Drawing on this guidance, and an appraisal of the key townscape and visual issues associated with the Proposed Development, this report will consider: the character and sensitivity of the townscape within the vicinity of the Proposed Development and the visual amenity of the receiving townscape.
- 8.39. The following are key issues in respect of townscape and visual effect relating to the Site:
- Location and character of townscape elements and components which contribute to the townscape character;
 - The quality of the receiving townscape;
 - Identification of key receptors and their sensitivity;
 - Determination of the existing townscape character of the Site;
 - The ability of the existing townscape to accommodate change;
 - The likely effects of development within the townscape – whether it is negative or positive, including: potential townscape effects on the existing townscape character of the Site and its context; potential visual effects on views into, out of and across the Site.
- 8.40. In addition to the above, this Townscape and Visual Assessment is carried out with recognition towards the endorsed HS2 Manchester Piccadilly SRF and specifically the allocation of tall buildings on the Site. The assessment also considers, from a townscape and visual perspective, how the developed building design has progressed the broad, strategic principles of the SRF as part of a detailed design response. This includes design measures described further within the ‘Design Proposals and Embedded Mitigation’ section later within this chapter.
- 8.41. Several potential receptors have been identified, which may experience townscape effects resulting from the Proposed Development. These include individual townscape components such as urban grain, ambient building height and materiality, but also townscape character areas where a combination of physical and perceptual attributes combine to create a distinct and definable sense of place. The susceptibility to change of each receptor, its value, and resultant sensitivity are identified below.

- 8.42. In order to establish the value of each receptor, a judgement of the townscape quality is required. This is defined as a measure of the physical state of the townscape. This may include the extent to which typical character is represented in individual areas, the intactness of the townscape and/or the condition of individual elements.
- 8.43. A study area radius of 750m from the centre point of the Site has been defined. This is based upon a Zone of Theoretical Visibility (ZTV) exercise, which has identified the likely (or theoretical) extent of visibility of the Proposed Development. Townscape and visual receptors assessed within this TVIA are located within the Study Area boundary. Beyond this extent, it is considered that there will be no likely perceivable change to the townscape baseline or to views in the direction of the Site. This is due to the urban context of the Site and the resulting screening effects of surrounding buildings and structures, including railway viaducts, topography and intermittent vegetation and trees.

Limitations and Assumptions

- 8.44. The levels of predicted townscape and visual effects described below have assumed embedded mitigation as a result of design development since the inception of the project.
- 8.45. Assumptions have been made with respect to the schemes for the cumulative assessment; the assessment presupposes the cumulative schemes identified will be built as per the planning proposals and will be in situ prior to the built form constructed on Site.

Baseline Conditions

- 8.46. This section describes the principal spatial and built form components which give the Site and surrounding area its particular characteristics, and which make up the baseline. A list of the committed developments considered from the baseline scenario can be found in Appendix 8.1 (Figure 8.9 Committed Developments).
- 8.47. The Site is located in the Piccadilly district of the Manchester City Centre area (refer to Figure 8.1 Study Area). The Site is circa 0.3 hectares in size and is situated adjacent to the Sparkle Street and Store Street junction. The Site is currently defined as the Gateway Industrial Estate and comprises two industrial building units that are approximately two storeys in height. Between the buildings is an area of associated car park provision. The primary access into the Site for pedestrians and vehicles is currently from Store Street, which is secured by a set of tall metal weldmesh gates and a fence that runs around the Site perimeter.
- 8.48. Existing vegetation is limited to the site edges. Established mixed shrub planting, self-set vegetation and a number of mature trees run along the outside of the Store Street and Sparkle Street fence. A block of informal mixed shrub and trees is situated to the southern area of the site.
- 8.49. The Site itself is relatively flat across the majority of its extent where the existing buildings and servicing car park are located, with a level change of approximately 0.5m rising from northeast corner to the southwest corner. There is a localised sloping area of embankment to the south of the site that rises approximately 4m to meet the sloping topography of Sparkle Street which rises southwards.

Urban Grain

- 8.50. Refer to Figure 8.3 Urban Grain in Appendix 8.1.
- 8.51. The urban grain is used in the assessment as a shorthand term for the pattern and inter-relationship of buildings and open space. A study of this pattern can contribute to an understanding of townscape and character to highlight the ratio of built form to open space as a precursor to defining townscape character.
- 8.52. Buildings within the Piccadilly area are generally of a medium to large scale, comprising a mixture of apartment buildings, industrial units, office buildings, hotels and a multi-storey car park. The urban grain is relatively dense, with a predominant northeast to southwest orientation, however building block clusters generally range in size and layout. To the north and west of the Site, the city centre urban grain becomes

increasingly formalised and denser, with a more defined grid arrangement. To the east of the site, the local urban grain becomes less formal and more open.

Built Form

- 8.53. Refer to Figure 8.4 Building Heights and Figure 8.5 Historic Designations in Appendix 8.1.
- 8.54. There are currently two operational industrial units located on the Site, which have a functional and plain aesthetic. Within the context of the Site, architectural quality, appearance, materiality and use vary significantly. Predominantly buildings are modern, although historic red brick mill buildings are interspersed throughout the area and primarily focused around the Ashton and Rochdale canal basins. Within the Piccadilly area, Buildings range in height between 1-5 storeys and 6-10 storeys, with the occasional taller building over 10 storeys. Oxygen Tower is a local landmark tower building that is over 20 storeys in height.
- 8.55. Listed buildings and structures within the surrounding Piccadilly area are limited and spread out, and primarily Grade II Listed. Approximately 100m northeast along Store Street is the Grade II* Listed Store Street Aqueduct. The largest concentration of historic designations is within the nearby Stevenson Square Smithfield and Ancoats Conservation Areas to the northwest of the Site. In these areas, there is a large number of Grade II Listed Buildings, with some Grade II* Listed Buildings distributed throughout.

Topography

- 8.56. Refer to Figure 8.8 Topography in Appendix 8.1.
- 8.57. The prevailing topography within the study area slopes gently and gradually downwards towards the south. Locally to the Site, there are some more prominent and condensed level changes, including a steep slope rising north westwards along Jutland Street directly opposite the Site. Sparkle Street also notably slopes upwards to the southeast along the Site boundary.
- 8.58. Views are typically short to medium distance, due to the generally flat to gently sloping topography and the filtering effects of the densely urbanised city environment. However longer distance views of taller buildings are sometimes glimpsed above roof tops within more open areas, such as within public places and broader streets.

Streetscape

- 8.59. The Site is located on Store Street, a secondary road that connects between Great Ancoats Street to the northeast and the A6 Piccadilly to the southwest. Store Street comprises a wide two-lane carriageway with footpaths either side. The edges of Store Street vary significantly and include a number of conditions, such as the Piccadilly Station viaduct, an open surface car park, building varying in height and appearances, an aqueduct tunnel and Oxygen Towers. This creates notably different levels of containment and contrasting characteristics along its length.
- 8.60. Within the wider context of the Site, the streetscape is also varied in character and appearance. The Piccadilly area in which the Site is located, has a generally varied and ad hoc street arrangement, which becomes less formal to the south and southeast at the peripheries of the city. Within the Northern Quarter and Ancoats to the northwest, the street structure is notably tighter and more formalised in a northeast to southwest grid structure, which is largely representative of the wider city centre arrangement.

Existing Townscape Character

- 8.61. The townscape assessment in this section considers the potential effects of the proposed intervention on the components of the townscape and townscape character areas as appropriate, as identified within this baseline study and relevant documents prepared by Manchester City Council.
- 8.62. Townscape assessment encompasses an appraisal of physical, aesthetic and intangible attributes including sense of place, rarity or representativeness, and unspoilt appearance. The combination of townscape elements (urban grain, architecture, height and fabric of buildings, streets and squares, trees, parks and open

spaces, soundscape) and their arrangement give the different areas a unique sense of place, or 'character'. These aspects, together with scale and character of surrounding landscapes, patterns and scale of landform, land cover and built development, need to be considered when assessing townscape effect.

- 8.63. Natural England have produced a series of National Character Area (NCA) profiles that identify broad, strategic character areas for England and the key opportunities for local decision making. The development Site is located within the National Character Area 55: Manchester Conurbation¹¹ which summarises this area as follows (page 3):
- "A number of settlements have grown and come together to form the Manchester Conurbation [...] This area is characterised by dense urban and industrial development, commercial, financial, retail and administrative centres, commuter suburbs and housing, interspersed with a network of green infrastructure."
 - "The conurbation is centred on low hills, crossed by several river valleys that thread through the urban fabric. The geology is dominated by sandstones, overlain by thick deposits of glacial till."
 - "Canals that weave through the conurbation not only offer opportunities for access and recreation, but also form a network of wetland habitats. Sections of the Rochdale Canal, in particular, have been designated as being of international importance as a Special Area of Conservation (SAC)."
 - "In the late 18th century the areas became rapidly industrialised, with dramatic growth in the cotton industry and expansion in ancillary trades. The population increased, fuelled by a need for labour, with rows of terraced housing built for the workers as well as mills and industrial buildings. Red brick and sandstone buildings are prominent in the city and town centres, alongside buildings using a mix of modern materials, high-rise buildings and landmark 19th-, 20th- and 21st-century buildings."
- 8.64. NCAs are primarily used for understanding broad landscape context, rather than townscape and therefore for the purpose of this assessment is of limited use. The classification covers a wide area extending from Urmston in the west to Denton in the east; the area extends as far as Cheadle Hulme and Bramhall to the south and Prestwich in the north.
- 8.65. Although relevant, the level of detail is considered insufficient in providing an accurate depiction of the Site and locally specific issues. However, it is noted that a number of the above characteristics were discernible in relation to the wider townscape surrounding the Site, notably the presence of large settlements characterised by dense urban and industrial development, commercial, financial, retail and administrative centres, commuter suburbs and housing; the presence of canals the urban fabric including the River Irwell and the significant road networks, in particular the A665 Great Ancoats Street. For the purposes of this TVA a more local scale character assessment is appropriate.
- 8.66. The Greater Manchester Landscape Character and Sensitivity Assessment¹² focuses on regional townscape character areas. The Site is not located in a particular landscape character type but is described as urban.
- 8.67. A Strategic Level City-Wide Urban Characterisation¹³ was undertaken in 2010 as an evidence base for the Core Strategy. The purpose of the study was to understand how the local character of different areas varies across Manchester as a means of identifying how local needs may be addressed by proposals for new development. The study identifies the Strategic Character Areas within the city. The Character Areas which could be affected by the Proposed Development include the City Centre and the Central Area of Change. The key characteristics of the city-wide Strategic Character Area that are identified as being applicable to the Site are:
- City Centre:
 - "The urban form is one of contrasts;
 - The scale of built form also varies, sometimes dramatically, but the core area is mainly one of higher, larger scale buildings;
 - The core has a relatively modest amount of open space (when compared to built floorspace);

- The Conservation Area status of much of the centre and the concentration of listed buildings reflects the urban history and quality of the urban environment;
- It contains a mix of building ages, types and quality;
- Outside the core, the intensity of activity falls and, within larger areas, uses are less mixed with fewer uses of particular regional significance but that can include uses not generally found in the core area including elements of industrial use;
- The non-core area includes significant areas of cleared land (often used for surface car parking) and a growing component of contemporary residential use as the core area pushes outwards.”
- Central Area of Change:
 - “The majority of the area is engulfed by the industrialised expansion of the city;
 - The area remains the focus of the city's industrial and other out-of-centre commercial activity mostly in low-rise industrial shed-style buildings;
 - Change is once again underway with regeneration programmes that have, and continue, to transform the urban form of significant parts of the area;
 - There are, however, localities which exhibit increased levels of overall activity: Those close to the city centre and the Higher Education Precinct and areas that have recently experienced regeneration to higher densities that can now sustain a greater range of associated facilities.”

8.68. The Strategic Urban Character areas identified above are broad in scope and extent. It is considered that there will unlikely be any notable townscape or visual effects, within the context of the wider Strategic Character Areas as a result of the Proposed Development. As such townscape and visual effects of the Proposed Development will not be assessed for the Strategic Urban Character Areas and any local level issues will be identified as part of an assessment of local townscape character.

8.69. The Manchester City Centre Strategic Plan¹⁰ identifies local level Townscape Character Areas (TCAs), as shown in Figure 8.10 in Appendix 8.1. Only TCAs located within 750m of the Site are assessed as part of this TVA. It is considered that there will be no likely perceivable change to other TCAs located fully outside of the study area as a result of the Proposed Development on Site, due to the heavily urbanised nature of the city environment and resulting screening effects of buildings, and the orientation of nearby public spaces and streets, which limit visual connectivity.

Character Area 1: Piccadilly

8.70. The Site is located centrally within the Piccadilly TCA. The TCA is bound by the A665 Great Ancoats Street to the north and east and the trainline leading to Piccadilly Station to the south. Piccadilly is currently undergoing significant urban regeneration and comprises several modern apartment and office buildings and construction sites. There are no Conservation Areas within the TCA, however, there are a small number of Grade II and Grade II* listed buildings, mostly associated with historic uses of the canal and Manchester Piccadilly Station. The station is a large and significant element within the TCA and has influence on the urban grain in its immediate context. Extensive areas of surface car parking situated on undeveloped plots of land are also commonplace. As a result, the urban grain is currently fragmented and inconsistent. Recently implemented public realm improvements and peripheral treatments to new buildings introduce isolated, positive characteristics. There are some notable areas of public realm and greenspace associated with the Rochdale and Ashton Canals which run through the TCA.

Susceptibility	Value	Sensitivity
Low	Low	Low
The townscape has inconsistent urban structure and includes a varied streetscape, urban grain and build form resulting in a relatively indistinct sense of place. Buildings	Broadly the townscape comprises components of relatively poor / medium quality, with low distinctiveness and detracting elements. The canal basins	

Susceptibility	Value	Sensitivity
are generally of a medium-large scale. The area can accommodate the Proposed Development without considerable consequences for the retention of the existing baseline.	within the area offer some components of value, however it is subject to degradation and inconsistencies in quality in places	

Table 8.1 Townscape Character Area 1 – Piccadilly

Character Area 2: Kampus

- 8.71. Kampus is situated approximately west of the Site and is bound by Major Street to the north, Aytoun Street to the east and Chorlton Street and Canal Street to the south and west. Kampus is a new development in an area previously occupied by Manchester Metropolitan University. It contains a mixture of historic, modern and retrofit architecture across a range of building sizes and heights. There are 3 notable residential towers within the character area, all of which are 12 storeys or higher. Also included in the TCA is the Manchester Crown Court building on Minshull Street. This was built between 1868 and 1871 and refurbished in 1993 and has some architectural merit, although is of a distinctly different style to the other buildings within the TCA. Northwest and southeast of the Court building are two medium sized surface car parks. Within the TCA there is a newly completed public square, adjacent to the canal, which contains significant planting and tree coverage. Considering the new development in isolation, there is a strong sense of place and identity. However, overall, the urban grain is somewhat fragmented and undistinguished.

Table 8.2 Townscape Character Area 2: Kampus

Susceptibility	Value	Sensitivity
Low	Medium	Medium Low
The townscape area is relatively small within the context of neighbouring character areas and currently includes a mixture of architecture characteristics, ages and quality. Buildings are generally of a medium-large scale, with some smaller historic buildings. The area can accommodate the Proposed Development without consequences for the retention of the existing baseline.	The townscape has inconsistent and indistinctive urban structure but has some sense of place and value created by the proximity to the canal basin.	

Character Area 3: Retail Core

- 8.72. The Retail Core is located to the northwest of the Site. The TCA is a major retail hub with several flagship stores across a range of shopping destinations; the largest and most notable being the Manchester Arndale. The TCA has a tight urban grain which occasionally opens up around key public spaces such as Piccadilly Gardens. Buildings vary in scale, age and architectural character. Within the TCA there are several areas of well used public realm and greenspace alongside areas of pedestrianisation associated with key retail areas. The most notable within the study area is Piccadilly Gardens which. The TCA includes the Smithfield Conservation Areas at the edge of the study area, although the majority of the Conservation Area is located outside of the study area. It also includes several Grade II listed buildings, mostly located outside of the study area.

Susceptibility	Value	Sensitivity
Low	Medium	Medium Low
The townscape in this area currently includes a mixture of large-scale buildings with a variety of architectural characteristics and quality. The urban grain is relatively distinguishable but is imbalanced and	The townscape includes a number of Conservation Areas and historic designations, as well as a concentration of key public open spaces. The area comprises some detracting qualities	

Susceptibility	Value	Sensitivity
uncharacteristic in places. The area can accommodate the Proposed Development without considerable consequences for the retention of the existing baseline.		

Table 8.3 Townscape Character Area 3 – Retail Core

Character Area 4: Northern Quarter

- 8.73. The Northern Quarter TCA is located to the west of the site and is bound by the A665 Great Ancoats Street to the northeast, Port Street/China Lane/Paton Street/Lena Street to the southeast, the A6 Piccadilly to the southwest and High Street and Shudehill to the north west. The majority of the TCA includes the Stephenson Square and Smithfield Conservation Areas and includes a large number of Grade II and Grade II* listed buildings of a variety of architectural styles and historic uses. The TCA is characterised by distinctive architecture, red brick buildings and converted warehouses with many creative and cultural industries and independent retailers. As a result, the TCA has a strong sense of place. The TCA has a relatively tight and uniform urban grain, with buildings varying in size and massing, although most buildings are under 5 storeys. There is some public realm but few areas that are pedestrianised and very limited greenspace. There have been some modern developments within the TCA, however, regeneration has generally been incremental and has broadly retained the area's distinct identity.

Susceptibility	Value	Sensitivity
Medium	High	High Medium
The townscape in this area includes distinctive historic architectural qualities and streetscape character, with areas of small and incremental modern development. The area has some ability to accommodate the Proposed Development without considerable consequences for the retention of the existing baseline.	The townscape has a distinctive urban structure and architectural qualities. It includes a number of Listed Buildings and Conservation Areas.	

Table 8.4 Townscape Character Area 4 - Northern Quarter

Character Area 5: Ancoats

- 8.74. The Ancoats TCA is located to the north of the Site and is bound by the A62 Oldham Road to the northeast, Butler Street to the northwest, the Rochdale Canal to the southeast and the A665 Great Ancoats Street to the southwest. The entirety of the TCA is situated within the Ancoats Conservation Area and includes a number of Grade II and Grade II* listed buildings. Most of these are historic mill buildings now converted into residential or commercial units, however they also include the Crown and Kettle Public House, Daily Express Building, former Church of St Peter and Victoria Square. As a result, the TCA has a distinctive sense of place and historic prevalence. Within the study area, the southwestern part of the TCA has a relatively tight and uniform urban grain. There is some public realm, the most notable being Cutting Room Square, however limited greenspace.

Table 8.5 Townscape Character Area 5 - Ancoats

Susceptibility	Value	Sensitivity
Medium	High	High Medium
Although this townscape has a distinctive historical character it is heavily built up, with some modernised elements. The area has some ability to accommodate the Proposed Development without considerable consequences for the retention of the existing baseline.	The townscape has a distinctive urban structure and architectural qualities. It includes a number of Listed Buildings and a Conservation Area.	

Character Area 6: New Islington

- 8.75. The New Islington TCA is located to the northeast of the Site. Within the extents of the study area, it is bound by the Piccadilly TCA to southwest and the Rochdale Canal to the northwest. The TCA is centred around the New Islington Marina. There has been significant development in within the TCA, including new residential and commercial buildings along with new public realm. The centre of the TCA is characterised by modern high-density residential buildings, some above 10 storeys, arranged in a relatively formal urban grid. There are also some older residential buildings and associated public open space further north. As a result, there is a concentrated residential population within the TCA. At the southern end of the TCA, adjacent to Great Ancoats Street, is a large area of formally developed vacant land. There is a concentration of listed buildings around the Ashton Canal, although there are no Conservation areas within the TCA. The most significant greenery within the TCA is Cotton Field Park (adjacent to the marina), Islington Park, and green space associated with the Rochdale Canal. Elsewhere within the TCA, greenery mostly comprises of large grass verges associated with residential areas and private gardens.

Susceptibility	Value	Sensitivity
Low	Medium	Medium Low
The townscape in this area currently includes a varied streetscape, urban grain and build form, with a mixture of architectural qualities and appearance. A large proportion of buildings are modern with some large-scale buildings. The marina and associated green space offer a sense of distinctiveness, however overall, the area lacks a cohesive sense of place. As a result, the has ability to accommodate the Proposed Development without considerable consequences for the retention of the existing baseline.		

Table 8.6 Townscape Character Area 6 - New Islington

Character Area 7: Mayfield

- 8.76. The Mayfield TCA is located to the south of the Site. A key defining feature of the TCA is new Mayfield Park, which is a recently completed 6.5-acre greenspace. This is a new and well maintained and managed area of green infrastructure. Adjoining Mayfield Park is Depot Mayfield, which is a former railway station that has been redeveloped into an arts, entertainment and music venue with food and beverage offers. The development has introduced modern architectural features but has retained much of the existing railway infrastructure. To the north and east of the park, most of the built form is associated with light industry. Aside from the brick railway arches, the townscape here has a weak urban structure with no notably distinguishable architectural qualities. Some areas, particularly those adjacent to the railway arches are in poor condition with frequent detracting features. At the very northern edge of the TCA is the Grade II listed Star and Garter Public House. To the west of the TCA, there are several large-scale buildings between 8 and 18 storeys high. These are a combination of hotel and purpose-built student accommodation. These buildings introduce a different architectural style compared to the railway arches and industrial buildings present elsewhere in the TCA. This area of the TCA contains several surface car parks and incidental greenspaces, resulting in a weak urban structure with no notably distinguishable architectural qualities. The River Medlock meanders through the TCA, although this is only perceivable in Mayfield Park as elsewhere it is culverted or contained within engineered walls.

Table 8.7 Townscape Character Area 7 – Mayfield

Susceptibility	Value	Sensitivity
Low	Medium	Medium Low
A diverse townscape, comprising a variety of modern and historic buildings and spatial characteristics, along with a varied level of quality and degradation. The townscape has scope for improvement and will likely mean that the Proposed Development would not be considered uncharacteristic when set within the attributes of the TCA. It can therefore accommodate the Proposed Development without considerable consequences for the retention of the existing townscape baseline.		
Although Mayfield Park and the Depot presents locally distinctive and good quality, well maintained elements amenity components, more broadly the remaining townscape contains a combination of several detracting and damaged townscape features.		

Character Area 8: North Campus

- 8.77. The North Campus TCA is located to the southwest of the Site. It contains a relatively tight and formal urban grain, with some historic prevalence in parts. It is predominantly characterised by large scale, mixed quality university buildings. The area north of the railway line contains several early 20th Century, red brick, Edwardian Baroque style buildings, one of which is listed. These are typically 5-10 storeys in height and are predominantly now used for offices or residential apartments. Additionally, the northern part of the TCA contains a small portion of the Whitworth Street and Princess Street Conservation Area. There have been some more recent architectural additions to this area in form of purpose-built student accommodation. Vimto Park is also located in this part of the TCA, which is a moderate sized, well-maintained greenspace. As a result, this part of the TCA has a relatively distinguishable urban structure, with some characteristic urban grain and architectural qualities.
- 8.78. South of the railway line, the TCA includes several buildings associated with The University of Manchester including purpose-built student accommodation, laboratories and lecture halls. The built form here is of a mixture of ages and architectural styles. There are some incidental greenspaces, but a lack of managed public space. There is a weak urban structure with a mixed urban grain and no notably distinguishable architectural qualities

Table 8.8 Townscape Character Area 8 – North Campus

Susceptibility	Value	Sensitivity
Low	Low	Low
The majority of the TCA contains large scale architecture, with few distinguishable qualities. Although there is an area of historic prevalence that is worthy of conservation, this makes up a relatively small portion of the wider TCA. It can therefore accommodate the Proposed Development without considerable consequences for the retention of the existing townscape baseline.		
Other than Vimto Gardens, the TCA broadly offers limited public amenity of quality and local value. The townscape has a mixed urban structure with some scope to improve elements.		

Character Area 9: The Village

- 8.79. The Village TCA is located to the west of the Site, separated from The Piccadilly TCA by the North Campus and Kampus TCAs. It contains a relatively tight and formal urban grain, interspersed with historic buildings and architecture. The built form in the TCA is characterised by early 20th century, red brick, Edwardian Baroque style buildings, many of which are listed. These are typically 4-8 storeys in height and are

predominantly now used for offices or residential apartments. Additionally, the TCA contains two Conservation Areas: Whitworth Street and Princess Street, and George Street. As a result, the TCA has a distinguishable urban structure, sense of place and historic prevalence, with areas worthy of conservation. There have been some notable modern architectural additions to the TCA. These are of a notably different architectural style and much taller (between 11 and 20 storeys) than the characteristic buildings within the TCA. Sackville Garden is the only significant area of greenspace within the TCA, which contains well maintained amenity grass, tree planting, some ornamental planting and street furniture. Canal Street is a cobbled, tree lined street with views of the Rochdale Canal, which is often used by adjacent restaurants and bars as an alfresco food and beverage area.

Table 8.9 Townscape Character Area 9 – The Village

Susceptibility	Value	Sensitivity
Medium	High	High Medium
The TCA has a distinctive historic townscape character; however the presence of some recent significant modern developments means that the Proposed Development may not necessarily be considered to be substantially uncharacteristic. The TCA therefore has some ability to accommodate the Proposed Development without considerable consequences for the retention of the existing townscape baseline.	The townscape broadly contains a strong and characteristic urban grain with architectural qualities that create a notable sense of place. There are instances of well-maintained greenspace and public realm that contribute positively to the townscape.	

Summary of Townscape Character Areas

8.80. The table below shows the varied susceptibility and value of the different townscape elements that will potentially experience effects as a result of the Proposed Development.

Table 8.10 Summary of Townscape Character Areas

Character Area	Susceptibility	Value	Sensitivity
TCA 1: Piccadilly	Low	Low	Low
TCA 2: Kampus	Low	Medium	Medium Low
TCA 3: Retail Core	Low	Medium	Medium Low
TCA 4: Northern Quarter	Medium	High	High Medium
TCA 5: Ancoats	Medium	High	High Medium
TCA 6: New Islington	Low	Medium	Medium Low
TCA 7: Mayfield	Low	Medium	Medium Low
TCA 8: North Campus	Low	Low	Low
TCA 9: The Village	Medium	High	High Medium

Design Proposals and Embedded Mitigation Measures

- 8.81. The reduction or elimination of negative effects on the townscape and visual environment is a key part of the development proposals. The design of the building has been subject to extensive pre-application discussions to refine its form and appearance. Through this process, potential adverse townscape and visual effects have been identified, and eliminated or reduced, and positive effects enhanced. Mitigation of adverse townscape and visual effects is therefore embedded in the Proposed Development, and no “applied” mitigation is proposed.
- 8.82. The public realm and landscape proposals have also undergone an equally rigorous design and review process. These will make a positive contribution to the townscape and visual environment at ground level

and will improve the pedestrian environment. However, these will only be perceivable a short distance away from the Site and will not mitigate any of the townscape or visual effects of the Proposed Development.

- 8.83. The below text written in *italics* is extracted from the Design and Access Statement produced by Simpson Haugh Partners as part of the planning application. It describes the design of the buildings and the response to the Site's urban context.
- 8.84. Massing:
- The massing has been designed and articulated to respond to both a city-wide and a local context.
 - The Proposed Development is composed as a collection of vertical forms of similar width to the surrounding existing residential buildings. The two volumes in close proximity to Piccadilly Village are 10 storeys tall (plus roof parapet), which is 2 storeys lower than the maximum height parameters within the Strategic Regeneration Framework.
 - Towards the western edge of the Site, the two taller volumes reflect the aspiration of the SRF for height and density closer to Piccadilly Station. These reach a height of 27 and 28 storeys, before dropping back down to 10 storeys on the Southern edge to respect neighbours in proximity.
 - Restricting the tallest element of the building to the corner minimises any microclimate impacts on the existing residential buildings, whilst also creating prominence at the corner. The towers slender proportions as seen from Jutland Street are elegant.
- 8.85. Façade:
- The materiality and detailing of the proposal are centred on the aspiration of rooting the building within its existing local context. This involved analysis of the current vernacular as detailed in Chapter 3 (of the Design and Access Statement), as well as research into the historic urban grain/ aesthetic as described in Chapter 2 (of the Design and Access Statement).
 - The use of traditional brick reflects the dominant material of historic buildings in the area, in particular goods warehouses constructed in the 1800s and continue to influence the areas vernacular today.
 - The colour tone of the brick varies between each block, helping to further articulate the massing. The colours chosen seek to reflect the range of brick colour existing in the area, within a palette of reds, oranges, browns and buff/light pinks.
 - The use of precast concrete and brick above window opening replicates the stone/brick lintels of the historic context and provides a visual robustness/solidity to the scheme.
 - The use of single, double, and multi-level vertical ordering provides hierarchy and individualism to each block, as well as creating elegantly proportioned openings seen in many historic buildings in the area and city-wide.
- 8.86. The principles described above have ensured that, wherever possible, adverse effects on the townscape and visual amenity have been designed out and the opportunity for beneficial effects has been maximised. The following identification and evaluation of significant townscape and visual effects therefore considers this embedded mitigation.

Identification and Evaluation of Significant Townscape Effects

- 8.87. This section of the Chapter assesses the effects on the existing townscape character – both short and long term, which will depend on the scale of the Proposed Development, and the value and significance of the wider townscape. The Townscape Character Areas that are potentially affected by the Proposed Development have been identified within the baseline assessment, together with the Susceptibility, Value and the resulting Sensitivity of these townscapes. The Magnitude of Change to each Townscape Character Area will be determined by what changes are made to the various elements already described which

combine to make up a townscape's character. Magnitude of Change is assessed in conjunction with Townscape Sensitivity to produce the predicted Townscape Effects of the Proposed Development.

Character Area 1: Piccadilly

Table 8.11 Assessment of Townscape Effects: Character Area 1 – Piccadilly

Townscape Effects	Assessment on Character Area
Proximity to Site	Close, Site within TCA
Townscape Receptor	Fragmented and varied urban grain and architectural characteristics, with a number of interspersed Listed Buildings and structures. Some areas of construction associated with new buildings and extensive areas of surface car parking. Some limited greenspace associated with the canals and modern developments.
Sensitivity	Low
Magnitude of Change	There will be a medium magnitude of change to the character area. The Site itself will be transformed from small industrial units to a large, modern residential apartment development with associated landscaping. In the context of the wider TVA, there will be some alteration to the baseline character, experienced primarily within the localised environment and nearby streets. However, due to the existing variety in building uses, quality, character and scale within the TCA, it is anticipated that the proposed intervention can be accommodated into the local townscape environment without substantial change to its baseline character.
Predicted Townscape Effects	Minor - Moderate
Nature of Townscape Effects	Beneficial

Character Area 2: Kampus

Table 8.12 Assessment of Townscape Effects: Character Area 2 – Kampus

Townscape Effects	Assessment on Character Area
Proximity to Site	Close, Approx 330-350m to west of Site
Townscape Receptor	Primarily new and modern development comprising large scale residential buildings with public realm. Some historic buildings and adjacent to canal. Varied characteristics
Sensitivity	Medium Low
Magnitude of Change	There will be a negligible magnitude of change to the character area. There will be no alteration to the baseline character and the only discernible effects will be limited and glimpsed views of the Proposed Development that may not be discernible to the casual observer.
Predicted Townscape Effects	Negligible

Character Area 3: Retail Core

Table 8.13 Assessment of Townscape Effects: Character Area 3 – Retail Core

Townscape Effects	Assessment on Character Area
Proximity to Site	Approx. 440-490m to northwest of Site
Townscape Receptor	Major retail hub with larger scale building blocks and well used public realm within study area. A small section of Conservation Area extends into Study area. Distinguishable urban grain but is imbalanced and uncharacteristic in places.
Sensitivity	Medium Low
Magnitude of Change	There will be a negligible magnitude of change to the character area.

Townscape Effects	Assessment on Character Area
	There will be no alteration to the baseline character and the only discernible effects will be limited and glimpsed views of the Proposed Development that may not be discernible to the casual observer.
Predicted Townscape Effects	Negligible

Character Area 4: Northern Quarter

Table 8.14 Assessment of Townscape Effects: Character Area 4 – Northern Quarter

Townscape Effects	Assessment on Character Area
Proximity to Site	Close. Approx. 240-480m to the northwest of the Site
Townscape Receptor	Conservation Areas with distinctive sense of place, comprising a large number of listed buildings with defined historic and architectural elements and some modern interventions. Distinctive tight and uniform urban grain.
Sensitivity	High Medium
Magnitude of Change	There will be a negligible magnitude of change to the character area. There will very limited glimpsed intervisibility of the upper levels of the Proposed Development only from the south-eastern edge of the TCA that neighbours Piccadilly and from a small number of other areas within the TCA. Elsewhere within the wider Northern Quarter TCA, there will be no perceivable alteration to the baseline character due to the regular and tight urban grain within the TCA, which provides containment across much of the area. The presence of some existing larger scale and modern buildings in close proximity to the site will likely result in the taller aspects of the proposals not being prominent when set within the attributes of the wider Northern Quarter TCA.
Predicted Townscape Effects	Negligible

Character Area 5: Ancoats

Table 8.15 Assessment of Townscape Effects: Character Area 5 – Ancoats

Townscape Effects	Assessment on Character Area
Proximity to Site	Close, Approx 430m north of the site
Townscape Receptor	Conservation Area with distinctive sense of place, comprising a large number of listed buildings with defined historic and architectural elements and some modern interventions. Well used key public space and distinctive tight and uniform urban grain
Sensitivity	High Medium
Magnitude of Change	There will be a negligible magnitude of change to the character area. There will unlikely be any visibility of the Proposed Development, except for limited areas along the south-eastern edge of the TCA along the Rochdale Canal. Elsewhere within the wider Ancoats TCA, there will be no perceivable alteration to the baseline character due to the regular and tight urban grain within the TCA, which provides containment across much of the area. The presence of some existing larger scale and modern buildings along Great Ancoats Street adjacent to Ancoats will likely result in the taller aspects of the proposals not being prominent when set within the attributes of the wider Ancoats TCA.
Predicted Townscape Effects	Negligible

Character Area 6: New Islington

Table 8.16 Assessment of Townscape Effects: Character Area 6 – New Islington

Townscape Effects	Assessment on Character Area
Proximity to Site	Close. Approx 370m northeast of the Site
Townscape Receptor	Combination of modern high-density residential buildings, some above 10 storeys and lower density townhouses with gardens; new public realm associated with the marina; concentrated residential population; fragmented urban grain; some sense of place.
Sensitivity	Medium Low
Magnitude of Change	There will be a negligible magnitude of change to the character area. There will be no alteration to the baseline character and the only discernible effects will be limited and glimpsed views of the Proposed Development from the eastern edge of the TCA that may not be discernible to the casual observer.
Predicted Townscape Effects	Negligible

Character Area 7: Mayfield

Table 8.17 Assessment of Townscape Effects: Character Area 7 – Mayfield

Townscape Effects	Assessment on Character Area
Proximity to Site	Close. Approx. 330m south of the Site
Townscape Receptor	Large area of modern publicly accessible park, with a combination of modern architectural features, historic buildings and structures associated with the railway. Areas requiring improvement; fragmented and inconsistent urban grain.
Sensitivity	Medium Low
Magnitude of Change	There will be a low magnitude of change to the character area. There will be a small indirect alteration to the baseline character, experienced primarily from the northern edge of the TCA and from limited locations within the public park. There will be glimpsed visibility of the upper levels of tall, large-scale architecture however, the presence of taller buildings that currently exist in proximity to and within the TCA result in the Proposed Development not being uncharacteristic, nor notably beneficial when set within the attributes of the receiving townscape.
Predicted Townscape Effects	Minor - Moderate
Nature of Townscape Effects	Neutral

Character Area 8: North Campus

Table 8.18 Assessment of Townscape Effects: Character Area 8 – North Campus

Townscape Effects	Assessment on Character Area
Proximity to Site	Close. Approx. 330m south of the Site
Townscape Receptor	Large scale building associated with university; incidental greenspace; fragmented and inconsistent urban grain.
Sensitivity	Low
Magnitude of Change	There will be a negligible magnitude of change to the character area. There will be no alteration to the baseline character and the only discernible effects will be limited and glimpsed views of the Proposed Development from the eastern edge of the TCA that may not be discernible to the casual observer.
Predicted Townscape Effects	Negligible

Character Area 9: The Village

Table 8.19 Assessment of Townscape Effects: Character Area 9 – The Village

Townscape Effects	Assessment on Character Area
Proximity to Site	Close, Approx 430m north of the Site
Townscape Receptor	Conservation Areas; large number of listed buildings; distinctive architecture; majority tight and uniform urban grain; some modern architectural additions.
Sensitivity	High Medium
Magnitude of Change	There will be a negligible magnitude of change to the character area. There will be no alteration to the baseline character and the only discernible effects will be limited and glimpsed views of the Proposed Development from the eastern edge of the TCA that may not be discernible to the casual observer
Predicted Townscape Effects	Negligible

Summary of townscape effects

- 8.88. The Proposed Development will introduce townscape effects to two of the nine Townscape Character Areas. The predicted townscape effects to TCA 1 Piccadilly and TCA 6 New Islington will be Minor- Moderate Beneficial and Minor – Moderate Neutral respectively. The predicted Townscape for other seven Townscape Character Areas will be negligible.

Table 8.20 Summary of Townscape Effects

Character Area	Susceptibility	Baseline Value	Sensitivity	Magnitude of Change	Assessment Townscape Effect and Nature
TCA 1: Piccadilly	Low	Low	Low	Medium	Minor - Moderate Beneficial
TCA 2: Kampus	Low	Medium	Medium Low	Negligible	Negligible
TCA 3: Retail Core	Low	Medium	Medium Low	Negligible	Negligible
TCA 4: Northern Quarter	Medium	High	High Medium	Negligible	Negligible
TCA 5: Ancoats	Medium	High	High Medium	Negligible	Negligible
TCA 6: New Islington	Low	Medium	Medium Low	Low	Minor - Moderate Neutral
TCA 7: Mayfield	Low	Medium	Medium Low	Negligible	Negligible
TCA 8: North Campus	Low	Low	Low	Negligible	Negligible
TCA 9: The Village	Medium	High	High Medium	Negligible	Negligible

Existing Visual Conditions

- 8.89. A series of representative views have been selected for the Visual Assessment. The views capture a variety of key receptors around the Site, from both near and mid-distance. The below tables describe the existing visual baseline condition of each selected view.
- 8.90. As described earlier within this document, a study area radius of 750m from the centre point of the Site has been defined. This is based upon a Zone of Theoretical Visibility (ZTV) exercise, which has identified the likely (or theoretical) extent of visibility of the Proposed Development.
- 8.91. Figure 8.11 within the appendices illustrates the view location.

Table 8.21 Baseline conditions - View 01

View 01 – View from Piccadilly (street) adjacent to Piccadilly Gardens	
Figure Reference	8.12
Distance	Medium
Direction	Southeast
Season and Condition	Summer
Condition and Visibility	Clear. Good visibility
Type of Receptor	Primary: Pedestrians and public open space users. (Secondary: Office space users at oblique angles)
Reason for view selection	View from key public space within Manchester City centre.
Description of existing view	The view looks southeast from the pedestrian footway located on Piccadilly (street) to the northern edge of Piccadilly Gardens. The view comprises a small portion of Piccadilly Gardens to the right and the carriageway of Piccadilly with series of bus stops, to the left. An avenue of mature trees is a prominent element of the view to the left. Built form within view is varied and comprises a mixture of architectural character and age. One Piccadilly is the primary building of focus within view, with others being glimpsed beyond trees.
Visual Susceptibility	Medium
Value attached to view	Low
Visual Sensitivity	Medium Low

Table 8.22 Baseline conditions - View 02

View 02 – View southeast from Dale Street	
Figure Reference	8.13
Distance	Medium
Direction	Southeast
Season and Condition	Summer
Condition and Visibility	Clear. Good visibility
Type of Receptor	Primary: Pedestrians and vehicle users. (Secondary: Residents and office space users at oblique angles)
Reason for view selection	Key axial route through the Northern Quarter within the Stevenson Square Conservation Area.
Description of existing view	This view looks southeast along Dale Street. The view is contained on both sides by buildings situated to the back of footpath, approximately 5-6 stories in height. Architectural character is generally consistent with distinctive heritage qualities, creating a notable sense of place. A large mature tree also forms a prominent and positive element within the otherwise notably hard view. The extent of visible carriageway introduces a detracting element.
Visual Susceptibility	Medium
Value attached to view	Moderate
Visual Sensitivity	Medium

Table 8.23 Baseline conditions - View 03

View 03 – View southeast from within Stevenson Square	
Figure Reference	8.14
Distance	Medium
Direction	Southeast
Season and Condition	Summer
Condition and Visibility	Clear. Good visibility

View 03 – View southeast from within Stevenson Square	
Type of Receptor	Primary: Pedestrians and users of surrounding F&B offer. (Secondary: Residents and office space users at oblique angles)
Reason for view selection	Key space within the Northern Quarter and Stevenson Square Conservation Area
Description of existing view	The view is located adjacent to Lever Street and looks southeast across Stevenson Square, which comprises outdoor space associated with the surround food and beverage offer. The extent of the view is contained on both sides and in the distance by street trees and buildings approximately 5-6 storeys in height. Architectural character is generally consistent with distinctive heritage qualities, creating a notable sense of place. The extent of visible carriageway introduces a detracting element.
Visual Susceptibility	Medium
Value attached to view	Moderate
Visual Sensitivity	Medium

Table 8.24 Baseline conditions – View 04

View 04 – View southwest from Redhill Street	
Figure Reference	8.15
Distance	Medium
Direction	Southeast
Season and Condition	Summer
Condition and Visibility	Clear. Good visibility
Type of Receptor	Primary: Pedestrians and vehicle users. Secondary: (Residents and office space users at oblique angles)
Reason for view selection	Edge of Ancoats Conservation Area adjacent to Rochdale Canal, where views are more distant
Description of existing view	The view looks southwest along Redhill Street. To the left of the view is the parapet wall of the Rochdale Canal with a grouping of matures trees beyond. The background of the view comprises an assortment of modern and heritage buildings located closer to the city centre. The view is contained by the Grade II* Listed Royal Mills to the right. Although the carriageway to Redhill Street forms a prominent part of the view, it is paved in stone cobbles, which help integrate it into the local heritage setting.
Visual Susceptibility	Medium
Value attached to view	Moderate
Visual Sensitivity	Medium

Table 8.25 Baseline conditions – View 05

View 05 – View southwest across New Islington Marina	
Figure Reference	8.16
Distance	Medium
Direction	Southeast
Season and Condition	Summer
Condition and Visibility	Clear. Good visibility
Type of Receptor	Residents. Pedestrians and users of Marina.
Reason for view selection	View from key public space
Description of existing view	The view looks southwest across the New Islington Marina. The foreground is dominated by the marina itself and comprises a number of narrow boats. Beyond is Cotton Field Park, which consists of a number of mature trees and lawns.

View 05 – View southwest across New Islington Marina	
	Oxygen Tower forms a prominent building to the left of the view, with the taller component of Residence Inn to the centre right.
Visual Susceptibility	Medium
Value attached to view	Moderate
Visual Sensitivity	Medium

Table 8.26 Baseline conditions - View 06

View 06 – View southwest at junction of Old Mill Street Junction and Great Ancoats Street.	
Figure Reference	8.17
Distance	Close
Direction	Southwest
Season and Condition	Summer
Condition and Visibility	Clear. Good visibility
Type of Receptor	Pedestrian and vehicle users
Reason for view selection	Key junction at the end of Store Street, on which the Site is located.
Description of existing view	The view is located at a pedestrian crossing point at the Junction of Old Mill Street and Great Ancoats Street. The foreground of the view is dominated by the carriageway of Great Ancoats Street and associated highway infrastructure including bollards, railings and traffic lights. The left of the view is contained by Oxygen Tower situated along Store Street. A cluster of low-level brick buildings, some of which are disused, and a group of trees make up the centre and right background of the view
Visual Susceptibility	Low
Value attached to view	Low
Visual Sensitivity	Low

Table 8.27 Baseline conditions - View 07

View 07 – View southwest from Great Ancoats Street (Road bridge over the Ashton Canal)	
Figure Reference	8.18
Distance	Close
Direction	Southwest
Season and Condition	Summer
Condition and Visibility	Clear. Good visibility
Type of Receptor	Primary: Pedestrians and vehicle users at an oblique angle. (Secondary: Residents at oblique angles)
Reason for view selection	Vista along Ashton Canal
Description of existing view	The view is located on a road bridge over the Ashton Canal looking southwest. The view comprises the canal and associated footpaths to the centre, which is channelled and contained by a consistent and regular architectural language of red brick, 3-5 storey apartment buildings along both sides of the canal. There is a distant glimpsed view of the top of the tallest Deansgate Tower at the rear centre of the view.
Visual Susceptibility	Medium
Value attached to view	Moderate
Visual Sensitivity	Medium

Table 8.28 Baseline conditions - View 08

View 08 – View southwest from Store Street Aqueduct	
Figure Reference	8.19
Distance	Close

View 08 – View southwest from Store Street Aqueduct	
Direction	Southwest
Season and Condition	Summer
Condition and Visibility	Clear. Good visibility
Type of Receptor	Primary: Pedestrians using aqueduct footpaths. Canal users on boat. (Secondary: Residents at oblique angles)
Reason for view selection	View is located along a pedestrian footpath situated on the Grade II* Listed Store Street Aqueduct. It also captures views of canal users by boat.
Description of existing view	The view is looking southwest from the northern pedestrian footpath adjacent to the Ashton Canal. In the foreground is the Ashton Canal and the stone parapet wall of the Grade II* Listed Aqueduct. The upper floors of a number of nearby red brick, 4-5 storey apartment buildings are situated just beyond, the closest of which is located adjacent to the aqueduct. Several mature trees are also interspersed within the view. Glimpsed visibility of the upper floors of the Department of Education office building is in the background. The 111 Piccadilly Tower is also glimpsed within the background as it projects above the nearby apartment buildings.
Visual Susceptibility	Medium
Value attached to view	Moderate
Visual Sensitivity	Medium

Table 8.29 Baseline conditions - View 09

View 09 - View southeast along Jutland Street	
Figure Reference	8.20
Distance	Close
Direction	Southeast
Season and Condition	Summer
Condition and Visibility	Clear. Good visibility
Type of Receptor	Primary: Pedestrian and vehicle users. (Secondary: Residents at oblique angles)
Reason for view selection	Jutland Street is orientated in the direction of the Site, which is located at the end of the Street. The view captures pedestrians and vehicle users travelling towards the Site.
Description of existing view	The view is looking southeast along Jutland Street and is situated at the upper level of the street before it drops steeply towards Store Street at the end. The centre of the view is dominated by the cobbled carriageway and footpaths of Jutland Street. In the foreground to the left of the views is a 3-5 storey red brick residential apartment block. To the right of the view is a continual timber fence approximately 3m tall, with self-set overground scrub and trees emerging from behind. To the rear of the view are several rooftops, including an apartment building and Piccadilly Train Station.
Visual Susceptibility	Low
Value attached to view	Low
Visual Sensitivity	Low

Table 8.30 Baseline conditions - View 10

View 10 – View northeast along Store Street	
Figure Reference	8.21
Distance	Close
Direction	Northeast
Season and Condition	Summer
Condition and Visibility	Clear. Good visibility
Type of Receptor	Pedestrian and vehicle users
Reason for view selection	The Site is located on Store Street. The view captures pedestrians and vehicle users travelling towards the Site.

View 10 – View northeast along Store Street	
Description of existing view	The view is looking northeast along Store Street from the western footway along the side of the road. Dominating the centre of the view is the wide carriageway to Store Street. To the right of the view is a low-rise industrial unit, with several residential building rooftops visible behind. The Site is situated further along Store Street, within mid-distance to the right. The buildings on Site are only glimpsed amongst mature trees and planting around the Site perimeter. The Grade II* Listed Store Street Aqueduct is partially visible beyond the Site and is obscured in part by mature trees. To the left of the view, opposite the Site is a 5-storey residential apartment building. Oxygen Tower is a prominent landmark building in the background that extends significantly above all other buildings within the view.
Visual Susceptibility	Low
Value attached to view	Low
Visual Sensitivity	Low

Table 8.31 Baseline conditions - View 11

View 11 – View northeast from Whitworth Street	
Figure Reference	8.22
Distance	Medium
Direction	Northeast
Season and Condition	Summer
Condition and Visibility	Clear. Good visibility
Type of Receptor	Primary: Pedestrians and vehicle users. (Secondary: Residents at oblique angles)
Reason for view selection	View located next to Sackville Gardens within the Whitworth Street and Princess Street Conservation Area
Description of existing view	The view is looking northeast from the footway along Whitworth Street and is situated adjacent to Sackville Gardens, which is to the left of the view. The centre of the view is dominated by the carriageway of Whitworth Street. The view is enclosed on both sides by red brick office buildings, which have a distinctive heritage character. A similar building is also situated to the centre-right background of the view. A modern white office block located at Piccadilly Station is a prominent and contrasting architectural component to the rear centre of the view.
Visual Susceptibility	Medium
Value attached to view	Moderate
Visual Sensitivity	Medium

Table 8.32 Baseline conditions - View 12

View 12 – View North from Mayfield Park	
Figure Reference	8.23
Distance	Medium
Direction	North
Season and Condition	Summer
Condition and Visibility	Clear. Good visibility
Type of Receptor	Pedestrians / park users
Reason for view selection	Mayfield Park is one of Manchester's newest and largest public green spaces and is currently well used.
Description of existing view	The view looks northwards towards Manchester City Centre from a pedestrian footbridge within the park. The foreground of the view is dominated by the park itself, which comprises interspersed semi-mature trees, planting and lawns. Mayfield Depot is situated to the rear of the park and forms an abrupt and elongated edge, that limits views of the city beyond to rooftops of taller buildings only. Oxygen Tower is currently the only building visible above Mayfield Depot.

View 12 – View North from Mayfield Park	
Visual Susceptibility	Medium
Value attached to view	Moderate
Visual Sensitivity	Medium

Summary of Visual Baseline Conditions

- 8.92. The table below summarises the susceptibility value and subsequent sensitivity of each view that will potentially experience effects as a result of the Proposed Development. The views from within Conservation Areas and those which contain or are in the context of listed buildings or structures have the higher sensitivity to effects because of their higher susceptibility and value. Views from the furthest distance away from the Site and those from low value areas have the lowest sensitivity to effects.

Table 8.33 Summary of visual baseline conditions

View	Susceptibility	Value	Sensitivity
01 – Piccadilly	Medium	Low	Medium Low
02 – Dale Street	Medium	Moderate	Medium
03 – Stevenson Square	Medium	Moderate	Medium
04 – Redhill Street	Medium	Moderate	Medium
05 – New Islington Marina	Medium	Moderate	Medium
06 – Old Mill Street	Low	Low	Low
07 – Great Ancoats Street	Medium	Moderate	Medium
08 – Store Street Aqueduct	Medium	Moderate	Medium
09 – Jutland Street	Low	Low	Low
10 – Store Street	Low	Low	Low
11 – Whitworth Street	Medium	Moderate	Medium
12 – Mayfield Park	Medium	Moderate	Medium

Identification and Evaluation of Significant Visual Effects

- 8.93. A comprehensive visual assessment has been undertaken to determine the degree of visual effect the Proposed Development would have upon the surrounding townscape. Viewpoints were initially identified through the baseline assessment, and in the field each viewpoint was visited and recorded. Not all views identified in the field have been assessed in this TVA. This is due to the following factors:
- The Site is not visible within the view due to intervening buildings, structures vegetation and landform (or a combination of).
 - The viewpoint is inaccessible due to land ownership; and
 - The demonstrable effect from the viewpoint is represented by other viewpoints identified within the vicinity.
- 8.94. In respect of the first point above, the Site and site proposals may not be visible in all assessed viewpoints. However, the modelling exercise is undertaken in these instances to determine visual effects from this representative location. A total of 12 representative views within the established Zone of Theoretical Visibility (ZTV) (Figure 8.2) have been selected for the analysis of visual effects. A study area radius of 750m from the centre point of the Site has been defined. This is based upon the ZTV, which has identified the likely (or theoretical) extent of visibility of the Proposed Development. Townscape and visual receptors assessed within this TVA are located within the Study Area boundary. Beyond this extent, it is considered that there will be no likely perceivable change to the townscape baseline or to views in the direction of the Site. This is due to the urban context of the Site and the resulting screening effects of surrounding buildings and structures, including railway viaducts, topography and intermittent vegetation and trees.

- 8.95. For the purposes of this Chapter, the views include a model of the development proposals. Where the development proposals block model are not visible in the view, a wireframe outline of the Proposed Development is shown for location purposes.
- 8.96. All views are Accurate Visual Representations (AVRs) of the Proposed Development unless otherwise stated within the following tables.
- 8.97. Key views have been selected at strategic locations around the Site. It is considered 'best practice' to categorise views into 3 ranges depending on the proximity of the viewpoint. The categorisation is based on the scale and nature of the townscape, and is as follows:
- Close: less than 250m
 - Medium: between 250m – 1km
 - Long: More than 1km

Sensitivity of visual receptors

- 8.98. The views shown on Figure 8.11 Viewpoints have been selected in order to be representative of a range of locations and distances from which the Site is visible, and for the type of occupancies (e.g., residential properties), activities (e.g. footpath users) and the expectations of potential receptors (e.g. visitors to the locality). The sensitivity of the receptor has been recorded against each view considered based upon judgements of their susceptibility to the type of intervention proposed and the value attached to the view.

Visual effects

- 8.99. The predicted effects for each of the representative views are assessed in the following tables. These effects are then summarised in Table 8.46.

Table 8.34 Assessment of Visual Effects – View 01

View 01 - View from Piccadilly (street) adjacent to Piccadilly Gardens	
Figure Reference	8.12
Proposed view	There will be no alteration to the view. The Proposed Development is situated behind a layering of existing buildings and trees. There may be limited glimpsed visibility of a small portion of the tower component, although this may unlikely be perceivable to the casual observer.
Visual Sensitivity	Medium-Low
Magnitude of change	Negligible
Predicted visual effects	Negligible
Nature of Visual Effects	n/a

Table 8.35 Assessment of Visual Effects – View 02

View 02 – View southeast from Dale Street	
Figure Reference	8.13
Proposed view	There will be a minor alteration to the view, although the character of the view will neither be beneficially nor adversely changed. The Proposed Development would occupy a small proportion of the view and will only be glimpsed in part above the rooftops of existing buildings within the background. The façade colour and window pattern of the Proposed Development appears similar in character to other existing buildings within view, which reduces its prominence. It is considered that the Proposed Development will not introduce any discernible difference in aesthetic and perceptual quality in comparison to the baseline conditions.
Visual Sensitivity	Medium
Magnitude of change	Low

View 02 – View southeast from Dale Street	
Predicted visual effects	Minor – Moderate
Nature of Visual Effects	Neutral

Table 8.36 Assessment of Visual Effects – View 03

View 03 – View southeast from within Stevenson Square	
Figure Reference	8.14
Proposed view	There will be no alteration to the view. The Proposed Development is situated behind a layering of existing buildings and is not visible.
Visual Sensitivity	Medium
Magnitude of change	Negligible
Predicted visual effects	Negligible
Nature of Visual Effects	n/a

Table 8.37 Assessment of Visual Effects – View 04

View 04 – View southwest from Redhill Street	
Figure Reference	8.15
Proposed view	The taller tower component of the Proposed Development is situated behind a mature tree to the left of the view. However, as the tree is deciduous and the tree line does not continue along the edge of the canal, it is anticipated that visibility of the taller tower component of the building will likely be notably more from other locations near to the viewpoint (where canal side trees aren't present) and during winter months. The tower extends considerably above existing rooftops and although it will only occupy a partial portion of the view, will result perceivable change to the existing view. The façade colour of the proposed building has a relationship with the redbrick heritage buildings in view. On balance, it is considered that the Proposed Development will not introduce any discernible difference in aesthetic and perceptual quality in comparison to the baseline conditions.
Visual Sensitivity	Medium
Magnitude of change	Medium
Predicted visual effects	Moderate
Nature of Visual Effects	Neutral

Table 8.38 Assessment of Visual Effects – View 05

View 05 – View southwest across New Islington Marina	
Figure Reference	8.16
Proposed view	There will be a minor alteration to view, although the character of the view will neither be beneficially nor adversely changed. The Proposed Development will be partially visible above a layered grouping of mature trees, consisting of both evergreen and deciduous species. During winter months, the taller tower component of the building will likely be more visible, however the general extent of tree cover and the presence of other tall buildings, including the substantially noticeable Oxygen Tower, mean that the resultant change would only be slightly perceivable and not notably affect the character of quality of the view.
Visual Sensitivity	Medium
Magnitude of change	Low
Predicted visual effects	Minor – Moderate
Nature of Visual Effects	Neutral

Table 8.39 Assessment of Visual Effects – View 06

View 06 – View southwest at junction of Old Mill Street Junction and Great Ancoats Street.	
Figure Reference	8.17
Proposed view	The Proposed Development will introduce a noticeable change to the view; however, it is considered that the change will not be uncharacteristic within the context of Oxygen Tower, which encompasses a substantial and dominating component of the view. The taller tower component of the Proposed Development will locally break the skyline above lower buildings within the foreground, however, will not extend beyond height of Oxygen Tower within this view. The colouration of the face also has similarities to that of the lower buildings within the foreground.
Visual Sensitivity	Low
Magnitude of change	Medium
Predicted visual effects	Minor – Moderate
Nature of Visual Effects	Neutral

Table 8.40 Assessment of Visual Effects – View 07

View 07 – View southwest from Great Ancoats Street (road bridge over the Ashton Canal)	
Figure Reference	8.18
Proposed view	There will be a prominent and perceivable change to the baseline character of the view. A large amount of the tower component of the Proposed Development will break the skyline and introduce new architectural characteristics and scale that is not comparable to the distinctive and consistent building height and appearance along the canal vista. The colouration of the proposed façade has some relationship with the existing red brick buildings; however, the scale and height of the Proposed Development is not comparable to that of the existing buildings in view.
Visual Sensitivity	Medium
Magnitude of change	Medium
Predicted visual effects	Moderate
Nature of Visual Effects	Adverse

Table 8.41 Assessment of Visual Effects – View 08

View 08 – View southwest from Store Street Aqueduct	
Figure Reference	8.19
Proposed view	There will be a substantial change to the baseline character of the view. The Proposed Development will considerably break the skyline above existing buildings and occupy a large portion of the view at a close distance. The Proposed Development obscures an existing office block that is considered to be uncharacteristic of the canal basin vernacular. It also has a comparable facade colour and materiality to the existing nearby red brick buildings in view and is more in keeping than the white tower building the right of the view. Although there will be an obvious and substantial change introduce to the view it is considered that in balance, the overall character will neither be deteriorated nor positively improved.
Visual Sensitivity	Medium
Magnitude of change	High
Predicted visual effects	Moderate-Major
Nature of Visual Effects	Neutral

Table 8.42 Assessment of Visual Effects – View 09

View 09 – View southeast along Jutland Street	
Figure Reference	8.20
Proposed view	<i>(Please note that this assessed view is not based on an Accurate Visual Representation (AVR) and is based on a visually accurate CGI for illustrative purposes. It is considered that the outcome of the assessment would unlikely differ between an AVR and CGI in this instance, due to the close proximity of the Proposed Development and the extent to which it is visible in the view)</i> There will be a substantial change to the baseline character of the view. The Proposed Development will be extensively visible and occupy a large portion of the view at a close distance. The tower component of the building will extend considerably above all rooftops within the view and introduce new architectural characteristics. Although the Proposed Development will create a significant change, it is considered that the building will introduce aesthetic improvement to the Site itself, which is visible in view, and create a strong focal point to an otherwise low value vista. However, it's scale and height are not comparable to other buildings in view, which are relatively consistent in height and scale. On balance, the overall character of the view will neither be deteriorated nor positively improved.
Visual Sensitivity	Low
Magnitude of change	High
Predicted visual effects	Moderate
Nature of Visual Effects	Neutral

Table 8.43 Assessment of Visual Effects – View 10

View 10 – View northeast along Store Street	
Figure Reference	8.21
Proposed view	<i>(Please note that this assessed view is not based on an Accurate Visual Representation (AVR) and is based on a visually accurate CGI for illustrative purposes. It is considered that the outcome of the assessment would unlikely differ between an AVR and CGI in this instance, due to the close proximity of the Proposed Development and the extent to which it is visible in the view)</i> There will be a substantial change to the baseline character of the view. The Proposed Development will be extensively visible and occupy a large portion of the view at a close distance. Although Oxygen Tower is currently visible, the Proposed Development will extend considerably above all rooftops within the view and introduce new architectural characteristics. Although the Proposed Development will create a significant change, it is considered that the building will introduce aesthetic improvement to the Site itself and the streetscape at ground level. However, its scale and height are not comparable to other buildings in view, which are primarily low level and relatively consistent in height and scale. On balance, the overall character of the view will neither be deteriorated nor positively improved.
Visual Sensitivity	Low
Magnitude of change	High
Predicted visual effects	Moderate
Nature of Visual Effects	Neutral

Table 8.44 Assessment of Visual Effects – View 11

View 11 – View northeast from Whitworth Street	
Figure Reference	8.22

View 11 – View northeast from Whitworth Street	
Proposed view	There will be no alteration to the view. The Proposed Development is situated behind a layering of existing buildings, and although a very small portion of the edge of the Proposed Development may be visible, the distance from the viewpoint and extent of visibility will unlikely result in any perceivable change.
Visual Sensitivity	Medium
Magnitude of change	Negligible
Predicted visual effects	Negligible
Nature of Visual Effects	n/a

Table 8.45 Assessment of Visual Effects – View 12

View 12 – View North from Mayfield Park	
Figure Reference	8.23
Proposed view	There will be a low change to the view. Although the Proposed Development will likely be noticeable to the observer, it will occupy a small portion of the view. The tower component of the Proposed Development will break the skyline; however, it will not significantly extend above the Mayfield Depot building, nor will it be any higher than the Oxygen Tower to the right of the view. The view is taken from an elevated location from within the park. Within close proximity of the viewpoint the elevation drops restricting views beyond Mayfield Depot. This would potentially result in decreased visibility of the Proposed Development.
Visual Sensitivity	Medium
Magnitude of change	Low
Predicted visual effects	Minor - Moderate
Nature of Visual Effects	Neutral

Summary of visual effects

- 8.100. The Site is visible from a range of viewpoints. The views are representative of a range of distances, locations, occupancies and activities within the townscape.
- 8.101. The potential visible effects of the Proposed Development have been considered, which includes for the height, massing and position of the development within the Site and its relationship with the surrounding urban context.
- 8.102. The predicted visual effects primarily range from Negligible to Moderate Neutral. One viewpoint will experience Moderate – Major Neutral effects and one viewpoint will experience Moderate Adverse effects.

Table 8.46 Summary of Visual Effects

View	Baseline			Assessment	
	Susceptibility	Value	Sensitivity	Magnitude of Change	Visual Effect and Nature
01 – Piccadilly	Medium	Low	Medium Low	Negligible	Negligible
02 – Dale Street	Medium	Moderate	Medium	Low	Minor – Moderate Neutral
03 – Stevenson Square	Medium	Moderate	Medium	Negligible	Negligible
04 – Redhill Street	Medium	Moderate	Medium	Medium	Moderate Neutral
05 – New Islington Marina	Medium	Moderate	Medium	Low	Minor – Moderate Neutral

View	Baseline			Assessment	
	Susceptibility	Value	Sensitivity	Magnitude of Change	Visual Effect and Nature
06 – Old Mill Street	Low	Low	Low	Medium	Minor – Moderate Neutral
07 – Great Ancoats Street	Medium	Moderate	Medium	Medium	Moderate Adverse
08 – Store Street Aqueduct	Medium	Moderate	Medium	High	Moderate – Major Neutral
09 – Jutland Street	Low	Low	Low	High	Moderate Neutral
10 – Store Street	Low	Low	Low	High	Moderate Neutral
11 – Whitworth Street	Medium	Moderate	Medium	Negligible	Negligible
12 – Mayfield Park	Medium	Moderate	Medium	Low	Minor – Moderate Neutral

Mitigation Measures

Effects of construction

- 8.103. In order to facilitate any development on the Site, there will be a period of construction activity. A range of construction activities are anticipated to be carried out, with the potential to result in direct and indirect effects on townscape character and visual amenity.
- 8.104. Chapter 5 of the ES details Construction Management and Phasing. Below is a summary of the site activities:
- Temporary, partial road closure on Store Street;
 - Full height close boarded hoarding to the site perimeter for duration of works;
 - Crane off load points located on the highway;
 - Encapsulation scaffolds erected to areas of demolition works;
 - Tower cranes;
 - Site establishment and welfare space including cabins;
 - Site clearance, including the removal of existing buildings, surfaces, materials, and vegetation from the site;
 - Temporary footpath diversions;
 - Excavation, removal and stockpiling of materials and soils;
 - Underground and over-ground service installation and diversion;
 - Temporary traffic management signs and signals on local roads;
 - Movements of construction traffic and other vehicles; and
 - Construction of the new building.
- 8.105. The construction of the Proposed Development could give rise to the below temporary effects on townscape character and visual amenity. As construction activity is of a temporary nature, the effects will be over a relatively short period of time. The effects are reversible and will only be experienced during the construction phase. These include:

- Effects arising from changes to the structure of the townscape within the site area and effects on its immediate setting;
- Effects to townscape character or visual amenity within the wider study area as a result of visibility of construction activities and plant such as the presence and occupation of tower cranes and demolition works; and
- Effects of temporary site infrastructure, such as site traffic and construction compounds especially those located in areas adjacent to sensitive townscape and visual receptors

Mitigation of construction effects

8.106. The following mitigation measures are considered industry standard and these would be expected as a minimum in order to mitigate effects. Demolition and construction methodology will be based on minimising the impact upon the surrounding area by making the site as self-sufficient within its boundary as possible and a commitment to implementing industry best practice. Impact mitigation measures will be set out in a Construction Environmental Management Plan (CEMP) and will include the measures to minimise and manage potential townscape and visual effects asset out below:

- The work site will be surrounded by hoardings to reduce visual effects due to the presence of construction traffic, plant and equipment, as well as demolition of existing and construction of new built fabric. The hoardings will create an orderly appearance to the edge of the site and maintained in good condition and will include observation windows to allow the public to view progress on the Site;
- Lighting will be provided to site boundaries with precautions taken to avoid shadows being cast onto surrounding footpaths, roads, amenity areas and residential properties;
- The roads providing access to the work sites will be maintained free of excessive dust and mud as far as is reasonably practicable. The surrounding roads and pavements will be maintained to a reasonable standard;
- To help keep areas outside the work sites tidy, the outside perimeters will be maintained free of weeds and litter;
- Because people within surrounding buildings will have views over the work sites, the internal image of the site will, as far as is reasonable, be organised, clean and tidy, and maintained through good housekeeping;
- Regard will also be given to the impact site lighting could have on surrounding receptors to ensure it is located and aligned so as not to intrude into nearby properties;
- The timing and phasing of construction occupations, including the phased reduction in the worksite area as works progress;
- The location of plant and equipment within the worksite;
- The location and height of temporary site accommodation and materials storage; and
- The choice of an appropriate neutral colour applied to site hoarding.

Construction Magnitude of Change (Townscape)

8.107. It is considered that the construction activity associated with the Proposed Development will result in direct, albeit localised and temporary effects upon TCA 1 Piccadilly. Increased construction traffic may disrupt circulation at intermittent times during the construction period. Hoardings will be erected around the boundaries, enclosing the Site. As construction progresses, a central concrete core and tall plant including tower cranes will be visible within the skyline. The change brought about by construction would only influence the locality of TCA 1 Piccadilly, within which the construction work is located. The likely short-term Magnitude of Change to TCA 1 Piccadilly during the construction period will be Medium.

8.108. The Proposed Development is located centrally within TCA 1 Piccadilly. As such, there will be no direct effects on the townscape character of adjacent TCAs brought about by the construction phase of the Proposed Development. Indirect effects will primarily be as a result of inter-visibility between construction work

associated with the Proposed Development. Any change to the character of these TCAs as a result of inter-visibility will likely be minor and limited to some glimpsed views of tower crane activity appearing above built form and against the skyline. Site traffic, hoarding and plant may introduce a minor difference to aesthetic and perceptual qualities at a closer distance within these TCA where they join the Site, however these changes are considered to not be uncharacteristic when set within the attributes of the receiving townscape.

- 8.109. In summary, the likely short-term magnitude of change to neighbouring TCAs during the construction period will be Low to Negligible.

Construction Magnitude of Change (Visual)

- 8.110. It is anticipated that some visibility of construction activity on Site will be apparent from nine of the twelve viewpoints. This will in most instances, most likely comprise some glimpsed visibility of tower crane activity that will project above the Site and nearby buildings and vegetation.
- 8.111. More prominent visibility of Site activity will likely be observed from Views 09 (Jutland Street) and 10 (Store Street), due to their close proximity to the Site, which permits more uninterrupted visibility of a large portion of the Site. From these locations, ground level activity associated with the construction (hoarding, plant, vehicle movement etc.) will be visible in addition to elevated activity (concrete core and tower crane etc). In summary, the likely short-term magnitude of change to Views 09 and 10 will High.
- 8.112. It is anticipated that the short-term magnitude of change to View 08 (Store Street Aqueduct) will also be High (Medium-High), due to the close proximity of the viewpoint from the Site. In this instance a large proportion of elevated activity will be visible, including the erection of the core and tower the crane, although some ground level activity may be screened by existing features and buildings.
- 8.113. Viewpoints located further away from the site will experience some visibility of construction works, however this will be limited to elevated activity, including the erection of the core and the tower crane due to the screening effects of building, trees and topography. This includes View 02 (Dale Street), View 04 (Redhill Street), View 05 (New Islington Marina), View 06 (Old Mill Street), View 07 (Great Ancoats Street) and View 12 (Mayfield Park). From these locations the short-term magnitude of change will be Low to Medium.
- 8.114. Construction activity will not be visible from View 01 (Piccadilly), View 03 (Stevenson Square) and View 11 (Whitworth Street) and therefore the magnitude of change from these views will be Negligible.

Predicted Effects of lighting

- 8.115. The Proposed Development will be subject to an internal and external lighting scheme, expected to consist of lit internal spaces at high levels with greater and more intensely lit internal and external spaces closer to ground level. This will be developed post planning but is likely to include public realm and feature architectural lighting, highways lighting to Store Street and Sparkle Street and safety lighting to building escape routes, in addition to internal lighting to ground floor units. The greater heights of the building will extend the visibility of this lighting. This will be noticeable in all views in which the Proposed Development is visible.
- 8.116. This increased lighting will be seen in the context of other large-scale buildings that already emit lighting including Oxygen Tower. Although of lower height, other surrounding buildings such as apartments, office blocks and hotels generate evening lighting use, while surrounding highways, particularly Store Street are subject to high levels of lighting through the night. A greater level of lighting to the development will also be positive and activate and animate the streetscape and the change to the existing baseline should be considered in this context.
- 8.117. The amount of light and 'throw' or 'spill' can be mitigated and reduced through the use of appropriate shrouds, angled fittings, and low energy light fittings, subject to detailed technical design. This is beyond the scope of this general assessment, which is based on the general assumptions of the likely lighting schemes typical of this form of development and the mitigation methods and technologies currently used on similar developments.

- 8.118. Taken within the context of these mitigation measures and the existing urban setting, it can be concluded that there will be an increase in night-time lighting effects. However, this is not necessarily inappropriate for the city centre location of the Site. Effects on townscape character and visual amenity due to lighting are therefore to be assessed as being Minor Adverse.

Completed Development

- 8.119. No further mitigation measures have been identified as being possible in addition to those ‘embedded’ within the scheme as part of the design process (refer to ‘Design Proposals and Embedded Mitigation Measures section earlier in this chapter’). It is considered that no additional mitigation measures would further reduce the findings of the assessment.

Cumulative Effects

- 8.120. The purpose of cumulative townscape and visual effects is to identify the changes caused by the Proposed Development when considered in addition to other similar developments, or as the combined effect of a set of developments taken together.
- 8.121. The assessment of cumulative effects in this report focuses specifically on the effects of the Proposed Development in addition to other significant developments of a similar scale and type within a 750m radius of the Site. The Proposed Development will be assessed for landscape and visual effects within the context of the cumulative sites. The sites selected for the cumulative assessment are situated within the extents of the Study Area. Further beyond this extent, it is anticipated that there will be no likely perceivable change to views of the Proposed Development on Site, and no likely cumulative townscape effects in relation to the Proposed Development on Site. The assessment presupposes the cumulative schemes identified will be built as per the planning proposals.
- 8.122. With respect to visual effects in particular, the level of cumulative effects is assessed with regards to what is visible within the observer’s arc of vision at the same time, without moving their head, as described within the GLVIA⁹.
- 8.123. Refer to Appendix 8.2 TVA Assessment Methodology for details of assessment methodology, to Figures 8.1 Study Area, 8.10 Townscape Character Areas (TCAs) and 8.13 Viewpoints in Appendix 8.1.

Townscape

- 8.124. The study area comprises 9 Townscape Character Areas (TCAs) as illustrated within Figure 8.10 Townscape Character Areas. Each TCA represents a distinct area of individual local townscape character within the local vicinity of the Site. The 9 cumulative sites within Appendix 8.1 (Figure 8.9 Committed Developments) are distributed amongst the study area and are situated within various TCAs.
- 8.125. Tables 8.47 to 8.55 below identify the cumulative townscape effects each TCA will experience as a result of the combined presence of cumulative sites in addition to the Proposed Development on Site.

Table 8.47 TCA 1 Cumulative Effects

TCA 1 Piccadilly		
Townscape Sensitivity	Low	
Cumulative Sites Present	Sites: 9, 10, 11, 12, 13, 15,	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Medium	Low
Townscape Effects	Minor - Moderate Beneficial	Minor Beneficial
Comments	The quantum and spread of cumulative sites across the TCA (with several in close proximity to the Site), will likely result in the perceived magnitude of change brought about by the Proposed Development becoming reduced.	

Table 8.48 TCA 2 Cumulative Effects

TCA 2 Kampus		
Townscape Sensitivity	Medium Low	
Cumulative Sites Present	None	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Negligible	Negligible
Townscape Effects	Negligible	Negligible
Comments	There will be a negligible magnitude of change to the character of this TCA brought about by the Proposed Development when considered in addition to other cumulative sites.	

Table 8.49 TCA 3 Cumulative Effects

TCA 3 Retail Core		
Townscape Sensitivity	Medium Low	
Cumulative Sites Present	None	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Negligible	Negligible
Townscape Effects	Negligible	Negligible
Comments	There will be a negligible magnitude of change to the character of this TCA brought about by the Proposed Development when considered in addition to other cumulative sites.	

Table 8.50 TCA 4 Cumulative Effects

TCA 4 Northern Quarter		
Townscape Sensitivity	High Medium	
Cumulative Sites Present	None	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Negligible	Negligible
Townscape Effects	Negligible	Negligible
Comments	There will be a negligible magnitude of change to the character of this TCA brought about by the Proposed Development when considered in addition to other cumulative sites.	

Table 8.51 TCA 5 Cumulative Effects

TCA 5 Ancoats		
Townscape Sensitivity	High Medium	
Cumulative Sites Present	None	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Negligible	Negligible
Townscape Effects	Negligible	Negligible
Comments	There will be a negligible magnitude of change to the character of this TCA brought about by the Proposed Development when considered in addition to other cumulative sites.	

Table 8.52 TCA 6 Cumulative Effects

TCA 6 New Islington		
Townscape Sensitivity	Medium Low	
Cumulative Sites Present	Site 14	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Low	Negligible

TCA 6 New Islington		
Townscape Effects	Minor-Moderate	Neutral Negligible
Comments	The quantum of cumulative sites within the TCA (in addition to those within the receiving TCA Piccadilly), will likely result in the perceived magnitude of change brought about by the Proposed Development becoming reduced.	

Table 8.53 TCA 7 Cumulative Effects

TCA 7 Mayfield		
Townscape Sensitivity	Medium Low	
Cumulative Sites Present	Sites 16 and 17	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Negligible	Negligible
Townscape Effects	Negligible	Negligible
Comments	There will be a negligible magnitude of change to the character of this TCA brought about by the Proposed Development when considered in addition to other cumulative sites.	

Table 8.54 TCA 8 Cumulative Effects

TCA 8 North Campus		
Townscape Sensitivity	Low	
Cumulative Sites Present	None	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Negligible	Negligible
Townscape Effects	Negligible	Negligible
Comments	There will be a negligible magnitude of change to the character of this TCA brought about by the Proposed Development when considered in addition to other cumulative sites.	

Table 8.55 TCA 9 Cumulative Effects

TCA 9 The Village		
Townscape Sensitivity	High Medium	
Cumulative Sites Present	None	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Negligible	Negligible
Townscape Effects	Negligible	Negligible
Comments	There will be a negligible magnitude of change to the character of this TCA brought about by the Proposed Development when considered in addition to other cumulative sites.	

Visual

- 8.126. An assessment of 12 representative views of the Site has been undertaken. All viewpoints are located within a study area radius of 750m and are based upon an exercise undertaken by SimpsonHaugh Partners and a field survey undertaken in June 2023 that has identified the ZTV of the Proposed Development. Refer to Figure 8.2 ZTV, Figure 8.11 Viewpoints in Appendix 8.1.
- 8.127. The viewpoints assessed include Committed Development sites shown within Appendix 8.9 Committed Developments. The views identify which of the sites are baseline and which are cumulative and only include those that are present within views. Tables 8.56 to 8.67 below identify the cumulative visual effects each viewpoint will experience as a result of the combined presence of cumulative sites within the view and the Proposed Development on Site.

Table 8.56 View 01 Cumulative Effects

View 01 – View from Piccadilly (street) adjacent to Piccadilly Gardens		
Visual Sensitivity	Medium Low	
Cumulative Sites Present	Site 15	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Negligible	Negligible
Visual Effects	Negligible	Negligible
Comments	The Proposed Development is not visible in this view. There will be no alteration to the perceived change in the view brought about by the Proposed Development when considered in addition to other cumulative sites.	

Table 8.57 View 02 Cumulative Effects

View 02 – View southeast from Dale Street		
Visual Sensitivity	Medium	
Cumulative Sites Present	None	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Low	Low
Visual Effects	Minor – Moderate Neutral	Minor – Moderate Neutral
Comments	There will be no cumulative sites visible within this view. As such there will be no alteration to the perceived change in the view brought about by the Proposed Development when considered in addition to other cumulative sites.	

Table 8.58 View 03 Cumulative Effects

View 03 – View southeast from within Stevenson Square		
Visual Sensitivity	Medium	
Cumulative Sites Present	Site 12	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Negligible	Negligible
Visual Effects	Negligible	Negligible
Comments	The Proposed Development is not visible in this view. There will be no alteration to the perceived change in the view brought about by the Proposed Development when considered in addition to other cumulative sites.	

Table 8.59 View 04 Cumulative Effects

View 04 – View southwest from Redhill Street		
Visual Sensitivity	Medium	
Cumulative Sites Present	Site 11 (and baseline 2)	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Medium	Medium
Visual Effects	Moderate Neutral	Moderate Neutral
Comments	The introduction of the cumulative site within the view does not reduce the visual change brought about by the Proposed Development. The visible cumulative site does not	

View 04 – View southwest from Redhill Street	
	significantly break the existing skyline, nor does it extend any higher than the Proposed Development. The cumulative site further contributes to a generally low-mid height roof line to the background of the view. As such there will be no alteration to the perceived change in the view brought about by the Proposed Development when considered in addition to the cumulative site.

Table 8.60 View 05 Cumulative Effects

View 05 – View southwest across New Islington Marina		
Visual Sensitivity	Medium	
Cumulative Sites Present	Site 9	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Low	Low
Visual Effects	Minor – Moderate Neutral	Minor – Moderate Neutral
Comments	There will be very limited visibility of Cumulative Site 11 through a layering of mature trees to the background of the view. The cumulative site will not extend higher than, nor be any more visually prominent than the Proposed Development. As such there will be no alteration to the perceived change in the view brought about by the Proposed Development when considered in addition to other cumulative sites.	

Table 8.61 View 06 Cumulative Effects

View 06 – View southwest at junction of Old Mill Street Junction and Great Ancoats Street.		
Visual Sensitivity	Low	
Cumulative Sites Present	Sites 9 and 10	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Medium	Low
Visual Effects	Minor – Moderate Neutral	Minor Neutral
Comments	The upper levels of cumulative Sites 9 and 10 will be partially visible behind existing buildings within the view. They will sit in front of the Proposed Development and obscure approximately half of the otherwise visible elements, leaving only the upper levels of the proposed tower component visible. This will notably reduce its visual presence within the view, although it will remain one of the tallest buildings visible.	

Table 8.62 View 07 Cumulative Effects

View 07 – View southwest from Great Ancoats Street road bridge over the Ashton Canal		
Visual Sensitivity	Medium	
Cumulative Sites Present	None	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Medium	Medium
Visual Effects	Moderate Adverse	Moderate Adverse
Comments	There will be no cumulative sites visible within this view. As such there will be no alteration to the perceived change in the view brought about by the Proposed Development when considered in addition to other cumulative sites.	

Table 8.63 View 08 Cumulative Effects

View 08 – View southwest from Store Street Aqueduct		
Visual Sensitivity	Medium	
Cumulative Sites Present	Site 9	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	High	Low
Visual Effects	Moderate-Major Neutral	Low Neutral
Comments	Cumulative Site 9 completely obscures visibility of the Proposed Development from the viewpoint location. However, it is anticipated that with only a small change in position of the viewpoint, the Proposed Development would become partially visible again. Notwithstanding this, the close proximity, scale and height of Site 9 would likely reduce the perceived magnitude of change brought about by the Proposed Development	

Table 8.64 View 09 Cumulative Effects

View 09 - View southeast along Jutland Street		
Visual Sensitivity	Low	
Cumulative Sites Present	None	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	High	High
Visual Effects	Moderate Neutral	Moderate Neutral
Comments	There will be no cumulative sites visible within this view. As such there will be no alteration to the perceived change in the view brought about by the Proposed Development when considered in addition to other cumulative sites.	

Table 8.65 View 10 Cumulative Effects

View 10 – View northeast along Store Street		
Visual Sensitivity	Low	
Cumulative Sites Present	Sites 9, 10 and 12	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	High	High
Visual Effects	Moderate Neutral	Moderate Neutral
Comments	The addition of the cumulative sites will introduce a visible increase in taller built form around the lower block elements of the Proposed Development and along Store Street. Their presence will unlikely reduce the perceived magnitude of change brought about by the Proposed Development however. This is due to its proximity from the view point location and over scale and height in comparison to the visible cumulative sites	

Table 8.66 View 11 Cumulative Effects

View 11 – View northeast from Whitworth Street		
Visual Sensitivity	Medium	
Cumulative Sites Present	Site 12	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Negligible	Negligible
Visual Effects	Negligible	Negligible

View 11 – View northeast from Whitworth Street	
Comments	The Proposed Development is barely visible and would unlikely be perceivable within the context of the wider view. There will be no alteration to the perceived change in the view brought about by the Proposed Development when considered in addition to other cumulative sites.

Table 8.67 View 12 Cumulative Effects

View 12 – View North from Mayfield Park		
Visual Sensitivity	Medium	
Cumulative Sites Present	Sites 9 and 12	
	Proposed Development	With the addition of Cumulative Sites
Magnitude of change	Low	Low
Visual Effects	Minor – Moderate Neutral	Minor – Moderate Neutral
Comments	Although there will be the introduction of two cumulative sites within the view, including Site 12, which will be visually very prominent, it is considered that there will only be a very slight reduction in the magnitude of change brought about by the Proposed Development. This would not be sufficient to result in a negligible outcome	

Summary of cumulative assessment

- 8.128. The following tables summarise the townscape and visual effects brought about by the development, both as an individual development and in conjunction with cumulative sites.
- 8.129. The cumulative townscape assessment has identified that seven of the nine TCAs will experience no alteration to the magnitude of change and subsequent townscape effects brought about by the development. Two TCA's (TCA 1 and TCA 6) will likely experience a reduction in the magnitude of change and resultant townscape effects.
- 8.130. The cumulative visual assessment has identified that ten of the twelve views will not experience any alteration in the magnitude of change, and subsequent visual effects brought about by the development when viewed in conjunction with other visible cumulative sites. Two of the views (View 06 and View 08), will experience some reduction in the magnitude of change and resultant visual effect.

Table 8.68 Summary of townscape effects

Character Area	Townscape Sensitivity	Townscape Effect and Nature	Cumulative Townscape Effect and Nature
TCA 1: Piccadilly	Low	Minor - Moderate Beneficial	Low Beneficial
TCA 2: Kampus	Medium Low	Negligible	Negligible
TCA 3: Retail Core	Medium Low	Negligible	Negligible
TCA 4: Northern Quarter	High Medium	Negligible	Negligible
TCA 5: Ancoats	High Medium	Negligible	Negligible
TCA 6: New Islington	Medium Low	Minor - Moderate Neutral	Negligible
TCA 7: Mayfield	Medium Low	Negligible	Negligible
TCA 8: North Campus	Low	Negligible	Negligible
TCA 9: The Village	High Medium	Negligible	Negligible

Table 8.69 Summary of visual effects

View	Visual Sensitivity	Visual Effects and Nature	Cumulative Visual Effects and Nature
01 – Piccadilly	Medium Low	Negligible	Negligible
02 – Dale Street	Medium Low	Minor – Moderate Neutral	Minor – Moderate Neutral
03 – Stevenson Square	Medium	Negligible	Negligible
04 – Redhill Street	Medium	Moderate Neutral	Moderate Neutral
05 – New Islington Marina	Medium	Minor – Moderate Neutral	Minor – Moderate Neutral
06 – Old Mill Street	Low	Minor – Moderate Neutral	Minor Neutral
07 – Great Ancoats Street	Medium	Moderate Adverse	Moderate Adverse
08 – Store Street Aqueduct	Medium	Moderate – Major Neutral	Moderate – Major Neutral
09 – Jutland Street	Low	Moderate Neutral	Moderate Neutral
10 – Store Street	Low	Moderate Neutral	Moderate Neutral
11 – Whitworth Street	Medium	Negligible	Negligible
12 – Mayfield Park	Medium	Minor – Moderate Neutral	Minor – Moderate Neutral

Reference List

8.131. This ES Chapter has been prepared by reference to the following:

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9. Wind Microclimate

Introduction

- 9.1. This Chapter of the ES has been prepared by GIA and assesses the likely Wind Microclimate impacts of the Proposed Development upon the Site and surrounding area. This Chapter also describes the methods used to assess these impacts, the existing baseline conditions, the proposed mitigation measures required to prevent, reduce or offset any significant negative impacts and the likely residual impacts after these methods have been adopted.
- 9.2. This Chapter is accompanied by a technical appendix, Wind Microclimate Detailed Methodology (**Appendix 9.1**).
- 9.3. This chapter was written by Dr Chris Harley. Chris has over 10 years of experience in of aerodynamic development within the built environment. He holds a PhD in Aerodynamics and an MEng in Aerospace Engineering. Chris is the Business Development Director of the Wind Analysis department within GIA.

Legislative and Policy Context

- 9.4. The assessment was performed using the London Docklands Development Corporation (LDDC) variant of the Lawson Comfort Criteria. The Lawson Criteria are well-established in the UK for quantifying wind conditions in relation to build developments and, although not a UK 'standard', the criteria are recognised by local authorities as a suitable benchmark for wind assessments. The LDDC variant is established as the most practically applicable variant of the Lawson criteria, and is used industry wide. The Lawson Criteria (LDDC variant) have been adopted for this assessment.
- 9.5. The assessment will have due regard to the provisions of the following policy and guidance.

National Planning Policy

Revised National Planning Policy Framework 2023

- 9.6. The National Planning Policy Framework (NPPF) was revised in December 2023 by the Department of Communities and Local Government (DCLG). The relevant paragraphs are as follows:
Paragraph 130 of the National Planning Policy Framework states that:
"Planning policies and decisions should ensure that developments:
...
create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience."
- 9.7. There is no specific planning policy guidance dealing with microclimate in terms of pedestrian comfort set out in the revised NPPF.

The National Planning Practice Guidance (NPPG) 2021

- 9.8. The NPPG identifies the potential for tall and large buildings to affect the wind microclimate. The National Design Guide (2021) states in Paragraph 71 that: "Proposals for tall buildings (and other buildings with a

significantly larger scale or bulk than their surroundings) require special consideration. This includes their [...] environmental impacts, such as [...] wind. These need to be resolved satisfactorily”

Local Planning Policy

Manchester Core Strategy (2012 – 2027)

- 9.9. **Policy EN2 – Tall Buildings** – States that, by their very size, tall buildings can have a significant impact on the local environment and its micro-climate. It is therefore expected that this impact be modelled and that submissions for tall buildings also include appropriate measures to create an attractive, pedestrian friendly local environment.

Assessment Methodology and Significance Criteria

- 9.10. The assessment was performed using GIA’s high-resolution Computational Fluid Dynamics (CFD) modelling.
- 9.11. CFD is a digital modelling technique, which simulates the effect of wind for the built environment. The air is divided into hundreds of millions of “cells”, within which the equations of motion are solved. GIA uses cloud computing from Amazon Web Services (AWS) to run the simulations, to ensure vast scalability and appropriate resource availability for any project.
- 9.12. A full description of the test methodology is included in **Appendix 9.1**

Methodology for Establishing Construction Effects

- 9.13. During the construction of the Proposed Development, once the building height is above the average height of the surrounding buildings, there is potential for wind effects around the base of the building. This potential will become greater as the Proposed Development reaches its full height.
- 9.14. The extent and severity of these effects were derived from comparison of baseline conditions and operational effects.

Methodology for Establishing Operational Effects

- 9.15. Operational effects were established using a high resolution CFD model, extending 400m radius from the Site.
- 9.16. The model was run at full scale from 18 wind angles, spaced using 10° or 30° increments such that no sector contributes more than 10% of the annual wind. The wind angles which were run are indicated in **Appendix 9.1**.
- 9.17. Wind speeds were measured at 1.5m above any surfaces expected to be used for pedestrian activity.
- 9.18. On-site and local wind speeds were combined with 30 years-worth of weather data for Manchester International Airport, corrected for terrain local to the airport and the Site, to obtain annual and seasonal frequency and magnitude of wind speeds across the model. This allows the ‘grading’ of the pedestrian level winds according to the Lawson Comfort Criteria, which are explained later in this Chapter.
- 9.19. Seasonal wind roses for the airport are shown in Figure 9.1. The dominant wind direction is from the south.
- 9.20. The correction factors between the airport (measured 10m above ground) and the Site (at a reference height of 120m) are shown in Table 9.1. It should be noted that the terrain analysis has been performed using sectors of 30°, which is presented here.

Table 9.1 – Site Wind Correction Factors

0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
1.56	1.48	1.48	1.44	1.35	1.32	1.32	1.32	1.32	1.29	1.42	1.40

Target Conditions

- 9.21. The Lawson Criteria is recognised guidance used universally across the UK to assess the impact of the proposed development on wind flows in public spaces. Lawson devised a scale for assessing the suitability of wind conditions in the urban environment based upon threshold values of wind speed and frequency of occurrence. This guidance will be used to inform the assessment. The commonly used London Docklands Development Corporation (LDDC) method of the Lawson Criteria is set out in Table 9.2 and 9.3 below.

Table 9.2: Lawson Comfort Criteria (LDDC variant)

Comfort Category	Mean Wind Speed (5% exceedance)	Description
Sitting	4m/s	Acceptable for outdoor sitting use (e.g. cafes, benches, balconies)
Standing	6m/s	Acceptable for main building entrances, pick-up / drop-off points and bus stops
Walking (leisure)	8m/s	Acceptable for strolling
Walking (business)	10m/s	Acceptable for external pavements, walking purposefully without lingering
Uncomfortable	>10m/s	Not comfortable for regular pedestrian access

Table 9.3: Lawson Safety Criteria (LDDC variant)

Safety Category	Mean Wind Speed (0.0025% exceedance)	Description
No Safety Exceedance	<15m/s	
S15 (distress)	>15m/s	Unsafe for frail individuals, or cyclists
S20 (safety)	>20m/s	Wind conditions considered unsafe for all users

- 9.22. For a mixed-use urban area within which the Proposed Development Site is located, the desired wind microclimate would typically need to have areas acceptable for sitting, standing (including at entrances of buildings) and walking use.
- 9.23. During operation, exceedance of either S15 or S20 will be classified as unsafe.
- 9.24. During construction or decommission, it can reasonably be assumed that the Proposed Development Site will be occupied by busy construction workers, who are unlikely to be frail individuals. As such, only S20 exceedances are classified as unsafe for on-site effects during these phases. Note that this does not apply to any existing public realm within the site which is not due to be closed off throughout construction.
- 9.25. Any areas which show up as either unsafe (annually) or uncomfortable (for winter) are considered unsuitable, unless they are in locations where pedestrian access can be controlled in the event of strong

winds. This applies to all thoroughfares (for pedestrians) and roads (for cyclists) around the Proposed Development.

- 9.26. The areas immediately outside any building entrances should be suitable for standing use during winter to provide a “buffer” between the still conditions in interior spaces and the general thoroughfare. This applies both to the entrances of the Proposed Development and off-site entrances.
- 9.27. There is an existing ground level amenity space within the Thomas Telford Basin, as well as proposed amenity spaces within the Proposed Development (in the form of both the courtyard and the level 10 amenity terrace) and amenity terraces within the neighbouring cumulative M1 Piccadilly development. These are targeted to be suitable for a mixture of sitting and standing during the summer months. This will allow user to choose to sit in “calmer” areas and engage in more active pursuits in “windier” areas.
- 9.28. There are existing balconies on the Chapeltown Close and Home Apartments schemes which neighbour the site, as well as proposed private terraces both at ground level and on level 10 of the Proposed Development. These are private spaces, the use of which can be controlled more directly by the user and are targeted to be suitable for either sitting or standing in summer conditions.

Test Scenarios

- 9.29. The following scenarios were assessed and considered:
- Scenario 1: Existing Site with Existing Surrounds, including committed developments which are under construction (Baseline)
 - Scenario 2: Proposed Development with existing surrounds;
 - Scenario 3: Proposed Development with mitigation and existing surrounds;
 - Scenario 4: Proposed Development with mitigation and cumulative surrounds.
- 9.30. The Proposed Development is shown in Figure 9.2.
- 9.31. The following committed developments are under construction and were included in the baseline:
- The Foundry / Presbar / Diecast - (133523/FO/2022)
 - 32-34 Laystall Street - (128911/FO/2020)
 - Lomax - (120149/FO/2018)
 - The Castings - (127317/FO/2020)
 - Victoria House - (122000/FO/2018)
 - New Islington Wharf (Phase 4) - (126669/FO/2020)
- 9.32. The following committed developments were not included in the baseline, but were included in the cumulative surrounds:
- M1 Piccadilly, Store Street- 132626/FO/2022
 - Store Street - 126608/FO/2020
 - Eider House - 115178/FO/2017
 - The Fairfax - 121099/FO/2018

- Ferrous - 132214/FO/2021
- Electric Park - 128191/FO/2020
- IQ Echo Street - 136874/FO/2023

Significance Criteria

Magnitude of Effect

9.33. The magnitudes of effects are determined according to how much they vary from the target conditions as defined in the table below.

Table 9.4: Wind Microclimate Magnitude of Effect

Magnitude of Effect	Criteria
Major	Wind conditions which are three categories windier/calmer than the target conditions
Moderate	Wind conditions which are two categories windier/calmer than the target conditions
Minor	Wind conditions which are one categories windier/calmer than the target conditions
Negligible	Conditions are those required for their intended use

Sensitivity of Identified Receptor

9.34. The sensitivity of receptors is as defined in the table below.

Table 9.5: Wind Microclimate Sensitivity of Receptor

Sensitivity	Definition
High	Any amenity spaces, public realm, footpaths or entrances to buildings
Moderate	Any general thoroughfares through or around the Proposed Development Site.
Low	Locations which are not accessible to pedestrians

Significance of Effects

9.35. The significance of any identified environmental effects will be determined by the assessment of their magnitude against their sensitivity. The table below illustrates how the sensitivity of the receptors and the magnitude of any effect combine to confirm significance.

9.36. Additionally, any risk to pedestrian safety (S15 or S20 exceedances) which is introduced by the proposed development is a major adverse effect.

Table 9.6: Effect Significance Matrix

Magnitude	Sensitivity		
	High	Moderate	Low
Major	Major Adverse/Beneficial	Major – Moderate Adverse/Beneficial	Moderate – Minor Adverse/Beneficial
Moderate	Major – Moderate Adverse/Beneficial	Moderate – Minor Adverse/Beneficial	Minor Adverse/Beneficial
Minor	Moderate – Minor Adverse/Beneficial	Minor Adverse/beneficial	Minor - Negligible
Negligible	Negligible	Negligible	Negligible

Limitations and Assumptions

- 9.37. The accuracy of the results is dependent upon the accuracy of the architectural CAD used to construct the model.
- 9.38. There is an inherent assumption that on-site wind speeds will scale linearly with the measured wind speeds at the airport (Manchester International Airport).
- 9.39. It is assumed that, during the construction process, wind conditions will gradually change from the Baseline Conditions to the conditions for the Completed Proposed Development.
- 9.40. It is assumed that on-site activity during construction will be able to withstand a higher category of pedestrian comfort level that for the Completed Proposed Development.

Baseline Conditions

- 9.41. Conditions for the baseline scenario (Scenario 1) at ground level, are shown in Figure 9.3, Figure 9.4 and Figure 9.5, summarised as follows:
- Winter conditions are suitable for a mixture of sitting and standing.
 - Summer conditions are suitable for sitting.
 - There are no safety exceedances at ground level.
 - Conditions on local thoroughfares are suitable for standing at worst, which is suitable for the intended use.
 - All off-site building entrances are adjacent to regions of standing or sitting in all seasons, which is suitable for the intended use.
 - Conditions at the existing amenity space within Thomas Telford Basin (marked A1 in Figure 9.3, Figure 9.4 and Figure 9.5) are suitable for sitting in summer, this is suitable for the intended use.
 - Conditions for the baseline scenario (Scenario 1) at elevated levels, are shown in Figure 9.6, Figure 9.7 and Figure 9.8.

- There are no safety exceedances at elevated levels.
- Conditions for the Chapeltown Close balconies are suitable for sitting in summer. This is suitable for the intended use.
- Conditions for the Home Apartments balconies are suitable for either sitting or standing in summer. This is suitable for the intended use.

Identification and Evaluation of Significant Effects

Construction Effects

- 9.42. During construction, conditions will gradually transition to those of the completed Proposed Development.
- 9.43. There is one region of S15 (distress) exceedance at the western corner of the Site for the operational development (without mitigation). This will develop as the building gains height but will be entirely within the site hoarding during construction so inaccessible to the general public and therefore is a **negligible wind effect (not significant)**.
- 9.44. All other construction conditions are expected to be suitable for the intended use, and so will those conditions which are experienced during construction. Therefore, all construction wind effects will be **negligible (not significant)**.

Operational Effects

- 9.45. Conditions at ground level for the scenario with the Proposed Development with existing surrounds (Scenario 2) are shown in Figure 9.9, Figure 9.10 and Figure 9.11, summarised as follows:
- Winter conditions are suitable for a mixture of sitting, standing, leisure walking and business walking.
 - Summer conditions are suitable for a mixture of sitting and standing.
 - There is a safety exceedance at ground level at the western corner of the proposed development, which is a **major adverse effect (significant)**, and will require mitigation.
 - Conditions on local thoroughfares are suitable for business walking at worst, which is suitable for the intended use and is a **negligible wind effect (not significant)**.
 - All off-site building entrances are adjacent to regions of standing or sitting in all seasons, which is suitable for the intended use and is a **negligible wind effect (not significant)**.
 - All entrances to the Proposed Development are adjacent to regions of standing or sitting in all seasons, which is suitable for the intended use and is a **negligible wind effect (not significant)**.
 - Conditions in the proposed amenity space in the courtyard of the Proposed Development (marked A2 in Figure 9.9, Figure 9.10 and Figure 9.11) are suitable for a mixture of sitting and standing in summer. This is suitable for the intended use and is a **negligible wind effect (not significant)**.
 - Conditions in the proposed private terraces in the courtyard of the Proposed Development (marked T in Figure 9.9, Figure 9.10 and Figure 9.11) are suitable for a mixture of sitting and standing in summer. This is suitable for the intended use and is a **negligible wind effect (not significant)**.
 - Conditions in the existing amenity space within Thomas Telford Basin (marked A1 in Figure 9.9, Figure 9.10, and Figure 9.11) are suitable for sitting in summer. This is suitable for the intended use and is a **negligible wind effect (not significant)**.

- Conditions at elevated levels for the scenario with the Proposed Development with existing surrounds (Scenario 2) are shown in Figure 9.12, Figure 9.13, and Figure 9.14.
- There are no safety exceedances at elevated levels, which is a **negligible wind effect (not significant)**.
- Conditions on the level 10 amenity terrace are suitable for a mixture of sitting and standing in summer. This is suitable for the intended use and is a **negligible wind effect (not significant)**.
- Conditions on the level 10 private terraces are suitable for a mixture of sitting, standing, and leisure walking in winter, and are suitable for a mixture of sitting and standing in summer. This is suitable for the intended use and is a **negligible wind effect (not significant)**.
- Conditions for the Chapeltown Close balconies are suitable for sitting in summer. This is suitable for the intended use and is a **negligible wind effect (not significant)**.
- Conditions for the Home Apartments balconies are suitable for either sitting or standing in summer. This is suitable for the intended use and is a **negligible wind effect (not significant)**.

Mitigation Measures

- 9.46. The following mitigation measure was proposed to respond to the major adverse wind effect (wind safety) at the western corner:
- A 2000mm tall x 720mm wide perforated screen, with 50% perforations, located at the corner of the building as shown in Figure 9.15.
 - An additional scenario consisting of the Proposed Development with mitigation and existing surrounds (Scenario 3) was tested in CFD.
 - Conditions at ground level for the scenario with the Proposed Development with mitigation existing surrounds (Scenario 3) are shown in Figure 9.16, Figure 9.17, and Figure 9.18.
- 9.47. Winter conditions are suitable for a mixture of sitting, standing and leisure walking. The safety exceedance at the western corner of the development has been eradicated, and there are no longer any wind safety risks at ground level. This is now suitable for the intended use and residual effects will be **negligible (not significant)**.
- 9.48. Apart from the above, ground level conditions are not materially altered from those for Scenario 2.
- 9.49. Conditions at elevated levels for the scenario with the Proposed Development with mitigation existing surrounds (Scenario 3) are shown in Figure 9.19, Figure 9.20 and Figure 9.21.
- 9.50. Elevated level conditions are not materially altered from those for Scenario 2.

Cumulative Effects

- 9.51. An additional scenario was tested (Scenario 4) to account for the cumulative effect of local committed developments.
- 9.52. The following committed developments were not included in the baseline, but were included in the cumulative surrounds:
- M1 Piccadilly, Store Street - 132626/FO/2022
 - Store Street - 126608/FO/2020
 - Eider House - 115178/FO/2017

- The Fairfax - 121099/FO/2018
- Ferrous - 132214/FO/2021
- Electric Park - 128191/FO/2020
- IQ Echo Street - 136874/FO/2023

9.53. Conditions at ground level for the Proposed Development with mitigation and cumulative surrounds (Scenario 4), ground level, are shown in Figure 9.22, Figure 9.23 and Figure 9.24, summarised as follows:

- Winter conditions are suitable for a mixture of sitting, standing, and leisure walking.
- Summer conditions are suitable for a mixture of sitting and standing.
- There are no safety exceedances at ground level, which is a **negligible wind effect (not significant)**.
- Conditions on local thoroughfares are suitable for leisure walking at worst, which is suitable for the intended use and is a **negligible wind effect (not significant)**.
- All off-site building entrances are adjacent to regions of standing or sitting in all seasons, which is suitable for the intended use and is a **negligible wind effect (not significant)**.
- All entrances to the Proposed Development are adjacent to regions of standing or sitting in all seasons, which is suitable for the intended use and is a **negligible wind effect (not significant)**.
- Conditions in the proposed amenity space in the courtyard of the Proposed Development (marked A2 in Figure 9.22, Figure 9.23 and Figure 9.24) are suitable for a mixture of sitting and standing in summer. This is suitable for the intended use and is a **negligible wind effect (not significant)**.
- Conditions in the proposed private terraces in the courtyard of the Proposed Development (marked T in Figure 9.22, Figure 9.23 and Figure 9.24) are suitable for a mixture of sitting and standing in summer. This is suitable for the intended use and is a **negligible wind effect (not significant)**.
- Conditions in the existing amenity space within Thomas Telford Basin (marked A1 in Figure 9.9, Figure 9.10 and Figure 9.11) are suitable for sitting in summer. This is suitable for the intended use and is a **negligible wind effect (not significant)**.
- Conditions at elevated levels for the scenario with the Proposed Development with Mitigation and cumulative surrounds (Scenario 4) are shown in Figure 9.25, Figure 9.26 and Figure 9.27.
- There are no safety exceedances at elevated levels, which is a **negligible wind effect (not significant)**.
- Conditions on the level 10 amenity terrace are suitable for a mixture of sitting and standing in summer. This is suitable for the intended use and is a **negligible wind effect (not significant)**.
- Conditions on the level 10 private terraces are suitable for a mixture of sitting, standing, and leisure walking in winter, and are suitable for a mixture of sitting and standing in summer. This is suitable for the intended use and is a **negligible wind effect (not significant)**.
- Conditions for the amenity terraces on M1 Piccadilly are suitable for a mix of sitting and standing in summer. This is suitable for the intended use and is a **negligible wind effect (not significant)**.
- Conditions for the Chapelton Close balconies are suitable for sitting in summer. This is suitable for the intended use and is a **negligible wind effect (not significant)**.

- Conditions for the Home Apartments balconies are suitable for either sitting or standing in summer. This is suitable for the intended use and is a **negligible wind effect (not significant)**.

Residual Effects

Table 9.7 Summary of Receptors, Likely Significant Effects, Mitigation Measures, and Residual Effects

Likely Significant Effect	Receptor(s)	Mitigation Measure	Means of Implementation of Mitigation	Post Mitigation Residual Effect – Significance and Duration (i.e. Temporary/Permanent)
Construction Phase				
Negligible effects on wind microclimate	General Thoroughfares	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Off-Site Building Entrances	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Existing Ground Floor Amenity in Thomas Telford Basin	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Existing Balconies on Chapeltown Close and Home Apartments	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Wind Safety	None		Negligible effects on wind microclimate
Operational Phase				
Negligible effects on wind microclimate	General Thoroughfares	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Building Entrances to the Proposed Development	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Off-Site Building Entrances	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Proposed ground floor courtyard amenity	None		Negligible effects on wind microclimate

Likely Significant Effect	Receptor(s)	Mitigation Measure	Means of Implementation of Mitigation	Post Mitigation Residual Effect – Significance and Duration (i.e. Temporary/Permanent)
Negligible effects on wind microclimate	Proposed ground floor private terraces	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Existing Ground Floor Amenity in Thomas Telford Basin	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Proposed Level 10 Amenity Terrace	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Proposed Level 10 Private Terraces	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Existing Balconies on Chapeltown Close and Home Apartments	None		Negligible effects on wind microclimate
Major Adverse effects on wind microclimate	Wind Safety	A 2000mm wide x 720mm tall, perforated screen (50% porous) at the western corner of the Proposed Development		Negligible effects on wind microclimate (permanent)

Reference List

This ES Chapter has been prepared by reference to the following:

- Manchester City Council (2012). Manchester Core Strategy (2012 – 2027). See: http://www.manchester.gov.uk/downloads/download/4964/core_strategy_development_plan
- National Planning Policy Framework (2021). See: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf
- National Design Guide (2021). See: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/962113/National_design_guide.pdf

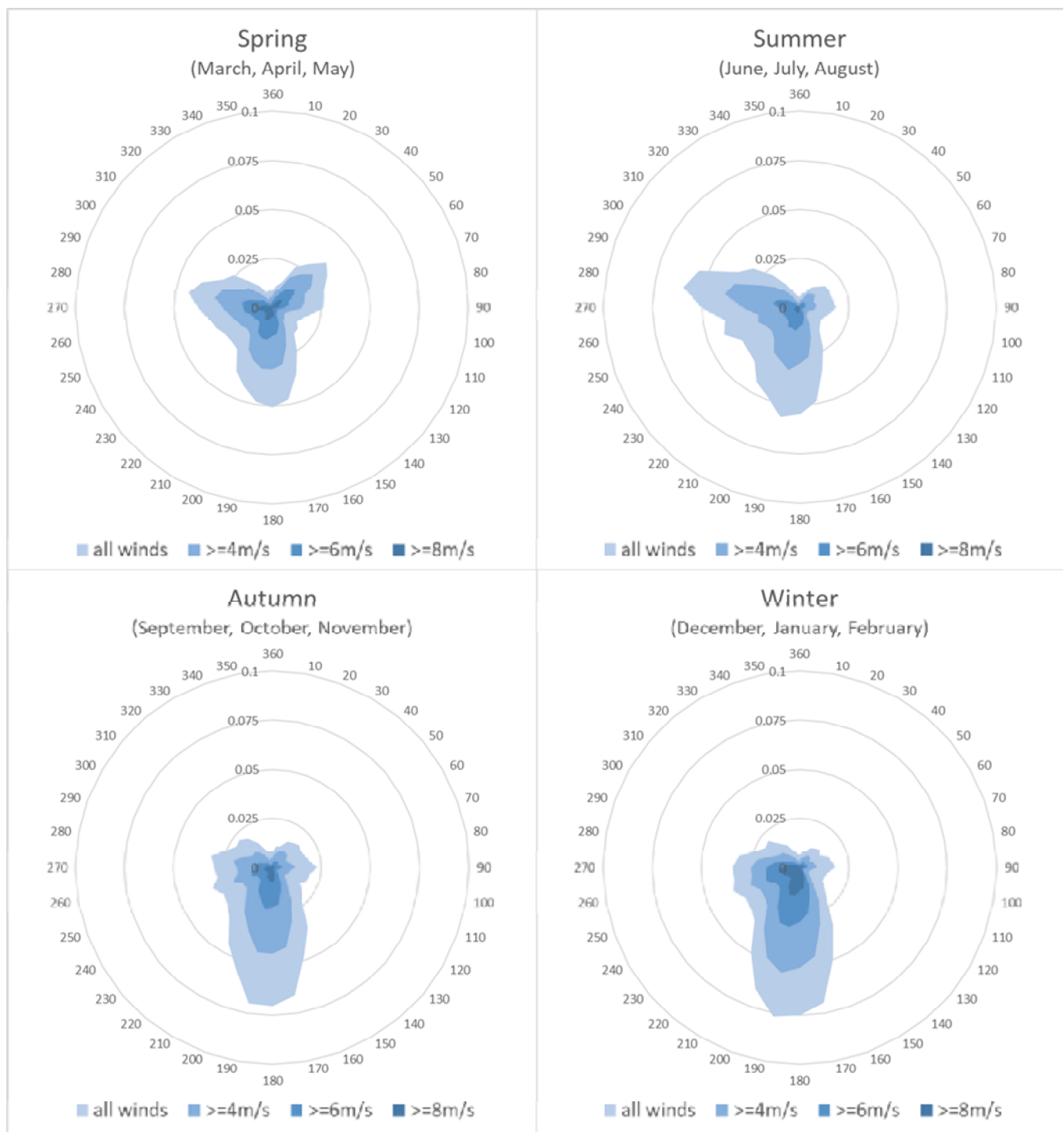


Figure:

9.1

Title:

Seasonal Wind Roses (Manchester Airport)

	Project:	Sparkle Street		
	Date:	30 June 2023	Scale:	NTS

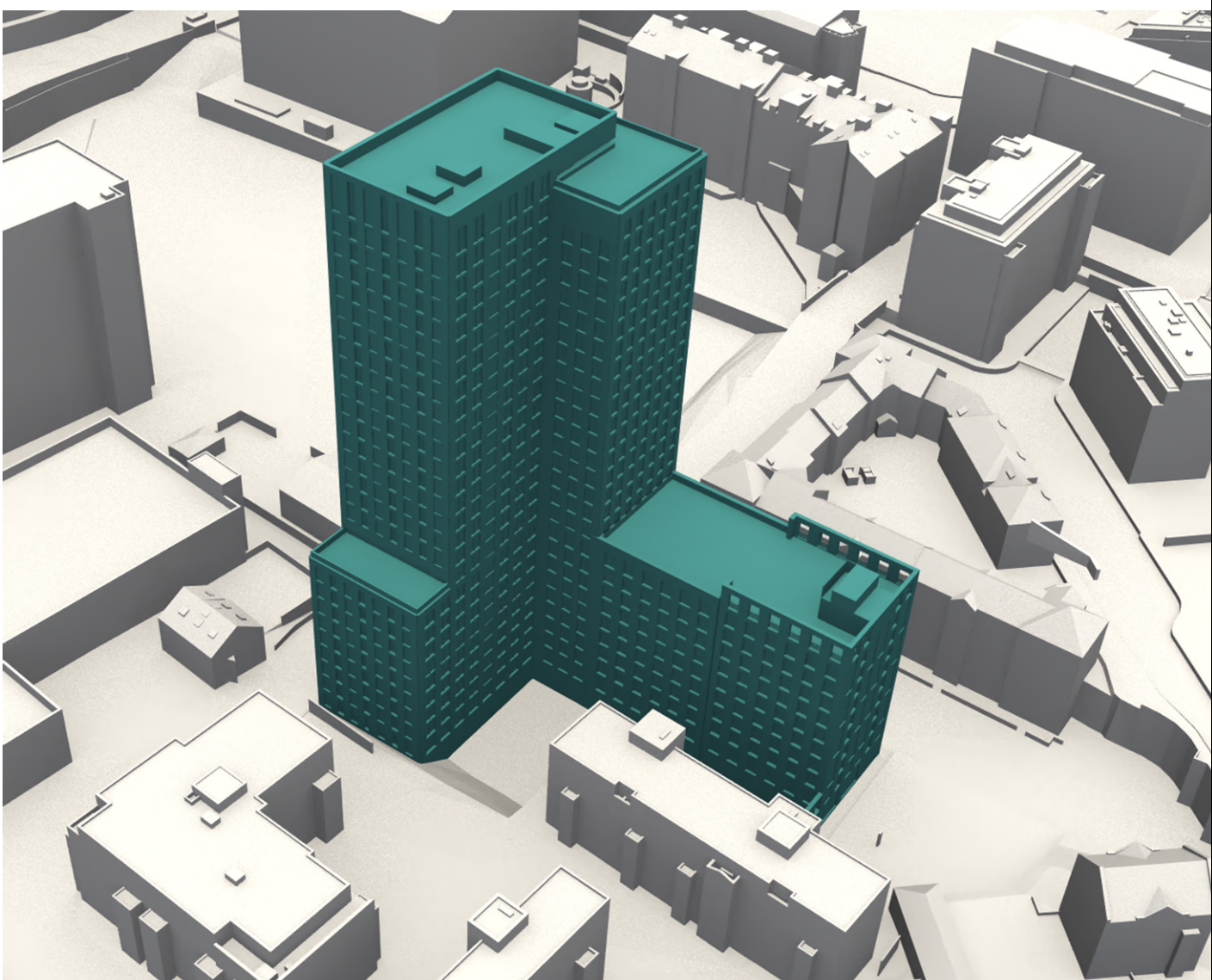
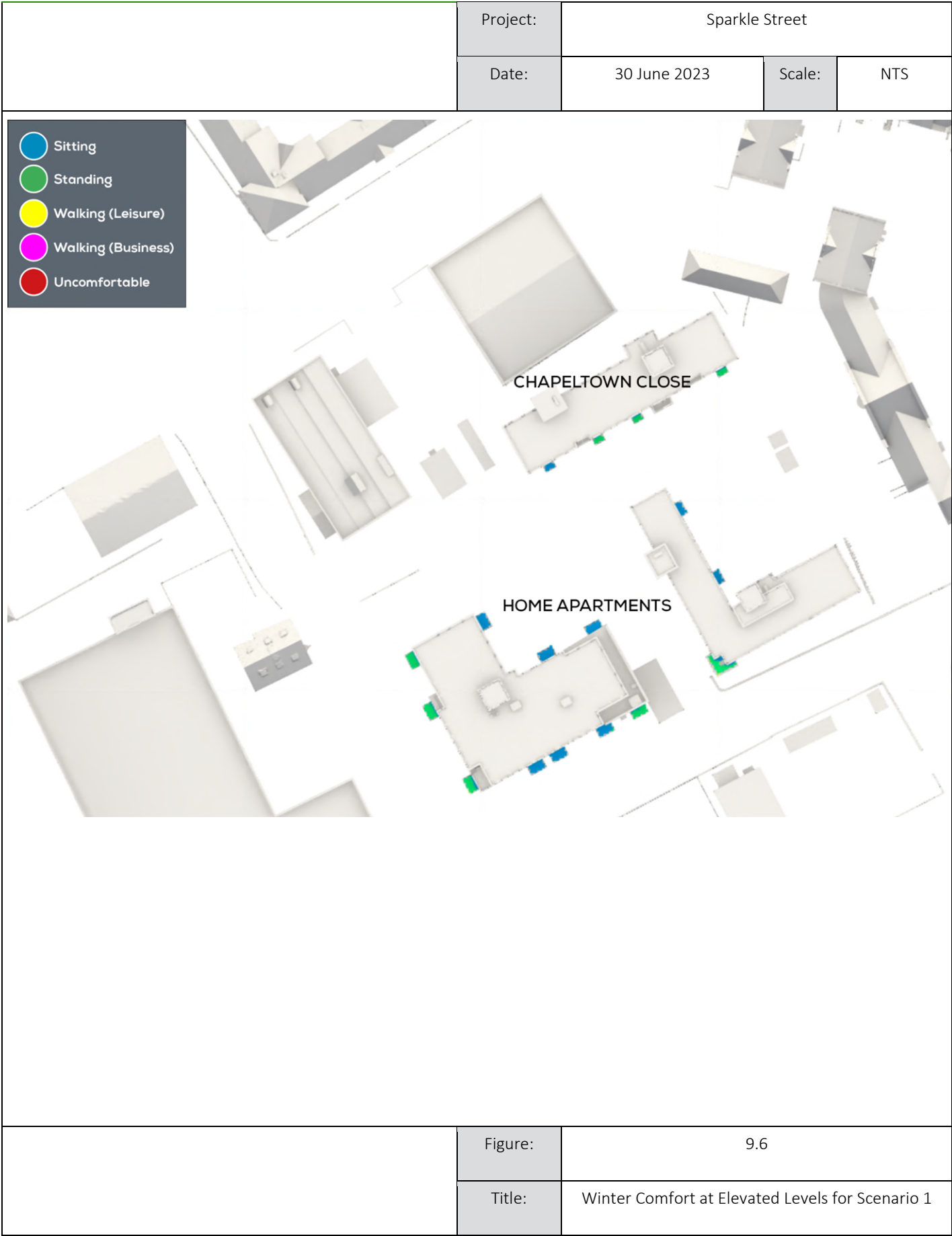


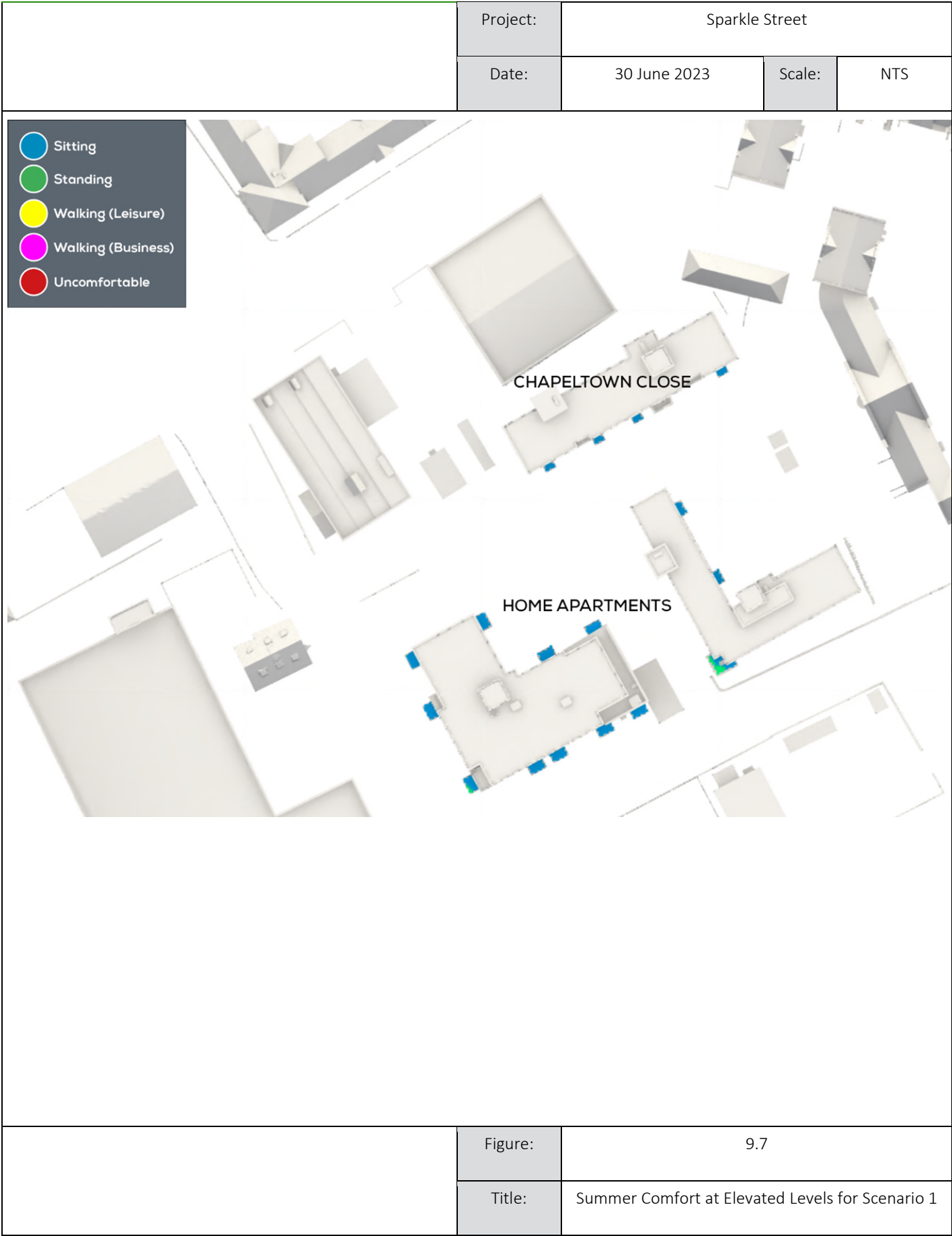
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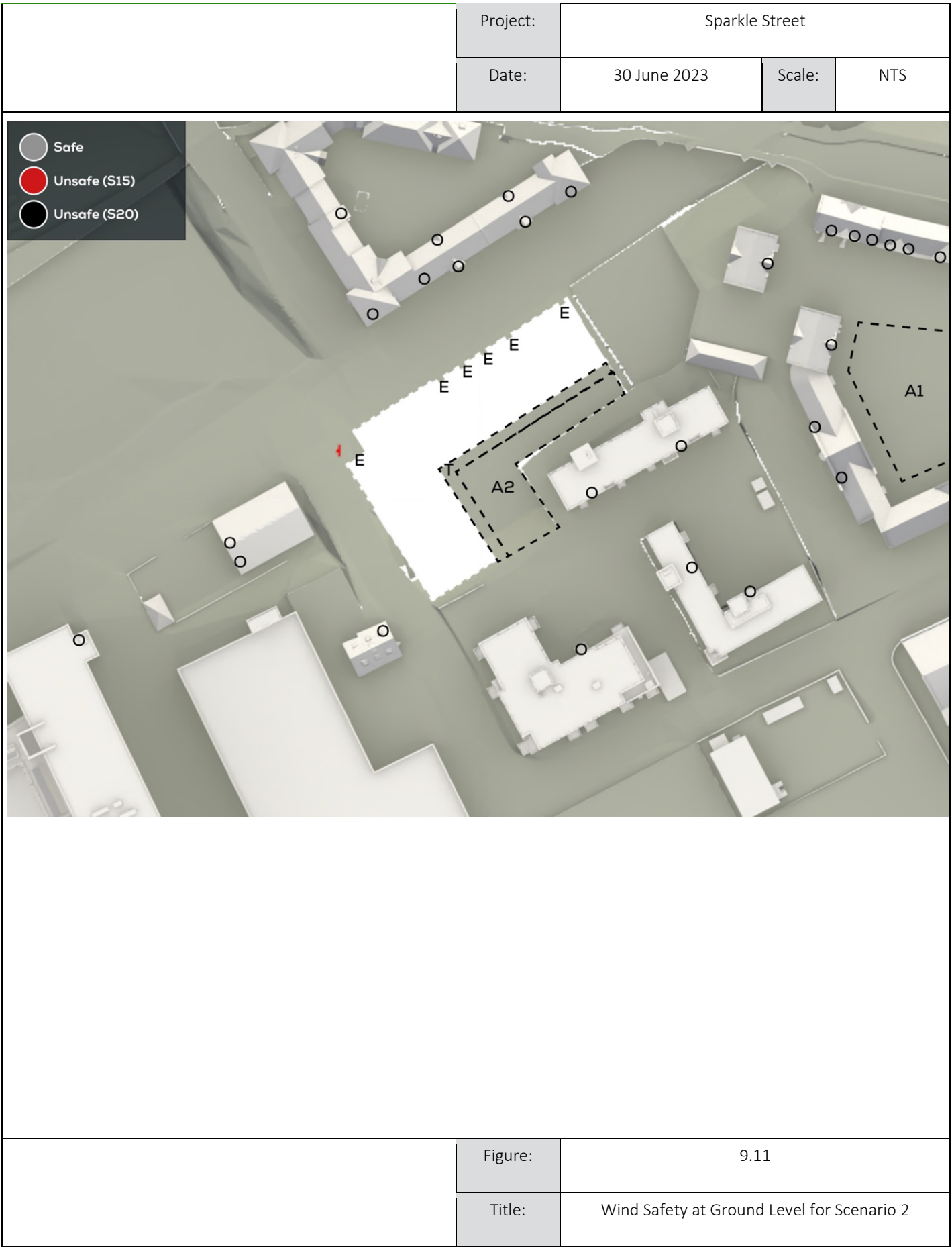


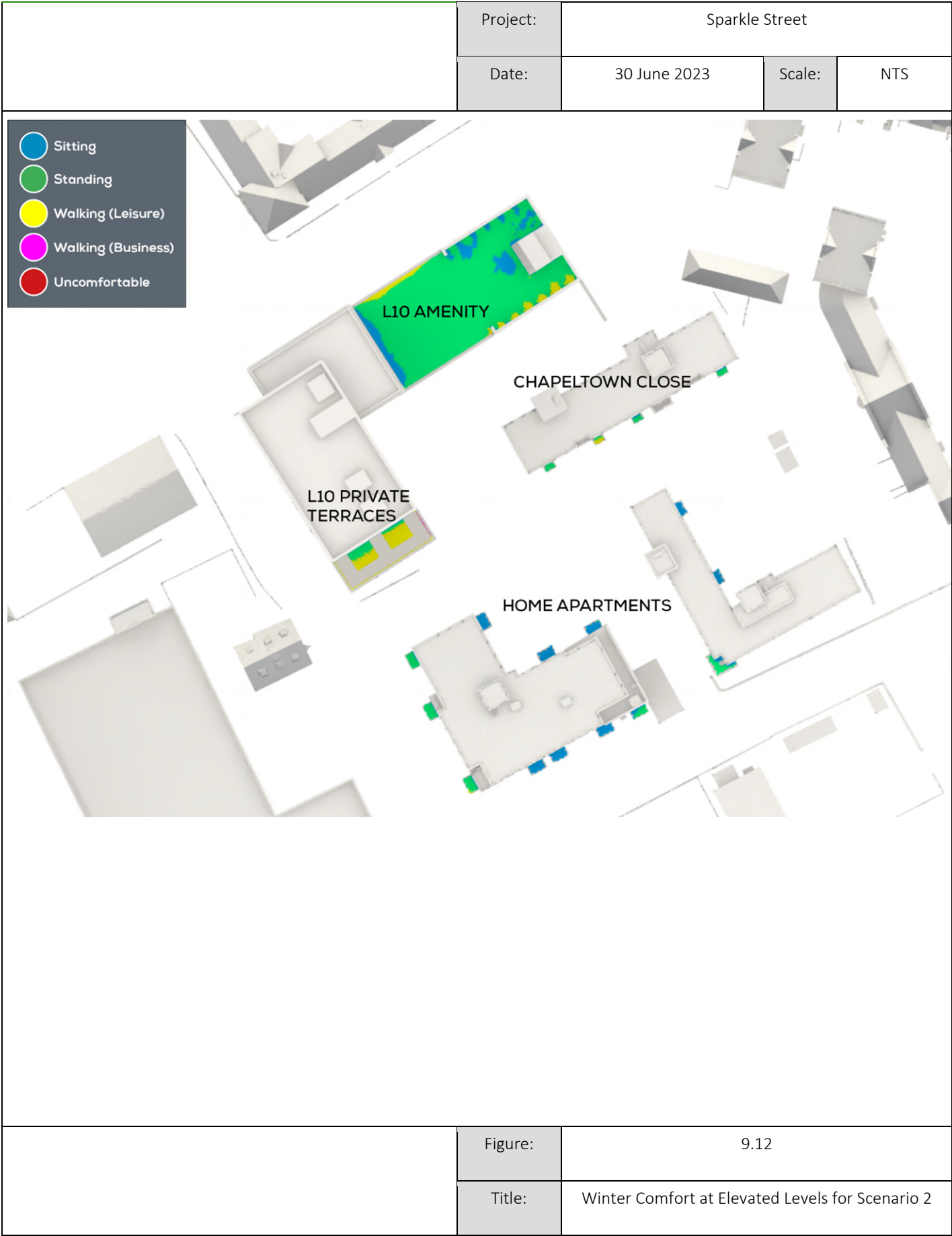


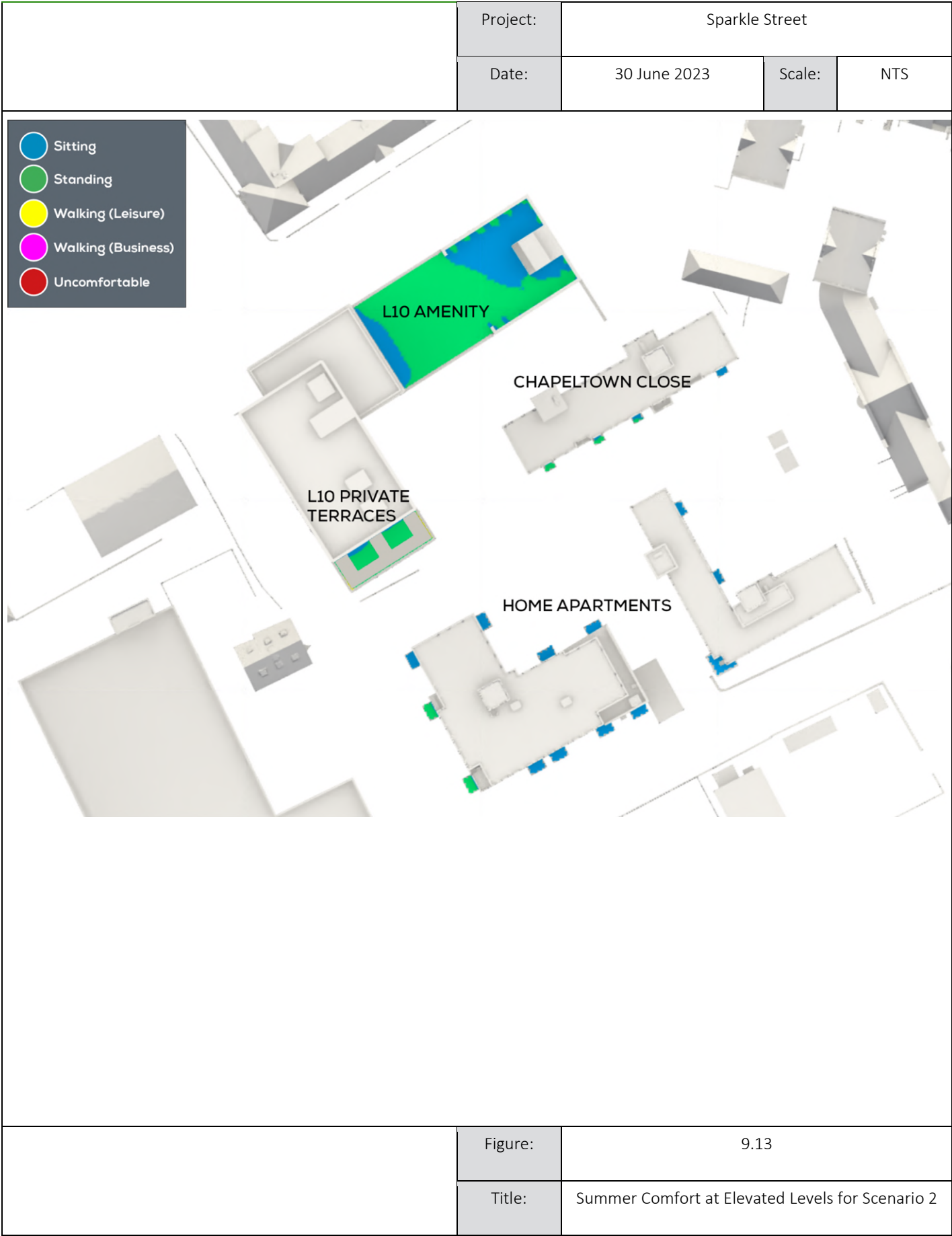


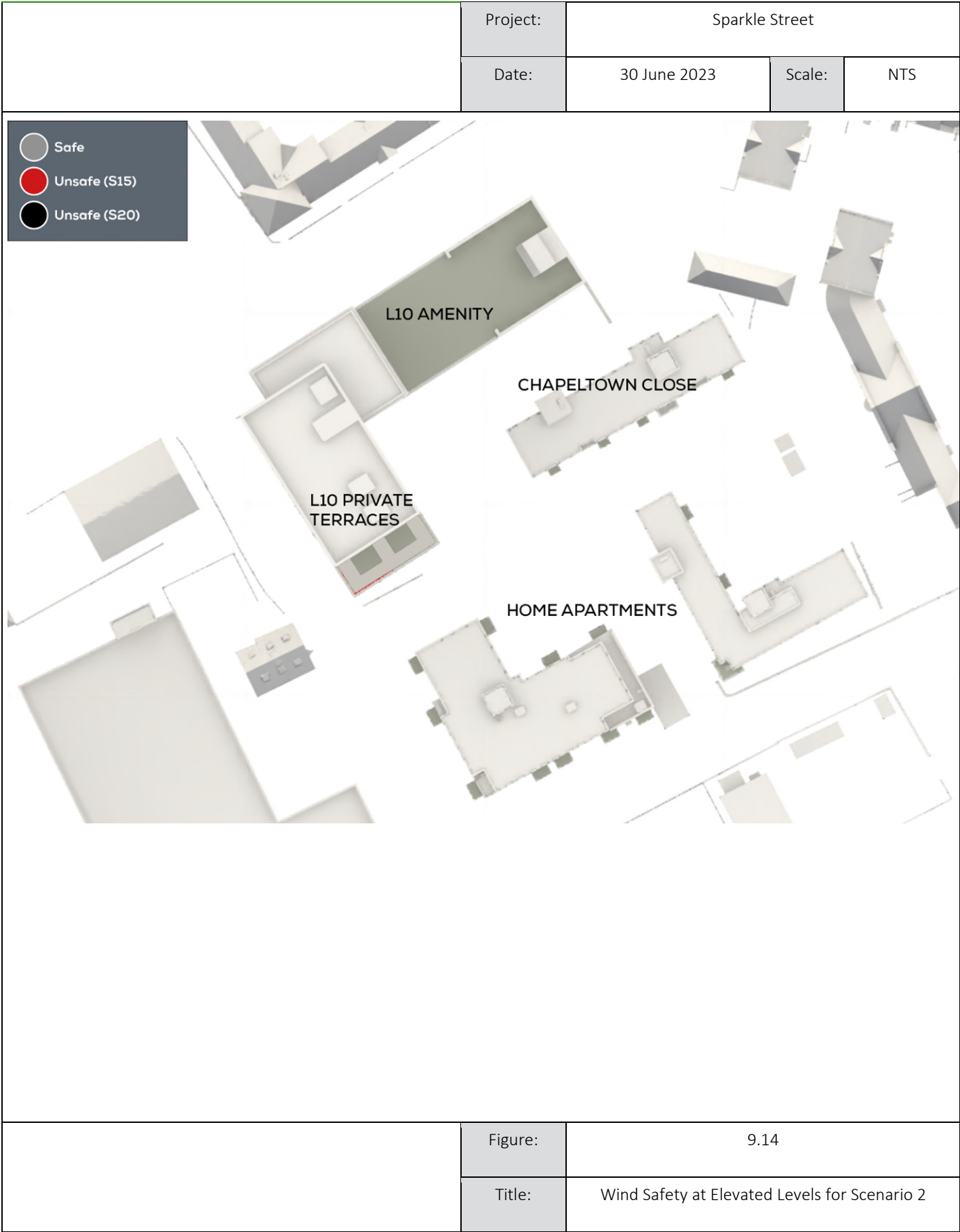


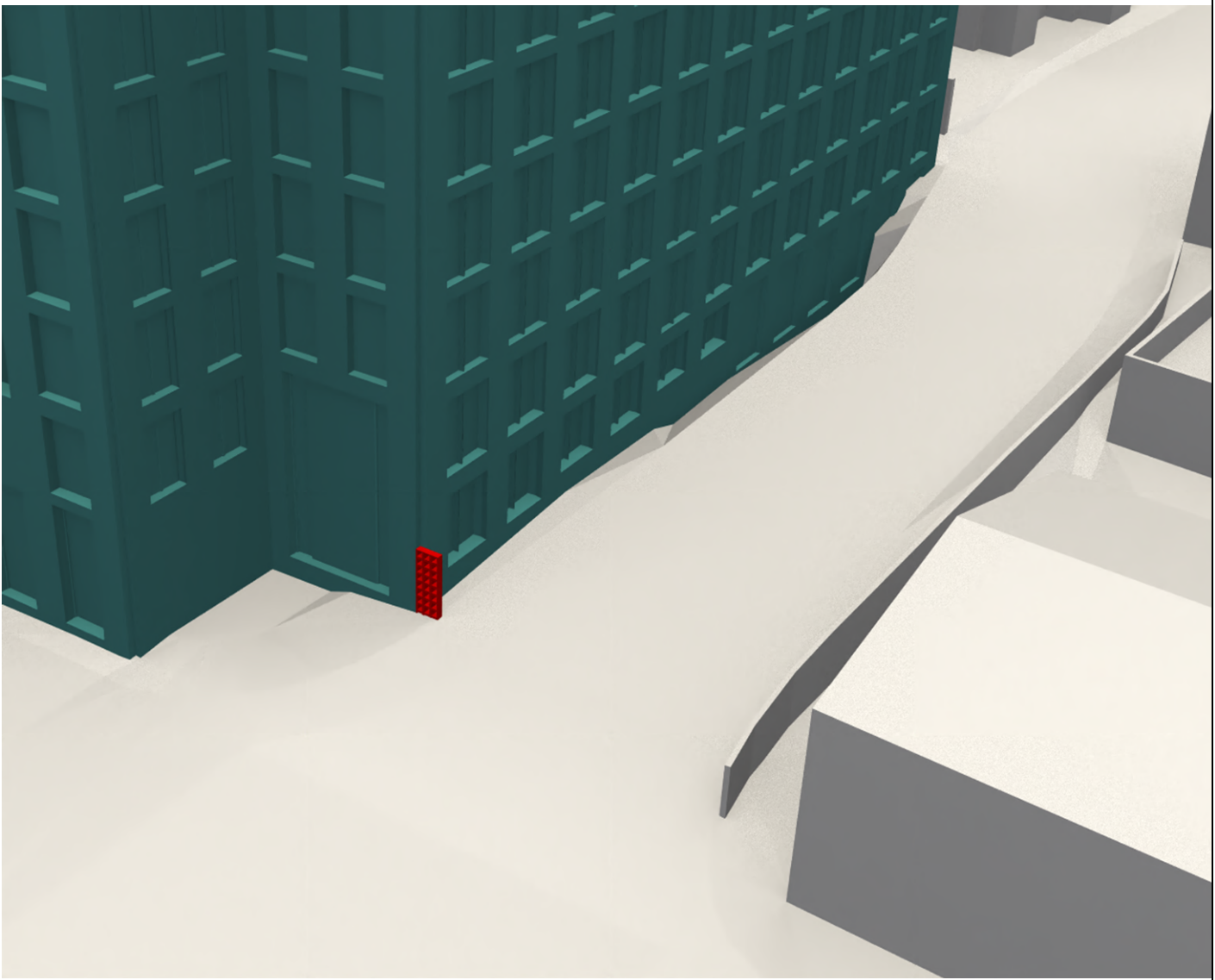






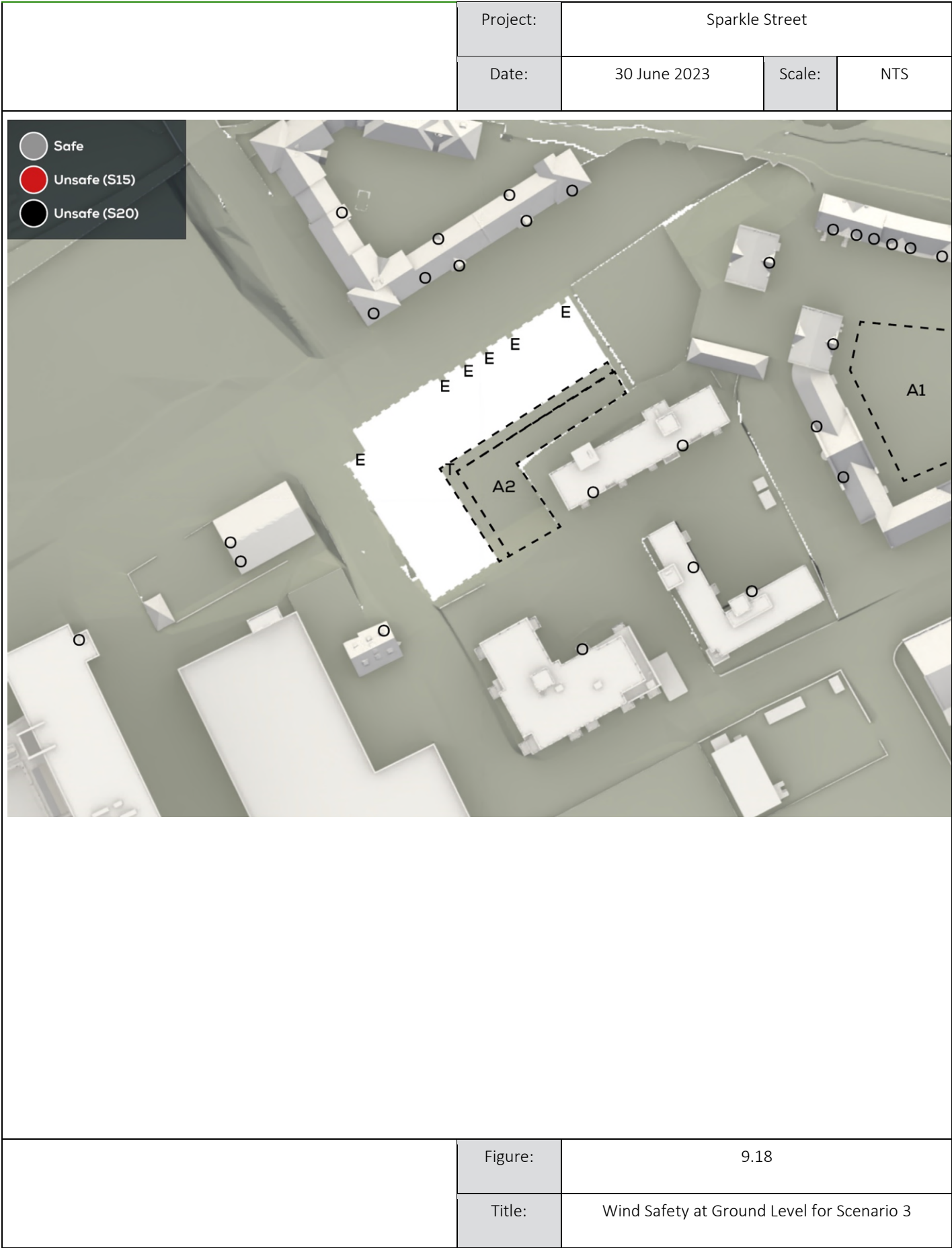


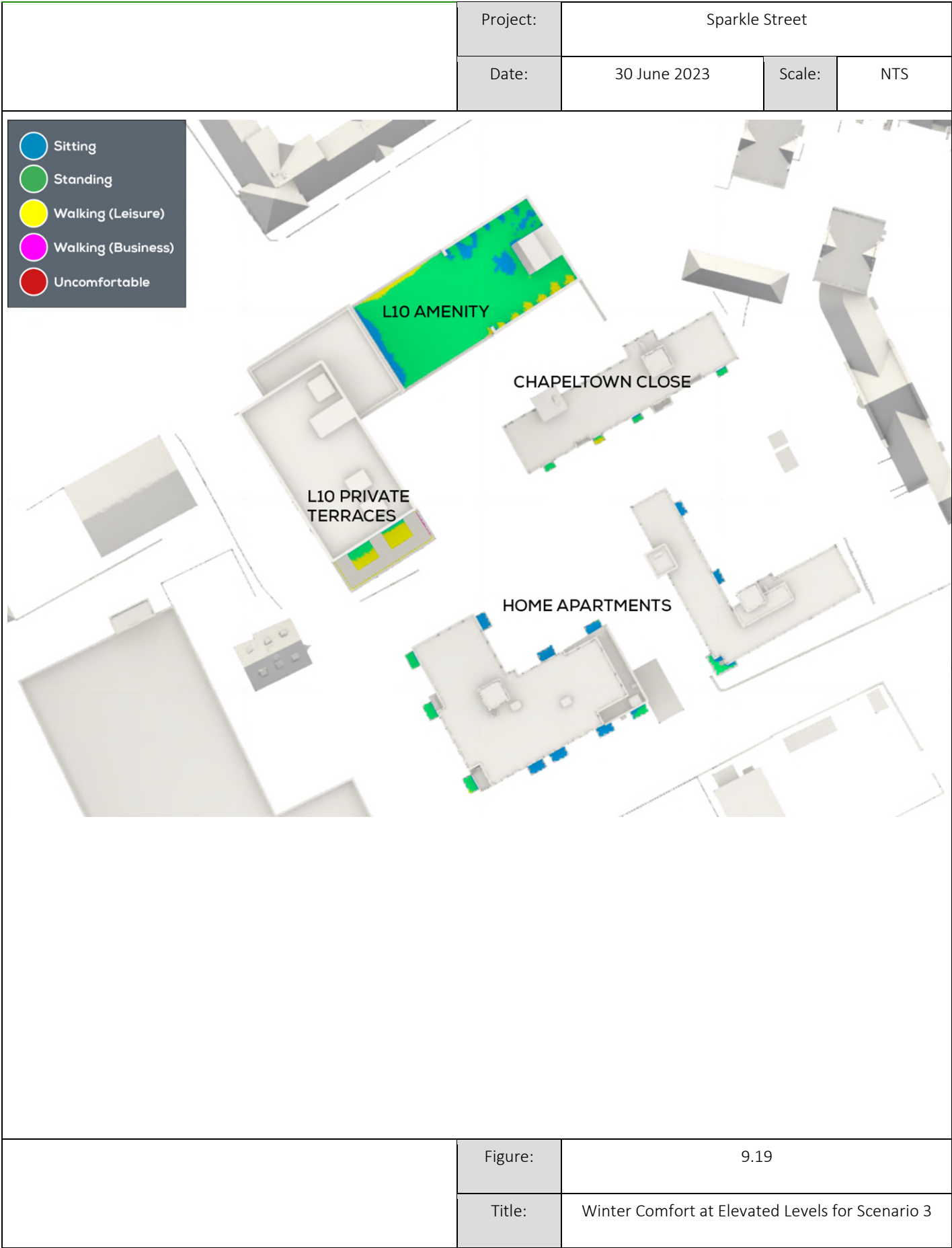


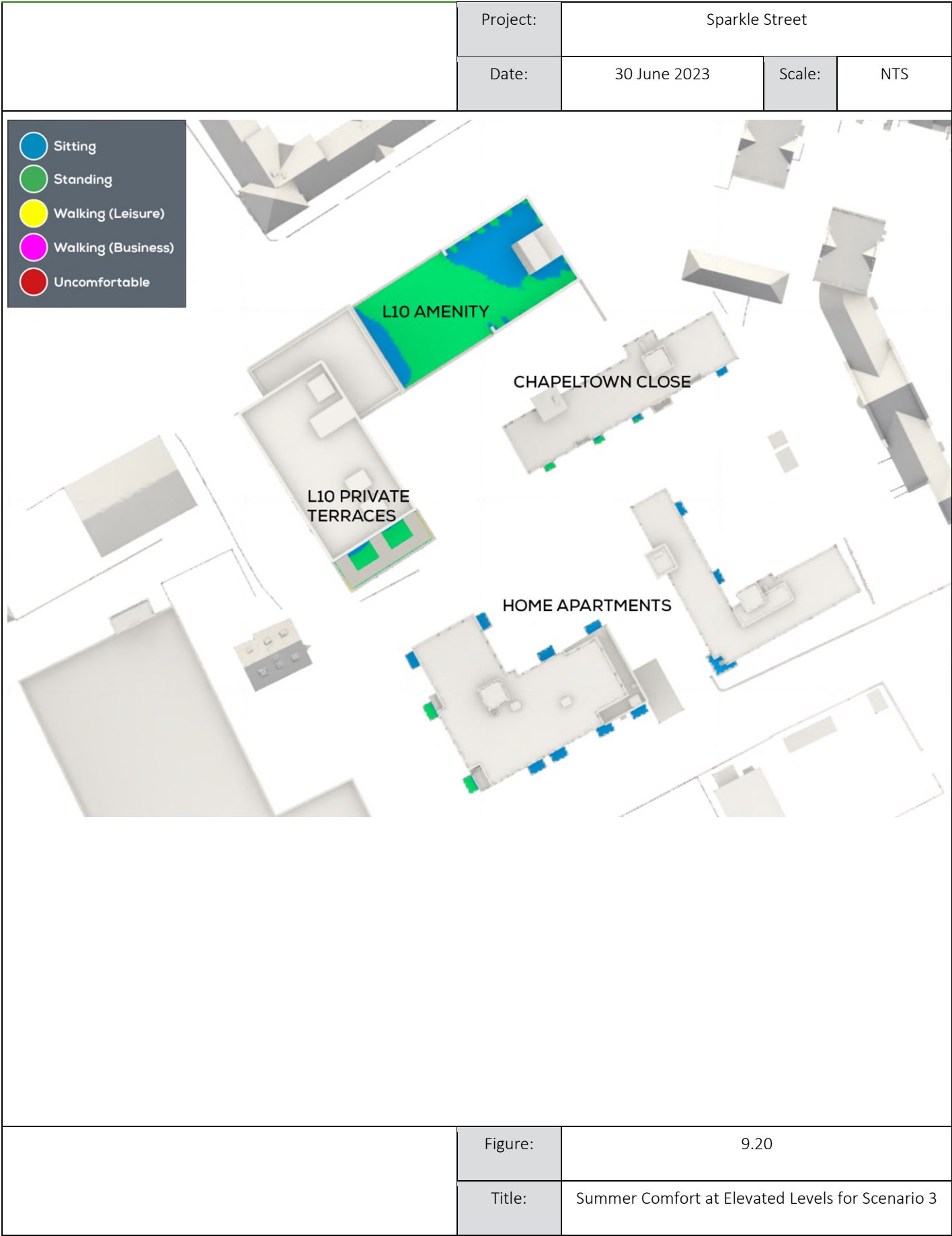
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	Figure:	9.15		
	Title:	Wind Mitigation Screen (2000mm x 720mm, 50% perforated) as Tested		











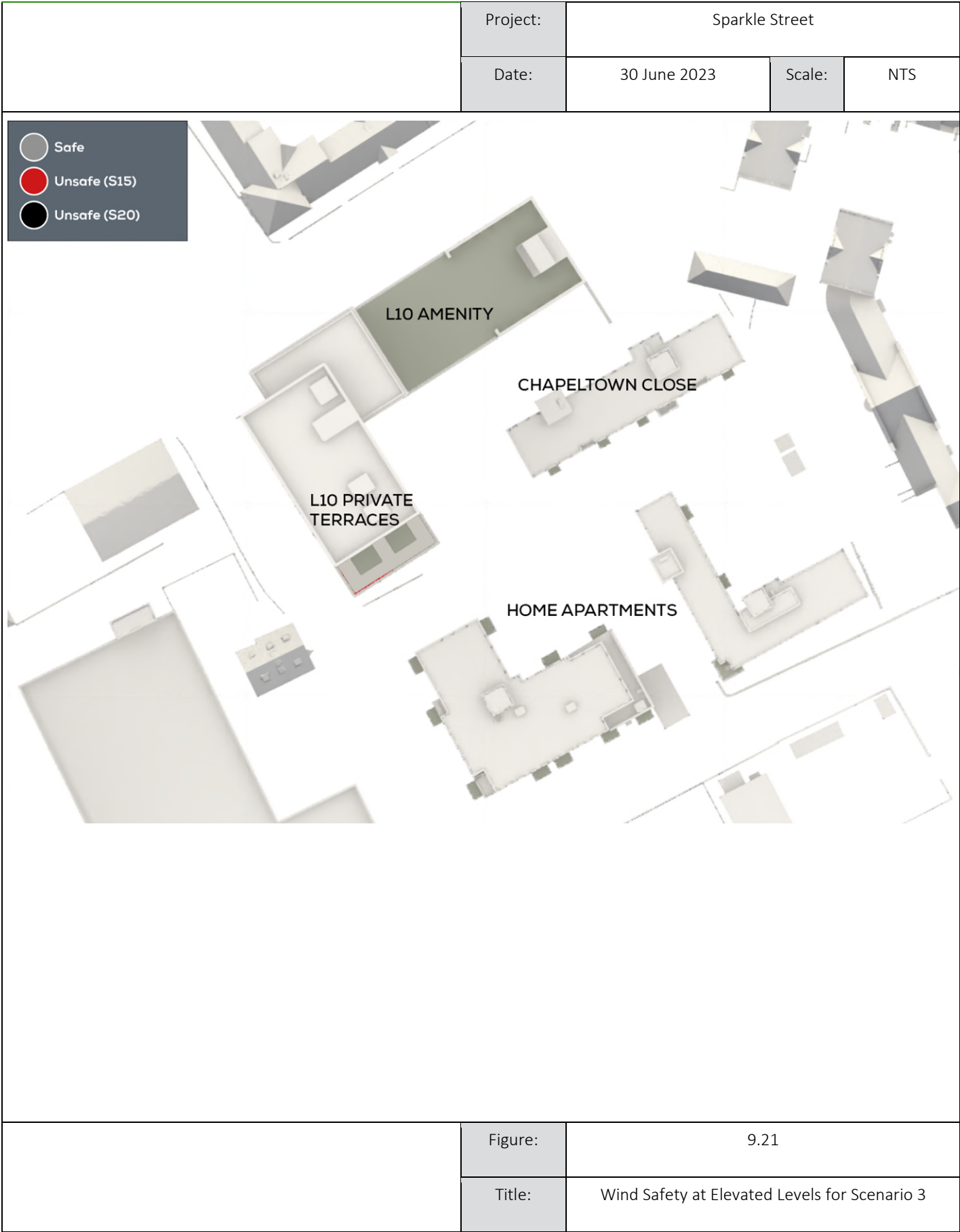




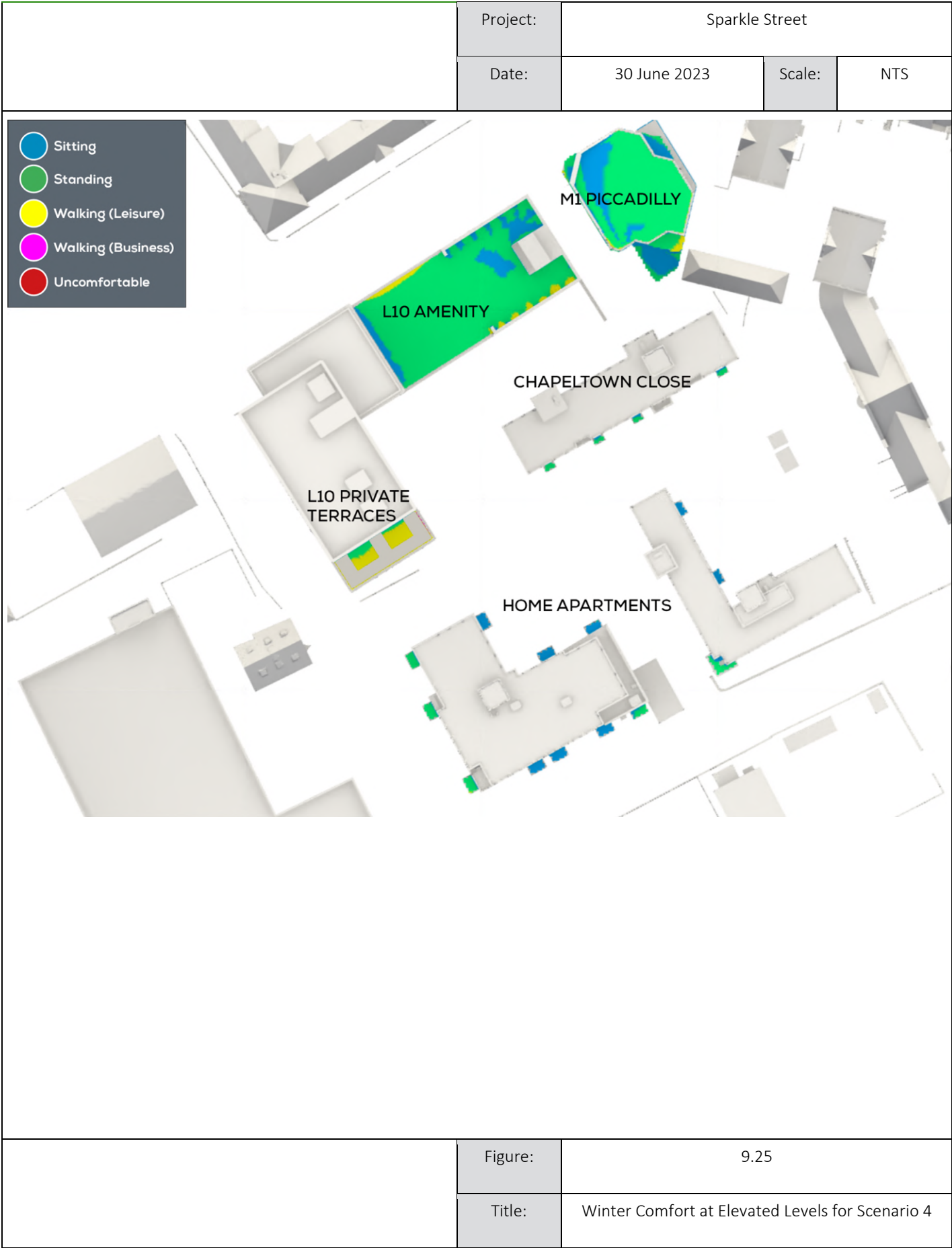
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	Title:	Winter Comfort at Ground Level for Scenario 4

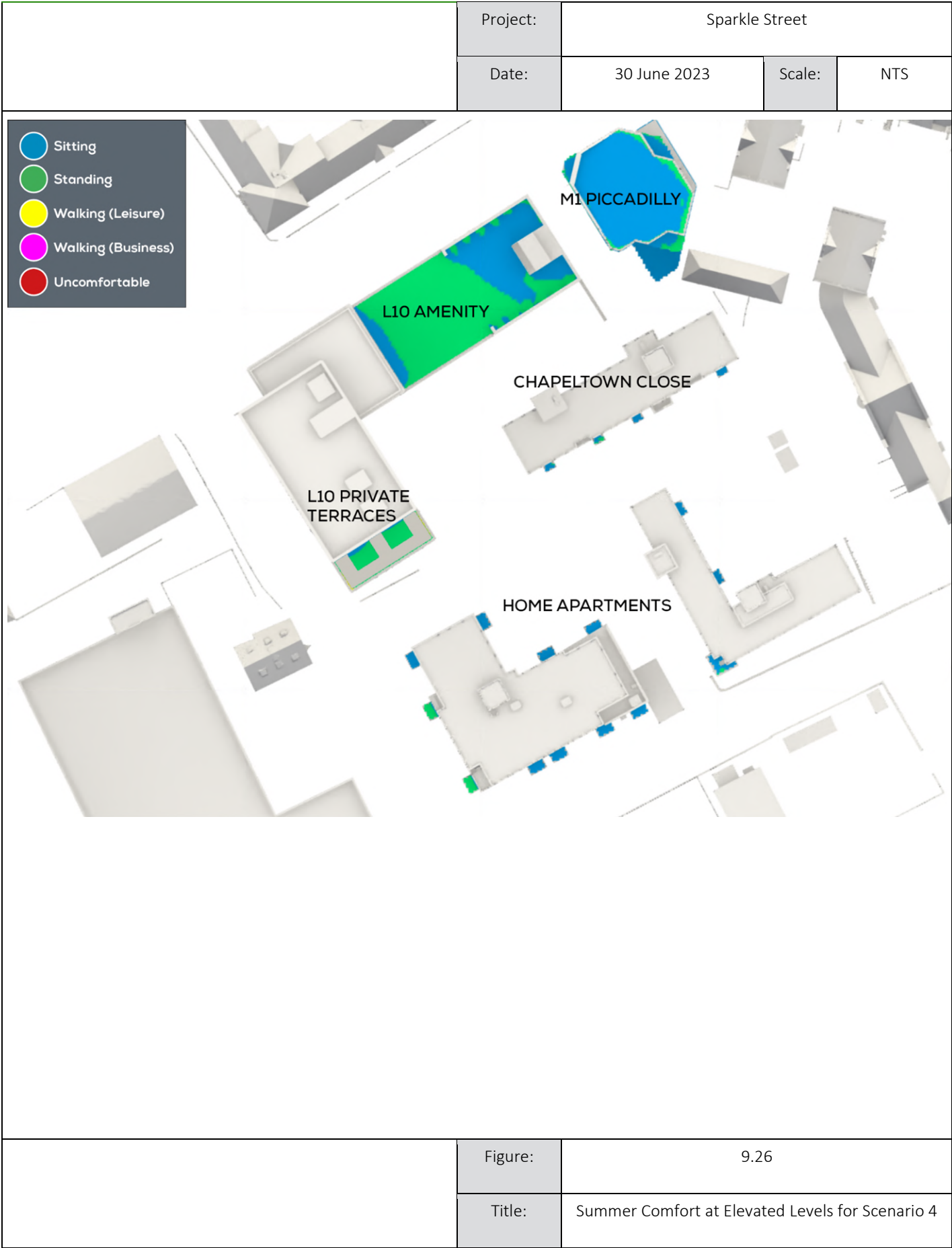


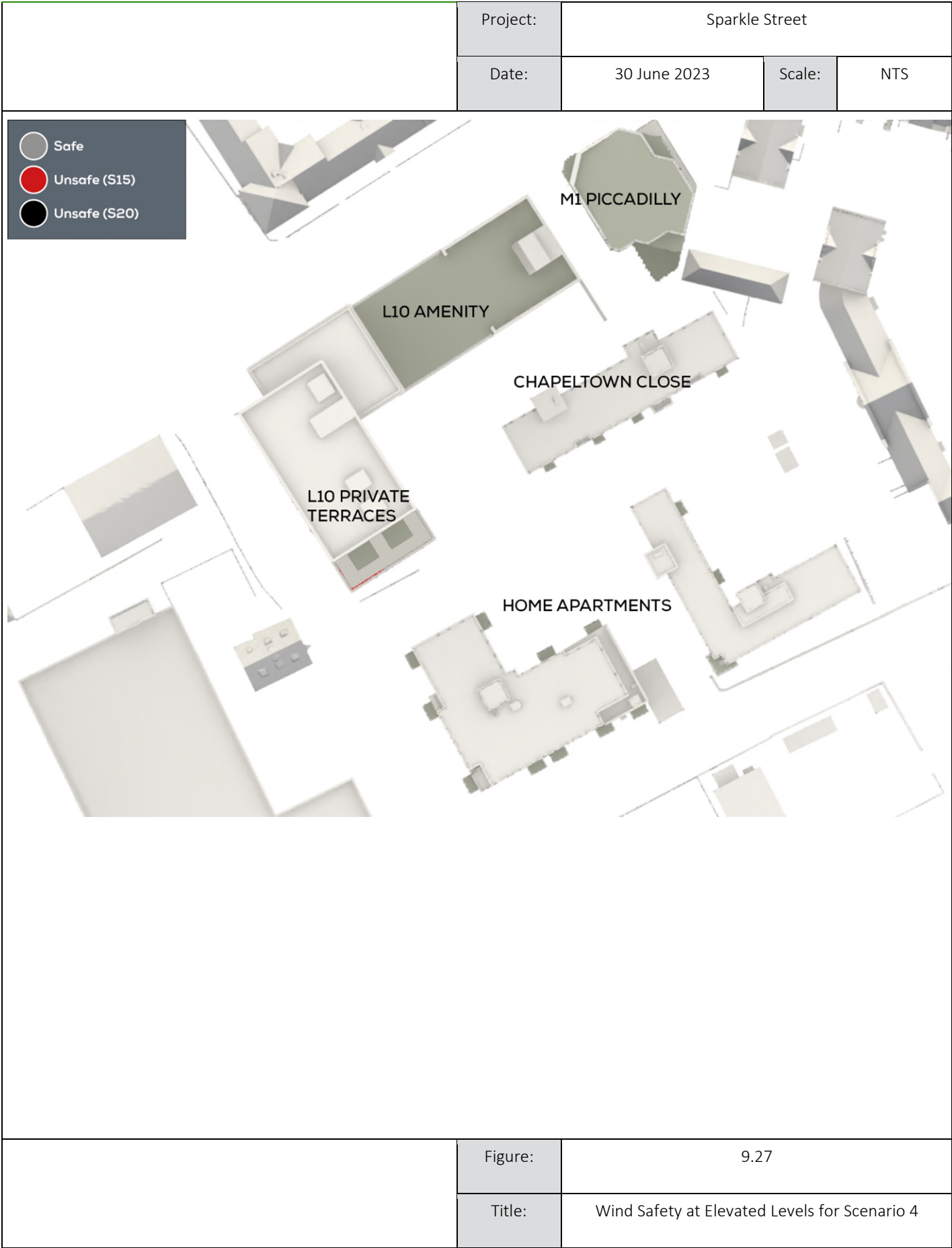
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	Date:	30 June 2023	Scale:	NTS



	Figure:	9.24		
	Title:	Wind Safety at Ground Level for Scenario 4		







	Project:	Sparkle Street		
	Date:	30 June 2023	Scale:	NTS

10. Human Health

Introduction

- 10.1. This Chapter of the ES has been prepared by Enfusion and assesses the likely impacts of the Proposed Development upon human health for the site and surrounding area. This Chapter also describes the methods used to assess these impacts, the existing baseline conditions, the proposed mitigation measures required to prevent, reduce or offset any significant negative impacts and the likely residual impacts after these methods have been adopted.
- 10.2. The author of the chapter has qualifications BSc MSc CEnv FIEMA with over 25 years' experience of assessing plans and projects for their impacts on the environment, including effects on human health and wellbeing. She has prepared health chapters for other Environmental Statements supporting various development project proposals in Manchester and other urban locations. She is a co-author of the practical guide - The EIA Handbook (ICE Publishing, Third Edition, November 2019).

Policy Context

- 10.3. The NPPF acknowledges the importance of considering health impacts during the planning process and covers many issues that are directly related to the determinants of health. The NPPF identifies the three overarching objectives – economic, social, and environmental – that are interdependent and need to be pursued in mutually supportive ways in order to achieve sustainable development (paragraph 8). The social objective should support “strong, vibrant and healthy communities... by creating a high quality built environment, with accessible local services that reflect the community’s needs and support its health, social and cultural well-being.
- 10.4. Chapter 8 covers promoting healthy and safe communities, acknowledging that planning policies and decisions should aim to achieve healthy, inclusive, and safe places which:
- “a) promote social interaction, including opportunities for meetings between people who might not otherwise come into contact with each other – for example through mixed-use developments, strong neighbourhood centres, street layouts that allow for easy pedestrian and cycle connections within and between neighbourhoods, and active street frontages.*
- “b) are safe and accessible, so that crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion – for example through the use of clear and legible pedestrian routes, and high quality public space, which encourage the active and continual use of public areas; and*
- “c) enable and support healthy lifestyles, especially where this would address identified local health and well-being needs – for example through the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, allotments and layouts that encourage walking and cycling.” (paragraph 96).*
- 10.5. Social, recreational, and cultural facilities and services should ‘support the delivery of local strategies to improve health, social and cultural wellbeing for all sections of the community (paragraph 97). It is important that sufficient choice of school places is available to meet the needs of existing and new communities (paragraph 99). Public safety should be promoted and “take into account wider security and defence requirements” (paragraph 101).
- 10.6. “Access to a network of high quality open spaces and opportunities for sport and physical activity is important for the health and wellbeing of communities” (paragraph 102). Sustainable transport should be promoted and this “can help improve air quality and public health” (paragraph 109). “An effective use of land should be promoted in meeting the need for homes and other uses, while safeguarding and improving the

environment and ensuring safe and healthy living conditions” (paragraph 123). “Developments should create places that are safe, inclusive, and accessible and which promote health and wellbeing...” (paragraph 135). “New development must be appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health...” (paragraph 191).

Public Health England (PHE, now OHID) Strategy (2020-2025)

- 10.7. This document sets out how PHE intends to protect and improve the public’s health and reduce inequalities during 2020 to 2025. The Strategy recognises that the longer term, societal drivers of change represent the principal challenge facing the public’s health. However, there are opportunities now, including “place-based approaches”. The ten priorities include healthier diets, healthier weight; cleaner air; and better mental health” with the aim to incorporate the reduction of health inequalities into each of the ten priorities. The purpose of PHE is to protect and improve the nation’s health and reduce health inequalities. This is guided by aims – “to keep people safe; to prevent poor health; to narrow the health gap; and the support a strong economy”.

Fair Society, Healthy Lives (Marmot Review 2010, and 2020)

- 10.8. The review sets out a framework for action under two policy goals: to create an enabling society that maximises individual and community potential; and to ensure social justice, health and sustainability are at the heart of all policies. There are six policy objectives:
- giving every child the best start in life
 - enabling all children, young people and adults to maximize their capabilities and have control over their lives
 - creating fair employment and good work for all
 - ensuring a healthy standard of living for all
 - creating and developing sustainable places and communities
 - strengthening the role and impact of ill-health prevention
- 10.9. The Marmot Review 10 Years On found that over the last decade health inequalities have widened overall. The more deprived the area, the shorter the life expectancy. There is a housing crisis and a rise in homelessness; people have insufficient money to lead a healthy life; and there are more ignored communities with poor conditions and little reason for hope.

Sub-Regional Planning Policy

Greater Manchester Joint Development Plan (adopted March 2024)

- 10.10. The Vision for Greater Manchester (GM) includes to make Greater Manchester as “a place where people live healthy lives”; and Strategic Objectives include No 10 “Promote the health and wellbeing of communities”:
- Ensure new development is properly served by health care services that meet the needs of communities
 - Improve access to healthy food options for all communities
 - Reduce the health impacts of air pollution through accessibility of sustainable travel such as public transport, cycling and walking
 - Maximise the health benefits of access to the natural environment and green spaces;
 - Coordinate with and support the delivery of local and Greater Manchester wide health strategies
- 10.11. The overall Strategy and many of the policies in the plan support improvements in health and wellbeing, and reductions in health inequalities, such as by “promoting a successful economy; increasing supply of high quality and affordable homes; enabling people to adopt healthier lifestyles; and reducing risks to human health”. The JDP recognises that addressing health inequalities will require a diverse range of coordinated measures. The JDP supports improvements in health and wellbeing including through promoting a successful economy, enabling people to adopt healthier lifestyles, and reducing the risks to human health.
- 10.12. Policy JP-P6 Health – To help tackle health inequality new development will be required, as far as practicable, to:

- a) Maximise its positive contribution to health and wellbeing, whilst avoiding any potential negative impacts of new development;
- b) Support healthy lifestyles, including through the use of active design principles making physical activity an easy, practical and attractive choice; and
- c) Be supported by a Health Impact Assessment for all developments which require to be screened for an Environmental Impact Assessment...

10.13. The Policy supporting text advises that as well as being of great importance in its own right, “health also has a significant impact on the ability of people to enjoy the immense range of opportunities across Greater Manchester and to make a positive economic contribution”. The text recognises that improvements in health require a range of coordinated measures, many of which are beyond the scope of the GMJDP. The JDP supports improvements in health & wellbeing, and reductions in health inequalities throughout its policies and proposals, such as by:

- Promoting a successful economy
- Increasing the supply of high quality & affordable homes
- Enabling people to adopt healthier lifestyles, including through development of a high-quality green infrastructure; encouraging provision of wide range of recreation & sports facilities; food growing opportunities; and increasing the proportion of trips made by walking & cycling
- Reducing the risks to human health, including flood risk; reducing air pollution; providing cooling & shading to combat high temperatures; promoting high levels of fire safety; and designing places to minimise opportunities for crime, terrorism, and anti-social behaviour

10.14. The policy supporting text does not suggest any particular kind of HIA but rather advises that HIAs “should aim to enhance the positive aspects of a proposal while avoiding or minimising any negative impacts, with particular emphasis on disadvantaged sections of communities that may be affected.”

Local Planning Policy

Manchester City Council (MCC) Core Strategy (adopted 2012)

10.15. MCC’s Core Strategy is the key document in Manchester’s Local Development Plan. It is founded on a Vision to 2027 that includes “an increased and sustainable healthy population...”. Policies relevant to health are as follows:

- Policy SP1 Spatial Principles includes requirement that development should make a positive contribution to neighbourhoods including “making a positive contribution to the health, safety and wellbeing of residents’
- Policy EC1 Employment and Economic Growth in Manchester requires development proposals to make the best possible use of a site in terms of efficient use of space and including application of best practice in security design.
- Policy EN4 seeks to reduce CO2 emission and reduce fuel poverty by enabling low and zero carbon development.
- Policy EN8 Adaptation to Climate Change includes requirements to minimise flood risk and reduce urban overheating.
- Policy EN9 Green Infrastructure provides guidance on provision of new, and improvements to, the quality and accessibility of existing green infrastructure assets.
- Policies EN10 and EN11 safeguard and create new open space, sport and recreation facilities.
- Health is further protected through Policies EN14 Flood Risk, EN16 Air Quality, EN17 Water Quality, and EN18 Contaminated Land & Ground Stability
- Policy T1 Sustainable Transport requires “delivery of a sustainable, high quality, integrated transport system to encourage modal shift away from car travel... and to prepare for carbon free modes of transport”.
- Policy T2 will actively manage the pattern of development to ensure that there are accessible areas of opportunity and need.
- Policy T3 supports proposals that contribute to an economically and environmentally sustainable transport network through strategic integration of strategic transport projects. Progression towards sustainable transport will promote healthier living and well-being.

- Policy DM1 Development Management requires that all development should have regard to specific issues including “Effects on amenity, including privacy, light, noise, vibration, air quality, odours, litter, vermin, birds, road safety and traffic generation”; Accessibility: buildings and neighbourhoods fully accessible to disabled people, access to new development by sustainable transport modes”; “Community safety & crime prevention”; and “Design for Health.

Our Manchester Strategy, Forward to 2025

- 10.16. The Strategy sets out the future envisaged for the city and the priorities were reset following wide consultation during 2020. Communities want to see a renewed focus on the six themes, including “Health – tackling physical and mental inequalities and ensuring fair access to integrated services”.

Manchester’s Building Back Fairer (Marmot) Framework (2022-2027)

- 10.17. The Framework sets out the interactivities between the eight identified themes and the four ways that community groups and trusted organisations need to be involved. The eight themes are:
- Communities & power
 - Early years, children & young people
 - Poverty, income & debt
 - Work & employment
 - Prevention of ill health & preventable deaths
 - Homes & housing
 - Places, transport & climate change
 - Systematic & structural racism & discrimination

Other Relevant Policy & Strategy

Public Health England (PHE) Spatial Planning for Health (2017)

- 10.18. This report provides evidence of links between spatial planning and health, focusing on five key built environment topics – neighbourhood design, housing, healthier food, natural and sustainable environment, and transport.

Public Health England (PHE) Health Impact Assessment in Spatial Planning (2020)

- 10.19. This document provides a guide for local authority public health and planning teams setting out process and practice with regard to the wider determinants of health and wellbeing for plan-making and the planning application process. It identifies eight categories of health and wellbeing outcomes in planning: reduce health inequalities; improve mental health and wellbeing; improve diet and weight; improve musculoskeletal health; improve respiratory health; improve cardiovascular health; protect environmental health; and provide access to health and care infrastructure and services. The guide is mostly associated with the plan-making and associated strategic environmental assessment processes. It does include an annex on integrating HIA in EIA and this does confirm the importance of a proportionate and justified approach”.

Greater Manchester (GM) Population Health Plan (2017-21)

- 10.20. Sets out the approach by the GM Health & Social Care Partnerships to delivery of a radical upgrade in population health across the city region. This strategic framework has been developed with Plan Objectives, as follows:
- Person & community centred approaches
 - Start well
 - Live well
 - Age well
 - System reform

Manchester City Council Population Health Plan (2018-2027)

10.21 The plan focuses on getting results in five crucial aspects of life:

- The first 1,000 days of a child's life
- Work and its positive impact on health
- Making social connections and changes that matter
- An age-friendly Manchester
- Action on preventable early deaths

10.21. An 11-point plan covers key factors – including the impact of housing. The plan recognises that “Better housing can help to prevent physical illness and reduce stress, and good heating and insulation helps to keep people well in winter. A good physical environment makes us more active and helps us access the services we need. Good-quality air prevents chest conditions getting worse, and reducing long-term exposure to pollution has many positive health benefits”. It also recognises the harm that social isolation can have on mental health and wellbeing.

Institute of Environmental Management and Assessment (IEMA) Effective Scoping of Human Health in EIA; Determining Significance for Human Health in EIA (November 2022)

10.22. Provides a framework that supports a proportionate approach that can apply to all scales and sectors of EIA. It confirms that a wider determinants approach should be taken by EIA scoping. An EIA health chapter is required when other EIA technical topics have been scoped in to assess likely significant effects on human receptors, or there is a likely significant change for the health of a group of individuals due to the proposed project and in a wider determinant of health not covered by other technical EIA topics.

Assessment Methodology and Significance Criteria

10.23. Health Impact Assessment (HIA) and health in EIA are separate processes, and there is no standard methodology for assessing health in EIA. The coverage of health in EIA need not be so comprehensive as the HIA that is used to inform detailed project design, but guidance documents for good practice in HIA can inform EIA practice in relation to human health and well-being. It is important that health in EIA is proportionate, balanced, and relevant. The approach here is proportionate - based on consultation responses, professional experience, and assessment of impacts against relevant baseline information. This is a Human Health assessment as part of an EIA; it is not a HIA. The Scoping Opinion received from MCC in May 2024 requires that a Human Health (HH) chapter should be provided within the EIA. The planning application for this Proposed Development is supported by an HIA Report that has been prepared in accordance with the requirements of Policy JP-P6, and this HH chapter draws upon the findings of the HIA Report.

10.24. Shaping Neighbourhoods: For Local Health and Global Sustainability (2003, 2010 & 2021) sets out the complexities of planning for health due to the multiple determinants and the need for cross-sectoral understanding and collaboration. This guide established a health map demonstrating the linkages between the global ecosystem, the natural and built environments, the local economy with communities, people, and their lifestyles. It explains the likely interactions between different sectors and seeks a common language for spatial planning and public health practitioners.

10.25. The complexities of investigating health impacts are recognised by Public Health England (PHE) and the Wider Determinants of Health tool is an ongoing project that provides resources for categories of factors that affect health, as follows: built and natural environment; work and the labour market; vulnerability; income; crime; education.

10.26. The London Healthy Urban Development Unit (HUDU) 'Healthy Urban Planning Checklist' (2017) provides a useful checklist that was developed for London but is applicable to development proposals in urban city centres elsewhere in the UK. The checklist aims to promote healthy urban planning by ensuring that the

health and wellbeing implications of local plans and major planning applications are consistently taken into account, through providing a set of themes and planning issues that can be used to assess development proposals. It can be used to help screen possible health impacts for a health impact assessment. Changes in certain determinants caused by development projects may affect the health and wellbeing of existing and new residents. The checklist is divided into four themes – healthy housing; active travel; healthy environment; and vibrant neighbourhoods. This HUDU checklist recognises that health and wellbeing can be affected by multiple determinants as shown in Figure 14.1.

- 10.27. The HUDU has further developed the checklist into a rapid HIA tool (London HUDU, 2019) that uses existing evidence to quickly assess the impacts of a development plan or proposal and recommend measures to address any negative impacts and maximise benefits. The tool is based on eleven topics or broad determinants of health and wellbeing focused on the built environment and issues influenced by planning decisions.
- 10.28. For the purposes of this Human Health (HH) assessment, we have applied the HUDU checklist and eleven topics to the Proposed Development in order to help determine the scope of the assessment by identifying the relevant topics. Applicable criteria/questions for each of the scoped topics were considered at the assessment stage in order to assess potential health impacts and the need for any mitigation or enhancement. Existing information and evidence were used, and impact assessment undertaken using professional judgment.
- 10.29. Housing design and affordability are key factors – provision of good quality residential development is known to have positive effects on health and wellbeing. This HIA will consider the findings from the EIA chapter on Townscape & Visual Impact (TVIA). The interaction with heritage and the historic environment can be a positive factor in supporting individual and community wellbeing – summary findings of studies will be considered with regard to human wellbeing.
- 10.30. Access to health and social care services and other social infrastructure is directly important for health. This health assessment considers the proximity, accessibility, and capacity (where possible) of health and medical centres and dentists in the vicinity of the Proposed Development. It considers the proximity and accessibility of gyms, leisure centres, sports/recreational and cultural facilities nearby since such activities are important contributors to health and wellbeing. Searches were made through web-based sources and using Google Maps to measure approximate distances by walking and/or public transport from the centre of the development area to the facility. The walkable zone was defined as a distance of about 1 mile from the site and equivalent to about 10-20 minutes' walk.
- 10.31. Access to open space and nature is a key factor. The proximity of open spaces and walking/cycling routes is investigated since access to open space and healthy modes of transport strongly contributes to healthier lifestyles and wellbeing. Does the proposal provide links between open and natural spaces and the public realm? Are the open spaces safe and accessible? Does the proposal set out how any new space will be managed and maintained?
- 10.32. Air quality, noise and neighbourhood amenity are important factors for health and wellbeing. Summary findings from the technical studies for air quality and noise are considered and their implications for health and wellbeing incorporated into this HH chapter. Effects were not considered to be significant enough for these topics to be scoped into the EIA.
- 10.33. Accessibility and active travel is well established as a major factor in health and wellbeing. Summary findings from the transport & traffic assessment technical study are considered and their implications for health and wellbeing incorporated into this HIA. Also, the Interim Travel Plan. Effects were not considered to be significant enough for these topics to be scoped into the EIA. The Proposed Development is located in the Manchester City Centre and richly served by a range of sustainable transport modes.
- 10.34. Crime reduction and community safety is a key factor in health and wellbeing for communities and this HIA considers those elements of the development proposals that contribute to safety.

- 10.35. Access to healthy food is another direct factor in health, such as accessibility to a range of retail and smaller food shops, including for affordability. Provision of allotments and encouragement of community gardens for food is not often within the scope or viability of proposed development.
- 10.36. Access to work and training is known to affect health and wellbeing. Whilst provision of training is beyond the scope of the Proposed Development, the location of the new homes close to a wide range of employment opportunities are considered within this HH chapter.
- 10.37. Social cohesion and inclusive design are key factors for health and wellbeing. This HH chapter considers the implications of the design and project proposals in this respect for the new communities; it also considers connectivity with the nearby existing residents and communities.
- 10.38. Minimising use of resources – does the proposal make best use of existing land? Does the proposal encourage recycling, including building materials? Does the proposal incorporate sustainable design and construction techniques?
- 10.39. Climate change is an increasingly vital factor in considering environmental sustainability and a healthy environment – and consequently, health and wellbeing for people and communities. Does the proposal ensure that buildings and public spaces are designed to respond to winter and summer temperatures? This is a concern for tall buildings and city centre locations - such risks were considered to be of likely significance and scoped into the supporting EIA. This HH will consider the findings from the EIA chapters on climate change; daylight, sunlight & overshadowing; and wind microclimate. Risks associated with flooding and ground contamination were identified as not significant for the EIA and these findings are noted within this HH.
- 10.40. Overall, the HH chapter aims to consider impacts associated with the construction and the occupational phases. It considers embedded mitigation provided through the design of the project – such as layout, together with specific mitigation for potential negative effects – such as the commitment to a Construction Environmental Management Plan (CEMP) to control and minimise any effects associated with nuisance noise and dust.
- 10.41. The HH chapter aims to identify any sensitive receptors, such as nearby schools and care homes. The complexities of investigating health impacts are appreciated, including the multifunctionalities and interconnectedness of factors. Therefore, the key findings are then considered within the four themes for healthy urban living - Healthy Housing; Active Travel; Healthy Environment; and Vibrant Neighbourhoods.
- 10.42. The baseline informing the assessment draws upon local health and wellbeing information and priorities, such as those set out in the Manchester Intelligence Hub, and as reported through Public Health England and the Office for National Statistics (ONS). The key baseline from relevant technical studies undertaken for the EIA, and other planning support studies, is considered, including risks to health/wellbeing such as from air quality, noise, climate change, daylight/sunlight/overshadowing, and the wind microclimate.
- 10.43. Further information on environmental sensitivity that might affect human health and wellbeing has been taken from Defra Magic Mapping. It has not been necessary for this assessment to undertake primary research or surveys and this desk-based approach using published information and professional judgment provides an appropriate level of detail to demonstrate that the requirements of Policy JP-P6 Health have been addressed.
- 10.44. The recent IEMA guidance (November 2022) suggests categories and wider determinants of health, and those relevant to the Proposed Development were identified, as follows:

Table 10. 1 EIA Wider Determinants of Health

Category	Wider Determinants of Health
Health related behaviours	Physical activity; diet & nutrition

Social environment	Housing; relocation; open space, leisure & play; transport modes & access; community safety; community identity & resilience; social participation, interaction & support
Economic environment	Education & training; employment & income
Bio-physical environment	Climate change mitigation & adaptation; air quality ; land quality ; noise & vibration; radiation
Institutional & built environment	Health & social care facilities; built environment; wider societal infrastructure & resources

10.47 The guide also sets out a generic human health magnitude criteria and significance criteria, as follows:

Table 10. 2 Human Health Magnitude Criteria

Category	Indicative Criteria (narrative based on professional judgment for magnitude change of population or sub-population)
High	high exposure or scale; long-term duration; continuous frequency; severity predominantly related to mortality or changes in morbidity (physical or mental health) for very severe illness/ injury outcomes; majority of population affected; permanent change; substantial service quality implications
Medium	low exposure or medium scale; medium-term duration; frequent events; severity predominantly related to moderate changes in morbidity or major change in quality-of-life; large minority of population affected; gradual reversal; small service quality implications
Low	very low exposure or small scale; short-term duration; occasional events; severity predominantly related to minor change in morbidity or moderate change in quality-of-life; small minority of population affected; rapid reversal; slight service quality implications
Negligible	negligible exposure or scale; very short-term duration; one-off frequency; severity predominantly relates to a minor change in quality-of-life; very few people affected; immediate reversal once activity complete; no service quality implication

Table 10.3 Human Health Significance Matrix

Magnitude	Sensitivity				
		High	Medium	Low	Very Low
	High	Major	Major/Moderate	Moderate/Minor	Minor/Negligible
	Medium	Major/Moderate	Moderate	Minor	Minor/Negligible
	Low	Moderate/Minor	Minor	Minor	Negligible
	Negligible	Minor /Negligible	Minor/Negligible	Negligible	Negligible

- 10.45. Therefore, a significant effect is reported in this assessment where, based on professional judgment, the Proposed Development is likely to contribute to a material change in health outcomes associated with the health issue being assessed and, in determining this, the following questions have been considered:
- Have significant effects been identified in other assessments undertaken as part of the EIA that are linked to human health (i.e. are environmental or health standards threatened)?
 - Are vulnerable groups affected?
 - Is the effect reversible or irreversible?
 - Does the effect occur over the short (less than one year), medium (one to five years) or long (over five years) term?
 - Is the effect permanent or temporary?
 - Does it increase or decrease with time?
 - Is the effect at an individual, community or population level?
 - Are mitigating measures available and is it reasonable to require these?
- 10.46. Effects that are described as 'minor' or 'negligible' are determined to be 'Not Significant' and effects that are described as 'moderate' or 'major' are determined to be 'Significant'. This takes into account the sensitivities of receptors (high, moderate, low) and as set out previously in Table 2.3 in the EIA Methodology (Chapter 2). The criteria and categories of significance applied in this human health impact assessment are, as follows:
- Major Adverse/Beneficial – important considerations at local or district scale; if adverse, are potential concerns to the project and may become key factors in the decision-making process; changes due to the project have a substantial effect on ability to deliver current health policy and/or ability to narrow health inequalities; changes due to the project could result in a regulatory or statutory threshold being crossed
 - Moderate Adverse/Beneficial – modest important local effects that, if adverse, may be key issues for decision-making; changes due to the project have an influential effect on ability to deliver current health policy and/or ability to narrow health inequalities; changes due to the project could result in a regulatory or statutory threshold being approached
 - Minor Adverse/Beneficial – Slight, short, or highly localised effects that, if adverse, are unlikely to be important in the decision-making process; changes due to the project have a marginal effect on ability to deliver current health policy and/or ability to narrow health inequalities
 - Negligible – no appreciable effects on health factors
- 10.47. Standardised sectoral thresholds and significance criteria have been used for each of the relevant technical factors that contribute to health and well-being, according to recognised guidance, standards, and assessment methods for townscape & visual impact; daylight, sunlight, & overshadowing; wind microclimate; climate change; and socioeconomics. Then, the overall likely significant effects on human health have been determined in a qualitative way using professional judgment.

Assumptions and Limitations

- 10.48. This Health Chapter considers the findings relevant to human health of each technical impact assessment scoped into the Environmental Statement – Townscape & Visual Impact (Chapter 8); Daylight, Sunlight & Overshadowing (Chapter 7); Wind Microclimate (Chapter 9); Climate Change (Chapter 6); and Socioeconomics (Chapter 11) – and, as such, any key assumptions or limitations associated with each technical impact assessment are addressed within the individual chapters. The overall approach for collating, assessing, and reporting impacts on human health and well-being is considered to be appropriate and proportionate such that there are no limitations. The assessment, set out in this ES Chapter, is desk-based and with professional judgment using published information.

Baseline Conditions

- 10.49. The Proposed Development is located within the Piccadilly Ward in Manchester City Centre. The Site is largely unoccupied, with its former use being a telephone exchange along with surface car parking and two buildings that are partly used for storage and distribution.

- 10.50. Population & Life Expectancies: There are approximately 14,000 people living in Piccadilly Ward according to the ONS Census population estimates. The working age population in the Ward is 13,436 and this is within the second highest range for all Wards of 12,650 – 13,643, and compares to 16,400 for the adjacent Deansgate Ward in the City Centre. The proportion of the population represented by children under 16 years age is very low at 297 for Piccadilly and similar for the adjacent Deansgate Ward at 280. The proportion of older persons at 65+ years is similarly very low at 2 and compares with adjacent Deansgate at 1. According to OHID (previously PHE) data (2016-2020), life expectancy at birth for Manchester is 75.6 (males) & 79.7 (females) compared with 79.5 (males) & 83.2 (females) averaged for England. Provisional estimates of life expectancy at birth show the impact of the Covid-19 pandemic. Life expectancy at birth for females is 87.7 years in the Piccadilly Ward and this is the highest of all the wards in Manchester. No data are available for males in the Piccadilly Ward.
- 10.51. The size of the fall in life expectancy in Manchester is more than that seen in England overall, widening inequalities in life expectancies between Manchester and the national average. Physically active adults (2019-20) are recorded at 62.4% for Manchester, lower than that averaged for England at 66.4%. Percentage of adults classified as overweight or obese are recorded at 61.0%, slightly lower than the 62.8% averaged for England. The excess winter deaths index (2019-20) at 18.3% was slightly higher than the averaged value of 17.4% for England.
- 10.52. Health & Inequalities: The Manchester State of the City Report (2022) reports on progress with various matters including reducing health inequalities. It reports that people with higher levels of wellbeing have lower rates of illness, recover more quickly (and for longer), and generally have better physical and mental health. Individuals in Manchester have overall poorer scores on self-reported life satisfaction than England as a whole. In 2019/20, 5.4% of adults in Manchester had a low life-satisfaction score compared with 4.7% of adults across England as a whole – a difference of 0.7 percentage points.
- 10.53. In 2021, 13.3% of respondents in Manchester said they had a long-term mental health problem compared with 11% of respondents across England as a whole. Infant deaths (deaths to children aged under one year of age) are an indicator of the general health of the entire population. They reflect the relationship between causes of infant mortality and other determinants of population health, such as economic, social, and environmental conditions. The infant mortality rate in Manchester has improved substantially in recent years. Between the periods 2001–03 and 2011–13, the rate fell by 87%.
- 10.54. Physical inactivity is the fourth-leading risk factor for global mortality. Data from the Sport England Active Lives Adult Survey for 2020/21 shows that the proportion of adults aged 19 and over in Manchester classed as ‘inactive’ has fallen slightly from 26.5% in 2019/20 to 24.6% in 2020/21. In contrast, the proportion of adults across England as a whole classed as ‘inactive’ has increased over the same time period (from 22.9% in 2019/20 to 23.4% in 2020/21). However, the proportion of adults in Manchester classed as ‘inactive’ remains higher than the England average.
- 10.55. The Proposed Development is located in Piccadilly Ward. According to MCC Intelligence Hub information using Ward profiles, the Piccadilly Ward has very good health (2011 self-assessment from residents of the state of their general health), within the medium range for the City. Emergency hospital admissions for all causes are low at 36.3, compared with other Wards, and at the lowest of the range 36.3-186.7 for all Wards – indicating less poor health. The Index of Multiple deprivation (IMD) is an overall relative measure of deprivation constructed by combining seven domains of deprivation – Income; Employment; Education; Skills & Training; Health & Disability; Crime; Barriers to Housing Services and Living Environment. The Piccadilly Ward has a IMD score (2019) of 26.83, (the least deprived is in the range 15.5-31.1 with 48.4-62.7 indicating the most deprived) indicating that Piccadilly is one of the least deprived Wards in the City.
- 10.56. The Piccadilly Ward also shows good health when other indicators are considered. The number of estimated households in fuel poverty (2020) was 426 which is within the lowest range for the City. The number of residents claiming benefits (Feb 2022) is the amongst the lowest in the City at 781 for a range of 540 – 6,727 for all Wards. The total reported street crimes for 2018 was 16,552, similar to adjacent Wards, and at the higher end of the range from 1,343 – 16,552 for all Wards.

- 10.57. Housing: Data from the 2021 Census shows that there are around 11,663 usual residents in the Piccadilly Ward and that most (10,313) live in a household, with 1,350 living in communal establishments. The GM Housing Strategy and the GMJDP objectives include delivery of just over new 175,000 homes over the plan period (2022 -2039).
- 10.58. Health Services & Other Social Infrastructure: There is a range of services and community facilities within close proximity (10-20 minute walk, a 1 mile radius) of the site. There are ten GP practices/medical centres within the local level of around 1 mile (20-25 minute walk) of the Site. As of January 2024, there are 2,294 patients per GP in England – an average that has increased by 7% since 2019 (Royal college of General Practitioners). As at July 2021, there were 85 GP practices in Manchester with large variation in the number of patients registered at the practices. This ranges from 1,820 for the smallest through to 23,096 for the largest practice with a citywide total of 679,284 patients registered at Manchester GP practices. According to the BMA, GP practices across England are experiencing significant and growing strain with declining GP numbers, rising demand, struggles to recruit and retain staff – with knock-on effects for patients.
- 10.59. Thus, there is a national and fast-changing situation relating to GP practices, capacities, services and meaningful ratios of GP to patients. The precise numbers of patients and capacities for new patients at GP practices in the vicinity of the Site are not known, although an initial web-based search indicated that some of the GPs appear to be taking on new patients. The Piccadilly Ward populations comprise almost entirely of people aged 16-64 (97%) of which the vast majority are under the age of 40 (92% aged between 16-39). On the reasonable assumption that a more elderly patient profile is likely to generate higher demand for primary healthcare services, it is therefore more likely that practices operating locally can sustainably support higher patient to GP ratios.
- 10.60. There are 16 dental practices within around 1 mile radius of the Site. It is not known how many of these dental practices are taking on new patients nor how many of these will take NHS patients. Studies by the BBC and the British Dental Association (BDA) in 2022, found that 9 in 10 practices in England are reporting that they are unable to take on new adult patients on the NHS. The BDA continues to lobby for reform and fair funding for NHS dentistry, and as with GPs, this situation with dentists is national and appears to be somewhat changeable. Again, the likely demographics for working age residents in the Piccadilly Ward indicate that the current dental practices may be able to accommodate demand from the increased number of residents.
- 10.61. Hospitals are located to the south-east and around 1.8 miles distance – with good sustainable transport possibilities. There are 2 care/retirement/nursing homes within the vicinity – about 0.9 miles distance from the Site. There are 2 nursery schools located Store Street/Sheffield Street and less than 0.1 mile from the Site. There are 4 primary schools located around at some 0.9 mile distance from the Site. Secondary schools are further away and accessible through good sustainable transport options. There are 2 community centres within 1 mile of the Site.
- 10.62. The Site is located within the Manchester City Centre where there is a rich variety of cultural, health & wellbeing services and facilities available. This includes museums and art galleries, theatres and cinemas, cafes/bars and restaurants. There are some 15 gyms/sports centres within a 1 mile radius of the Site, including 3 centres with swimming pools. There are some 6 yoga studios/wellness centres and 2 pilates studios within a 1 mile radius of the Site.
- 10.63. Crime: The total reported street crimes for 2018 in the Piccadilly Ward was 16,552, similar to adjacent Wards, and at the highest end of the range from 1,343 – 16,552 reported within Manchester.
- 10.64. Employment & Economy: Total number of people in employment within the Piccadilly Ward in central Manchester was 85,000 in 2022, accounting for some 20% of Manchester's total employment (432,000). Though high at the district level, the claimant count is far lower (1.1%) at a more localised level (Deansgate and Piccadilly Wards). Similarly, Manchester's unemployment rate (5.5%) is higher compared to Greater Manchester (4.4%), regionally (3.9%) and nationally (3.8%).
- 10.65. Open Space & Nature: There a number of open/amenity spaces in proximity to the Site (less than 1 mile) including Piccadilly Gardens, Sackville Gardens, Mayfield Park, Gartside Gardens and All Saints Park. Within

less than 0.25 miles, there is walking and cycling access to wider networks of open/green space, for example, the Rochdale Canal and Ashton Canal towpaths, and beyond – such as the Beeway cycle & walking routes, the Manchester Green Trail, the Bridgewater Way, and the GM Ringway. The Ashton Canal Site of Biological Importance (SBI) is located close to the north of the Site, above ground within the Store Street Viaduct.

- 10.66. Air Quality: As with the majority of Manchester City Centre, the Site is located within the Greater Manchester Air Quality Management Area (AQMA). Local air quality at the Site is and will be affected by local traffic flows. Noise & Vibration: The general noise environment at and around the Site is principally determined by road traffic. Flood Risk: The site is within Flood Zone 1 and, therefore, at low risk of flooding. Travel: The Site is one of the most accessible in the city, being adjacent to Manchester Piccadilly with excellent access to rail, Metro, bus services and a wide network of pedestrian and cycling infrastructure.
- 10.67. Townscape & Visual Impact; Heritage: The Site is located within the Piccadilly area of the Manchester City Centre, approximately 170m north east of Piccadilly railway station. This area of Piccadilly is currently undergoing significant urban regeneration and comprises several modern apartment and office buildings and construction sites. The Site is not located in any designated Conservation Area and there are no nationally listed heritage assets on the Site, although there are a number of nearby listed assets. The site is a negative contributor to the local environment and street scene in terms of its visual appearance.
- 10.68. Climate Change: Greenhouse gas (GHG) emissions occur constantly and widely as a result of human and natural activity. As the site is currently vacant, there are no significant GHG emissions associated with the site in the baseline. Daylight, Sunlight & Overshadowing: The Site is currently undeveloped and is located in a city centre, dense urban location. Wind Microclimate: 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. The baseline studies identified that winter conditions are suitable for sitting and standing; summer conditions are suitable for seating; and there are no safety exceedances at ground or elevated levels.

Identification and Evaluation of Key Impacts

- 10.69. Housing: The Proposed Development includes 359 residential apartments and 5 townhouses (1, 2 & 3 bed types), thus offering a range of housing types to contribute to the identified housing need with major positive effects towards housing objectives. Good quality housing is associated with better health and wellbeing. Improvements in the stock of housing types will also contribute towards objectives for reducing health inequalities. The apartment layouts have been designed, wherever possible, to conform to optional requirements for accessible and adaptable dwellings. The ground floor level has been set to allow level access at the reception entrance on the corner of Sparkle Street and Store Street. Overall, the provision of good quality, accessible and adaptable housing within the city centre sustainable location is likely to have Moderate Beneficial Effects.
- 10.70. 10.72 Employment & Economy: During the construction phase a variety of jobs would be supported – on and off Site – temporary, short term and Minor Beneficial (Not Significant). A small number of jobs (around 5 FTEs) will be supported during the operational phase, and additional MCC tax receipts will be secured for reinvestment in the local communities – overall effects are likely to be Minor Beneficial (Not Significant).
- 10.71. 10.73 Healthcare Facilities: There appears to be a national and fast-changing situation relating to GP provision – staffing, capacities, services - and meaningful ratios of GPs and other health professionals to patients; also, for dentists and particularly provision of NHS dentists. Needs and demands are changing. There are a variety of healthcare services and facilities within good accessibility of the Site. Given the demographic profile of the existing local resident population, it is likely that residents living at the Proposed Development and nearby baseline developments will generate a generally lower level of demand for primary healthcare services. Effects are considered to be Negligible.
- 10.72. 10.74 Educational Facilities: There are 4 primary schools located around at some 0.9 mile distance from the Site. Secondary schools are further away and accessible through good sustainable transport options. . Effects are considered to be Negligible.

- 10.73. **Crime:** There is likely to be less risk of crime since there will be new occupied buildings with security measures rather than a vacant site – Minor Beneficial (Not Significant).
- 10.74. **Open Space, Recreation & Amenity:** An uplift in resident population will increase demand and usage of nearby open space and recreation facilities. However, the Proposed Development will bring forward new internal and external amenity space and there is a wide array of leisure and amenity facilities located within the assessment area, such that overall the impacts are considered to be Negligible.
- 10.75. **Townscape & Visual Impact:** During the construction phase, sources of townscape and visual effects include site set up and compound, boundary fencing, site clearance, groundworks, access, and contractor parking, plant and equipment. Measures to control construction impacts will be incorporated into a Construction Environmental Management Plan (CEMP). The predicted townscape effects on Character Areas are Minor-Moderate Beneficial and Minor – Moderate Neutral; all are considered to be Not Significant. The level of predicted townscape effects as a result of the Site development proposals are considered to range from Negligible to Major Neutral. The magnitude of change and resulting predicted cumulative visual effects are similar.
- 10.76. **Climate Change:** The Proposed Development in design, as far as reasonably practicable, minimises GHG emissions throughout the life cycle of the development climate change, maximises the potential for adaptation to climate change in the future, and minimises the risk of loss of operational performance due to the impacts of climate change on interdependent infrastructure. During construction there will be some embodied carbon emissions associated with construction materials and their transport to the Site – Minor Adverse (Not Significant). During the operational phase, effects for embodied carbon emissions and operational energy emissions are predicted to be Minor Adverse (Not significant); end-of-life embodied carbon emissions Minor Adverse (Not Significant).
- 10.77. **Daylight, Sunlight & Overshadowing:** The city centre location of the Site and its surroundings were taken into account in assessing such amenity impacts. With regard to sunlight and daylight, effects for the operational building were found to be Negligible to Moderate Adverse and these are considered to be Not Significant in the context of a city centre and regeneration. The Proposed Development has been carefully designed to minimise the potential for overlooking into surrounding properties.
- 10.78. **Wind Microclimate:** Conditions have been assessed on local thoroughfares, building entrances (both for the Proposed Development and surrounding buildings), existing ground floor amenity spaces and elevated level balconies, proposed amenity spaces (both at ground and elevated levels) and proposed private terraces (both at ground and elevated levels). With mitigation provided by screening at one ground level location, there are no wind safety risks – conditions are suitable for planned uses. During both construction and operation, wind effects are predicted to be Negligible.
- 10.79. Post-mitigation residual effects are summarised in the tables 10.5-10.6, as follows:

Table 10.5 – Summary of Receptors, Likely Significant Effects, Mitigation Measures, and Residual Effects during the construction phase. Significant Receptors listed as identified from each technical chapter and as relevant according to those presented in paragraph 10.42 previously – workers, residents & visitors (nearby & site), and pedestrians – during construction and operational phases.

Likely Significant Effect	Receptor(s)	Mitigation Measure	Means of Implementation of Mitigation	Post Mitigation Residual Effect – Significance and Duration (i.e., Temporary/Permanent)
Construction Phase				
Socioeconomics: Employment	Workers & local economy	N/A	N/A	Negligible

Likely Significant Effect	Receptor(s)	Mitigation Measure	Means of Implementation of Mitigation	Post Mitigation Residual Effect – Significance and Duration (i.e., Temporary/Permanent)
Wind Microclimate	Passers by	Screening & practices to reduce nuisance wind	CEMP	Negligible

Table 10.6 – Summary of Receptors, Likely Significant Effects, Mitigation Measures, and Residual Effects during the operational phase

Likely Significant Effect	Receptor(s)	Mitigation Measure	Means of Implementation of Mitigation	Post Mitigation Residual Effect – Significance and Duration (i.e., Temporary/Permanent)
Operational Phase				
Socioeconomics: Employment	Workers & local economy	N/A	N/A	Negligible
Socioeconomics: LA income	MCC rates & tax	N/A	N/A	Minor Beneficial (Not Significant)
Socioeconomics: Healthcare	Residents	N/A	N/A	Negligible
Socioeconomics: educational	Residents	N/A	N/A	Negligible (Not Significant)
Socioeconomics: Open Space & Amenity	Residents & visitors	N/A	N/A	Negligible
Housing	Residents	N/A	N/A	Moderate Beneficial
Townscape Character	Residents & visitors	N/A	N/A	Minor Beneficial (x1); Negligible (x8) Temporary, Not Significant
Views	Residents & visitors	N/A	N/A	Negligible (x3) – Minor-Moderate Neutral (x8) – Moderate Adverse (x1)
Daylight, Sunlight & Overshadowing	Residents & visitors	N/A	N/A	Negligible to Moderate Adverse - Not Significant
Wind Microclimate	Residents, visitors	N/A	N/A	Negligible

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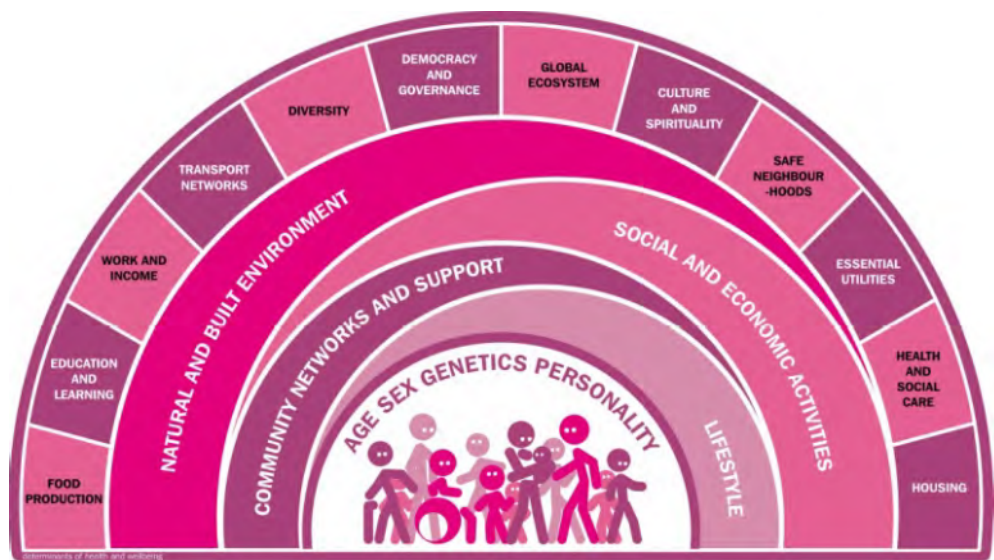
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Defra Magic Mapping <https://magic.defra.gov.uk/MagicMap.aspx>

Figure 10.1



The Determinants of Health and Wellbeing (London HUDU, developed from Barton & Grant 2007)

Not to Scale

Date: December 2023

11. Socio-Economic

Introduction

- 11.1. This Chapter of the ES has been prepared by Deloitte and assesses likely Socio-Economic impacts of the Proposed Development upon the Site and surrounding area during construction and operational phases. This Chapter also describes the methods used to assess these impacts, the existing baseline conditions, the proposed mitigation measures required to prevent, reduce, or offset any significant negative impacts and the likely residual impacts after these methods have been adopted.
- 11.2. The authors of this chapter are Michael Percival and John Cooper. John has a master's degree from University of Manchester and has over 25 years' experience as a planning consultant and has worked on over 100 EIAs, including socio-economic chapters. Michael also has a master's degree from the University of Manchester in Town and Country Planning and has worked on over 25 EIAs since joining as graduate in 2014, including the production of socio-economic chapters. Deloitte is a leading multi-disciplinary consultancy and a member of IEMA, with expertise across a range of fields including economic analysis and impact assessments. Deloitte has provided lead support on planning applications on various topic areas in addition to planning and EIA consultancy for a wide range of development schemes in Manchester and further afield.

Assumptions and Limitations

- 11.3. There are no recognised criteria for the assessment of socio-economic impacts, although guidance is expected from IEMA later in 2024. Therefore, Deloitte has drawn on expertise and experience of working in the subject area, which has allowed for a structured approach to quantifying and assessing the scale and nature of potential impacts relative to baseline conditions. In cases where impacts could not be quantified, a qualitative judgement has been made.
- 11.4. The most up to date data from official published sources has been used, however there are some limitations in the baseline data. Where this is the case, Deloitte has sought to gather data most closely aligning to the chosen study/impact area and clearly stated what geography the data collected refers to.

Policy Context

National Policy (NPPF 2023)

- 11.5. In 2023, the UK Government published the revised version of the National Planning Policy Framework (NPPF). The NPPF provides a summary of all the Government's planning policies for England and how they should be applied.
- 11.6. Paragraph 8 states that achieving sustainable development means that the planning system has 3 objectives, which are interdependent and need to be pursued in mutually supportive ways:
- An economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
 - A social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and
 - An environmental objective – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently,

minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

- 11.7. The "Building a strong, competitive economy" chapter provides insight into the expectations of developments. In paragraphs 81-85, the document states that the Government is committed to securing economic growth in order to create jobs and prosperity, building on the country's inherent strengths, and to meeting the twin challenges of global competition and a low carbon future.
- 11.8. Paragraph 62 states that within this context, the size and type of housing needed for different groups of people (e.g. students, young professionals, families, disabled people) should be assessed and reflected in planning policies.
- 11.9. Paragraph 93 notes that planning policies should ensure an integrated approach to considering the location of housing, economic uses and community facilities and services, as well as plan positively for the provision and use of shared space, community facilities, (such as local shops, meeting places, sports venues, cultural buildings, public houses and places of worship) and other local services to enhance the sustainability of community and residential environments.

Sub-Regional Policy

- 11.10. Places for Everyone is the long-term plan of nine Greater Manchester districts (all Greater Manchester districts except for Stockport) for jobs, new homes and sustainable growth. The plan sets out a strategic policy framework for the nine districts and helps these areas to meet their local housing and employment needs by identifying land and infrastructure. The plan outlines the role of the city centre as the most significant economic location in the country outside of London and the need for it to be strengthened significantly.
- 11.11. There is a strong focus in this Plan on directing new housing towards previously developed sites within existing urban areas. This will help to address existing derelict and underutilised sites, as well as reducing the need to release greenfield and Green Belt land for development. Previously developed sites are often in relatively sustainable locations, close to facilities and served by existing infrastructure, and hence their reuse for housing can support wider objectives. Policy JP-H 4 'Density of New Housing' will ensure that the most is made of such sites, particularly in more accessible locations, further reducing the need for additional land release.
- 11.12. The Greater Manchester Housing Strategy (2019) identifies safe, decent and affordable housing with homes to fit the needs of current and future citizens as its priority. The Mayor's Town Centre Challenge has focused attention and brought different stakeholders and communities together to plot a new future for town centres across Greater Manchester. Increased town centre living is a common theme – meaning there is a need to make town and district centres attractive places to live. Using brownfield sites in and beyond town centres for housing is a vital part of the Places for Everyone strategy.
- 11.13. The Greater Manchester Local Industrial Strategy (2019) describes the city-region's economy as robust, diverse and growing. The Strategy states that the city region will take an integrated place-based approach to bringing forward strategic regeneration proposals in town centres and strategic sites, which integrate investment in land remediation, housing transport and other infrastructure to create sustainable employment locations.

Local Policy

- 11.14. The Manchester Core Strategy (2012) provides a comprehensive overview of Manchester's planning direction from 2012 to 2027, in line with national policies. It guides the location of significant development and investments to meet local needs and optimize opportunities, promoting sustainability. The key principle of the Core Strategy is to centralize economic and commercial development, retail, leisure, and cultural activities in Manchester's regional centre.
- 11.15. In the Manchester Housing Strategy (2022), it's acknowledged that the city has experienced massive population growth, with a continued growing demand for new homes, even with more homes being built in

the city centre than at any time since the 2008 economic downturn. The Strategy aims to build 32,000 new homes by 2032, prioritizing 10,000 affordable homes and 3,000 within the city centre, with 80% built on brownfield sites, close to public transport.

- 11.16. Manchester's new Economic Strategy 'Investing In Success' (2023) reports that despite building 22,350 new homes between 2011-2021, the city's economic success has led to heavy demands on the housing market. The Strategy specifically cites substantial increases (+243%) in the median house price over a 20 year period and outlines the affordability challenges that renters face, including the substantial rental value differences between city centre and out of centre locations. While the Housing Strategy aims to build 32,000 new homes by 2032, the rest of Greater Manchester may need to build new housing in more "better connected" locations to meet future demand and achieve inclusive economic growth.

Assessment Methodology and Significance Criteria

- 11.17. This Chapter assesses the following scenarios:
1. Baseline, including developments under construction
 2. Baseline, including developments under construction, with Proposed Development
 3. Scenario 2 plus cumulative schemes with permission but not yet under construction
- 11.18. Scenario 1 represents the existing baseline and so this is addressed in 'Baseline Conditions' helping to inform the sensitivity of socio-economic receptors. For the purposes of clarity, developments identified in Appendix 2.2 in the baseline are considered relevant in the assessment of socio-economic effects and are taken into account when assessing the sensitivity of socio-economic receptors.
- 11.19. Scenario 2 is addressed within the 'Identification and Evaluation of Likely Significant Effects' section whereas Scenario 3 is addressed within the 'Cumulative Effects' section. Scenario 3a considers the cumulative effects of the identified committed developments, all of which are considered relevant in the assessment of socio-economic effects.

Study Area

- 11.20. The anticipated effects of the Proposed Development are set out in more detail in Table 11.1. The likely effects influence the geography over which the study area is considered. The effects of the Proposed Development are considered across the following geographies:
- Local level – the definition of the local study area varies depending on the effect being assessed and any associated need to use bespoke catchments and/ or administrative spatial scales as set out within relevant local and regional policies (see Table 15.1 and Figure 15.1). This can include the ward level administrative boundaries as well as a relevant walking distances or distance radii from the Site.
 - District – Manchester City Council (MCC) is identified as the administrative area in which the Proposed Development is located and the area in which housing and employment targets are set. For some receptors, the appropriate study area is the district level.
 - Sub-regional – Greater Manchester is predominantly considered when assessing temporary construction employment effects of the Proposed Development. For some receptors, the appropriate study area is the sub-regional level.

Table 11.1 – Geographical Study Areas

Effect	Study area	Justification
Change in temporary employment during the construction stage	Sub-regional (Greater Manchester)	Construction labour is likely to be drawn from a wide geography across Greater Manchester.
Change in direct operational employment	District (MCC)	Employment/economy targets are set at district level.
Change in economic performance (GVA and spend)	District (MCC)	Employment/economy targets are set at district level.
Change in annual fiscal contributions in the form of business rates and council tax contributions	District (MCC)	Revenue from council tax is collected at a local authority level. Business rates revenue is collected nationally with a proportion retained by the local authority.
Change in demand for healthcare facilities (GP services and dentists) as a result of the uplift in population	One mile from the Site	Based on Healthy Urban Development Unit (HUDU) guidance indicating that impact on GP capacity should be assessed within one mile catchment from any Proposed Development.
Change in demand for early years and primary school places arising from the uplift in population	Two miles from the Site and ward level for childcare provision	Information/data regarding primary pupil planning areas is not available in the public domain. The Department for Education statutory walking distance of 2 miles (for children up to age of 8) is used as a guide. Childcare sufficiency in Manchester is considered at the ward level.
Change in demand for secondary school places arising from the uplift in population	Three miles distance from the Site	Information/data regarding secondary pupil planning areas is not available in the public domain. The Department for Education statutory walking distance of 3 miles (for children aged of 8-16) is used as a guide.
Change in demand for the use of the existing open space and amenity space and children's play space within close proximity to the Site.	Piccadilly ward	Benchmarks for both quality and quantity of open / amenity space provision are typically provided at the district level. In the absence of up to date, locally set benchmarks for the provision of accessible open/green space, the Fields in Trust 6 acre (2.4 ha) per 1,000 population benchmark is applied at a Ward level geography. This reflects the areas of open and amenity space and leisure facilities that residents of the Proposed Development would typically use on a day-to-day basis.

11.21. In addition, national level data is also included within the baseline assessment, where relevant, to provide additional context and to help determine the sensitivity of baseline conditions in other geographies.

Source of Effect

- 11.22. Socio-economic effects are likely during both the construction and operational phases of the Proposed Development. Table 11.2 describes the likely socio-economic effects from the Proposed Development and their relevant receptors.

Table 11.2 – Likely Effects and Relevant Receptors

Effect	Description	Receptor
Change in temporary employment during the construction stage	The construction of the Proposed Development will create temporary employment within the construction sector.	Individuals seeking construction employment
Change in direct operational employment	The operation of the Proposed Development could generate direct, on-Site employment as well as further indirect and induced employment within the local economy.	Individuals seeking employment
Change in economic performance (GVA and spend)	The economic output and local spending impacts of employment generated as a result of the Proposed Development	The local economy
Change in annual fiscal contributions in the form of business rates and council tax contributions	The revenue to the local authority generated by the Proposed Development through residential uses (council tax) and commercial uses (business rates)	Manchester City Council total business rates and council tax revenue
Change in demand for healthcare facilities (GP services and dentists) as a result of the uplift in population.	An increase in resident population could affect the balance of supply of the provision of local primary healthcare services such as GPs and dentists	Primary healthcare facilities
Change in demand for early years and primary school places arising from the uplift in population.	An increase in resident population could yield pupils of school age who may affect the balance of supply of the provision of local early years childcare and primary schools	Early years and primary education facilities
Change in demand for secondary school places arising from the uplift in population.	An increase in resident population could yield pupils of secondary school age who may affect the balance of supply of the provision of local secondary schools	Secondary education facilities
Change in demand for the use of the existing open space and amenity space and children's play	An increase in resident population could affect the balance of supply of the provision	Users of open space and children's play space

Effect	Description	Receptor
space within close proximity to the Site.	of open /amenity space and children's playspace.	

Significance Criteria

Receptors and Receptor Sensitivity

- 11.23. The sensitivity of each receptor, outlined in Table 11.3, is evaluated as being high, medium, low, or negligible based on a review of the baseline position of each receptor, and where relevant, its performance against other benchmark areas. Where relevant, the importance of the receptor in local and regional policy terms is also considered in defining its sensitivity.

Table 11.3 – Definition of Receptor Sensitivity

Sensitivity	Definition
High	Evidence of direct and significant socio-economic concern relating to the receptor. May be given a high priority in local, regional and/ or national economic and regeneration policy.
Medium	Some evidence of socio-economic concern linked to receptor, which may be indirect. Change relating to receptor has medium priority in local, regional and/ or national economic and regeneration policy.
Low	There is little evidence of socio-economic concern relating to receptor. Receptor is given a low priority in local, regional and/ or national economic and regeneration policy.
Negligible	Very low importance with little or no priority even at the local scale.

Magnitude of Impact

- 11.24. The magnitude of impact experienced by each receptor is determined by considering the change from (future) baseline conditions, both before and (if required) after mitigation. The criteria used for the assessment of the magnitude of socio-economic impacts (both beneficial and adverse) are outlined in Table 11.4.

Table 11.4 – Definition of Magnitude

Magnitude	Definition
Major	Loss of resources and/ or integrity of resource; severe damage to key characteristics, features, or elements.
	Large scale or major improvement of resource quality; extensive restoration or enhancement; major improvement of attribute quality.
Moderate	Loss of resource, but not adversely affecting its integrity; partial loss of and/ or damage to key characteristics, features, or elements.

Magnitude	Definition
	Benefit to and/ or addition of key characteristics, features, or elements; improvement of attribute quality.
Minor	Some measurable change in attributes, quality, or vulnerability; minor loss of and/ or alteration to one (or more) key characteristics, features or elements.
	Minor benefit to and/ or addition of one (or more) key characteristics, features, or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	Very low importance with little or no priority even at the local scale.

Nature of the Effect

11.25. The nature of the effect is either defined as either:

- Beneficial – an advantageous effect on the impact area; or
- Adverse – detrimental effects on the impact area; or
- Neutral – neither beneficial nor adverse.

11.26. Combining sensitivity of a receptor with its magnitude gives an indication of whether the effect is likely to be significant or not, and whether that effect is beneficial, adverse or neutral.

Table 11.5 - Nature of Effect

Magnitude	Sensitivity		
	High	Moderate	Low
Major	Major Adverse/Beneficial	Major - Moderate Adverse - Beneficial	Moderate - Minor Adverse - Beneficial
Moderate	Major - Moderate Adverse/Beneficial	Moderate - Minor Adverse – Beneficial	Minor Adverse/Beneficial
Minor	Moderate – Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor-Negligible
Negligible	Negligible	Negligible	Negligible

Baseline Conditions

11.27. Prior to considering the socio-economic effects, it is necessary to establish a clear understanding of baseline socio-economic conditions within the geographical areas relevant to the site. The current status of the Site has been considered, with current on-site activity comprised of a surface level car park of low-quality hardstanding. In addition, the site is not in a conservation zone and there are no listed buildings in situ.

11.28. In order to assess the baseline conditions, trends in the change over time of key socio-economic indicators will be analysed and compared to those for the Northwest and nationally.

- 11.29. A full analysis of the following issues has been undertaken:
- Population
 - Housing (tenure)
 - Education and learning
 - Health Care
 - Employment and local labour market
 - Deprivation
- 11.30. As part of the baseline analysis within the ES Technical Chapter, consideration is given to how the baseline would evolve in absence of the Proposed Development, albeit recognising the impact of the wider macro-economic factors.
- 11.31. Baseline data for Manchester, collected across the key indicator groups above, is highlighted within the subheadings below.

Population

- 11.32. There are approximately 14,000 people living in Piccadilly Ward according to the ONS Census population estimates. The working age population in the Ward is 13,436 and this is within the second highest range for all Wards of 12,650 – 13,643 and compares to 16,400 for the adjacent Deansgate Ward in the City Centre. The proportion of the population represented by children under 16 years age is very low at 297 for Piccadilly and similar for the adjacent Deansgate Ward at 280.

Housing (tenure)

- 11.33. Data from the 2021 Census shows that there are around 11,663 usual residents in the Piccadilly Ward and that most (10,313) live in a household, with 1,350 living in communal establishments. The GM Housing Strategy and the GMJDP objectives include delivery of just over new 175,000 homes over the plan period (2022 -2039).
- 11.34. On a local level, it is estimated that there is an identified shortfall of 500 homes per annum within Manchester's Housing Strategy (2023) and this deficit needs to be addressed to manage the risk of inflating the cost of accommodation. Overall, there is a target for 35,000 new homes within Manchester over the next 15-year period.

Education and learning (existing schools)

- 11.35. There are no current primary schools in the Piccadilly ward, but within 1.3 miles walking distance of the Site there are four primary schools, namely the Co-op Academy New Islington, Co-op Academy Medlock, St Anne's RC Primary School, St Patrick's RC Primary School and Ashbury Meadow Primary School. There are approximately 1,500 primary school places available within these 5 schools¹ and it is considered that there is sufficient capacity within these schools given there are currently only people under the age of 16 in this ward. There are no new primary schools currently planned within this radius.
- 11.36. In addition to the primary schools above that operate a nursery, there are several additional nurseries within a 1-mile walking distance, namely Little Learning Ladders in New Islington. It is considered that there is capacity in nearby nurseries for the existing population demographic.
- 11.37. Secondary schools have a larger catchment area of 2-miles walking distance and the three closest secondary schools to the Site are the East Manchester Academy, the Dean Trust Ardwick, Trinity High School, and the Co-op Academy Belle Vue, which are all under 1.5 miles walking distance from the Site. Overall, it is considered by the Local Authority that there is sufficient capacity in schools within the 2-mile walking distance catchment area for the existing population.

¹ <https://www.gov.uk/government/publications/net-capacity-assessment-tool>

Health Care

- 11.38. There is a range of services and community facilities within close proximity (10–20-minute walk, a 1 mile radius) of the site. There are ten GP practices/medical centres within the local level of around 1 mile (20–25-minute walk) of the Site. As of January 2024, there are 2,294 patients per GP in England – an average that has increased by 7% since 2019 (Royal college of General Practitioners). As of July 2021, there were 85 GP practices in Manchester with large variation in the number of patients registered at the practices. This ranges from 1,820 for the smallest through to 23,096 for the largest practice with a citywide total of 679,284 patients registered at Manchester GP practices. According to the BMA, GP practices across England are experiencing significant and growing strain with declining GP numbers, rising demand, struggles to recruit and retain staff – with knock-on effects for patients.
- 11.39. Thus, there is a national and fast-changing situation relating to GP practices, capacities, services, and meaningful ratios of GP to patients. The precise numbers of patients and capacities for new patients at GP practices in the vicinity of the Site are not known, although an initial web-based search indicated that some of the GPs appear to be taking on new patients. The Piccadilly Ward populations comprise almost entirely of people aged 16-64 (97%) of which the vast majority are under the age of 40 (92% aged between 16-39). On the reasonable assumption that a more elderly patient profile is likely to generate higher demand for primary healthcare services, it is therefore more likely that practices operating locally can sustainably support higher patient to GP ratios.
- 11.40. There are 16 dental practices within around 1 mile radius of the Site. It is not known how many of these dental practices are taking on new patients nor how many of these will take NHS patients. Studies by the BBC and the British Dental Association (BDA) in 2022, found that 9 in 10 practices in England are reporting that they are unable to take on new adult patients on the NHS. The BDA continues to lobby for reform and fair funding for NHS dentistry, and as with GPs, this situation with dentists is national and appears to be somewhat changeable. Again, the likely demographics for working age residents in the Piccadilly Ward indicate that the current dental practices may be able to accommodate demand from the increased number of residents.
- 11.41. Hospitals are located to the south-east and around 1.8 miles distance – with good sustainable transport possibilities. There are 2 care/retirement/nursing homes within the vicinity – about 0.9 miles distance from the Site.

Employment and Labour Market

- 11.42. Total number of people in employment within the Piccadilly Ward in central Manchester was 85,000 in 2022, accounting for some 20% of Manchester's total employment (432,000). Though high at the district level, the claimant count is far lower (1.1%) at a more localised level (Deansgate and Piccadilly Wards). Similarly, Manchester's unemployment rate (5.5%) is higher compared to Greater Manchester (4.4%), regionally (3.9%) and nationally (3.8%). At the Greater Manchester level, the construction sector supports approximately 71,000 jobs.
- 11.43. Manchester's claimant count as of October 2023 is significantly higher (6.1%) than that of the benchmark areas of Greater Manchester (4.9%), the North West (4.1%) and the national average (3.8%). Though high at the district level, the claimant count is far lower (1.1%) at a more localised level (Deansgate and Piccadilly wards). Similarly, Manchester's unemployment rate (5.5%) is higher compared to Greater Manchester (4.4%), regionally (3.9%) and nationally (3.8%).

Deprivation

- 11.44. The Index of Multiple deprivation (IMD) is an overall relative measure of deprivation constructed by combining seven domains of deprivation – Income; Employment; Education; Skills & Training; Health & Disability; Crime; Barriers to Housing Services and Living Environment. The Piccadilly Ward has a IMD score

(2019) of 26.83, (the least deprived is in the range 15.5-31.1 with 48.4-62.7 indicating the most deprived) indicating that Piccadilly is one of the least deprived Wards in the City.

Local Economy

- 11.45. Manchester supports economic output (measured by Gross Value Added - GVA) of approximately £28 billion, with an average GVA contribution per full time equivalent (FTE) of approximately £81,000 per annum. The Greater Manchester construction sector supports economic output of approximately £4.4 billion. For every FTE construction job this equates to an average GVA contribution of £92,300 per annum.
- 11.46. This is higher than the all-sector average for Greater Manchester (£74,136). Average annual economic output per FTE is also higher than the all-sector average for the following Greater Manchester sectors: 'Information and Communication' (£94,167) and 'Financial and Insurance Activities' (154,697). The 'Professional, Scientific and Technical' sector is lower than the all-sector average (£50,036).
- 11.47. Given current macroeconomic conditions, cost of living challenges and the local authority funding landscape, the delivery of essential Council services nationwide are come under increasing strain. In this context, local authority revenue plays an important role in the delivery of essential local services.
- 11.48. For the 2022/23 financial year, MCC collected nearly £250 million in council tax, after accounting for council tax support paid. MCC reports that council tax revenue is extremely important and enables the Council to deliver essential services. It is noted that the pandemic had a huge impact on residents' ability to pay council tax and that collection rates, whilst showing recent recovery, have not returned to pre-pandemic levels, meaning reduced levels of revenue for the city.
- 11.49. Since 2017, the Greater Manchester authorities have been part of a 100% business rates retention pilot scheme meaning that MCC retains all of the growth it receives in its business rates base. As at December 2022, MCC collected c.£285 million in business rates. Alongside, wider support measures implemented nationally to businesses affected by the pandemic (including business loans, furlough and the self-employed income scheme), the Council has administered business rates relief which has led to a short-term reduction in revenue through business rates in the post-pandemic period.

Amenity Space

- 11.50. Research undertaken as part of the Deloitte Crane Survey estimates that over 25 acres (over 10 hectares) of new public amenity space was either delivered or under construction as part of new developments within Manchester city centre by the end of 2022. This encompasses new 'pocket parks', pedestrianisation plans as well as a brand new parks being delivered, notably a new 6.5 acre public park at Mayfield which opened in September 2022.
- 11.51. In addition, there are pedestrian linkages via the canal towpath up into Phillip's Park, designated as woodland, and the Lower Medlock Valley. Smaller parks are proposed in Ancoats Green and in Portugal Street East as part of regeneration schemes. Linked to this, the current Manchester Blue and Green Infrastructure Strategy (2022) is in place to respond to commitments made in the City's Local Plan and Climate Change Action Plan. It demonstrates the Council's commitment to Green Spaces, with plans to spend £12.5 million on a large-scale Capital Park Investment Programme between 2021-25.

Receptor Sensitivity

- 11.52. Table 11.5 summarises the sensitivity of each of the receptors identified in the baseline.

Table 11.5 - Receptor Sensitivity

Receptor	Sensitivity	Study Area	Justification
Individuals seeking construction employment	Medium	Sub-regional (Greater Manchester)	A proportion of the temporary construction employment created as a result of construction activity could be expected to be filled by unemployed people (both skilled and unskilled) from across Greater Manchester. The unemployment rate and claimant rate for Greater Manchester is slightly higher than the regional (North West) average.
Individuals seeking employment	High	District (MCC)	Local employment growth will contribute to the overall economic growth and prosperity of the city centre which is a strategic priority both at a MCC and Greater Manchester level. In Manchester, both the unemployment and claimant rates are higher than the Greater Manchester, regional and national rates.
Local economy	High	District (MCC)	Local economic growth will contribute to the overall economic growth and prosperity of the city centre which is a strategic priority both at a MCC and Greater Manchester level. Direct employment will result in GVA effects across the local economy. Local household spending will support additional employment with resulting GVA effects across the local economy.
Manchester City Council total business rates and council tax revenue	High	District (MCC)	Local authority revenue is essential in the delivery of local services and has experienced lower collection rates in recent years due to the impact of the COVID-19 pandemic.
Primary healthcare facilities	Low	1 mile from the Site	The current ratio of registered patients per FTE GP is above benchmark levels and expected to increase further as new housing development comes forward, but the demographic profile of the patient population suggests that the local practices can operate sustainably at higher levels of patients per GP (and dentist).
Primary education and early years facilities	Medium	2 miles from the Site (walking distance)	There is capacity for primary schools located within a 1.5 mile walking distance. Adjacent wards to the Site has a variety of early years providers and the latest childcare sufficiency assessment indicates that there is sufficient childcare provision locally.
Secondary education facilities	Low	2 miles from the Site (walking distance)	There is capacity at secondary schools located within 2 miles walking distance of the Site. Overall, the Local Authority considers that there is capacity of secondary school spaces based on current and future projections.
Users of open/amenity space and children's play space	Low	Piccadilly ward	For a city centre location, there is a good range of publicly accessible open / amenity spaces and children's play spaces.

Identification and Evaluation of Key Impacts

Construction Phase

- 11.53. The period of construction works will support a number of on-Site and off-Site employment opportunities within the construction sector.
- 11.54. Based upon construction employment estimates provided by the developer, it is understood that the total capital investment for the Proposed Development is £75million and this would lead to an average labour requirement of approximately 105 FTEs per annum throughout a 2.5 year construction period. Multiplier effects as a result of spill-over spending through the supply chain (indirect impacts) and through knock-on consumer spending as a result of wages being derived or spent locally (the induced impacts) will generate a further 131 full-time equivalent (FTE) per annum jobs during the construction phase.
- 11.55. The proposed construction project is expected to generate a broad range of employment opportunities, both on-site and off-site. The nature of the jobs supported during the period of works is expected to vary, with on-site employment including highly skilled professions such as site surveyors, alongside lower skilled supply chain jobs such as labourers. Off-site activity could be expected to support employment across a wide supply chain ranging from suppliers of building materials to architects. It is acknowledged that whilst some construction workers may live locally, and their expenditure on household goods and services would also support employment in local businesses, it is also likely that construction workers could be drawn from within the wider region, depending on the roles available and contractors selected.
- 11.56. On this basis, an estimate of the induced effects supported by the construction activity cannot be accurately quantified, and therefore is not assessed. However, the developer has set targets for the first phase of development on the site, which included a commitment to employing local residents, providing apprenticeships, and procuring sub-contractors and suppliers based in the City of Manchester. The target was to have 60% of the total construction workforce to be City of Manchester residents, 75% of all year-long apprenticeships offered to City of Manchester residents, and 70% of sub-contractors and suppliers to be based in the City of Manchester. The implementation of similar commitments for the proposed development will ensure that the majority of construction jobs, both direct and in the supply chain and related services, can be accessed by people, both employed as well as unemployed, from within the Greater Manchester area.
- 11.57. The construction sector currently supports around 65,000 FTE jobs across Greater Manchester. The estimated annual construction jobs supported during the period of works could therefore be expected to represent 0.2% of all sub-regional employment in the construction sector. Given the small percentage, construction activity is not expected to stimulate a noticeable change in the baseline conditions at the sub-regional level, and as such, the magnitude of the impact is assessed to be minor.
- 11.58. With the sensitivity of the receptor assessed as medium, this would give rise to a direct, temporary, short term and minor beneficial (not significant) effect.

Operational Phase

Employment and the economy

- 11.59. To estimate the expenditure generated by residents living within the Proposed Development, it is assumed that the accommodation will operate at full occupancy levels. ONS family spending data shows that the annual spend on retail goods and services (excluding housing costs) is £12,262, comprising £4,904 on convenience goods and £7,358 on comparison goods. Applying these assumptions to the total number of households to be provided by the Proposed Development generates an annual expenditure of £2.8 million. An estimated £2.4 million could be retained within Manchester, based on an analysis of data presented within MCC's most recent available Retail Study.
- 11.60. The level of spending is expected to support 13 FTE jobs directly, with a direct, long-term, and negligible effect. The direct on-site employment (18 FTEs net) could support a GVA uplift of approximately £2.1m per

annum, based on a GVA per job benchmark (Manchester level) for relevant sectors (Accommodation & food services and Retail). However, this level of growth represents a negligible magnitude of change with reference to total levels of economic output/size of the economy at the district level, and the sensitivity of the local economy is identified as high.

- 11.61. With the sensitivity of the receptor (the local economy) identified as high, this would give rise to a direct, long term and negligible (not significant) effect.

Local Authority Revenue

- 11.62. Through the application of the average council tax charge for properties for the 2023/24 financial year (c.£2,400) to the number of households that the Proposed Development will bring forward, this could lead to an uplift in council tax revenue in the order of £861,000. This represents just less than 0.5% of the total revenue received from council tax in the previous financial year.
- 11.63. The combined effect of local authority revenue is considered to represent a minor magnitude of change. With the sensitivity of the receptor identified as high, this would give rise to a direct, long term and minor beneficial (not significant) effect.

Primary Healthcare

- 11.64. The Proposed Development is expected to yield a population of just over 710 persons. As a worst-case scenario, assuming all of these residents would be additional (and not already registered with GPs in the study area), this would lead to an increase in the number of registered patients per FTE GP.
- 11.65. It cannot be estimated the extent to which this increase in population is attributable to people already living in the area and therefore already registered with services. Furthermore, given the demographic profile of the existing local resident population it is also noted that residents living at the Proposed Development and nearby baseline developments are likely to generate a generally lower level of demand for primary healthcare services.
- 11.66. Within this context, the magnitude of change is assessed as Minor. With the sensitivity of the receptor identified as low, this would lead to a direct, long-term and negligible (not significant) effect.

Education

- 11.67. The pupil yield from the Proposed Development can be estimated using benchmarks provided at the local authority level, using data from the Department for Education (DfE Pupil Yield Data Dashboard). Applying the Manchester-level benchmark of 0.14 primary aged pupils per resident to the estimated total population yield from the Proposed Development leads to the generation of 99 primary aged pupils, presented as a worst-case scenario since it is highly unlikely that all residents will be new to the area. The addition of 99 pupils to the primary school roll within the study area (2-mile walking distance) may lead to a deficit in pupil places against capacity, presented as a worst-case.
- 11.68. The early years pupil yield from the Proposed Development, presented as a worst-case, is 21, based on the application of a local authority benchmark of 0.03. It is considered that this level of increased demand could be accommodated by existing provision, given the quantity of early years providers locally and the existing childcare sufficiency assessment for the local area (Piccadilly ward).
- 11.69. At a Manchester level, 0.07 secondary aged pupils are generated per resident (DfE Pupil Yield Data Dashboard). Applying this benchmark to the estimated total population yield from the Proposed Development (once fully built out and occupied) leads to the generation of 49 secondary aged pupils. Again, this is presented as a worst-case scenario since it is highly unlikely that all residents will be new to the area.
- 11.70. The magnitude of change with respect to primary and early years education is assessed as minor, with the sensitivity of the receptor assessed as medium for primary education and low for secondary education.

- 11.71. The Proposed Development would give rise to a direct, long-term, and minor adverse effect for primary education and a direct, long-term, and negligible effect for secondary education.

Open Space Provision

- 11.72. An uplift in the resident population will increase demand and usage of nearby open and green spaces and children's play spaces. The Proposed Development will bring forward internal amenity space and external amenity space in line with the Manchester Residential Quality Guidance.
- 11.73. Whilst the delivery of this amenity space will enhance the living conditions of residents of the Proposed Development, it would make little (if any) contribution to the provision of publicly accessible outdoor space for the local population more generally. The Proposed Development will not make any contribution towards the provision of play space.
- 11.74. On balance it is assessed that the magnitude of change associated with the open/amenity space and play space provision is minor. With the sensitivity of the receptor assessed as low, the Proposed Development would give rise to a direct, long-term and negligible (not significant) effect.

Cumulative Effects

- 11.75. Within the discipline of Socioeconomics all committed developments identified have the potential to interact with the Proposed Development and are considered here.
- 11.76. Collectively, the committed developments have the potential to deliver:
- 1,414 new homes;
 - 1,224 student bedspaces;
 - 87,500 sq m office floorspace;
 - 20,000 sq m of leisure floorspace;
 - 242 hotel rooms; and
 - New public realm / amenity spaces.
- 11.77. The assessment of cumulative effects adopts a similar approach to the main assessment presented above. Given the breadth of cumulative developments identified it is considered that a proportionate approach is to adopt a consistent approach to assessment across different socio-economic effects. The assessment is necessarily approximate to provide a sense of the scale of impact relative to the baseline position alongside the Proposed Development. Table 11.6 considers the cumulative effects of the Proposed Development alongside committed developments.

Table 11.6 - Cumulative Effects Table

Effect	Comment	Magnitude of change	Assessment of Significance
Temporary Construction Employment	The scale of development across all committed developments identified alongside the Proposed Development is expected to lead to a substantial increase in the requirement for construction labour at the sub-regional (Greater Manchester) level, generating increased demand for labour and substantial levels of opportunity within the construction sector. A recent publication by RICS UK suggests that the construction sector is improving in terms of activity, with upbeat indicators looking forward. The magnitude of impact is assessed as moderate, given the anticipated scale of construction activity across the cumulative developments	Moderate	Direct, short term, Moderate Beneficial (significant)

Effect	Comment	Magnitude of change	Assessment of Significance
	(alongside the committed baseline) in comparison with the overall level of construction activity across Greater Manchester.		
Employment and the Local Economy	An estimated 9,750 net additional jobs that could be generated by committed baseline and cumulative developments represents 2% of the total employment at the District level. This represents a minor magnitude of change.	Minor	Direct, long term, Moderate Beneficial (significant)
Local authority revenue	The local authority revenue generated by all committed developments cannot be estimated accurately and in a proportionate way. However, given the quantum of new commercial floorspace and new homes to be delivered through committed developments, it is likely that this would lead to a sizeable uplift in local authority revenue through business rates and council tax income. This is likely to represent a moderate magnitude of change.	Moderate	Direct, long term, Moderate Beneficial (significant)
Primary Healthcare Facilities	Alongside the Proposed Development, committed developments could lead to a population increase of approximately 3,000. Assuming that none of these residents are not already registered at practices within the local area, this would lead to an increase in the number of registered patients per FTE GP. For the purposes of this assessment, it has been assumed that each population-yielding development will mitigate its own impacts. On this basis, the magnitude of change reflects the impact of the Proposed Development in isolation and is therefore negligible.	Negligible	Direct, long term, Negligible (not significant)
Primary and early years education	Alongside the Proposed Development, applying relevant pupil yields to the estimated population increase, the committed developments could lead to nearly 1,000 primary school age children and 200 early years children. These are worst cases and given the type of residential development coming forward in the local area the demand for early years and primary education facilities is not expected to be high.	Negligible	Direct, long term, Negligible (not significant)

Effect	Comment	Magnitude of change	Assessment of Significance
Secondary education	Alongside the Proposed Development, applying relevant pupil yields to the estimated population increase, the committed developments could lead to nearly 490 secondary school age children. This is considered to be an extreme worst case and given the type of residential development coming forward in the local area the demand for secondary education facilities is not expected to be high. That said, for the purposes of this assessment it has been assumed that each population-yielding development will mitigate its own impacts. On this basis, the magnitude of change reflects the impact of the Proposed Development in isolation and is therefore negligible.	Negligible	Direct, long term, Negligible (not significant)
Open/amenity space and Play space	The extent of potential additional public realm and amenity space provision is not quantified but most if not, all schemes will provide internal and external amenity space in addition to new areas of public realm that will enhance liveability and the connectivity between public spaces within this part of the city centre. On this basis the magnitude of change reflects the impact of the Proposed Development in isolation and is therefore minor.	Minor	Direct, long term, Negligible (not significant)

Mitigation Measures

Construction Phase

11.78. No significant adverse effects are identified during the construction phase.

Operational Phase

11.79. No significant adverse effects are identified during the operational phase.

Residual Effects

11.80. Given mitigation measures are not required due to non-significant effects, the residual impact of the proposals remains consistent with that set out in Table 11.6.

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6. Manchester City Council (2022) Manchester Blue and Green Infrastructure Strategy
7. Manchester Core Strategy (2012)
8. Manchester City Council Manchester Housing Strategy (2022)
9. 'Investing In Success' Manchester Economic Strategy (2023)
10. National Health Service (October 2023) General Practice Workforce Survey

11. National Planning Policy Framework (2023)
12. Office of National Statistics (2022) Business Register and Employment Services
13. Office of National Statistics Census Population Estimates (2020)
14. Office of National Statistics Census (2021): Number of Dwellings
15. Office of National Statistics Census (2021): Housing Tenure
16. Ordnance Survey Open Greenspace (2023)
17. Places for Everyone Plan, GMCA, (2023)

12. Summary of Residual Impacts

12.1. This section contains a summary of the residual effects of the Proposed Development.

Climate Change

Receptor(s)	Likely Significant Effects	Significance of Effects	Mitigation Measures	Residual Effects
Construction				
Embodied carbon emissions	Emissions associated with manufacture of construction materials, transport of these materials to the construction site, on-site works and disposal of construction waste.	Domestic: Moderate adverse (significant) P / D / LT	Optimising material usage, use of low carbon materials, reducing construction waste and using fewer finish materials (for wall, floor, ceiling, façade). Potential for materials to be reused in the Proposed Development should be continuously monitored. Consideration should be given to the robustness and durability of materials. Traffic management measures to restrict construction vehicles in certain locations and routes at certain times of the day. Considerate construction best practices (such as wheel washing, use of recyclable materials).	Minor adverse (not significant) P / D / LT
Operational				
Embodied carbon emissions	Emissions associated with replacement/refurbishment of building parts	Domestic: Moderate adverse (significant) P / D / LT	Consideration should be given to the robustness and durability of materials and minimising material waste.	Minor adverse (not significant) P / D / LT
Operational energy emissions	Emissions associated with buildings' (operational) energy use	Domestic: Moderate adverse (significant) P / D / LT	Robust monitoring of energy consumption (i.e., smart metering) must be ensured. Energy efficient equipment should be used in both domestic and non-domestic buildings.	Minor adverse (not significant) P / D / LT

Receptor(s)	Likely Significant Effects	Significance of Effects	Mitigation Measures	Residual Effects
			Selection of 100% renewable electricity contracts must be ensured, where possible. Installation of efficient plumbing fixtures to reduce 'non-revenue water' losses, rainwater harvesting, and xeriscaping. Over the lifetime of the Proposed Development, as new technologies come in, the lighting and HVAC system should be upgraded, giving preference to products that are more energy efficient and have an extended lifespan. For example, having a future connection into the district heat network.	
End-of-life				
Embodied carbon emissions	Emissions associated with decommissioning, deconstruction and demolition	Domestic: Moderate adverse (significant) P / D / LT Non-domestic: Minor adverse (not significant) P / D / LT	Careful design and specification will help extend the lifetime of the Proposed Development. Consideration should be given to the proportion of landfilling and reuse and/or recycling materials at the end of life of the Proposed Development.	Minor adverse (not significant) P / D / LT

Key to table:

P / T = Permanent or Temporary D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable

Daylight, Sunlight and Overshadowing

Likely Significant Effect	Receptor	Mitigation	Residual Effect
Construction Phase			
Daylight	Scoped Out	-	-
Sunlight	Scoped Out	-	-

Likely Significant Effect	Receptor	Mitigation	Residual Effect
Operational Phase			
Daylight	Surrounding Residential Properties	None required	Negligible to Moderate Permanent Adverse (Non-Significant Effect)
Sunlight	Surrounding Residential Properties	None required	Negligible to Moderate Permanent Adverse (Non-Significant Effect)

Townscape and Visual Impacts

Receptor(s)	Likely Significant Effects	Mitigation Measures	Residual Effects
Construction			
N/A			
Operation			
Character Area			
TCA 1: Piccadilly	Minor Beneficial	None	Minor Beneficial
TCA 2: Kampus	Negligible	None	Negligible
TCA 3: Retail Core	Negligible	None	Negligible
TCA 4: Northern Quarter	Negligible	None	Negligible
TCA 5: Ancoats	Negligible	None	Negligible
TCA 6: New Islington	Negligible	None	Negligible
TCA 7: Mayfield	Negligible	None	Negligible
TCA 8: North Campus	Negligible	None	Negligible
TCA 9: The Village	Negligible	None	Negligible
View			
01 – Piccadilly	Negligible	None	Negligible
02 – Dale Street	Minor – Moderate Neutral	None	Minor – Moderate Neutral
03 – Stevenson Square	Negligible	None	Negligible
04 – Redhill Street	Moderate Neutral	None	Moderate Neutral
05 – New Islington Marina	Minor – Moderate Neutral	None	Minor – Moderate Neutral

Receptor(s)	Likely Significant Effects	Mitigation Measures	Residual Effects
06 – Old Mill Street	Minor Neutral	None	Minor Neutral
07 – Great Ancoats Street	Moderate Adverse	None	Moderate Adverse
08 – Store Street Aqueduct	Moderate – Major Neutral	None	Moderate – Major Neutral
09 – Jutland Street	Moderate Neutral	None	Moderate Neutral
10 – Store Street	Moderate Neutral	None	Moderate Neutral
11 – Whitworth Street	Negligible	None	Negligible
12 – Mayfield Park	Minor – Moderate Neutral	None	Minor – Moderate Neutral

Wind Microclimate

Likely Significant Effect	Receptor(s)	Mitigation Measure	Means of Implementation of Mitigation	Post Mitigation Residual Effect – Significance and Duration (i.e. Temporary/Permanent)
Construction Phase				
Negligible effects on wind microclimate	General Thoroughfares	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Off-Site Building Entrances	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Existing Ground Floor Amenity in Thomas Telford Basin	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Existing Balconies on Chapeltown Close and Home Apartments	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Wind Safety	None		Negligible effects on wind microclimate
Operational Phase				
Negligible effects on wind microclimate	General Thoroughfares	None		Negligible effects on wind microclimate

Likely Significant Effect	Receptor(s)	Mitigation Measure	Means of Implementation of Mitigation	Post Mitigation Residual Effect – Significance and Duration (i.e. Temporary/Permanent)
Negligible effects on wind microclimate	Building Entrances to the Proposed Development	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Off-Site Building Entrances	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Proposed ground floor courtyard amenity	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Proposed ground floor private terraces	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Existing Ground Floor Amenity in Thomas Telford Basin	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Proposed Level 10 Amenity Terrace	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Proposed Level 10 Private Terraces	None		Negligible effects on wind microclimate
Negligible effects on wind microclimate	Existing Balconies on Chapeltown Close and Home Apartments	None		Negligible effects on wind microclimate
Major Adverse effects on wind microclimate	Wind Safety	A 2000mm wide x 720mm tall, perforated screen (50% porous) at the western corner of the Proposed Development		Negligible effects on wind microclimate (permanent)

Human Health

Likely Significant Effect	Receptor(s)	Mitigation Measure	Means of Implementation of Mitigation	Post Mitigation Residual Effect – Significance and Duration (i.e., Temporary/Permanent)
Construction Phase				
Socioeconomics: Employment	Workers & local economy	N/A	N/A	Negligible
Wind Microclimate	Passers by	Screening & practices to reduce nuisance wind	CEMP	Negligible

Socio-Economics

Effect	Comment	Magnitude of change	Assessment of Significance
Temporary Construction Employment	The scale of development across all committed developments identified alongside the Proposed Development is expected to lead to a substantial increase in the requirement for construction labour at the sub-regional (Greater Manchester) level, generating increased demand for labour and substantial levels of opportunity within the construction sector. A recent publication by RICS UK suggests that the construction sector is improving in terms of activity, with upbeat indicators looking forward. The magnitude of impact is assessed as moderate, given the anticipated scale of construction activity across the cumulative developments (alongside the committed baseline) in comparison with the overall level of construction activity across Greater Manchester.	Moderate	Direct, short term, Moderate Beneficial (significant)
Employment and the Local Economy	An estimated 10,700 net additional jobs that could be generated by committed baseline and cumulative developments represents 2% of the total employment at the District level. This represents a minor magnitude of change.	Minor	Direct, long term, Moderate Beneficial (significant)

Effect	Comment	Magnitude of change	Assessment of Significance
Local authority revenue	The local authority revenue generated by all committed developments cannot be estimated accurately and in a proportionate way. However, given the quantum of new commercial floorspace and new homes to be delivered through committed developments, it is likely that this would lead to a sizeable uplift in local authority revenue through business rates and council tax income. This is likely to represent a moderate magnitude of change.	Moderate	Direct, long term, Moderate Beneficial (significant)
Primary Healthcare Facilities	Alongside the Proposed Development, committed developments could lead to a population increase of approximately 8,500. Assuming that none of these residents are not already registered at practices within the local area, this would lead to an increase in the number of registered patients per FTE GP. For the purposes of this assessment, it has been assumed that each population-yielding development will mitigate its own impacts. On this basis, the magnitude of change reflects the impact of the Proposed Development in isolation and is therefore negligible.	Negligible	Direct, long term, Negligible (not significant)
Primary and early years education	Alongside the Proposed Development, applying relevant pupil yields to the estimated population increase, the committed developments could lead to nearly 1,000 primary school age children and 200 early years children. These are worst cases and given the type of residential development coming forward in the local area the demand for early years and primary education facilities is not expected to be high.	Negligible	Direct, long term, Negligible (not significant)
Secondary education	Alongside the Proposed Development, applying relevant pupil yields to the estimated population increase, the committed developments could lead to nearly 490 secondary school age children. This is considered to be an extreme worst case and given the type of residential development coming forward in the local area the demand for secondary education facilities is not expected to be high. That said, for the purposes of this assessment it has been assumed that each population-yielding development will mitigate its own impacts. On this basis, the magnitude of change reflects the impact of the Proposed Development in isolation and is therefore negligible.	Negligible	Direct, long term, Negligible (not significant)

Effect	Comment	Magnitude of change	Assessment of Significance
Open/amenity space and Play space	The extent of potential additional public realm and amenity space provision is not quantified but most if not, all schemes will provide internal and external amenity space in addition to new areas of public realm that will enhance liveability and the connectivity between public spaces within this part of the city centre. On this basis the magnitude of change reflects the impact of the Proposed Development in isolation and is therefore minor.	Minor	Direct, long term, Negligible (not significant)

13. Type 1 Cumulative Impacts

- 13.1. This Chapter gives consideration to 'Type 1' cumulative effects.
- 13.2. The assessment is informed by the results of the technical assessments as set out in Chapter 6 - 9 of the ES.
- 13.3. Type 1 cumulative effects are also known as 'inter-project' effects, which are the combined effects arising from the Proposed Development upon a set of defined sensitive receptors.
- 13.4. Type 2 cumulative effects are considered within the ES technical chapters. The technical chapters also had regard to the potential for Type 1 cumulative effects, however for robustness the results of a standalone assessment of these is provided below.

Legislation, Policy and Guidance

Legislation

- 13.5. There is no legislation outlining how cumulative effects should be assessed or determined as significant. However, there is a requirement in Part 1, Schedule 4 of the EIA Regulations to consider cumulative effects. Cumulative is not defined in the EIA Directive or Regulations however a dictionary definition is 'increasing by one addition after another'.
- 13.6. The EIA Regulations require 'a description of the likely significant effects', including cumulative effects.
- 13.7. In the context of this assessment, 'cumulative effects' refers to the interactions between different likely residual effects resulting from the Proposed Development (Type 1). Both positive and negative effects are considered across the construction and operational phases.

Policy

- 13.8. As this Chapter considers the cumulative effects of the technical areas within the ES, all relevant policy has already been reviewed within the individual technical chapters.

Guidance

- 13.9. A number of guidance documents which relate to assessing cumulative effects have been used to inform the assessment and include:
 - European Commission (EC) Environment DG (May 1999), 'Study on the Assessment of Indirect and Cumulative Impacts as well as Impact Interaction', Hyder Consulting; and
 - Institute of Environmental Management and Assessment (1992), Guidelines for the Environmental Assessment of Road Traffic.
- 13.10. The EC guidelines 'are not intended to be formal or prescriptive, but are designed to assist EIA practitioners in developing an approach which is appropriate to a project'.
- 13.11. Paragraph 24 of the National Planning Practice Guidance (NPPG) (Reference ID: 4-024-20170728) outlines the consideration to be given to cumulative effects in the context of EIA:

"Each application (or request for a screening opinion) should be considered on its own merits. There are occasions, however, when other existing or approved development may be relevant in determining whether significant effects are likely as a consequence of a Proposed Development. The local planning authorities

should always have regard to the possible cumulative effects arising from any existing or approved development.”

Assessment Methodology and Significance Criteria

Methodology

- 13.12. This assessment is primarily concerned with where there is a likelihood of significant Type 1 cumulative effects occurring, in accordance with EIA practice and the NPPG guidance.
- 13.13. The assessment is based on experience and professional judgement, drawing upon relevant guidance set out above and the residual environmental effects identified within the results of the EIA technical assessments. The assessment has been undertaken by suitably qualified and experienced EIA practitioners.
- 13.14. The assessment has primarily focused on sensitive receptors identified within close proximity to the Site (e.g. local residents and businesses located in close proximity to the Site), likely cumulative effects, and their capacity to accommodate changes that will occur as a result of the combined residual environmental effects.
- 13.15. Relevant guidance has been reviewed, and an approach has been developed which uses the residual environmental effects identified within the ES. An exercise which tabulates the residual effects against receptors or receptor groups has then been carried out in order to identify the potential for Type 1 cumulative effects.
- 13.16. Negligible or neutral residual effects have been excluded from the assessment as, by their nature, they are considered to be imperceptible. Therefore, only minor, moderate or major effects have been given consideration during the assessment.
- 13.17. For the purposes of the assessment, receptor groups have been identified as those surrounding the Site and those identified within the individual technical assessments.

Significance Criteria

- 13.18. The following terms have been used to define the significance of the effects identified:
- Major effect: where the Proposed Development could be expected to have a very significant effect (either positive or negative) cumulatively;
 - Moderate effect: where the Proposed Development could be expected to have a noticeable effect (either positive or negative) cumulatively;
 - Minor effect: where the Proposed Development could be expected to result in a small, barely noticeable effect (either positive or negative) cumulatively; and
 - Negligible: where no discernible effect is expected as a result of the Proposed Development cumulatively.
- 13.19. The significance level attributed to each effect has been assessed based on the magnitude of change due to the combination of residual effects and the sensitivity of the affected receptor/receiving environment to change, as outlined in Chapter 2 of the ES. Magnitude of change is assessed on a scale of major, moderate, minor and negligible and the sensitivity of the affected receptor/receiving environment is assessed on a scale of high, medium, low and negligible.

Limitations and Assumptions

- 13.20. Due to the reliance on qualitative data and subjective opinion, there are limitations related to the range and depth in which the cumulative effects have been investigated. It must be realised that analysing the cumulative effects of developments is often speculative and cannot be predicted as clearly as individual effects such as the effects upon traffic of a development, which relies heavily upon quantitative data to inform the assessment.

- 13.21. As a result, a number of assumptions have been made throughout in terms of the outcome of the accumulation of effects and based upon professional judgement. This section and the assessment process of identifying the likely significant Type 1 cumulative effects have, however, provided a reasoned consideration of and insight into the potentially significant Type 1 cumulative effects of the Proposed Development.

Identification of Likely Significant Type 1 Cumulative Effects

Construction Phase

- 13.22. Based on the methodology detailed above, **Table 13.1** presents the results of the review of the potential for interactions of individual effects during the construction phase of development. The potential effect interactions are then discussed further.

Table 13.1: Type 1 Cumulative Effects – Construction Phase

Sensitive Receptor Group	Construction Phase Residual Effects	Likely Significant Cumulative Effects
Construction site workers	<u>Dust</u>: Dust Soiling and other air quality effects associated with the construction phase. <u>Noise</u>: Construction noise for existing local residents and proposed future local residents. Construction traffic noise on local roads for existing local residents and proposed future local residents. Construction vibration to existing local residents.	No likely significant Type 1 cumulative effects
Neighbouring residents and passers by	<u>Dust</u>: Dust Soiling and other air quality effects associated with the construction phase <u>Noise</u>: Construction noise for existing local residents and proposed future local residents. Construction traffic noise on local roads for existing local residents and proposed future local residents. Construction vibration to existing local residents. <u>Economy</u>: job creation and supply chain leading to increase in tax revenues and GVA <u>Traffic</u>: driver delay through increased construction traffic and temporary changes to highway network.	No likely significant Type 1 cumulative effects

Sensitive Receptor Group	Construction Phase Residual Effects	Likely Significant Cumulative Effects
The climate	<u>Climate Change</u> : minor adverse impacts associated with carbon emissions related to the manufacture of construction materials and transportation to site; plus carbon emissions associated with the demolition of existing buildings on site.	No likely significant Type 1 cumulative effects

- 13.23. **Table 13.1** shows that there is unlikely to be in-combination operational phase Type 1 cumulative effects to arise. This is due to the extensive technical assessments throughout the design process and the identified mitigation in-built into the design.

Operational Phase

- 13.24. Based on the methodology detailed above, **Table 13.2** presents the results of the review of the potential for interactions of individual effects during the operational phase of development. The potential effect interactions are then discussed further.

Table 13.2: Type 1 Cumulative Effects – Operational Phase

Sensitive Receptor Group	Operational Phase Residual Effects	Likely Significant Cumulative Effects
Humans	<u>Daylight and Sunlight</u>: minor-moderate adverse impacts on surrounding residential properties. <u>Townscape Views</u>: moderate adverse impact on views as identified in Chapter 8. <u>Wind</u>: Exceedance of safety criteria as a result of the Proposed Development, mitigated by wind baffle	No likely significant Type 1 cumulative effects
The climate	<u>Climate Change</u> : minor adverse impact relating to carbon emissions associated with energy use of the new building.	No likely significant Type 1 cumulative effects
The economy	Tax: Change in annual fiscal contributions in the form of business rates and council tax contributions <u>Socio-Economic</u>: Change in demand for early years and primary school places arising from the uplift in population Change in demand for healthcare facilities (GP services and dentists) as a result of the uplift in population.	No likely significant Type 1 cumulative effects

Sensitive Receptor Group	Operational Phase Residual Effects	Likely Significant Cumulative Effects
	Change in demand for secondary school places arising from the uplift in population. Change in demand for the use of the existing open space and amenity space and children's play space within close proximity to the Site.	

- 13.25. **Table 13.2** shows that there is unlikely to be in-combination operational phase Type 1 cumulative effects to arise. This is due to the extensive technical assessments throughout the design process and the identified mitigation in-built into the design.

Mitigation Measures

- 13.26. Where relevant, the individual residual effects which contribute to the potential cumulation have been considered within the ES and mitigated where necessary and feasible.
- 13.27. No mitigation is proposed for the identified Type 1 cumulative effects.



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