



Plot 10, First Street

Environmental Impact Assessment (EIA)

Screening and Scoping Report

November 2022

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1. Introduction

- 1.1. This Environmental Impact Assessment (EIA) Screening and Scoping Report has been prepared in respect of the proposals for the development of Plot 10 ('the Site') of the First Street Masterplan in Manchester City Centre. The Site is bounded by River Street to the north and east, Hulme Street to the south and Newcastle Street to the west.
- 1.2. The development of Plot 10 forms a joint proposition by First Street Developments and House of Social 1 Ltd (the 'Applicants') to progress a mixed-use proposal within the First Street Masterplan area. The proposals will deliver two parallel linear blocks, known as Plot 10a and Plot 10b, which will be knitted together with a high-quality public realm. Plot 10a comprises a NABERS 5.5* sustainable office building (Use Class E) fronting onto First Street and Plot 10b comprises purpose built student accommodation (PBSA) and a ground floor food hall (sui generis and Use Class E).
- 1.3. The term "Proposed Development" used within this Report refers to all stages of construction and operation of both aspects of the development plots, for which a single planning application and therefore single red line boundary, is proposed.
- 1.4. This Screening and Scoping Report is submitted to Manchester City Council as a request for a Scoping Opinion under Regulation 15 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017.
- 1.5. In accordance with Regulation 15, paragraph 2(a), this report contains:
 - A plan sufficient to identify the land (a red line boundary) enclosed at **Appendix 1**.
 - A brief description of the nature and purpose of the Proposed Development and of its possible effects on the environment.
 - An explanation of the likely significant effects of the development on the environment.

EIA Requirements

- 1.6. The EIA process is the mechanism by which development proposals are appraised in relation to the environmental criteria as well as socio-economic, engineering, and technical considerations. The EIA process defines the context of the Proposed Development and examines the issues considered pertinent.
- 1.7. The purpose of the EIA is to establish both the nature of the Proposed Development and the environment within which it is likely to take place in order to identify likely significant effects on the environment that may arise. This is also undertaken by comparing the existing situation at the start of the work (baseline) with the situation once the Proposed Development is in place.
- 1.8. The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 require that any proposed development falling within the description of a 'Schedule 2 development' within the meaning of the 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 (Regulation 4(2)).
- 1.9. The Proposed Development falls under the category of "Infrastructure Projects – Urban Development Projects" (Schedule 2, 10, (b)) as described in the Regulations. The applicable threshold above which EIA is likely to be required for if the development includes more than 1 hectare of urban development which is not a dwellinghouse, more than 150 dwellings, or the overall area of development exceeds 5 hectares. The indicative thresholds and criteria state that:

"In addition to the physical scale of such developments, consideration should be given to the potential increase in traffic, emissions and noise. EIA is unlikely to be required for the redevelopment of land unless the new development is on a significantly greater scale than the previous use, or the types of impact are of a markedly different nature or there is a high level of contamination."
- 1.10. The Site covers an area of approximately 0.7 hectares and the Proposed Development will comprise up to: 700 PBSA bedspaces, 1,500 sq.m (NIA) of food and beverage use, and 22,000 sq.m (NIA) of commercial floorspace. Therefore, the nature and scale of the proposed development is significantly larger than the existing scenario. For these reasons, an EIA is considered appropriate to test the likely significant effects of the Proposed Development on the surrounding environment. The Applicant therefore proposes to submit an Environmental Statement (in relation to certain topic areas where there is likely to be a significant effect of the environment) in support of the planning application.

Purpose of the Scoping Report

- 1.11. The process of identifying likely significant effects on the environment which should be addressed by the EIA is termed ‘scoping’ and the results are presented as a Scoping Report.
- 1.12. This Scoping Report sets out the framework within which the Environmental Statement (‘ES’) will be produced and the topic areas and information that will be contained within the document. It is issued to Manchester City Council (‘MCC’) as the Local Planning Authority (‘LPA’) for circulation to Statutory Consultees and other organisations who are invited to express their views on the proposed scope of the EIA, or suggest additional issues which may be considered to be of significance. The views expressed by Statutory Consultees will then be used by the LPA to inform the formal Scoping Opinion.
- 1.13. The LPA is required to respond to a formal request for a Scoping Opinion within five weeks of registering receipt.
- 1.14. Should the proposed scope of the EIA be accepted by the LPA, the intention would be that any future application relating to the Proposed Development would be accompanied by an EIA which would be produced by the team as set out in Table 1.1 and coordinated by Deloitte LLP (IEMA EIA Quality Mark registered). The consultants have provided technical input to this initial EIA Scoping Report.¹

Table 1.1. EIA Project Team

Topic	Assessment carried out by
The Applicants	Ask Real Estate Ltd and Vita Ventures Ltd
Town Planning, EIA Coordination	Deloitte LLP
Architect	Jon Matthews Architects (Plot 10a) and Tim Groom Architects (Plot 10b)
Air Quality	Cundall
Climate Change	Cundall
Daylight, Sunlight and Overshadowing	Gray Scanlan Hill
Human Health	Enfusion
Noise and Vibration	Cundall
Socio-Economics	Ekosgen
Townscape and Visual Impact	Planit-IE
Wind Microclimate	Arch-Aero

- 1.15. The remainder of the report is set out as follows:
- **Section 2** of this report provides a site description and outlines the nature of the Proposed Development.
 - **Section 3** sets out the proposed scope and structure of that an ES would take and who might need to be consulted.
 - **Section 4** provides details of the proposed EIA methodology, which would be used in assessing the Proposed Development. Section 5 sets out the key issues that would be addressed by the EIA.

¹ Note: Although Deloitte LLP has read the input of the project team (as listed in the table below) for consistency and provide observations based on our knowledge and experience, we accept no liability or responsibility and will not be responsible for the technical content.

2. Site Description and Proposed Development

Site Description

- 2.1. The Site comprises approximately 0.7 hectares of brownfield land and is currently vacant. The Site's last use was as a temporary event space for organised outdoor events including Manchester Pride festival, which ended in August 2021. Within the Site, there are two plots: 10a to the west, fronting onto First Street; and 10b to the east, fronting onto River Street. Each plot can be developed and accessed independently of the other.
- 2.2. In its current state, the Site is predominantly comprised of hardstanding with a minimal amount of vegetation. The Site slopes downwards from the south-west to the north-east towards River Street.
- 2.3. The Site can be accessed by vehicle via Newcastle Street however this is restricted by site hoarding around the perimeter and locked gates to north and south.
- 2.4. A Site Location Plan is provided at **Appendix 1**.

Wider Area

- 2.5. Immediately to the north and north-west are the completed No.1 and No.8 First St buildings, which are home to commercial occupiers including WSP, Autotrader, Amaze, Odeon and Jacobs. James Grigor Square is located north west of the Site and provides attractive outdoor space.
- 2.6. Beyond this is First Street North ('FSN'), which is now complete. Centred around Tony Wilson Place, FSN is now a cultural hub for the city including HOME a contemporary art, film and theatre complex alongside a wider mix of uses including student accommodation, an MSCP and a range of carefully curated food and drink operators, as well as new public spaces.
- 2.7. To the east of the Site are a number of former Mills including Macintosh Mill and Cambridge Mill which are Grade II listed and are in residential and office uses.
- 2.8. Immediately west of the Site is Plot 9 of the First Street Masterplan. Planning Permission (132600/FO/2021) was secured for a nine storey 'net-zero' office building, being brought forward by Ask at Plot 9a (the northern segment). In June 2022, it was announced that the Government Property Agency (GPA) will occupy the Plot 9a building once complete. Plot 9b remains a vacant future development site.
- 2.9. To the immediate south is the under construction Plot 11 Downing site (125573/FO/2019), which is the construction of four co-living towers of varying heights (between 10 and 45 storeys).
- 2.10. Slightly further south of the Site, beyond Parkway Gate and Medlock House student accommodation, is the Mancunian Way – a key arterial vehicle route into the City.

Site Specific Environmental Designations

Air Quality

- 2.11. The Site is situated in the Greater Manchester Combined Authority Air Quality Management Area (AQMA). AQMAs are areas designated by a local authority and are where the local authority has identified that there may be exceedances in air pollutants above those set out in the national air quality objectives. This means that the air quality is monitored, and the local authority has a strategy in place to manage and improve air quality in these areas.

Ecology

- 2.12. There are no ecological designations within the Site. The closest Special Area of Conservation (SAC) and Sites of Special Scientific Interest (SSSI) is the Rochdale Canal SSSI and SAC. This designation refers to the part of the canal located 6.4 km north east of the Site.

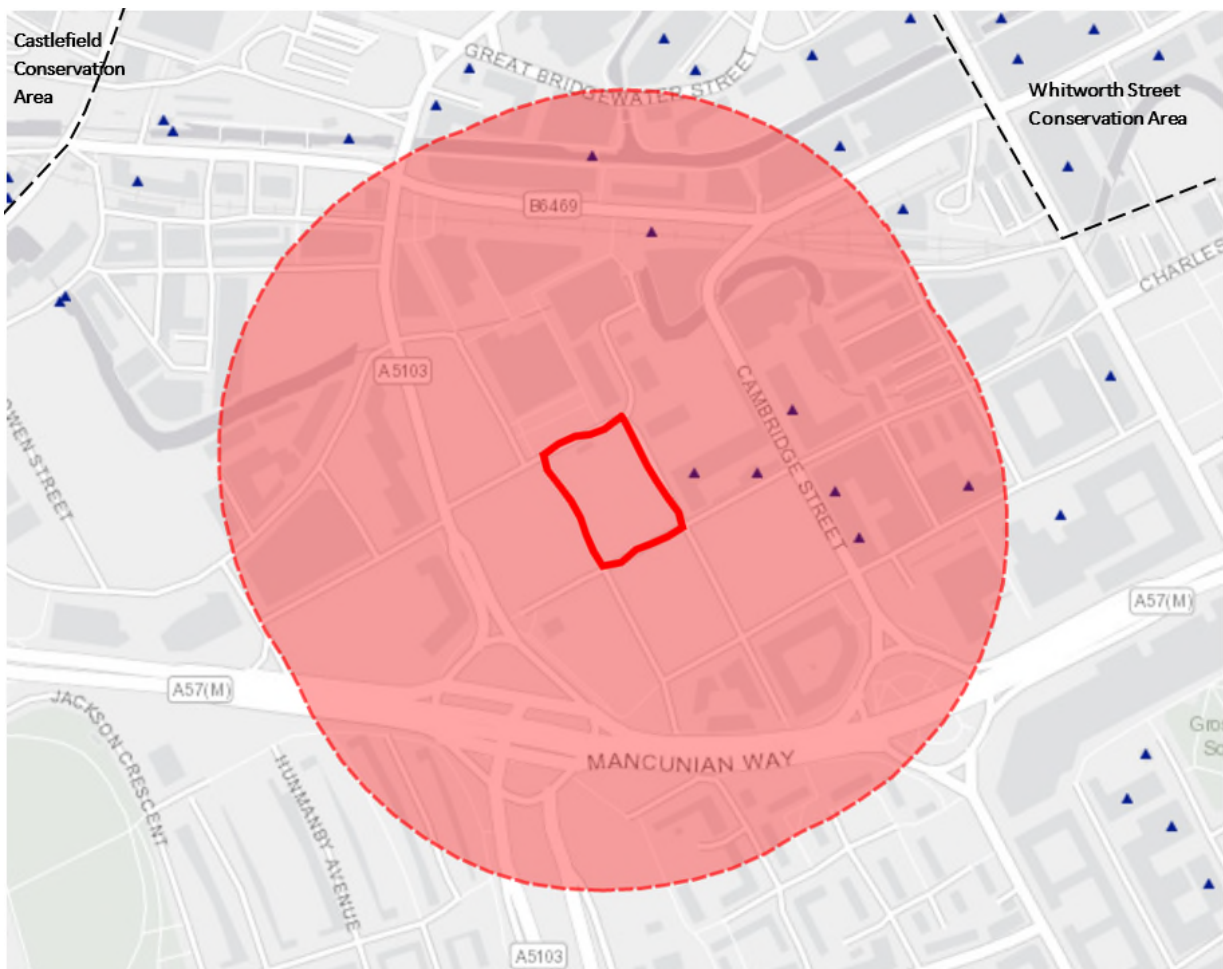
Heritage

2.13. The Site is not located within a Conservation Area and does not contain any designated or non-designated heritage assets. The closest Conservation Areas are Whitworth Street (located 360m to the east) and Castlefield (located 433m away). There are 9 designated heritage assets within a 250m radius of the Site with the closest being Grade II Listed Macintosh Mills located c. 14m to the east. These are as follows:

- Former Cotton Mill On West Side Of Junction With Cambridge Street / Macintosh Mill – Grade II (List Entry Number: 1282998)
- Mill Chimney Stack On West Side Of Junction With Cambridge Street – Grade II (List Entry Number: 1218746)
- Chorlton Old Mill – Grade II (List Entry Number: 1197775)
- Manchester South Junction and Altrincham Railway Viaduct – Grade II (List Entry Number: 1200837)
- Chorlton New Mill and attached chimney – Grade II (List Entry Number: 1197774)
- Mill on North East Corner of junction with Chester Street – Grade II (List Entry Number: 1197776)
- Chatham Mill – Grade II (List Entry Number: 1293040)
- Rochdale Canal lock number 89 (tib Lock), on south side of Havelock Mills – Grade II (List Entry Number: 1247596)
- The Ritz Dance Hall – Grade II (List Entry Number: 1254888)

2.14. **Figure 2.1** shows the location of the above heritage assets and Conservation Areas:

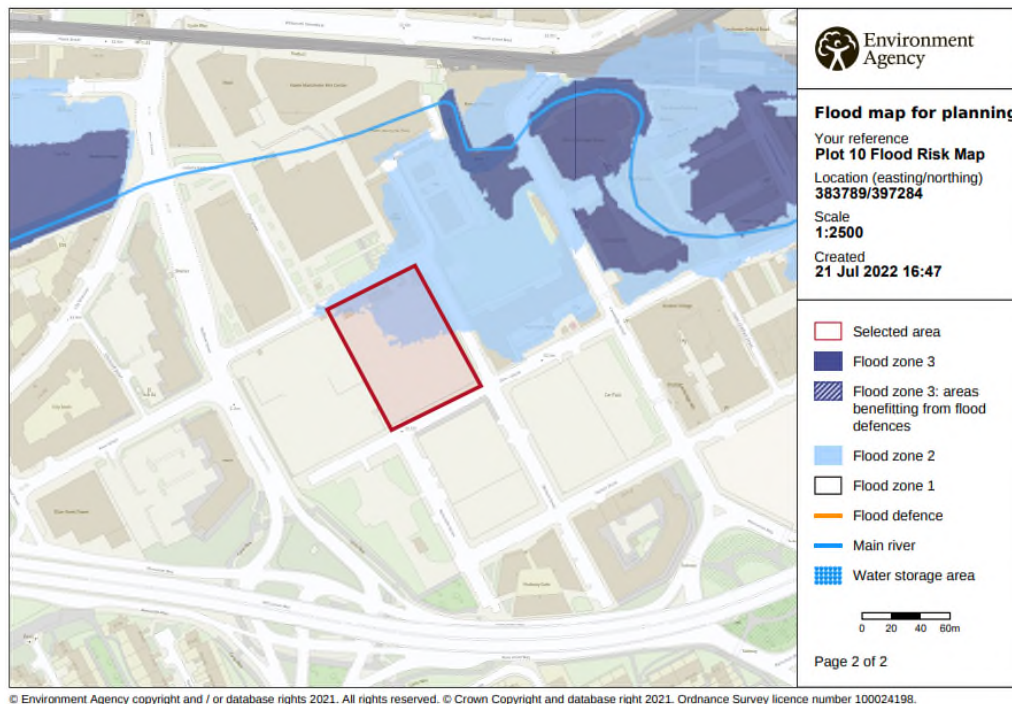
Figure 2.1 – Map of heritage assets and Conservation Areas (Source: Historic England, marked up by Deloitte)



Flood Risk and Drainage

- 2.15. According to the Environment Agency's Flood Map (**Figure 2.2**), the north east part of the Site is located within Flood Zone 2, defined as land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. The remaining areas are located within Flood Zone 1 which is defined as land having a less than 1 in 1,000 annual probability of river or sea flooding (low probability). The Site is also located within the Greater Manchester Conurbation Core Critical Drainage Area.

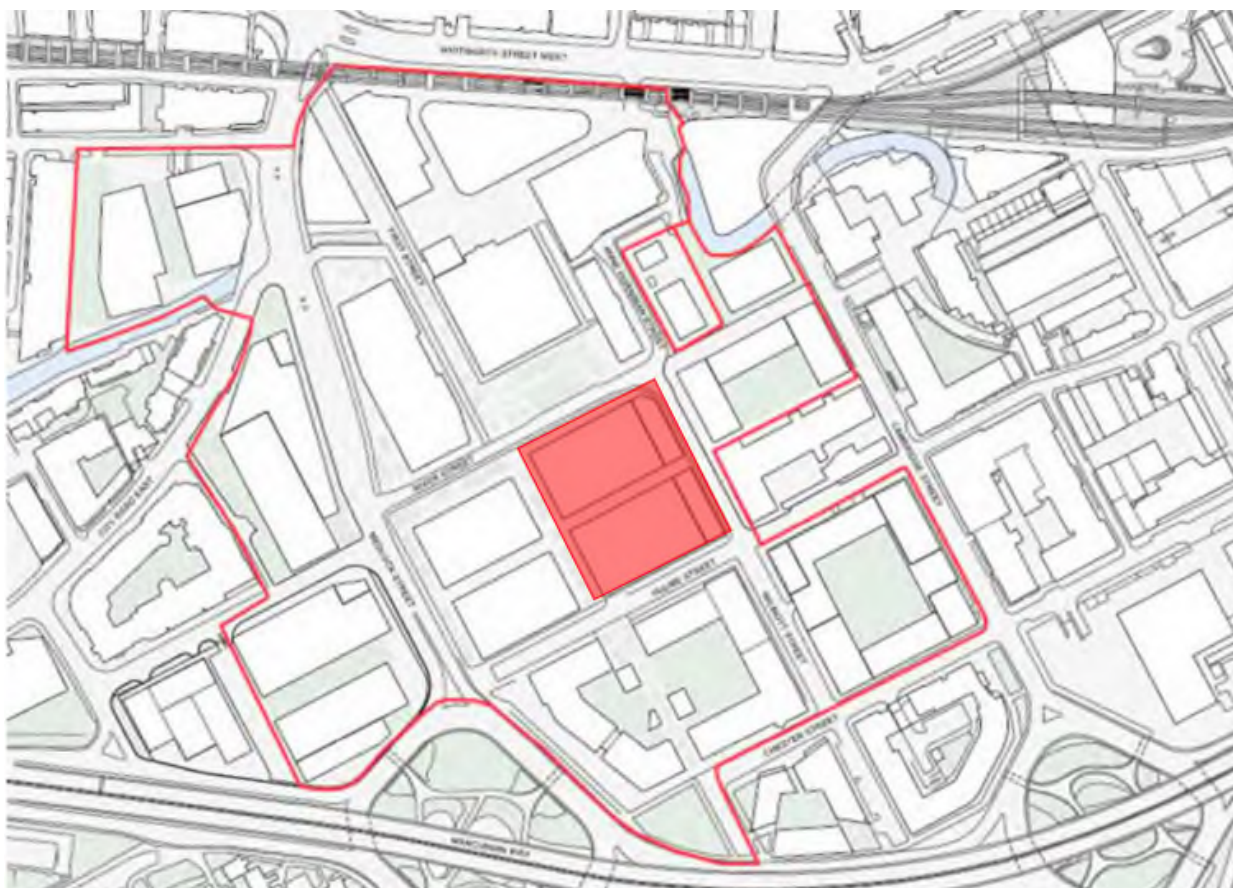
Figure 2.2 – Flood map for planning Environment Agency (2022)



Strategic Context

- 2.16. The Site is located within the First Street Strategic Development Area. First Street, including the Site, is located within the Regional Centre and City Centre, as defined in the 2012 Manchester Core Strategy and Proposals Map. It is also located within the Oxford Road Corridor. The Corridor is an innovation district with a mix of knowledge, business and cultural businesses. It includes two of the UK's largest universities, a university NHS foundation trust, and a large cluster of digital, technology and life science businesses.
- 2.17. A Strategic Development Framework (SDF) for First Street was originally endorsed by MCC's Executive Committee in 2005, and subsequently updated in 2007, 2010, 2012, 2015 and most recently in November 2018.
- 2.18. All iterations of the SDF have established a vision to establish a commercially-led mixed-use neighbourhood at First Street. Since 2012, this vision has identified four character zones: First Street North; First Street Central; First Street South; and the Creative Ribbon. The Site falls within the 'First Street Central' character zone, the commercial heart of the area targeted at a range of commercial occupiers, particularly those seeking the benefits of a central and highly accessible city centre location, competitively priced to help distinguish the accommodation from other locations in the city centre.
- 2.19. The location of the Site within the Framework is shown in **Figure 2.3** (overleaf).

Figure 2.3 Map highlighting site location (shaded red) within wider context of Framework Boundary (outlined in red).



- 2.20. The focus of the 2018 Framework was to update the development principles for the First Street Central area of the masterplan, particularly Plots 9 and 10, which were subject to further viability and design analysis. This analysis indicates that greater scale and density of office accommodation can be delivered on these plots, to ensure that First Street can meet the level of demand in the area and maximise its contribution to the City's economic growth. It also references the site's size, scale and surrounding uses mean that it is suitable for a mix of uses, with a primary use of the First Street Central area as a whole remaining as commercial office.
- 2.21. An addendum to the SDF was endorsed in July 2020. Whilst the addendum provides more focus on the plots west of Medlock Street, it also reiterates the economic context of the regeneration area and the demand for office space in the city. The addendum also provides an added emphasis on green and blue infrastructure, climate change, and sustainability. To this effect, all developments within the SRF area should positively contribute toward the City's ambition to become net zero carbon by 2038.
- 2.22. Significant progress has been made already in delivering the vision for First Street:
- First Street North is now established as an important cultural hub and public space for the city, anchored by HOME Manchester and providing a mix of hotel and leisure space, together with Vita Student PBSA and a multi-storey car park that serves the whole masterplan area.
 - Within First Street Central, No.1 and No.8 First Street commercial office buildings are complete and almost fully let to major national occupiers. Planning Permission was granted in January 2020 for a further two office buildings at One City Road, on the west side of Medlock Street. Planning permission was granted in December 2021 for a nine storey commercial office development on Plot 9a of the masterplan. This followed previous approvals in 2017 and 2020 for, respectively, a 17-storey office and hotel development on plot 9a, and a much larger footprint 11-storey commercial office building spanning plots 9a and 9b. In June 2022, it was announced that the Government Property Agency (GPA) will occupy the building in its entirety and works have commenced in October 2022.
 - To the south of this, First Street South was approved in March 2021, consisting of four buildings of c.2,200 co-living beds, varying in height from 10 to 45 storeys. The development is under construction, with the first elements of it due for completion in around 2024.

Planning History

2.23. The approved planning permissions of most relevance on Site are set out in the table below.

Table 2.1 – Planning History

PP Reference	Description	Status
048549/DF/CMDC/95	Works to make good building facades, boundary treatment and site surface following the demolition of structures on Wilmot Street	Approved November 1995
050822/FO/CITY3/96	Overcladding of existing patched brickwork and new infill cladding with profiled metal cladding to Wilmott Street elevation	Approved October 1996
111240/FO/2016/C1	Creation of a temporary landscaped area in advance of permanent redevelopment	Approved April 2016
130608/FO/2021	Planning Permission for the change of use to allow for temporary events space including the erection of two temporary stages and tent within Plots 9 and 10 of First Street, as well as pop-up concessions stands and a private corporate event space for a period of 12 weeks	Withdrawn 15 September 2021

2.24. A full list of all baseline and cumulative developments both within and beyond the boundary of the Site are set out in **Appendix 2** of this EIA Scoping Report for agreement with the LPA.

The Proposed Development

- 2.25. The Site as a whole is referred to as Plot 10. Plot 10a comprises the western part of the Site, and plot 10b comprises the eastern part. Both plots are being brought forward together as a phased development. The intention is that Plot 10a, the office-led element will be delivered first.
- 2.26. To ensure the application is robust, and covers all potential eventualities including an alternative delivery sequence, the technical team has been asked to also consider the potential for both plots to be delivered concurrently or with Plot 10b brought forward first. This is discussed in further detail within Section 4 of this Scoping Report.
- 2.27. The proposed maximum parameters for development is set out within Tables 2.1 and 2.2 below, which have been the basis of the analysis as set out in this Report.

Table 2.2 - Proposed uses, units and height (Date last updated: 02 August 2022).

	Parameters for Development
Site Area	Approximately 0.7 hectares
Office Space (Plot 10a)	Up to 22,000 sq.m commercial office space (Use Class E(g))
Student Accommodation (Plot 10b)	Up to 700 bedspaces (Use Class Sui Generis)
Commercial Uses (Plot 10b)	Up to 1500 sqm commercial space (Use Class E + Sui Generis)
Maximum Height	Ground plus 12 storeys (Plot 10a) (c.95mAOD) and; Ground plus 16 storeys (Plot 10b) (c.55m AOD)
Car Parking	No car parking spaces
Cycle Parking	Approximately 120 cycle parking spaces within 10a and approximately 105 cycle spaces within 10b.

3. Scope, Structure and Consultation

Scope

- 3.1. This EIA Scoping Request has been carried out to determine the likely significant effects on the environment that may arise as a result of the Proposed Development. This process has enabled the team to determine which technical disciplines are pertinent to the Proposed Development and the scope of assessment required for any likely significant effects on the environment to be addressed as part of a future EIA process, which it to be agreed with the Local Planning Authority.
- 3.2. This process has taken account of the proposed construction activities, relevant planning policy, knowledge of the Site, and the professional opinion of the project team.
- 3.3. The information presented in the ES will be provided in accordance with Schedule 4 of the EIA Regulations and will include:
- A description of the Proposed Development;
 - An outline of the main alternatives studied;
 - A description of the aspects of the environment likely to be significantly affected by the Proposed Development;
 - A description of the likely significant effects of the Proposed Development on the environment;
 - A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment;
 - A non-technical summary; and
 - An indication of any difficulties encountered by the applicant in compiling the required information.
- 3.4. The introductory chapters of the ES will provide the following information:
- An introduction to the ES in a legislative and site specific context;
 - Description of the Site and Proposed Development;
 - Alternatives considered and project design evolution;
 - EIA methodology;
 - Construction methodology and programme;
 - Stakeholder engagement;
 - ES structure; and
 - Details of the EIA project team.
- 3.5. The geographical coverage of the EIA will be determined by a number of factors including:
- The physical extent of work;
 - The nature of the baseline environment, including the location of sensitive receptors;
 - The distance over which effects will be significant; and
 - The presence and type of “pathways” along which impacts may be spread.

Environmental Disciplines to be Scoped Out of the EIA

- 3.6. It is considered that the following disciplines will not give rise to likely significant effects on the environment and would therefore not require inclusion in the ES. An explanation for each discipline is given below.

Agricultural Circumstances

- 3.7. The Site is entirely on brownfield land so there would be no effects in respect to agriculture. This discipline can therefore be scoped out of the EIA and will not be assessed as part of the planning application.

Aviation

- 3.8. The tallest element of the Proposed Development (block 10a) is anticipated to extend to no greater than 91m. This is marginally above the 90m AOD aviation safeguarding threshold set for developments within the vicinity of an airfield. However, the Site is over 14km away from Manchester Airport's radar system and with other significantly taller buildings surrounding the Site. In line with best practice, details of the GPS coordinates and height of the buildings will be provided to NATS as part of ongoing pre-application discussions. It is considered that the aviation discipline will not give rise to likely significant effects on the environment and would therefore not require inclusion in the ES. This discipline is therefore scoped out of the EIA.

Ecology

- 3.9. Penny Anderson Associates Ltd (PAA) was commissioned in August 2021 to undertake an extended Phase 1 habitat survey on the Site, comprising concrete and hardstanding with small patches of ephemeral/short perennial grass. The wider surrounding land use is primarily urban development comprising roads, offices and residential buildings. The River Medlock runs in a culvert some 250m north of the Site.
- 3.10. The Phase 1 habitat survey was carried out by an experienced surveyor and the survey methodology was based on guidance set out in the Handbook for Phase 1 Habitat Survey (JNCC 2010). The broad habitat types were mapped, with each habitat type coded according to the standard JNCC Phase 1 habitat survey procedure. An updated survey was conducted on 8th August 2022 by Assistant Ecologist, Stephen Griffith under warm, dry conditions with good visibility.
- 3.11. The survey was 'extended' following the approach set out in the Institute of Environmental Assessment (1995) and CIEEM (2017) to include an assessment of the potential for/presence of protected species.
- 3.12. The survey confirmed a lack of any significant areas of habitat with potential to support notable species (including, for example, foraging bats or nesting/foraging birds) and assessed the structures on Site as having negligible potential to support nesting birds and roosting bats. The lack of biodiversity features on the Site along with its urban location results in it being assessed as currently being of limited value for ecology and biodiversity.
- 3.13. The desk study consultation with GMEU will identify the presence of any non-statutory designated sites and protected/notable species within a 1km search area and this will also be presented in the stand-alone ecology report. The report will also detail recommendations for ecological enhancement to be incorporated into the Proposed Development.
- 3.14. In view of the above it is considered highly unlikely that any significant ecological effects would arise because of the Proposed Development and on this basis, it is concluded that ecology can be scoped out of the ES. A standalone ecological appraisal will be submitted with the planning application.

Flood Risk

- 3.15. The majority of the Site is within Flood Zone 1 and has a low probability of flooding from rivers and the sea. The north-east corner of the Site is within Flood Zone 2 and has a medium probability of flooding from rivers and the sea, specifically the River Medlock. However, hydraulic modelling of the River Medlock indicates that the Site would not flood in a 1 in 100 year event (with climate change taken into consideration) as the proposed Site levels to be created within the Proposed Development are above the modelled flood levels. The development does not require the exception test and is considered suitable under National Planning Policy Framework requirements.
- 3.16. The Site is at a very low risk of flooding from surface water. A drainage strategy is to be prepared in support of the Application to reduce runoff discharge to close to a greenfield rate of 5 l/s to satisfy best management practices and will be designed to account for a climate change. The following hierarchy was reviewed regarding discharge of surface water from the Plot 10 site:
- To Ground/Infiltration
 - To Watercourse

- To Sewer

- 3.17. Although existing ground conditions suggest it is possible to infiltrate some of the water, the development proposals indicate minimal external space between the proposed substructure, future buildings, and from restrictions due to existing gas services and public sewers.
- 3.18. A review was undertaken to determine whether a gravity connection to the River Medlock could be installed to discharge directly to the watercourse. However, pipework would need to cross existing infrastructure. Based on what is known about the existing services, routing to the watercourse would be complex and require significant service diversions outside of the redline boundary, or a pumped system to be installed on-site.
- 3.19. There are combined public sewers within Plot 10. Standalone works will be undertaken to divert the public sewer to facilitate delivery of the application proposals. It is proposed that surface water from Plot 10a and 10b will be discharged into this diverted combined public sewer, pending agreement with United Utilities.
- 3.20. Although not greenfield, discharge close to greenfield rates is preferred in line with the LLFA policies and guidance. This rate was calculated to be 5.0 l/s. To meet this discharge restriction, surface water discharge attenuation will be incorporated within the design of the proposed development.
- 3.21. While the Site is identified as being in an area potentially at risk of flooding from reservoirs according to Environment Agency mapping, reservoir failure is a rare and unlikely occurrence, as the infrastructure is regularly inspected by the Environment Agency.
- 3.22. The proposed development is at a low risk of groundwater flooding occurring at the surface. The basement/lower ground level could be at risk of groundwater ingress when perched groundwater levels are high; however, assuming appropriate waterproofing will be implemented, mitigation measures can adequately manage the risk of groundwater flooding. .
- 3.23. No other significant sources of flood risk were identified in the assessment, and as such flood risk can be scoped out the EIA. A stand-alone Flood Risk and Drainage Statement will be submitted with the planning application.

Ground Conditions

- 3.24. In respect of contaminated land, a Phase 1 GeoTechnical Desk Study has been undertaken for the Site and will be submitted as part of the planning application. This is included in **Appendix 3**. In addition, a separate Phase 1 GeoTechnical Desk Study will be prepared specifically for Plot 10b. A Phase 2 GeoTechnical Report, including intrusive investigations, will be prepared across the entire Site and agreed with MCC prior to works commencing on the Site.
- 3.25. The historical use of the Site as a Rubber works with the historical plans showing asbestos clad buildings leads to the potential for asbestos to be present within the made ground onsite. Ramboll prepared a contaminated land desk study in 2018.
- 3.26. A previous desk study report has been prepared (Ramboll, January 2016) followed by ground investigations undertaken in July 2016. Ramboll confirmed the presence of widespread asbestos (Amosite, Chrysotile, and Crocidolite) across the Site with the maximum concentration of 2.69% in the north western area of the Site.
- 3.27. The Proposed Development comprises two 10-16 storey office/ residential buildings as such, the risk to future site users from asbestos has been assessed as Low to Moderate. However, the risk to adjacent site users and construction workers during construction has been assessed as High as there is potential to disturb ground and disperse asbestos fibres. A detailed remediation strategy for the construction phase will be submitted to and agreed with MCC prior to works commencing on the Site.
- 3.28. Ramboll's Preliminary Assessment identified that the Site has been struck by a German Bomb on 23rd December 1940, and there were several strikes within in close proximity to the Site. Although no UXO was encountered during the Ground Engineering Ltd. ground investigation, there is still a risk of UXO on the Site that will need to be mitigated prior to any ground investigation.
- 3.29. With reference to the information above and that detailed within **Appendix 3**, there are anticipated to be no identified negative adverse significant effects that would require assessment within an EIA. It is therefore proposed that Ground Conditions be scoped out of an EIA assessment.

Heritage

- 3.30. An assessment of the likely heritage impacts of the Proposed Development upon the Site and surrounding area has been undertaken by Deloitte LLP and has been summarised below.
- 3.31. Deloitte LLP has over twelve years of technical experience in the heritage field and to date have contributed to five EIA Chapters within major planning applications within Manchester. Deloitte LLP also hold the IEMA Quality Mark.

- 3.32. This scoping input has been prepared by the following authors: Katie Wray (BA (Hons), MPLAN, MSc, MRTPI – Director; Frances Hampson (MPLAN (Hons), MRTPI) – Assistant Director; and Rachel Hopkins (BA (Hons), MA, MRTPI) – Senior Planner.

Baseline

- 3.33. A desktop assessment was initially undertaken in September 2022 to understand the extent of visual impact on nearby designated and non-designated heritage assets. Given the scale of the Proposed Development, and existing urban form, longer range visual impact will be limited, and a 250m radius was therefore used as a starting point. The zone of visual influence is shown with the heritage assets overlaid and plotted on a map in **Appendix 4**.
- 3.34. This exercise was undertaken by utilising:
- The Historic England online ‘Search the List’ function for listed buildings. List descriptions were downloaded and reviewed to aid initial understanding of the significance of the assets.
 - Manchester City Council’s website was reviewed to identify Conservation Areas and any associated Council descriptive materials or appraisals were reviewed.
- 3.35. Site visits were undertaken in September 2022 to review the identified heritage assets, particularly their primary facades, features of significance and visible relationship with the Proposed Development Site. Photographs were taken as a record and to aid later analysis.

Baseline

- 3.36. The Site is not located within a Conservation Area and does not contain any designated or non-designated heritage assets. The closest Conservation Areas are Whitworth Street (located 360m to the east) and Castlefield (located 433m to the west). There are 9 designated heritage assets within a 250m radius of the Site with the closest being Grade II Listed Macintosh Mills located c. 14m to the east.
- 3.37. The full list of the above assets is provided in **Appendix 4**, along with mapping identifying their location in relation to the Proposed Development Site and the Zone of Visual Influence.

Construction Phase

- 3.38. During the construction phase there will be a visible change to the setting of the identified heritage assets. There will be temporary construction structures, e.g. construction hoardings and site cabins. As the Proposed Development is constructed the Site will visibly change from week to week.
- 3.39. The construction phase will not directly impact the identified heritage assets but it will result in a change to their setting and potentially their significance as a result. Where a change to setting is perceived, for the majority of assets this will result in ‘no’ to ‘negligible’ impact on the significance of the asset. The residual assets (those immediately adjacent) may experience temporary ‘less than substantial’ harm, but this will be at the low end. Furthermore, the construction will be taking place within a dense city context, one where construction activities are part of the existing baseline environment.
- 3.40. Given the emerging developments and surrounding form, the construction of the Proposed Scheme will not change the overall setting of the heritage assets and will be temporary in nature.
- 3.41. It is anticipated that the construction site will be kept tidy and presentable at street level with suitable hoardings in place (secured through the Construction Management Plan). The changing weekly visual progress of development will only temporarily indirectly impact the setting and there will be no permanent impact on setting and therefore significance derived from the construction phase alone.
- 3.42. Due to the impact being temporary and not permanent, it will not be significant and therefore assessment of the impact on the identified heritage assets during the construction phase is scoped out of the EIA.

Operational Phase

- 3.43. During the operational phase there will be a change to the setting of the identified heritage assets. The existing hoarded site will be replaced with structures forming a denser and taller mass.
- 3.44. The operational phase will not have a direct physical impact the identified heritage assets but will result in a change to their setting (indirect impact) and potentially their significance as a result.
- 3.45. Utilising the Zone of Visual Influence mapping and mapping of heritage assets numerous draft viewpoint locations have been identified (c.11) to fully assess the impact on the identified heritage assets (**Appendix 4**). The exact locations will be refined to ensure the full impact can be adequately and fully assessed. As part of refining the heritage viewpoints, draft wireline views have been used to sense check the extent of visual impact before initial rendering of the

Proposed Development on Site is provided. This will then allow the potential indirect impact on the identified heritage assets to be understood. Deloitte, as the heritage consultant, will then work with the architect to mitigate the impact to avoid or reduce the effect to non-significant.

- 3.46. It is expected that the Proposed Development will cause less than substantial harm to the identified designated heritage assets.
- 3.47. An email was sent to Historic England on 11 October 2022, outlining the Proposed Development within its historical context. Historic England responded on 13 October 2022 stating that the proposals will have a limited impact on the significance of the assets that fall within Historic England's remit.
- 3.48. At present, the existing townscape in this part of First Street is undeveloped and takes form as surface level car parks which detracts from the overall character and visual appearance of the area. New development will restore the gap within the townscape and create a sense of enclosure that was previously experienced when the heritage assets first existed.
- 3.49. Due to the potential impact only being indirect and the opportunity to mitigate the impact to avoid or reduce the effect to non-significant; it is concluded that these receptors can be scoped out of EIA.
- 3.50. A Heritage Impact Statement will be submitted with the application to assess the potential impact.

Transport

- 3.51. The Site is currently vacant. The proposals do not include any car parking, and as such there is not expected to be significant vehicular activity in traffic generation or highway impacts as a result of the proposals.
- 3.52. There are no other traffic and transport matters that would warrant EIA and therefore Traffic and Transport should be scoped out.
- 3.53. Construction access would be subject to a Construction Management and Logistics Plan which would be developed in more detail by a contractor. This will be a robust plan to ensure the safe operation for staff and the general public during construction.
- 3.54. Based on experience of similar developments, it is expected that construction vehicles will primarily approach the Site using the strategic road network and then onto Medlock Street before turning right into River Street, Wilmott Street and then via Hulme Street. The approach via Wilmott Street will need traffic control measures to allow vehicles to pass and this will be negotiated with MCC Highways.
- 3.55. The arrivals of vehicles on site will be managed to avoid delays on congestion in the vicinity. In general, vehicles will be timed to avoid peak traffic periods and in general construction sites start and finish operations before the traditional traffic rush hour periods. Construction vehicles are spaced over time to permit unloading which spreads the demand over the day. The number of vehicles expected is subject to the contractors' strategy for delivery.
- 3.56. Contractors will direct their staff to park in nearby car parks, the nearest being the First Street Multi-storey Car Park.
- 3.57. A TRICS assessment of the anticipated vehicle movements during the operational phase will be undertaken as part of a Transport Statement. Given the Site's highly accessible location it is anticipated that a large proportion of the trips will be made using sustainable transport modes. Deliveries occurring during the operational phase will be appropriately managed to ensure there are no significant effects as a result of delivery vehicles. This will all be considered in full within the Transport Statement and Waste and Servicing Strategy prepared by Vectos.

Scoping Summary

- 3.58. Table 3.1 provides a summary of the scoping exercise undertaken and what disciplines will be considered within the EIA and which are proposed to be scoped out of the EIA (and subject to a standalone technical report).

Table 3.1 - EIA Scoping Summary

Discipline	ES Chapter	Non-EIA Assessment	Consultant
Agricultural Circumstances	No	No	n/a
Air Quality	Yes	No	Cundall
Archaeology	No	Yes	Pre-construct Archaeology

Discipline	ES Chapter	Non-EIA Assessment	Consultant
Aviation	No	No	n/a
Built Heritage	No	Yes	Deloitte
Climate Change	Yes	No	Cundall
Daylight, Sunlight and Overshadowing	Yes	No	Gray Scanlan Hill
Ecology	No	Yes	Penny Anderson
Television, FM Radio and DAB Radio Reception	No	Yes	G-Tech
Human Health	Yes	No	Enfusion
Flood Risk and Drainage	No	Yes	Cundall
Ground Conditions	No	Yes	Ramboll
Noise and Vibration	Yes	No	Cundall, Fisher Acoustics
Socio-Economic Issues	Yes	No	Ekosgen
Townscape and Visual Impact	Yes	No	Planit
Traffic and Transport	No	Yes	Vectos
Wind Microclimate	Yes	No	Architectural Aero

Cumulative Effects Assessment

- 3.59. An assessment of the cumulative effect of the Proposed Development and other 'Committed Developments' within a defined radius of the Site - including those with recent Planning Permissions and reasonably foreseeable to come forward in the near future - will be undertaken as part of the EIA.
- 3.60. There is no agreed / standard threshold for how far the assessment should go; therefore, a professional judgement has been taken regarding which schemes to highlight, taking into consideration the surrounding context of the Site.
- 3.61. Where planning permission has been granted, the schemes will be included as Committed Developments. When the construction of schemes has commenced then these will be treated as part of the baseline.. The SDF massing has not been considered as the information within it is not detailed, and is indicative. However, where there is specific relevance and relationship to the Proposed Development, certain disciplines will qualitatively assess the impact of the SDF.
- 3.62. Full details of the Committed Developments to be included as part of the cumulative effects assessment are set out at **Appendix 2**.
- 3.63. The Applicant seeks the agreement from the LPA to the scope of Committed Developments and invites guidance on any additional schemes not listed.

Consultation

- 3.64. The following statutory consultees should be consulted through the EIA Scoping process:
- Manchester City Council (MCC) – Contaminated Land, Environmental Health, Flood Risk, Highways, Tree Officer (Technical Officers);
 - Transport for Greater Manchester (TfGM);

- Environment Agency (EA);
- Greater Manchester Police Secure by Design;
- Historic England;
- Greater Manchester Archaeological Advisory Service;
- Natural England;
- Manchester Airport Safeguarding and NATS;
- Greater Manchester Ecological Unit; and,
- United Utilities.

3.65. We would be grateful for confirmation of which stakeholders have been consulted as part of the Scoping Opinion.

4. Proposed EIA Methodology

- 4.1. The EIA would assess both the construction and operational phases of the Proposed Development.
- 4.2. The ES would comprise two volumes, the first of would set out the findings with respect to each of the environmental disciplines that have been examined as part of the EIA. Volume 2 would include all the supporting documents and technical appendices relating to the chapters. A Non-Technical Summary (NTS) would be produced and form a standalone document.
- 4.3. Each ES chapter would follow the headings set out below to ensure the final document is transparent, consistent, and accessible.
- Introduction
 - Assumptions and Limitations
 - Legislative and Policy Context
 - Assessment Methodology and Significance Criteria
 - Baseline Conditions
 - Identification and Evaluation of Likely Significant Effects
 - Cumulative Effects
 - Mitigation Measures
 - Residual Effects and
 - Monitoring.
- 4.4. Each chapter sub-heading is explained in further detail below.
- 4.5. A reference list will also be provided as relevant with each ES chapter.

Introduction

- 4.6. This section will introduce the assessment discipline and the purpose for which it is being undertaken.

Assumptions and Limitations

- 4.7. This section should set out any assumptions made in the assessment including potential limitations to the information used.

Legislative and Policy Context

- 4.8. This section will include a summary of national regional and local policies and guidance of relevance to the environmental discipline and assessment. Relevant legislation will be summarised where applicable.

Assessment Methodology and Significance Criteria

- 4.9. This section will provide an explanation of methods used in undertaking the technical study with reference to published standards, guidelines, and best practice. The application of significance criteria will also be discussed.
- 4.10. It will also outline any difficulties encountered in compiling the required information.

Baseline Conditions

- 4.11. This will include a description of the environment as it is currently and as it is expected to change given the project were not to proceed (i.e. 'do-nothing' scenario). The method used to obtain this information will be clearly identified. Baseline data will be collected in such a way that the importance of the particular subject area to be affected can be placed in its context and surroundings so that the effects of the proposed changes can be predicted.

Identification and Evaluation of Likely Significant Effects

- 4.12. This section will identify the likely significant effects on the environment resulting from the Proposed Development.
- 4.13. The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the effects can be positive or negative. The criteria to be used in carrying out this process are detailed below; it should be noted that these tables provide a standardised set of criteria, which may not be applicable to all technical disciplines considered within the EIA – where relevant, individual consultants may use a variation of the criteria and this will be clearly explained within the methodology.

Prediction of Impact Magnitude

- 4.14. The methodology for determining the scale or magnitude of change caused by the impact is set out in Table 4.1.

Table 4.1: Methodology for Determining Impact Magnitude

Magnitude of Change	Criteria for assessing magnitude of change caused by an impact
Major	Total loss or major/substantial alteration to key elements/features of the baseline (pre-development) 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 pre-development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

Prediction of Receptor Sensitivity

- 4.15. The sensitivity of a receptor is based on the relative importance of the receptor using the scale set out in Table 4.2.

Table 4.2: Methodology for Determining 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.
Moderate	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.

Assessment of Impact Significance

- 4.16. The significance of an environmental impact is determined by the interaction of magnitude and sensitivity, whereby the impacts can be positive or negative. The Impact Significance Matrix is set out in Table 4.3. The asterisk denotes sensitivity that is generally significant – those without an asterisk are considered to not have an impact that is classed as significant. Effects that are considered to be significant in EIA terms can vary between disciplines and any discrepancies between technical disciplines will be clearly outlined in any chapters included in the EIA.

Table 4.3: Impact Significance Matrix

Magnitude	Sensitivity		
	High	Medium	Low
Major	Major *	Major *	Moderate *
Moderate	Major *	Moderate *	Minor
Minor	Moderate *	Minor	Negligible
Negligible	Minor	Negligible	Negligible

Mitigation Measures

- 4.17. Adverse effects will be considered for mitigation and specific mitigation measures put forward, where practicable. Mitigation measures considered may include modification of the project, compensation, and the provision of alternative solutions as well as pollution control. The extent of the mitigation measures and how these will be effective will be discussed. Where the effectiveness is uncertain or depends upon assumptions about operating procedures, data will be introduced to justify the acceptance of these assumptions.
- 4.18. The approach to mitigation will follow best practice guidance, which suggests a hierarchical approach. The UNEP EIA Training Resource Manual (2002) advises that impacts should ideally be:
- Avoided; if not
 - Minimised; and/or
 - Compensated.
- 4.19. Three ‘types’ of mitigation are characterised in IEMA’s Special Report – The State of Environmental Impact Assessment Practice in the UK (2011):
- EIA influence at design stage;
 - Standard construction practices for minimising effects; and
 - Follow-up actions for implementation post-consent.
- 4.20. Clear details of when and how the mitigation measures were carried out, or will be carried out, are to be given within the ES. When certainty of impact magnitude and/or effectiveness of mitigation over time exists, monitoring programmes will be proposed to enable subsequent adjustment of mitigation measures, as necessary. The opportunity for enhancement measures will also be considered where appropriate. As part of this, the Applicants will review the proposed mitigation measures to ensure that these are both viable and deliverable.
- 4.21. Mitigation measures included within non-EIA reports will also be reviewed and, where relevant, commented on by the authors of the ES chapters to ensure that all interactions between proposed mitigation measures has been fully considered.

Cumulative Effects

- 4.22. Two types of cumulative effect will be assessed:
- **Type 1** - Cumulative effects are the interactions between effects of the construction and development works on a single receptor.
 - **Type 2** - Cumulative effects are those that arise from incremental changes caused by other past, present or reasonably foreseeable actions together with the construction and development works.
- 4.23. The cumulative effects of the Proposed Development and the identified committed developments will be assessed. A list of known committed developments is set out at **Appendix 2**. The Council are requested to review and comment on this list in their Scoping Opinion.

Residual Effects

- 4.24. The residual effects, i.e. the effects of the Proposed Development assuming implementation of proposed mitigation, will be determined. The residual effects represent the overall likely significant effect of the Proposed Development on the environment having taken account of practicable/available mitigation measures.

Delivery & EIA Scenario Testing

- 4.25. The Proposed Development is phased: 10a is phase A and 10b is phase B. For the purposes of this Site, the plots are defined as:
- Plot 10a (Office), including access and landscaping works.
 - Plot 10b (PBSA), including access and landscaping works.
- 4.26. The phases may be delivered sequentially or in tandem. Whilst it is not the Applicant's intention that Phase B be delivered before Phase A, this scenario has also been tested to ensure a robust and comprehensive analysis. Therefore, the EIA considers the following seven scenarios:
- Scenario 1: Baseline
 - Scenario 2: Baseline + Plot 10a
 - Scenario 3: Baseline + Plot 10a + cumulative
 - Scenario 4: Baseline + Plot 10b
 - Scenario 5: Baseline + Plot 10b + cumulative
 - Scenario 6: Baseline + Plot 10a + Plot 10b
 - Scenario 7: Baseline + Plot 10a + Plot 10b + cumulative
- 4.27. Where scenarios are not relevant to specific technical disciplines – i.e. as they do not need to be tested to understand the greatest magnitude of potential environmental effect – their exclusion will be clearly explained in the relevant chapter of the ES.
- 4.28. The intention is that the Proposed Development will be complete and operational by Q3 2026.

5. Environmental Statement Chapters

- 5.1. Under each section topic, a summary of the content of the section, the methodology and scope of assessment is given. Where relevant, the assumptions of the assessment are described. Current relevant legislation or recognised guidance for individual assessments will be adhered to, where necessary.

Air Quality

Introduction

- 5.2. This Chapter of the ES will be prepared by Cundall and will assess the likely air quality impacts of the proposals upon the Site and surrounding area. This Chapter will also describe 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. The author of this input holds fully Chartered Membership of the Institute of Environmental Science, an MSc in Environmental Science and is a Member of the Institute of Air Quality Management. They have seventeen years' experience in preparing and reviewing technical chapters for EIA developments.

Assumptions and Limitations

- 5.4. There are a number of limitations and uncertainties associated with modelling of air quality and, where applicable, realistic worst-case scenarios will be assumed (based on professional judgement):
- All values which will be presented in the ES will be the best possible estimates using professional judgement. To minimise uncertainty a realistic worst-case approach will be taken; and
 - The detailed construction method/programme information is not available at the time of writing. Therefore, professional experience from similar developments may be used to formulate construction phasing scenarios for evaluation of impacts associated with the construction phase of the project.

Legislative and Policy Context

- 5.5. The ES will refer to the Local, Regional (where applicable) and the National Planning Policy Framework (and any associated guidance available) with reference to all environmental, social and economic policies of relevance to the Proposed Development.

Legislation

- 5.6. The air quality assessment will consider key air quality legislation, which is summarised in Table 5.1.

Table 5.1 Legislation relevant to Air Quality

Legislation	Description
EU Ambient Air Quality Directive 2008/50/EC ²	Establishes the requirements of Member States in terms of improvements required to air quality. Sets standards for a variety of pollutants for human-health and the environment.
The Air Quality Standards Regulations 2010 ³	Transposes formalised EU Limit Values set out in directive 2008/50/EC to UK law. An Amendment was published in 2016 ⁴

² Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe

³ HMSO (2010). Statutory Instrument 2010 No. 1001, The Air Quality Standards Regulations 2010, London: HMSO

⁴ HMSO (2016). Statutory Instrument 2016 No. 1184, Environmental Protection, England, The Air Quality Standards (Amendment) Regulations 2016, London: HMSO, <https://www.legislation.gov.uk/uksi/2016/1184/contents/made>

Legislation	Description
The Clean Air Quality Strategy 2019⁵	Defra published a Clean Air Strategy in January 2019, setting out a wide range of actions for UK Government to reduce pollutant emissions and improve air quality. The actions are grouped into four main emission sources: Transport, Domestic, Farming and Industry The Clean Air Strategy sets out the case for action and demonstrates the government's determination to improve air quality. In some cases, the goals are even more ambitious than EU requirements to reduce people's exposure to toxic pollutants like nitrogen oxides, ammonia, particulate matter, non-methane volatile organic compounds and sulphur dioxide.
Environment Act 1995, Part IV⁶, amended by the Environment Act 2021⁷	Defines the requirements for Local Air Quality Management (LAQM).
Environment Protection Act 1990, amended by the Pollution Prevention and Control Act 1999⁸ and the Environment Act 2021⁷	Part III provides statutory nuisance provisions for nuisance dust. Nuisance complaints about dust would need to be investigated by the Local Authority. In practice, dust deposition is generally managed appropriately by suitable on-site practices and mitigation, avoiding the determination of statutory nuisance and/or prosecution or enforcement notices.
The Non-Road Mobile Machinery (Type-Approval and Emission of Gaseous and Particulate Pollutants) Regulations 2018⁹	Developers and contractors are required to meet compliance with the emission standards for Non-Road Mobile Machinery (NRMM). The Regulations exercise of the powers conferred by section 2(2) of, and paragraph 1A of Schedule 2 to, the European Communities Act 1972 in relation to the type, description, construction or equipment of vehicles.
Environment Act, 2021⁷.	The Act makes provision about targets, plans and policies with the focus of improving the natural environment. This includes air quality, as well as water, nature and biodiversity, regulation of chemicals, waste and resource efficiency and recall of products failing to meet environmental standards. The Act introduces a duty on government to bring forward at least two air quality targets by October 2022 for consultation. These are to be to reduce the annual average level of fine particulate matter (PM_{2.5}) and to set a long-term (minimum of 15 year) target for its reduction. The 2021 Act amends the Environment Act 1995 Part IV by seeking to strengthen local air quality a management (LAQM) through greater cooperation at local level and broadening the range of organisations that play a role in improving air quality. Responsibility for tackling air pollution is to be shared between designated local authorities, all tiers of local government and neighbouring authorities. The environment secretary will be required to review the Air Quality Strategy at least every five years and publish annual progress reports to parliament. The 2021 Act amends the Clean Air Act 1993 to give local authorities more power to reduce pollution in smoke control areas by replacing the criminal offence of emitting smoke from a chimney in a smoke control area with a civil penalty regime, seeking to enable simpler, quicker and more proportionate enforcement at local level. It also amends the Environmental Protection Act 1990 by extending the system of statutory nuisance to private dwellings in smoke control areas, which could result in abatement notice and issuing fines for criminal offence of breaches. The 2021 Act introduces new powers for the government to compel vehicle manufacturers to recall vehicles and non-road machinery that fails to meet legal binding standards.

5.7. The UK Air Quality Objectives (AQOs) which apply to this assessment are shown in Table 5.2. Some pollutants have long-term (annual mean) objectives due to the chronic way they affect human-health, or the natural environment and others have short-term (1-hour, 24-hour mean) objectives due to the acute way they affect human health of the natural environment.

5.8. Previous research carried out on behalf of Defra identified that exceedances of the NO₂ 1-hour mean are unlikely to occur where the annual mean is below 60 µg/m³. This assumption is still considered valid; therefore, Defra's Technical

⁵ Department for Environment Food and Rural Affairs (Defra) (2019) Clean Air Strategy 2019,

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770715/clean-air-strategy-2019.pdf

⁶ Environment Act 1995, Chapter 25, Part IV Air Quality

⁷ HMSO (2021) Environment Act 2021, November 2021, <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

⁸ Environmental Protection Act 1990, Chapter 43, Part III Statutory Nuisances and Clean Air <https://www.legislation.gov.uk/ukpga/1990/43/part/III>

⁹ HMSO (2018) The Non-Road Mobile Machinery Type-Approval and Emission of Gaseous and Particulate Pollutants) Regulations 2018, UK Statutory Instruments, 2018 No. 764, <https://www.legislation.gov.uk/uksi/2018/764/made>

Guidance document, LAQM.TG(22)¹⁰ confirms that this figure can be referenced where 1-hour mean monitoring data are not available (typically if monitoring NO₂ using passive diffusion tubes).

Tale 5.2 – UK Air Quality Objectives (AQOs)

Pollutant	Averaging Period	Objective Threshold (µg/m ³)
Nitrogen Dioxide (NO ₂)	Annual mean	40
	1-hour mean	200 Not to be exceeded more than 18 times per year (equivalent to the 99.79th percentile of 1-hour mean values)
Particulate Matter (PM ₁₀)	Annual mean	40
	24-hour mean	50 Not to be exceeded more than 35 times per year (equivalent to the 90.4th percentile of 24-hour mean values)
Particulate Matter (PM _{2.5})	Annual mean	25

- 5.9. Dust is the generic term to describe particulate matter in the size range 1–75µm in diameter, as defined in British Standard document BS 6069 (Part Two). Dust nuisance is the result of the perception of the soiling of surfaces by excessive rates of dust deposition. Under provisions in the Environmental Protection Act 1990¹¹, dust nuisance is defined as a statutory nuisance.
- 5.10. There are currently no standards or guidelines for dust nuisance in the UK. Complaints about excessive dust deposition would have to be investigated by the local authority and any complaint upheld for a statutory nuisance to occur. In practice, dust deposition is generally managed effectively by the use of suitable on-site practices and mitigation during activities with the potential to generate dust, such as demolition and construction activities.

National Planning Policy and Guidance

- 5.11. Consideration of the strategic location and design of new developments is of key importance in the land-use planning process and can provide a means of improving air quality. Air quality considerations as part of development applications may become material in determining planning applications. Relevant planning policy and guidance at the National Level is summarised in Table 5.3.

Table 5.3 – Key Policy and Guidance

Policy/Guidance	Description
National Policy and Guidance	
Ministry of Housing, Communities & Local Government – National Planning Policy Framework (NPPF) (2021)¹²	The National Planning Policy (NPPF) published March 2012 and last updated in July 2021 with the purpose of planning achieving sustainable development. Paragraph 186 of the NPPF states that: <i>“Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or National objectives for pollutants, taking into account the presence of AQMAs and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan”.</i> In addition, paragraph 105 states that:

¹⁰ Defra (2022) Local Air Quality Management Technical Guidance TG(22) August 2022. <https://laqm.defra.gov.uk/wp-content/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf>

¹¹ Environmental Protection Act 1990, Chapter 43, Part III Statutory Nuisances and Clean Air

¹² Ministry of Housing, Communities & Local Government, National Planning Policy Framework, June 2021 <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

Policy/Guidance	Description
	<i>“The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.”</i> Paragraph 174 discusses how planning policies and decisions should contribute to and enhance the natural and local environment. Of relevance to air quality, NPPF notes that this can be achieved by: <i>“e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans”</i>
Planning Policy Guidance (updated 2019)¹³	Planning Practice Guidance (PPG) documents have been published as part of the NPPF. PPG relating to air quality was last updated in November 2019. It provides guidance on the significance of air quality in determining the local impact of proposed developments and highlights the importance of local and neighbourhood plans with regard to air quality. A flowchart is provided to assist local authorities in determining how air quality considerations might fit into development management processes.
UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations. Detailed Plan. Defra / Department of Transport (DfT) (2017)¹⁴	This plan was produced in response to a UK Supreme Court Ruling and sets out how the UK will achieve compliance with EU Limit Values for nitrogen dioxide (NO ₂) in the shortest possible time. The plan outlined infrastructure initiatives and grants and the requirements for Local Authorities to produce local action plans, with the aim of reducing NO ₂ concentrations below the objective as soon as practically possible.

Local Planning Policy and Guidance

5.12. Relevant planning policy and guidance at the Local Level is summarised in Table 5.4.

Table 5.4 Local Policy and Guidance

Policy/Guidance	Description
Local Policy and Guidance	
Greater Manchester's Clean Air Plan¹⁵	Eight Greater Manchester authorities were identified by the Government as having roads which are expected to continue to exceed the maximum legal limits of NO₂ in 2021. They were directed by Government to undertake feasibility studies to identify measures for reducing NO₂ concentrations to compliant levels in the 'shortest possible time'. These studies must produce a series of business cases for assessing and implementing the relevant measures to address the problem. The 10 Greater Manchester local authorities, Greater Manchester Combined Authority (GMCA) and Transport for Greater Manchester (TfGM) have worked together to develop a Clean Air Plan to tackle nitrogen dioxide (NO₂) exceedances at the roadside, known as GM CAP. Central Government agreed that the Greater Manchester charging Clean Air Zone would not go ahead on 30 May 2022. The original Greater Manchester CAP was designed to comply with a legal direction from government issued before the coronavirus pandemic. Since then, there have been significant changes in the market for vehicles compliant with Clean Air Zone standards, particularly vans, and the cost of living has increased. Greater Manchester local authorities have now submitted the case for a new investment-led Greater Manchester CAP, with no charging Clean Air Zone, to government. A response is expected from government after the new Prime Minister is in place in September 2022.

¹³ Ministry of Housing, Communities and Local Government (2019) Planning Practice Guidance: Air Quality, updated 1 November 2019

<https://www.gov.uk/guidance/air-quality--3>

¹⁴ Department for Environment, Food and Rural Affairs / Department for Transport (2017) UK plan for tackling roadside nitrogen dioxide concentrations, July 2017

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/633269/air-quality-plan-overview.pdf

¹⁵ Clean Air Greater Manchester, Greater Manchester Combined Authority (GMCA) reports, <https://cleanairgm.com/>

Policy/Guidance	Description
	While Greater Manchester waits for feedback from government, participatory policy development will take place with key stakeholders to develop and shape the new CAP Policy, including proposals for funding support. A public consultation on the new CAP will then take place in early 2023, subject to government feedback.
Greater Manchester Air Quality Action Plan 2016-2021 (AQAP)¹⁶	The AQAP identifies a range of actions to reduce emissions and mitigate the impacts on air quality. Some Key actions regards development and transportation are: ▪ Actions for managing new development: ▪ Construction Management Guidance – where a key priority area is affected by a proposed scheme, a high level of mitigation control will be requested. ▪ Development Planning Guidance - to ensure that potential local air quality effects are not overlooked and is not intended to introduce a burden on developers or local authorities to undertake unnecessary work. ▪ Cumulative Development Database - A centralised database of significant planning applications and air quality assessments will be managed by Transport for Greater Manchester (TfGM), as a record of the cumulative effects of multiple developments and thereby facilitate combined approaches to minimising emissions. ▪ Clean Air Zone – TfGM will undertake an appraisal of the effects of charging Clean Air Zones (CAZ) ▪ 20mph Zones - The implementation of 20mph zones in urban areas has been cited as having the potential to benefit local air quality through smoother vehicle flow through junctions and reduced acceleration and braking, as well as having potential for additional benefits from encouraging modal shift from driving to walking or cycling ▪ Encouraging Travel Planning - Individuals and companies are encouraged to look at travel planning measures, and to investigate the potential of additional demand management measures to affect a significant mode shift and to stimulate the uptake of low-emission vehicles ▪ Taxi and Private Hire Quality Controls to Priorities Low-Emission Vehicles Green Infrastructure - The provision of green infrastructure in and around urban areas is now widely recognised as contributing towards creating places where people want to live and work.
Greater Manchester Low-Emission Strategy (2016)¹⁷	The Low-Emission Strategy sets out a framework for policies and measures to: ▪ Reduce air pollution as a contributor to ill-health in Greater Manchester ▪ Support the UK government in meeting EU air quality thresholds Contribute to a reduction in Greater Manchester's carbon footprint; and encourage low-emission behaviours in the culture and lifestyles of the city region.
Greater Manchester Planning Guidance on Air Quality¹⁸	Greater Manchester Combined Authority (GMCA) have adopted the most recent IAQM guidance on the assessment and control of dust from demolition and construction sites, and also for air quality considerations in land-use planning and development control. Applicants, developers and consultants are advised to read the IAQM guidance prior to submitting a planning application.
Greater Manchester's Plan for Homes, Jobs and the Environment, - Draft for Approval (2020)¹⁹	The plan was prepared on behalf of the 10 Greater Manchester local authorities and looks ahead to the period 2020 to 2037. The plan • sets out how Greater Manchester should develop up until 2037

¹⁶ Greater Manchester Combined Authority/ Transport for Greater Manchester, Greater Manchester Air Quality Action Plan 2016-2021, https://www.manchester.gov.uk/downloads/download/4166/air_quality_reports

¹⁷ Greater Manchester Combined Authority/ Transport for Greater Manchester, (2016) Greater Manchester Low-Emission Strategy, December 2016 <https://www.greatermanchester-ca.gov.uk/media/1276/low-emission-strategy-dec-2016.pdf>

¹⁸ Manchester City Council, Additional Planning Guidance, Environmental information for developers, https://www.manchester.gov.uk/info/500207/planning_and_regeneration/1962/additional_planning_guidance/3

¹⁹ Greater Manchester Combined Authority, (2020) Greater Manchester's Plan for Homes, Jobs and the Environment: Greater Manchester Spatial Framework Publication Plan 2020, Draft for Approval October 2020, <https://www.greatermanchester-ca.gov.uk/media/3663/221020-agma-issue-opt.pdf>

Policy/Guidance	Description
	- identifies the amount of new development that will come forward across the 10 districts, in terms of housing, offices, and industry and warehousing, and the main areas in which this will be focused - supports the delivery of key infrastructure, such as transport and utilities - protects the important environmental assets across the city region allocates sites for employment and housing outside of the existing urban area; and defines a new green belt boundary for Greater Manchester
Greater Manchester Places for Everyone Joint Plan²⁰	Following an announcement in December 2020, nine Greater Manchester councils (Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan) will discuss proposals to work together on a joint development plan. The Places for Everyone would underpin Greater Manchester's ambitious plans for sustainable and inclusive growth, building on evidence already collected. The nine councils will continue to work closely with Stockport Council, who decided in 2020 to withdraw from the Greater Manchester Spatial Framework.
Manchester Core Strategy	Policy DM1 of the Core Strategy requires development to consider specific issues, including effects on air quality.

Other Relevant Policy and Guidance

5.13. Table 5.5 lists other relevant policy and guidance which will be referred to and followed as part of the Air Quality Assessment of the Proposed Development.

Table 5.5 Other Relevant Policy and Guidance

Policy/Guidance	Description
Defra Local Air Quality Management (LAQM) Policy Guidance (2022) ²¹ and Technical Guidance (2022) ¹⁰	The guidance issued under Part IV of the Environment Act 1995 is designed to help local authorities with their LAQM duties. The guidance sets out the general approach to use and detailed technical guidance to guide local authorities through the Review and Assessment process.
EPUK/IAQM Land Use Planning & Development Control (2017) ²²	This guidance has been produced to ensure that air quality is adequately considered in the land use planning and development control processes by relevant officers within local authorities, developers, and consultants involved in the preparation of development proposals and planning applications. This document is best practice guidance and has no formal or legal status.
IAQM Assessment of Dust from Demolition and Construction (2016) ²³	The document provides guidance for developers, their consultants and environmental health practitioners on how to undertake a construction impact assessment (including demolition and earthworks). The guidance provides a method for assigning a magnitude of risk (high, medium or low) and identifies appropriate mitigation measures.
Covid-19: Supplementary Guidance, Local Air Quality Management Reporting in 2021 ²⁴	The guidance had been informed by responses from an impact survey received following the release of the interim statement on Covid-19 impacts to the LAQM regime. The guidance is to be read in conjunction with LAQM.TG16

Assessment Methodology and Significance Criteria

Scenarios To Be Tested

5.14. As a result of the proposed phasing, a number of test scenarios will be assessed such that all delivery sequences are considered. The proposed EIA scenarios are:

- Baseline (factored to 2019 to enable model verification with 2019 monitoring data)

²⁰ Greater Manchester Combined Authority, (2021) Greater Manchester councils to set out next steps with Places for Everyone joint plan, 05/02/2021, <https://www.greatermanchester-ca.gov.uk/news/greater-manchester-councils-to-set-out-next-steps-with-places-for-everyone-joint-plan/>

²¹ Defra (2016) Local Air Quality Management Policy Guidance PG(16) <https://laqm.defra.gov.uk/documents/LAQM-PG16-April-16-v1.pdf>

²² EPUK/IAQM, (2017) Land-Use Planning & Development Control: Planning for Air Quality <https://iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf>

²³ Institute of Air Quality Management (IAQM) (2016) Guidance on the Assessment of Dust from Demolition and Construction (Version 1.1) <https://iaqm.co.uk/text/guidance/construction-dust-2014.pdf>

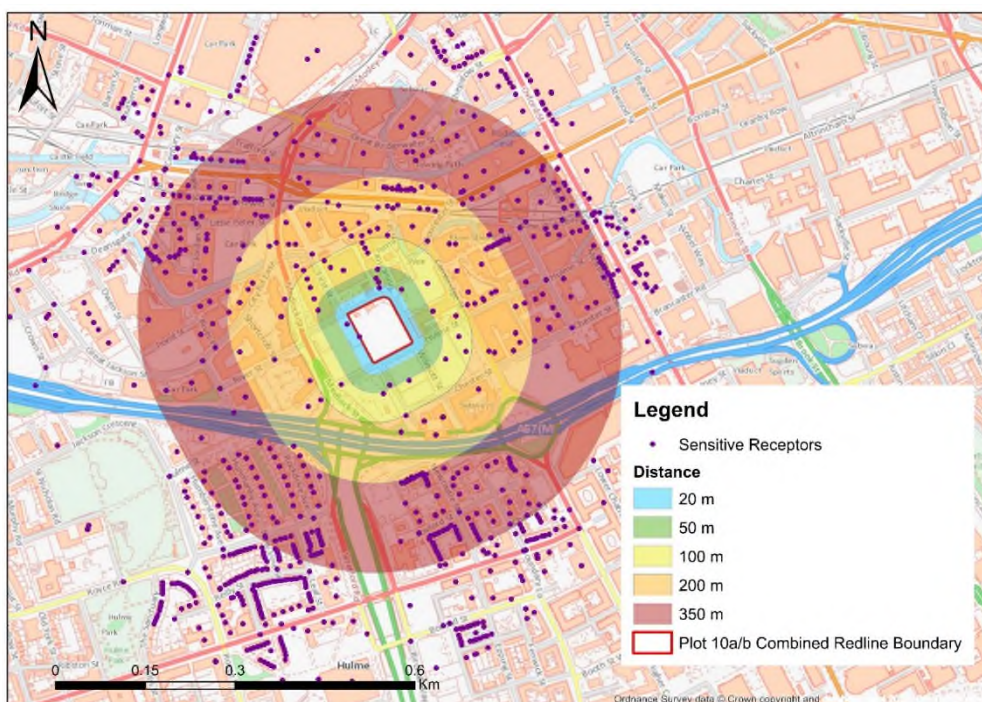
²⁴ Department for Environment, Food and Rural Affairs (Defra) / Greater London Authority (2021). Covid-19: Supplementary Guidance, Local Air Quality Management Reporting in 2021, April 2021, Version 1.0, <https://laqm.defra.gov.uk/supporting-guidance.html>

- Future baseline (scenario without the development in place (Do Nothing));
 - Future baseline + Proposed Development (scenario with 10a in place)
 - Future baseline + Proposed Development (scenario with 10b in place)
 - Future baseline + Proposed Development (10a and 10b in place).
- 5.15. The future baseline scenarios will include committed developments in the area, to enable assessment of the cumulative impact.
- 5.16. The proposed development assessment scenario listed above will be compared against the future baseline, which will include traffic flows from committed developments in the area. It should be noted that predicted traffic flows for this scenario will be representative of future year conditions to ensure a robust assessment is undertaken.
- 5.17. Given the lack of proposed car parking, screening of change in traffic flows between the future baseline with and without the proposed development are anticipated to be minimal and below the criteria for detailed assessment of impacts of nearby receptors.
- 5.18. The results of the future baseline + Proposed Development scenario will be used to inform an exposure assessment for the proposed on-site receptors.

The Study Area

- 5.19. The Proposed Development falls within the jurisdiction of Manchester City Council. The main air pollution sources affecting the Proposed Development and surrounding sensitive receptors are:
- Road traffic on Medlock Street to the west of the Site
 - Road traffic on section of the A57(M) Mancunian Way to the south of the Site
 - Road traffic on River Street to the north and east of the Site
- 5.20. Detailed dispersion modelling of NO_x, PM₁₀ and PM_{2.5} emissions from operational traffic will be used to undertake assessment of human exposure at the proposed development and existing receptors close to the modelled road network. Receptors will be selected at worst-case locations such as close to junctions and closest to the road as well as locations on the proposed development facade.
- 5.21. Additionally, a construction dust assessment will include all other sensitive receptors within a 350m boundary, which may be impacted by construction dust emissions, and within 50m of the routes anticipated to be used by demolition and construction vehicles up to 500m from the Proposed Development site entrance(s). Receptors in the area are likely to include residential dwellings and schools (high sensitivity receptors) as well as offices, shops and community centres (medium sensitivity receptors).
- 5.22. Figure 5.1 **Error! Reference source not found.** shows the location of sensitive receptors within 350m of the proposed development.

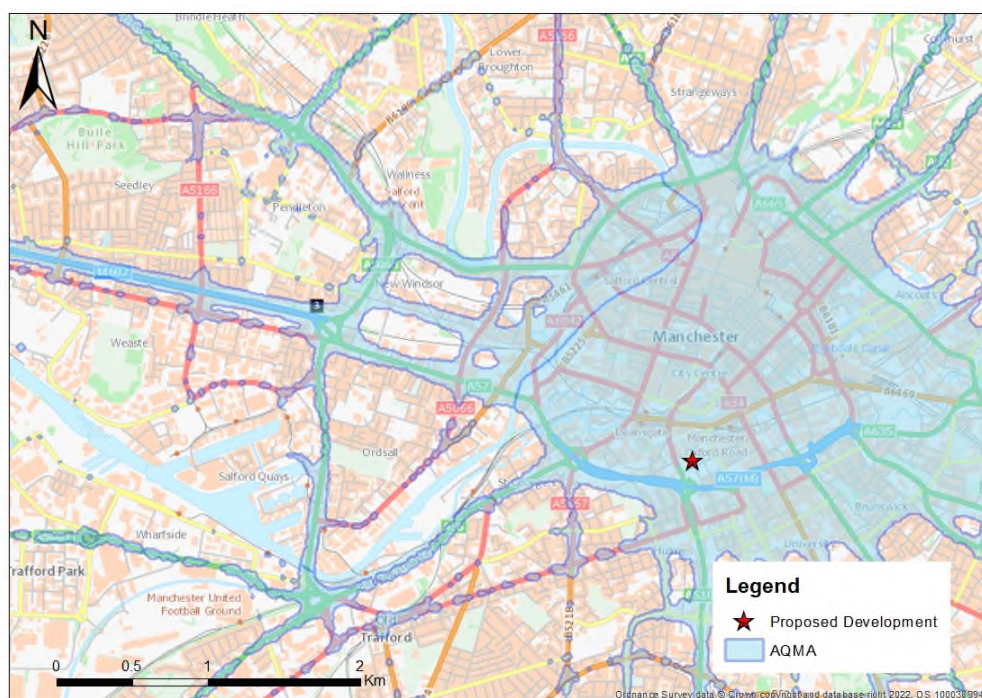
Figure 5.1 – Sensitive Receptors Within 350m of Site



Baseline Surveys and Assessment

- 5.23. To assess the significance of any new development proposal (in terms of air quality), it is necessary to identify and understand the baseline air quality conditions in and around the study area. This provides a reference against which any potential changes in air quality can be assessed. To identify the existing air quality conditions, a review of publicly available information has been undertaken, including the latest local authority air quality reports, monitoring data, and background concentration maps.
- 5.24. The Proposed Development lies within the Greater Manchester Air Quality Management Area (AQMA). The position of the Proposed Development in relation to the AQMA is illustrated in Figure 5.2.

Figure 5.2 – Air Quality Management Area



- 5.25. Industrial air pollution sources are regulated through operating permits or authorisations, which list stringent emission requirements. Regulated industrial process are classified as either Part A or Part B processes and are regulated through the Pollution Prevention and Control (PPC) system which has been transposed into National legislation. The larger, more polluting, Part A processes are regulated by the Environment Agency for emissions to air, water and land. The smaller, less polluting processes are regulated by the local authority for emission to air. A review of environmental permit data held will be presented in the air quality assessment.
- 5.26. A review of existing local air quality conditions in the vicinity of the Proposed Development will be included in the ES assessment. Monitoring within 2km of the Proposed Development have been evaluated as part of this assessment. A review of the most recent Annual Status Report (ASR) from Greater Manchester Combined Authority showed that Manchester City Council (MCC) operates two automatic monitoring stations²⁵ with 2km of the Proposed Development. The Clean Air Greater Manchester Website shows that Manchester has over 400 diffusion tubes monitoring NO₂ in Greater Manchester, 17 of which are within 2km of the Proposed Development. The location of the automatic monitors and diffusion tubes within 2km are shown in Figure 5.3 and Figure 5. and details about the Sites and the latest monitoring data are provided in Tables 5.6 to 5.10.

Figure 5.3 – Automatic Monitoring Sites within 2km

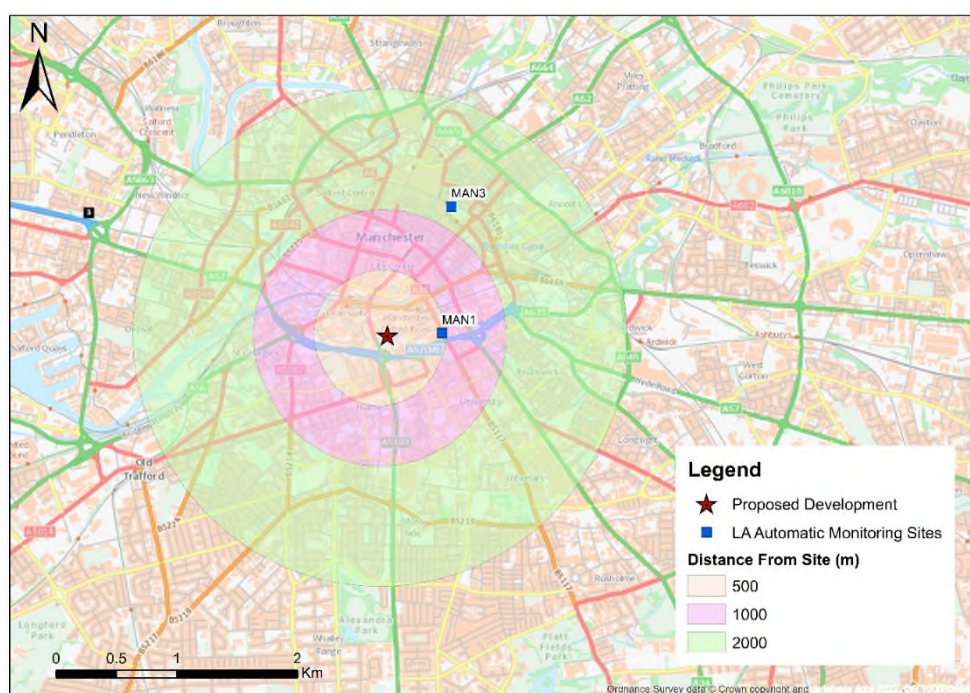


Table 5.6: Automatic Monitoring Sites Within 2km Including Latest NO₂ Data

ID	Site Address	Location			Type	Annual Mean NO ₂ Concentration (µg/m³)		
		X	Y	Z*		(numbers of hourly exceedances of 200µg/m³ indicated in brackets)		
						2019	2020	2021
MAN1	Manchester Oxford Road	384233	397287	2	Urban Traffic	59 (1)	n.d.	n.d.
MAN3	Manchester Piccadilly	384310	398337	4	Urban Centre	36 (0)	27 (0)	27 (0)

²⁵ Automatic or continuous monitoring involves drawing air through an analyser continuously to obtain near real-time pollutant concentration data

Table 5.7: Automatic Monitoring Sites Within 2km Including Latest PM₁₀ Data

ID	Site Address	Location			Type	Annual Mean PM ₁₀ Concentration (µg/m ³)		
		X	Y	Z*		(numbers of daily exceedances of 50µg/m ³ indicated in brackets)		
						2019	2020	2021
MAN1	Manchester Oxford Road	384233	397287	2	Urban Traffic	26 (18)	18 (5)	18 (2)
MAN3	Manchester Piccadilly	384310	398337	4	Urban Centre	20 (7)	15 (1)	15 (2)

Table 5.8: Automatic Monitoring Sites Within 2km Including Latest PM_{2.5} Data

ID	Site Address	Location			Type	Annual Mean PM _{2.5} Concentration (µg/m ³)		
		X	Y	Z*		(numbers of daily exceedances of 50µg/m ³ indicated in brackets)		
						2019	2020	2021
MAN3	Manchester Piccadilly	384310	398337	4	Urban Centre	12	8	9

Figure 5.4 Local Diffusion Tube Monitoring Sites

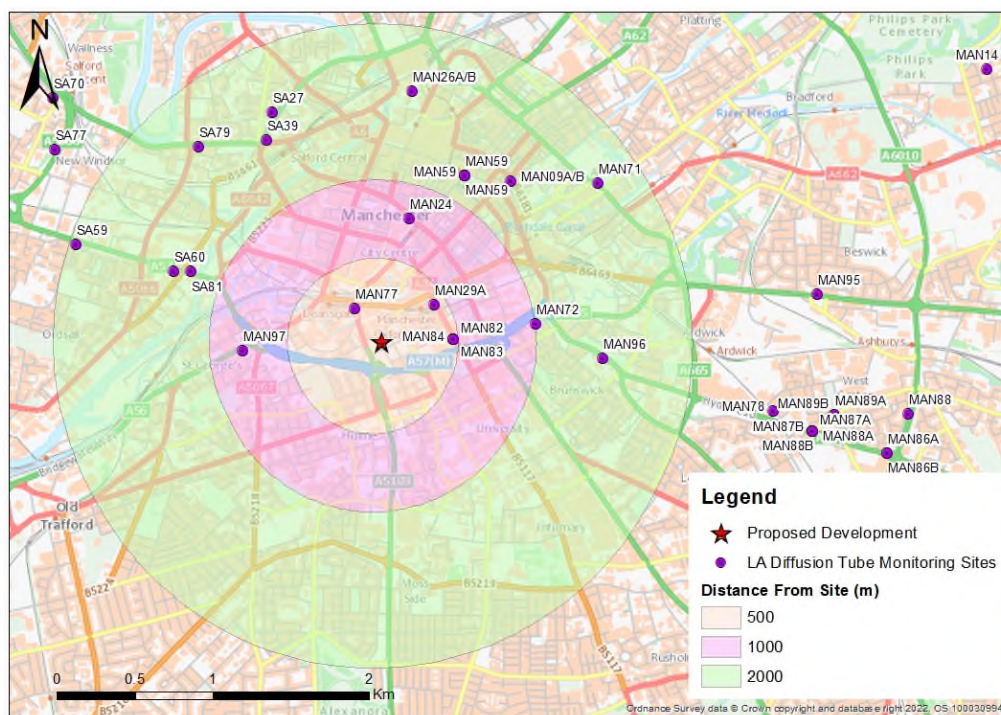


Table 5.9: Diffusion Tube Sites Within 2km Including Latest Data

ID	Site Address	Location			Type	Annual Mean Concentration ($\mu\text{g}/\text{m}^3$)	
		X	Y	Z		2019	2020
MAN09AB	Newton Street	384601	398303	3.0	Kerbside	44.9	32.5
MAN24	Princess Street /Cooper St	383954	398060	3.0	Kerbside	40.8	26.8
MAN26AB	Long Millgate	383971	398876	3.0	Urban background	33.0	22.9
MAN29A	Oxford Street	384117	397505	3.0	Roadside	55.4	39.0
MAN59/ 60/61	Piccadilly Gardens	384310	398337	4.0	Urban background	33.1	22.3
MAN71	Great Ancoats Street	385161	398290	3.0	Roadside	45.3	31.4
MAN72	Lockton Close	384761	397384	3.0	Urban background	32.8	24.5
MAN77	Hewitt Street	383602	397488	3.0	Urban background	43.7	26.9
MAN82/83/84	Oxford Road	384233	397287	2.0	Roadside	52.0	33.9
MAN 96	Ardwick Green	385189	397167	3.0	Roadside	46.0	36.4
MAN 97	Chester Road	382886	397215	3.0	Roadside	32.3	23.4
SA27	Frederick Street	383076	398738	3.0	Roadside	37.2	26.7
SA39	Trinity Way	383040	398563	3.0	Roadside	41.7	30.4
SA59	West Crown Avenue	381822	397895	2.0	Roadside	32.4	23.0
SA60	Regent Road	382445	397724	3.0	Roadside	36.7	27.0
SA79	Chapel Street	382602	398519	3.0	Roadside	41.1	27.3
SA81	Regent Road 2	382561	397722	3.0	Roadside	46.4	34.8
Notes: Exceedances of the annual mean air quality objective are indicated in bold .							

- 5.27. Data from 2020 has not been specifically interpreted due to atypical conditions created by COVID-19 lockdown. Additional data from previous years will be reported in the ES chapter.
- 5.28. In addition to local air quality monitoring data undertaken by the local authority, Defra publishes background pollutant mapping for every 1km x 1km OS grid square across the UK for NO_x, NO₂, PM₁₀ and PM_{2.5}. Background pollutant mapping has been reviewed for the grid square in which the Proposed Development lies and surrounding grid squares. The background concentrations (which are based on 2018 monitoring data) are presented in Table 5.5. Defra background concentrations are all below the air quality objectives for annual mean NO₂ and PM₁₀ and PM_{2.5}.

Table 5.10: Defra's 2019 background concentrations of NO_x, NO₂, PM₁₀ and PM_{2.5}

OS Grid Square		Annual Mean Concentration ($\mu\text{g}/\text{m}^3$)			
X	Y	NO _x	NO ₂	PM ₁₀	PM _{2.5}
383500	397500	39.9	26.1	13.5	8.7
383500	398500	44.6	28.2	13.1	8.5
384500	397500	44.5	28.2	14.4	9.1
384500	398500	47.0	29.3	13.6	8.8
384500	399500	32.8	22.2	12.5	8.2
385500	398500	35.2	23.4	12.6	8.3

Potentially Significant Effects

- 5.29. The baseline data presents potentially significant effects on identified sensitive receptors for the construction and operational phases and presents whether it is proposed to scope these in or out of the Air Quality ES assessment. This is discussed further in the following paragraphs.

Construction Dust

- 5.30. There are a number of likely significant air quality related environmental impacts, which will be fully assessed at sensitive receptors. These primarily relate to the impact of air quality and dust on existing residential and commercial receptors in the locality of the Site at both Construction and Operational phases, as well as impacts on future occupants of the Proposed Development itself.
- 5.31. The demolition and construction works associated with the development have the potential to generate dust, giving rise to impacts on dust soiling and human-health, especially through the generation of PM₁₀. The generation of dust on-site has the potential to cause adverse air quality impacts where there are human receptors within 350m and ecological receptors within 50m of construction works. A Construction Dust Assessment has therefore been scoped in.
- 5.32. An assessment of ecological receptors has been scoped out of the construction dust assessment, as there are no sensitive ecological receptors within 50m of the Proposed Development.

Construction Traffic

- 5.33. Construction traffic accessing the Site during the demolition and construction period will result in a temporary increase in vehicles on the local road network. This will result in increased vehicle emissions, and the potential for trackout of dust generated from construction activities. Screening of construction traffic data to determine the need for detailed assessment has therefore been scoped in.
- 5.34. Construction traffic data predictions will be screened in accordance with EPUK/IAQM criteria²². The construction traffic assessment will consider sensitive receptors within 200m of the assumed construction traffic routes on the local road network. As the proposed development is located close to an AQMA, where predicted changes in traffic meet the following Environmental Protection UK (EPUK)/ IAQM's criteria²² applicable for inside of an AQMA:
- a change of Light Duty Vehicle (LDV) flows of more than 100 Annual Average Daily Traffic (AADT), or
 - a change of Heavy-Duty Vehicle (HDV) flows of more than 25 AADT.
- 5.35. Due to the phased nature of the development, it may be unlikely that the construction traffic will exceed the above criteria. However, should the criteria be exceeded, a detailed assessment would need to be carried out using detailed dispersion modelling.
- 5.36. An assessment of non-road mobile machinery (NRMM) has been scoped out of the assessment, as it assumed that machinery will be selected to conform to the regulatory requirements outlined in the Department for Transport document on reducing emissions from NRMM²⁶.

²⁶ Department for Transport (2018) *Improving air quality: reducing emissions from Non-road Mobile Machinery*
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/691313/improving-air-quality-non-road-mobile-machinery-condoc.pdf

Operational Traffic Emissions

- 5.37. During operation, the Proposed Development has the potential to affect local air quality as a result of traffic exhaust emissions, such as NO₂ and PM₁₀, associated with vehicles travelling to and from the Proposed Development. Screening of operational traffic data to determine the need for detailed assessment has therefore been scoped in.
- 5.38. Traffic data will be obtained from the Transport Consultant in 24-hour AADT format with the calculated percentage of HDVs and average speed data (kph).
- 5.39. Should screening of data indicate the need for detailed assessment of increase in operational traffic emissions on nearby receptors, this would be carried out using ADMS modelling software. Given the lack of proposed parking within the proposed development, it is assumed that screening of traffic data in accordance with EPUK/IAQM criteria would mean that the impact of operational traffic on nearby sensitive receptors can be scoped out.
- 5.40. Detailed modelling will be used to inform an exposure assessment at the Site. Using the traffic data, the latest vehicle emission factors released by Defra will be used to calculate road-traffic emissions. The assessment will focus on concentrations of NO₂, PM₁₀ and PM_{2.5} for which air quality objectives are set in legislation. The changes in concentrations will be assessed with reference to the EPUK/IAQM land-use planning guidance²² approach to determining the significance of likely effects resulting from the Proposed Development on local air quality.

On-Site Combustion Plant

- 5.41. Typically, any combustion plant where the NO_x emission rate is less than 5 mg per sec (mg/s) is unlikely to give rise to significant effects on air quality, provided that the emissions are released from a vent or a stack in a location and at a height that provides adequate dispersion. Should a centralized gas fired energy plant and/or diesel generators be proposed for the Site, these will be screened for the need to carry out detailed assessment, in accordance with criteria listed in EPUK/IAQM guidance. Should emission rates be predicted to exceed 5 mg per sec (mg/s), a screening assessment will be undertaken to calculate the worst-case estimation of Process Contribution (PC) to air following the Defra and Environment Agency (EA)'s air emission risk assessment methodology. Short and long-term PCs will be calculated for nitrogen dioxide (NO₂) for comparison with short and long-term objectives. Should the screening results not meet the criteria for insignificant impact, detailed dispersion modelling may be required.

Table 5.11 – Potentially Significant Effects

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
Residential Receptors: A. Vita Students First Street B. Macintosh Mills C. Unite Students - New Medlock St D. Unite Students - Parkway Gate J. Plot 11 Other residential receptors within 350m of site boundary and 50m of trackout routes	Construction Dust	Dust impacts associated with construction works at the proposed development site. Higher sensitivity to dust for residential receptors will result in a higher likelihood of negative adverse impacts. This should therefore be included in the ES assessment, with predictions of construction plant quantities based on experience of similar projects.	C	In
Residential Receptor within Development G. Plot 10a/b	Construction Dust	Dust impacts associated with construction works at the proposed development site, should Plot 10a/b be phased as under construction once Plot 10a/b is occupied. Higher sensitivity to dust for residential receptors will result in a higher likelihood of negative adverse impacts. This should therefore be included in the ES assessment.	C	In

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
Commercial Receptors: E. 8 First Street F. 1 Tony Wilson Pl I. Plot 9a First Street Other commercial receptors within 350m of site boundary and 50m of trackout routes	Construction Dust	Dust impacts associated with construction works at the proposed development site. Commercial receptors will not have as high a sensitivity as residential ones, and as such the adverse impact is expected to be lower but still potentially significant. This should therefore be included in the ES assessment.	C	In
Commercial Receptor within Development H. Plot 10a/b	Construction Dust	Dust impacts associated with construction works at the proposed development site, should Plot 10a/b be phased as under construction once Plot 10a/b is occupied. Commercial receptors will not have as high a sensitivity as residential ones, and as such the adverse impact is expected to be lower but still potentially significant. This should therefore be included in the ES assessment.	C	In
Residential Receptors: A. Vita Students First Street B. Macintosh Mills C. Unite Students - New Medlock S— D. Unite Students - Parkway Gate J. Plot 11 Other residential receptors within 200m of Proposed Trackout Routes	Construction Vehicle Emissions	Air quality impacts associated with construction traffic emissions during construction works at the proposed development site. Higher sensitivity to emissions for residential receptors will result in a higher likelihood of negative adverse impacts. Screening of construction traffic should therefore be included in the ES assessment. Predictions of construction traffic movements to be confirmed by The Project Manager.	C	In
Residential Receptor within Development G. Plot 10a/b	Construction Vehicle Emissions	Air Quality impacts associated with construction traffic emissions during construction works at the proposed development site, should Plot 10a/b be phased as under construction once Plot 10a/b is occupied. Higher sensitivity to emissions for residential receptors will result in a higher likelihood of negative adverse impacts. Screening of construction traffic should therefore be included in the ES assessment. Predictions of of construction traffic movements to be confirmed by The Project Manager.	C	In

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
Commercial Receptors: E. 8 First Street F. 1 Tony Wilson Pl I. Plot 9a First Street Other residential receptors within 200m of Proposed Trackout Routes	Construction Vehicle Emissions	Air quality impacts associated with construction traffic emissions during construction works at the proposed development site. Higher sensitivity to emissions for residential receptors will result in a higher likelihood of negative adverse impacts. Screening of construction traffic should therefore be included in the ES assessment. Predictions of construction traffic movements to be confirmed by The Project Manager.	C	In
Residential Receptor: G. Plot 10a/b	Ambient Air Quality impact on proposed development	Exposure should be appropriately controlled to see that new residential rooms do not experience adverse air quality effects. This should therefore be scoped into the ES assessment - designing to the Local Authority's requirements will see a lower significance of impact by default.	O	In
Commercial Receptor: G. Plot 10a/b	Ambient Air Quality impact on proposed development	Exposure should be appropriately controlled to see that new commercial elements do not experience adverse air quality effects. This should therefore be scoped into the ES assessment - designing to the Local Authority's requirements will see a lower significance of impact by default.	O	In
Residential Receptors: A. Vita Students First Street B. Macintosh Mills C. Unite Students - New Medlock St D. Unite Students - Parkway Gate E. Premier Inn G. Plot 10a/b I. First Street South Commercial Receptors: F. One City Road G. 8 First Street H. 1 Tony Wilson Pl J. Plot 11	Combustion Plant Emissions	Detailed design information regarding installation of site-based combustion plant is presently unavailable. Should a centralized on-site combustion plant be proposed for the Site, screening for the need to carry out detailed assessment, in accordance with criteria listed in IAQM guidance would need to be scoped into the ES Assessment.	O	In

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
Residential Receptors: A. Vita Students First Street B. Macintosh Mills C. Unite Students - New Medlock St D. Unite Students - Parkway Gate E. Premier Inn G. Plot 10a/b Commercial Receptors: F. One City Road G. 8 First Street H. 1 Tony Wilson Pl	Operational Traffic Impacts	It is understood that environmental impacts as a result of increased traffic flows have been scoped out of the ES, given that there are no car park facilities for either of the plots. Any potential increase in pollution from traffic flows at the Operational Phase can therefore be scoped out of the ES assessment.	O	Out

- 5.42. For completeness, **Appendix 2** sets out which Committed Developments are considered relevant and included in the assessment.

Climate Change

Introduction

- 5.43. This Chapter of the ES will be prepared by Cundall and assesses the likely climate change impacts of the proposals upon the Site and surrounding area. This Chapter will also describe 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.
- 5.44. The authors of this input with respect to climate change (climate change risk assessment and whole life embodied carbon) hold fully Chartered Membership of the Institute of Structural Engineers and Institute of Environmental Management and Assessment. The authors are educated to PHD level and have experience in preparing input on climate change for EIA developments.

Assumptions and Limitations

- 5.45. Cundall will be undertaking a Whole Life Embodied Carbon assessment and Climate Change Risk assessment to identify how the Proposed Development may impact and be impacted by Climate Change.
- 5.46. The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 were transposed into UK law on 16th May 2017 and introduced a new requirement for EIAs to assess potential effects associated with Climate Change.
- 5.47. It 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”.
- 5.48. Further to this, Manchester City Council declared a climate emergency in June 2019.
- 5.49. In relation to the Climate Change and the Proposed Development, the team are seeking to assess the scheme through two primary lenses:

Climate Change mitigation; reducing impact

- 5.50. Targets are aimed at reducing the amount of greenhouse gases emitted each year to slow down and lessen the impact of Climate Change. This is known as ‘Climate Change mitigation’ and is required to meet the UK’s net zero carbon targets. Mitigation measures include passive design measures, energy efficiency, on site renewable energy generation and reducing the embodied carbon associated with the construction and operation of buildings.

Climate Change adaptation; designing for resilience

- 5.51. According to many climate scientists, it is highly likely that a 1.5°C target has already been missed and that the opportunity for holding to 2°C is rapidly fading unless the world starts reducing emissions immediately. However, even in these optimistic scenarios, changes to our climate are inevitable. As a result, measures need to be incorporated into design consideration to account for the future climate scenarios. These types of measures are known as Climate Change adaptation and are required to safeguard us against the effects of Climate Change that do occur.
- 5.52. The development has the potential to either positively and negatively impact on Climate Change through mitigation and on sensitive receptors introduced on Site in the future, based on increases in average temperature and other environmental changes that are likely as a result of anthropogenic Climate Change. In relation to the study area, the climate adaption assessment will consider the effects of the Proposed Development on local and regional climate in the context of wider global Climate Changes.

Legislative and Policy Context

- 5.53. The ES will refer to the Local, Regional (where applicable) and the National Planning Policy Framework (and any associated guidance available) with reference to all environmental, social, and economic policies of relevance to the Proposed Development.

Legislation

- 5.54. The following legislative guidance will be used to development the Climate Change ES Chapter:

Table 5.12 – Legislation and Guidance

Legislation and Guidance	Description
The 'EIA' Directive 2014/52/EU	Assessment of the effects of certain public and private projects on the environment (hereafter referred to as 'the EIA Directive') came into force on 16 th April 2014 and was transposed into UK law by the Town and Country Planning (Environmental Impact Assessment) Regulations May 2017
National Planning Framework (NPPF)	First published on 27 March 2012 and revised in July 2018, February 2019, March 2019 and July 2021 as a key part of Government reforms to make the planning system less complex and more accessible, to protect the environment and to promote sustainable growth, The Government have also published a series of planning Practice Guidance covering different topics including (but not limited to) air quality climate change and waste.
EU Climate Law	Establishes the requirements of Member States in terms of Climate change
UK Climate Change Act 2008 Amended June 2019	Requiring the government to reduce the UK's net emissions of greenhouse gases by 100% relative to 1990 levels by 2050
Energy Act 2013	Makes provisions for the setting of a decarbonization

National Planning Policy and Guidance

- 5.55. National Planning Policy Framework July 2021 (NPPF). Addressing climate change is one of the core land use planning principles which the NPPF expects to underpin both plan-making and decision-taking. Key NPPF sections relating to an EIA's Climate Change Chapter include Section 9 – transport related issues, Section 14 Energy and climate change policies.
- 5.56. The following guidance documents have been used during the preparation of this Report:
- Environmental Impact Assessment Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance (IEMA);

- RIBA 2030 Climate Challenge (version 2-2021)¹²; and
- National Planning Practice Guidance on Climate Change.

Sub-Regional Planning Policy and Guidance (where relevant)

Greater Manchester Combined Authority – Places for Everyone (Draft).

- 5.57. This document has been submitted to the Secretary of State for Levelling Up, Housing and Communities. The plan is a joint development plan of nine Greater Manchester districts which will determine the kind of development that takes place in their boroughs, maximising the use of brownfield land and urban spaces while protecting Green Belt land from the risk of unplanned development.
- 5.58. It will also ensure all new developments are sustainably integrated into Greater Manchester's transport network or supported by new infrastructure.
- 5.59. Note, the plan has been submitted together with all the supporting documents, background evidence, and representations received during the final stage of public consultation, which took place from 9 August to 3 October 2021. The Plan was submitted to the Secretary of State for Examination on 14 February 2022, with the examination ongoing. Given that it is yet to be fully examined, it is considered that the Draft Plan currently holds limited weight in the determination of planning applications within Greater Manchester. It is anticipated the Plan will be adopted in 2023.

Manchester Climate Change Framework 2020-2025.

- 5.60. Climate Adaptation and Resilience Objective – To adapt the city's buildings, infrastructure and natural environment to the changing climate and to increase the climate resilience of our residents and organisations.

Greater Manchester Resilience Strategy 2020-2030.

- 5.61. The strategy aims to plan and to respond to civil risks and emergencies within the context of the Civil Contingencies Act 2004. It incorporates learning from efforts in Greater Manchester and across the world to reduce the risk of disasters and crises.

Local Planning Policy and Guidance

- 5.62. Manchester City Council Core Strategy with a focus on the following policies:
- Policy EN 4 – Reducing CO2 Emissions by Enabling Low and Zero Carbon Development
 - Policy EN 6 – Target Framework for CO2 reductions from low or zero carbon energy supplies
 - Policy EN 8 – Adaptation to Climate Change
 - Policy EN 14 – Flood Risk
 - Policy EN 15 – Biodiversity and Geological Conservation
 - Policy EN 16 – Air Quality
 - Policy EN 17 – Water Quality
 - Policy T 1 – Sustainable Transport

Assessment Methodology and Significance Criteria

Scenarios To Be Tested

- 5.63. The Proposals will be supported by a specific EIA Climate Change Chapter which will consider all of the potential impacts referenced above in the Technical Chapter. It will consider the impacts of the development as a whole.
- 5.64. The methodology and strategy proposed by Cundall will also set out Climate Change mitigation by utilising existing benchmark data for the type and scale of the Proposed Development in relation to Whole Life Carbon and adaptation, setting out the results and risks to the Proposed Development if no account for future Climate Change scenarios was taken.
- 5.65. The impact of the Proposed Development will be assessed using RICS Whole Life Carbon Assessment Methodology to assess the identified scenarios for the Proposed Development. Demonstrating how the Proposed Development limits its contribution to Climate Change. Again, the results and risks to the development for the Proposed Development (with consideration for the effects of Climate Change) will establish the need to implement measures to ensure the buildings are adaptable.

- 5.66. The potential impact of the baseline schemes within the surrounding Manchester area is considered to add little to the understanding of the developments assessments and are therefore scoped out.
- 5.67. The Climate Change Chapter will be broken down into two elements:

Whole Life Carbon Assessment – Climate Change Mitigation

- 5.68. A Whole Life Embodied Carbon Assessment (WLCA) will be carried out.
- 5.69. Cundall will initiate individual discussions with the Design Team to provide options, ideas and comparative analysis for low carbon approaches to architectural, structural, and services design strategies.
- 5.70. Cundall will carry out an initial WLCA based on cost plan and design information, and following RICS guidance document 'Whole life carbon assessment for the built environment, 1st edition'. Material LCA assessment using the BRE approved tool. The following categories will be included in the assessment:
- Substructure
 - Superstructure (frame, upper floors, roof, stairs and ramps, external walls, windows and external doors)
 - Internal Finishes
 - Fittings, furniture, and equipment
 - External works
 - Benchmark operational energy data
- 5.71. Cundall will then detail out the embodied carbon reduction appraisal, highlighting considerations the design team will be making as the design develops, to encourage and facilitate the use of low-carbon materials.
- 5.72. The baseline will be based on industry standard carbon footprint values. As the plot is currently vacant, the assumption can be made that the GHG baseline is 0. Other baseline cases have been scoped out from this assessment due them not being considered as directly contributing to the development's GHG emissions.
- 5.73. Cundall will carry out the Plot 10a and Plot 10b WLC assessment.
- 5.74. Scenarios for considerations in the GHG emissions analysis are as follows:
- Scenario 2: Baseline + Plot 10a
 - Scenario 4: Baseline + Plot 10b
 - Scenario 6: Baseline + Plot 10a + Plot 10b,

Climate Change Risk Assessment – Climate Change Adaptation

- 5.75. For reporting purposes, the structure of this ES chapter follows the procedural steps which are listed in Table 1 of the IEMA guidance on Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation (2020).
- 5.76. The risk assessment will review of the impacts of the Climate Change on the Proposed Development Site over its projected life cycle (assumed to be 60 years). This will cover structure, fabric and building services. Future climate projections will be assessed based on the latest research from the Intergovernmental Panel on Climate Change (IPCC). These will be a medium (RCP4.5/6.0) and a high (RCP8.5) emissions scenario to cover a broad range of plausible future climates. Key impacts that will be reviewed are temperatures, precipitation, sea level & storms.
- 5.77. The risk assessment will identify the risks posed by these Climate Change hazards on the Proposed Development, taking into account particular impacts that may increase the risk. The respective project team engineers will include structural stability & robustness, weather proofing & detailing, material durability, health & safety of building occupants, impacts on building contents and business continuity.
- 5.78. This will identify means of mitigating the above risks as far as reasonably practicable.
- 5.79. Within the Climate Change EIA Chapter, Cundall will summarise the key measures that are included in the proposals and detail what will be considered at the next stages of design in order to improve resilience.
- 5.80. Whilst the intent of this project is to reduce the risks associated with Climate Change, it does not guarantee that residual Climate Change risks will not exist. The risk assessment is based on recorded historical climate data and projections for the changes of this climate into the future. Whilst every attempt has been made to communicate the uncertainty surrounding predictions of future climate, the exact trajectory of global emissions and the climactic response to this remains uncertain.

- 5.81. There is currently insufficient evidence as to how fast the Antarctic and Greenland ice sheets may melt (an uncertainty acknowledged by the IPCC). The timescales of these events, and therefore the timescales over which sea levels will rise is therefore likely to be at the upper end of the IPCC's projections, however, may be considerably more in the centuries to come. This may not immediately be obvious as a risk in Manchester, however it could be a factor in the future and there may be indirect impacts.
- 5.82. Scenarios for considerations in the Climate Change Risk Assessment (CCRA) are as follows:
- RCP 4.5
 1. Scenario 6: Baseline + Plot 10a + Plot 10b,
 2. Scenario 7: Completed development (baseline and cumulative)
 - RCP 8.5 (2040 & 2080, medium and long term)
 1. Scenario 6: Baseline + Plot 10a + Plot 10b,
 2. Scenario 7: Completed development (baseline and cumulative).

The Study Area

- 5.83. The study area is focused on the Site for the new office and new PBSA buildings proposed for Plot 10a and 10b respectively. The Proposed Development falls within the jurisdiction of Manchester City Council.
- 5.84. The boundary line of the study area may not be directly impacted but urban public realm beyond our site boundary is to be considered.

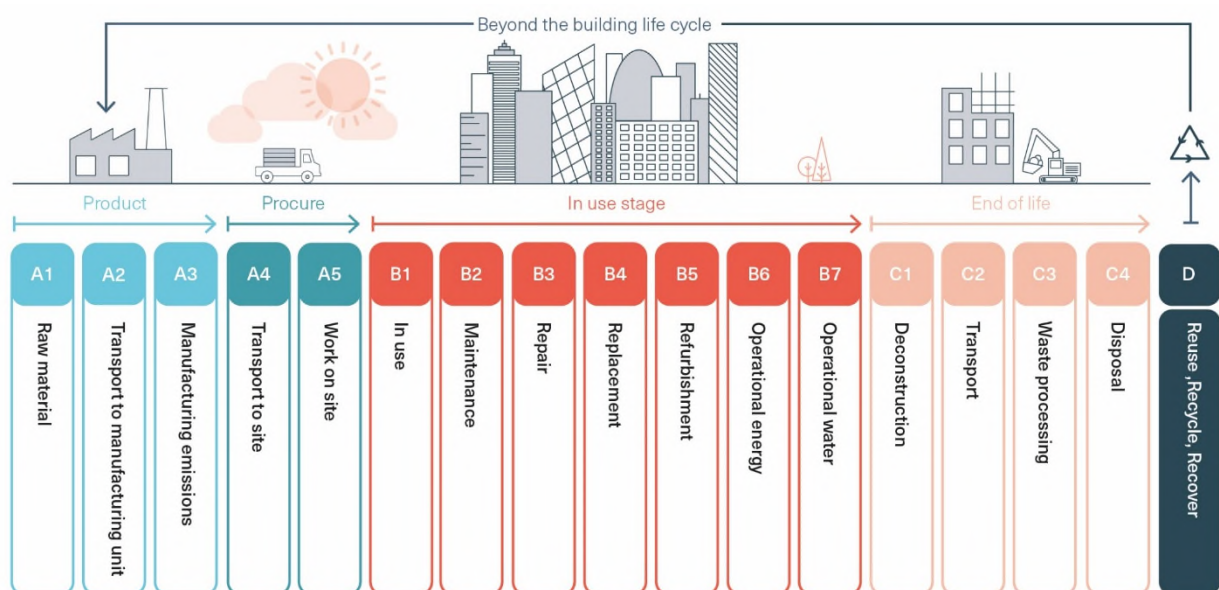
Baseline Surveys and Assessment

- 5.85. The potential impact of the baseline schemes within the Manchester area is considered to add little to the understanding of the developments assessments.

Construction Phase

- 5.86. The Construction Phase will be responsible for a proportion of the development carbon footprint over its lifetime. This is due to the embodied carbon associated with the extraction of raw materials, transport to manufacturing unit, the manufacturing process, the transport to Site the work on Site. This is referred to as the life cycle stages A1 to A5.
- 5.87. During the construction phase it is unlikely that the Site will be subject to the impacts of Climate Change dramatically. The Site may experience a summer heatwave as well as greater rainfall. This has the potential to limit Site operations, but this is not deemed significant.

Figure 5.5: Whole life carbon cycle stages A1 - D



Operational Phase – Climate Change Mitigation

- 5.88. The operational phase will see both a potential impact upon the development from Climate Change as well as the potential to contribute to the Climate Change.
- 5.89. In considering future Climate Change scenarios, IEMA guidance (IEMA 2015) recommends the use of the Met Office's UK Climate Projections, known as UKCP18. Using three emission scenarios (high, medium and low), 'probabilistic' projections are provided for a range of variables including temperature, precipitation, and sea level rise for 16 different geographic regions of the UK.
- 5.90. The effects of a changing climate on the Proposed Development are generally likely to be assessed in relation to the Site as defined by the Site boundary and its immediate surrounds. However, traffic (and therefore climate-changing emissions from vehicles) and Flood Risk Assessments are likely to extend beyond the Site boundary.
- 5.91. Any Climate Change Assessment will use the following information provided by other ES Chapters (EIA Methodology (Chapter 4), Air Quality (Chapter 6), Daylight, Sunlight and Overshadowing (Chapter 8), Noise and Vibration (Chapter 10), Wind Microclimate (Chapter 13) and planning documents for both Plot 10a and Plot 10b (including Energy & Sustainability Statements, Transport Statements, and similarly related documents) to inform and mitigate against climate change risk.
- 5.92. Potential Climate Change impacts upon the development at the Site that are being considered include:

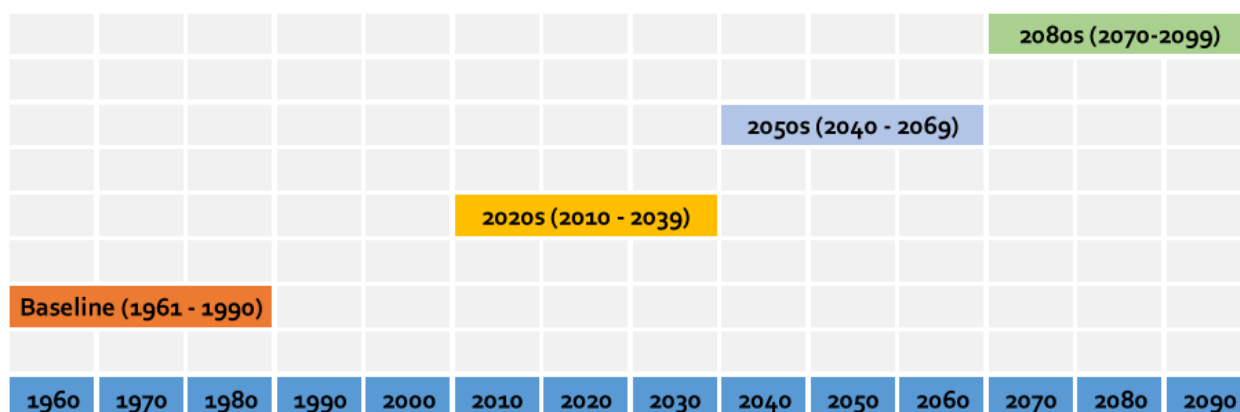
Table 5.13 Potential Impacts and Risks

Potential Impacts & Risks
Reduction in capacity and energy consumption of heating systems
Overheating in naturally ventilated buildings Under-sizing of comfort cooling systems Increase in cooling energy use
Need for reduced building consumption (implement low flow sanitary water or increased storage due to increase in drought)
Resilience of utility infrastructure due to external climatic conditions, i.e. surge storm effects
Instability due to increased wind loads / storm frequency and, Instability due to long-term settlement
Under-sizing of drainage systems due to increase in rainfall

Climate Change Risk Assessment – Climate Change Adaptation

- 5.93. The current baseline for the Proposed Development is defined by historic climate condition and the prevailing conditions at the time of this assessment. UK Climate Projections 2009 (UKCP09) uses thirty-year time periods for modelling future climate projections and each time period is based on the central decade that it covers.
- 5.94. The 2020s covers the period 2010 to 2039, the 2050s covers the period 2040 to 2069 and the 2080s covers the period 2070 to 2099. In UKCP09 the baseline period is from 1961-1990 and where changes in values are given that they are relative to the modelled climate for this period.
- 5.95. Therefore, it should be noted we are already in the 2020s period and that projected climate change for the 2020s is relative to the baseline period rather than to today's climate (5.6).

Figure 5.6 UKCP09 projection periods



5.96. The time period for the assessment is agreed and determined to be the design life of the assets. It is recognised that in practice the design life of any asset can vary greatly based on what design approach is taken.

Significant Criteria Effects

5.97. At this stage it is not possible to assess or determine the significance of the effects that Climate Change will have on either the construction or operational phases. Nor is it possible to establish the extent to which the Proposed Development will contribute to Climate Change. However, due to the sensitivity of the climate, impacts of constructing buildings can usually be seen as negative, with the only exceptions to this being nature restorative proposals. The impact of two schemes in a large urban area is likely to be a small proportion of the combined activity in the city, and therefore the overall city wide baseline. The significance of the effects will be reviewed as part of the Climate Change Chapter; however, the following table gives indication of their anticipated significance at the construction and operational phases.

Whole Life Carbon Assessment – Climate Change Mitigation

Construction Phase

Table 5.14 Construction Phase of Significance of Impact

Nature of Impact	Sensitivity	Environmental Impact Magnitude	Significance of Effect	Confidence level
Removal of raw materials	Medium-low	Minor negative	Minor Adverse	Low
Transport to manufacturing unit	Medium-low	Minor negative	Minor Adverse	Low
Manufacturing process	Medium-low	Minor negative	Minor Adverse	Low
Transport to site	Medium-low	Minor negative	Minor Adverse	Low
Works on site	Medium-low	Minor negative	Minor Adverse	Low

Operational Phase

Table 5.15 Operational phase significance of Impact

Nature of Impact	Receptor	Environmental Impact	Significance of Effect	Confidence level
Reduction in capacity and energy consumption of heating systems	Medium- low	Minor negative	Minor Adverse	Low
Overheating in naturally ventilated buildings Under-sizing of comfort cooling systems Increase in cooling energy use	Medium- low	Moderate negative	Moderate Adverse	Low
Need for reduced building water consumption or increased storage due to increase in drought	Medium- low	Minor negative	Minor Adverse	Low
Resilience of utility infrastructure due to external climatic conditions, i.e. surge storm effects	Medium- low	Minor negative	Negligible to Minor Adverse	Low
Instability due to storm frequency Instability due to long-term settlement	Medium- low	Minor negative	Negligible to Minor Adverse	Low

Nature of Impact	Receptor	Environmental Impact	Significance of Effect	Confidence level
Under-sizing of drainage systems due to increase in rainfall	Medium- low	Moderate negative	Moderate Adverse	Low

Climate Change Risk Assessment – Climate Change Adaptation

5.98. The magnitude of the environmental impact will be assessed using the scale detailed in **Error! Reference source not found..**

Table 5.16 Environmental Impacts

Magnitude	Environmental Impact
High	Partial loss of or damage to key characteristics (buildings / public realm), features or elements Permanent / irreplaceable change, which is likely to occur.
Moderate	Minor loss of, or alteration to, one (maybe more) key characteristics, features or elements; measurable change in attributes, quality or vulnerability (Adverse). Long-term though reversible change, which is likely to occur.
Minor	Very minor loss of, or alteration to, one (maybe more) key characteristics, features or elements; noticeable change in attributes, quality or vulnerability (Adverse). Short- to medium-term though reversible change, which could possibly occur.
Negligible	Temporary or intermittent very minor loss of, or alteration to, one (maybe more) characteristic, feature or element; possible change in attributes, quality or vulnerability Short-term, intermittent and reversible change, which is unlikely to occur
Neutral	No loss or alteration to any characteristic, feature or element.

Potentially Significant Effects

5.99. The following table highlights what the likely impacts may be and what elements are scoped in or out of further assessment.

Table 5.17 Construction Phase – Significant impacts scoped in or out

Receptor	Effect	Discussion of Effect	Applicable Development Construction Phase	Scoped In / Out
Office development	Material usage	Amount of non-renewable material use required.	C	In
PBSA	Material usage	Amount of non-renewable material use required.	C	In
Office development	Site Work	Carbon emissions during site work	C	In
PBSA	Site Work	Carbon emissions during site work	C	In
Office development	Material transportation during construction	Carbon emissions from material movement due to construction transportation	C	In

PBSA	Material transportation during construction	Carbon emissions from material movement due to construction transportation	C	In
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Table 5.18 Operational Phase – Significant impacts scoped in or out

Receptor	Effect	Discussion of Effect	Applicable Development Operational Phase	Scoped In / Out
Office development	D module – Reuse, recycle, recover	Unknown however the proposals will allow for ease of end of life	O	Out
PBSA	D module – Reuse, recycle, recover	Unknown however the proposals will allow for ease of end of life	O	Out
Office development	Operational transport	Unknown element due to operation of developments	O	Out
PBSA	Operational transport	Unknown element due to operation of developments	O	Out
Office development	Carbon benchmarking for water consumption (B7)	Unknown element due to operation of developments	O	Out
PBSA	Carbon benchmarking for water consumption (B7)	Unknown element due to operation of developments	O	Out
Office development	Overheating	Systems unable to cope with future weather scenarios. As future development is realised, urban heat island effect likely to change.	O	In
PBSA	Overheating	Systems unable to cope with future weather scenarios. As future development is realised, urban heat island effect likely to change.	O	In
Office development	Flash flooding	Heavy rainfall and regional flooding could result in ingress into ground floor and basement areas resulting in damage to mechanical / electrical equipment, floors, finishes and furniture	O	In
PBSA	Flash flooding	Heavy rainfall and regional flooding could result in ingress into ground floor and basement areas resulting in damage to mechanical / electrical equipment, floors, finishes and furniture	O	In

5.100. For completeness, **Appendix 2** sets out which Committed Developments are considered relevant and included in the assessment.

Daylight and Sunlight

Introduction

- 5.101. This Chapter of the ES will be prepared by Gray Scanlan Hill (“GSH”) and assesses the likely Daylight and Sunlight amenity impacts of the proposals upon the Site and surrounding area. This Chapter will also describe 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.
- 5.102. The authors of this input are Chartered Building Surveyors, who specialise in advising clients on 3rd party development risks, including impacts on daylight and sunlight amenity. The authors have over 18 years’ experience preparing daylight and sunlight amenity impact assessments for Environmental Impact Assessments / Environmental Statement, and have completed such assessments elsewhere in Manchester including other plots within First Street.

Assumptions and Limitations

- 5.103. To ensure transparency within the EIA process, the following limitations and assumptions have been identified.
- We have inspected the Site and walked its surroundings and in so doing have identified the window provision of the neighbouring buildings that overlook the Site (to the extent that such windows are capable of being observed from the adjacent public highways).
 - To facilitate the running of the technical analysis, computerised 3D massing simulations of the Site and its immediate surroundings will be constructed, in its Baseline, Proposed and Cumulative massing configurations. In building the 3D massing models, the following information, provided to us by others, has been relied upon:
 - Working to a brief set by GSH, Technics Group and Clugston Group were instructed to laser scan the Site and its surroundings, to capture the massing of the Site and its surroundings and the window provision of the neighbouring buildings. The scan data has been supplemented with a photogrammetric model of the wider massing context of the Site.
 - A topographically accurate computer generated 3D model of the Proposed Development will be given to us in an AutoCAD format by scheme Architects, Jon Matthews Architects for Plot 10a; and Tim Groom Architects for Plot 10b.
 - GSH have identified the neighbouring buildings of residential use from observations made during their site inspections, but also by reference to the Valuation Office Agency records – neighbouring buildings with a Council Tax Band being of residential use.
 - In undertaking this appraisal GSH will not have been inside any of the neighbouring buildings. It will, therefore, be necessary to make some assumptions as to the size, arrangement, and use of the rooms behind the neighbouring windows. Assumptions will be informed by letting particulars available from the internet, leaseplans available from Land Registry, and from Planning Applications available digitally via Manchester City Council’s public planning access system.
 - For the purposes of the Cumulative assessments, GSH’s understanding of the massing of the various planning approved neighbouring developments will be based on pdf drawings that are available to download from Manchester City Council’s Planning public access portal.

Legislative and Policy Context

Legislation

- 5.104. There is no legislation that governs daylight and sunlight amenity

National Planning Policy and Guidance

- 5.105. There are no national planning policy guidelines that directly govern daylight and sunlight amenity in terms of sufficiency and acceptable negative or adverse impacts.
- 5.106. It is, however, acknowledged that the National Planning Policy Framework (“NPPF”) 2021 confirms the Government’s objective to conserve and enhance the natural and local environment in the planning system. The availability of daylight and sunlight are, of course, natural resources that can enhance an environment.

- 5.107. The NPPF promotes, where appropriate, an uplift in density for residential development in town and city centres, and notes that a flexible approach should be taken in applying guidance relating to daylight and sunlight in such areas of high density.
- 5.108. Most Local Authorities do recognise the standards and appraisal methodology set out in the Building Research Establishment (BRE) Guidance Note 'Site Layout Planning for Daylight & Sunlight: A Guide to Good Practice' as the most appropriate basis for measuring and evaluating the daylight and sunlight amenity impact in the built environment.

The BRE Guidance

- 5.109. The BRE Guidance was produced following extensive consultation with architects, planning officers, consultants, professional institutions and Government officials.
- 5.110. The Guidance was first published in 1991 and superseded the Department of the Environment Guidance "Sunlight and Daylight Planning Criteria and Design of Buildings".
- 5.111. The current edition (3rd) of the BRE Guidance was published in June 2022.
- 5.112. The BRE Guidance establishes a set of parameters intended to assist in the quantification of daylight and sunlight levels.
- 5.113. A distinction can be drawn between "daylight" and "sunlight". Daylight is directly received from an unobstructed overcast sky. Sunlight is light received directly from the sun.
- 5.114. In accordance with the BRE Guidance, the daylight amenity impact has been appraised through establishing the Vertical Sky Component ("VSC") for all relevant neighbouring windows, and, where appropriate, by measuring the No Sky Line ("NSL") of the rooms.
- 5.115. The BRE Guidance promotes that sunlight amenity to buildings is assessed through establishing the winter and summer Annual Probable Sunlight Hours ("APSH") for certain windows that face within 90 degrees of due south. Sunlight amenity to external land is appraised through establishing the number of sunlight hours received ("Time in Sun").
- 5.116. These assessment methods are as follows:
- Vertical Sky Component ("VSC")
 - The VSC is a unit of measurement that represents the amount of visible sky that is capable of being measured at the midpoint of the external face of a window.
 - The more unobstructed sky or sky visibility available to a window, then, in theory, the potential daylighting capability of the room that it serves will increase.
 - The unit is expressed as a percentage, as it is the ratio between the amount of visible sky available to the window being tested, compared to what would be available from a totally unobstructed sky. To put this unit of measurement into perspective, the maximum percentage VSC value of a window located in a vertical plane is 50%, but in practice the VSC values do not typically exceed 40%, because of projecting window reveals and window heads which reduce the angles of measurement.
 - The BRE Guidance for daylight confirms that:
 - "... daylighting of an existing building may be adversely affected ... if ... the VSC measured at the centre of an existing window is less than 27%, and less than 0.8 times its former value".
 - Daylight amenity will therefore not be materially or adversely affected if it can be established that a window achieves 27% VSC in the proposed condition.
 - If a window has a VSC of less than 27%, then a reduction in daylight is not considered material by the BRE so long as the reduction does not exceed 20% (i.e. 0.8 x) the baseline value. This loss is not considered material by the BRE as it is unlikely to be noticed by the building occupants.
 - No Sky Line ("NSL")
 - The BRE Guidance confirms that the internal daylight distribution of an existing building can be found by plotting the NSL for each main room, which would include living rooms, dining rooms and kitchens (bedrooms can also be analysed, but the BRE consider them less important).
 - The NSL is measured at an internal working plane within a room and divides those parts of it which can and cannot see the sky through its window provision.

- Those parts of a room beyond the NSL usually look dark and gloomy, compared with the rest of the room, because they receive no direct light from the sky.
 - The BRE Guidance confirms that it is acceptable for the area of a room within the NSL to be reduced by 20% (or 0.8x) of its existing coverage, on the grounds that such a reduction in NSL coverage would not be noticed by the room occupants.
 - Annual Probable Sunlight Hours (“APSH”)
 - Unlike daylight, which is not materially influenced by orientation and assumes that light from the sky is uniform, the availability of sunlight is dependent upon orientation.
 - As the United Kingdom is in the northern hemisphere, sun is only received from the south, rising in the east and setting in the west. The availability of sunlight is therefore dependent upon the compass orientation of the window or room being tested relative to the position of due south.
 - The BRE Guidance for sunlight confirms that:

“If a living room of an existing dwelling has a main window facing within 90° of due south and any part of the new development subtends at an angle of more than 25° to the horizontal, measured from the centre of the window in a vertical section perpendicular to the window, the sunlighting of the existing dwelling may be adversely affected”.
 - Further, that sunlight may also be adversely affected if the main living room window:

“... receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March”.
 - From this, it is established that sunlight amenity will not be materially affected if 25% of all anticipated APSH is received, with 5% being received during the winter months.
 - The winter months are September through to March.
 - Again, the BRE considers it acceptable to reduce the availability of sunlight by 20% (0.8 x its former value) in circumstances where the target APSH is not achieved, the justification being that such a reduction is unlikely to be noticed by the building or room occupants.
 - Sunlight to Open Spaces
 - The BRE recommends that the availability of sunlight should be checked for all external spaces where sunlight would be appreciated / expected. They provide a list of examples which includes the back garden of dwelling houses, parks and playing fields and external sitting out areas, such as public squares and around fountains / monuments.
 - The BRE recommends that at least half the area of the external amenity space must be capable of receiving at least 2 hours of sunlight, on 21 March (the spring equinox). Again, if this is not achieved in the baseline condition, then the BRE consider a 20% (0.8x) reduction of the area that receives 2 hours sunlight to be acceptable on the grounds that the reduction is unlikely to be noticed by the occupants or users.
- 5.117. Its overall purpose is to assist in evaluating the relationship between new and existing buildings to ensure that each retains the potential to achieve a “fair share” of available daylight and sunlight given their relative siting, height and mass.
- 5.118. The BRE Guidance is technically robust and has become the industry standard methodology for assessing daylight and sunlight amenity in the built environment.
- 5.119. The provisions of the BRE Guidance are not mandatory and the BRE have taken steps to confirm that it should not be read as an instrument of planning policy:
- ‘The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document should not be seen as an instrument of planning policy. Its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly because natural daylight is only one of many factors in site layout design’.*
- 5.120. It is important to note that the BRE Guidance is principally developed for use in the assessment of low density suburban environments and should, therefore, be applied flexibly for developments in urban City or Town Centre sites, commercially influenced areas or areas where greater density is sought / encouraged.

- 5.121. The BRE targets should not, therefore, be seen as absolute and immovable targets when applied in built environments either of existing high density or where increased density is being sought / encouraged. To facilitate the flexible application of the BRE Guidance in such circumstances, it promotes the setting of alternative target values.
- 5.122. The high density and the City Centre location of the Site and its surroundings do, in our opinion, justify the flexible application discussed above of the BRE Guidance in the daylight and sunlight amenity impact appraisal of this Proposed Development.

Local Planning Policy and Guidance

- 5.123. Manchester City Council's ("the Council") Core Strategy was adopted in July 2012 and is the key development plan document in the Local Development Framework ("LDF").
- 5.124. The Council will promote the construction of tall buildings – Policy EN2 of the Core Strategy refers. Tall buildings, in the context of that Policy, 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 if certain design criteria are met.
- 5.125. It is acknowledged as part of Policy EN2 that tall buildings can have a significant impact on the local environment and the Council expect that its impact be modelled.
- 5.126. The Council do, however, also acknowledge in Policy CC6 of the Core Strategy that development in the City Centre will generally be "high density" and that the scale, massing and height of development in the City Centre will exceed what is appropriate elsewhere in the City.
- 5.127. The Core Strategy confirms that all new developments should follow certain "development principles". Policy DM1 – Development Management – confirms that all developments should have regard to a number of issues, such as the effects on amenity, including light.
- 5.128. The Guide to Development in Manchester Supplementary Planning Document ("SPD") confirms that consideration should be given to issues including overshadowing to hard landscaped areas within the public realm.

MCC Residential Quality Guidance

- 5.129. This Guidance was published in March 2017 and is intended to provide clear direction on the considerations, qualities, and opportunities that will help to deliver high quality residential development of part of successful and sustainable neighbourhoods across Manchester.
- 5.130. In encouraging developers to "appreciate scale" the Guidance acknowledges that taller buildings can have an impact on the character and atmospheric quality of the spaces immediately around them; affecting light and shadow amongst other things and requiring developers and their design teams to demonstrate how massing and scale have been considered in terms of its impact on the neighbourhood, street and block.

First Street Masterplan

- 5.131. The First Street Strategic Development Framework (2018) is adopted by Manchester City Council and confirms that high density development (tall buildings located in close proximity of one another) are appropriate for the Site and its immediate surroundings.
- 5.132. The Framework Addendum of 2020 envisages buildings of greater heights / density than that adopted in the 2018 document, and expands the defined area of the First Street framework.

Assessment Methodology and Significance Criteria

Scenarios To Be Tested

- 5.133. The daylight and sunlight amenity impacts of the Proposed Development will be assessed in the following scenarios:

The Plot 10a Site

- Baseline vs Plot 10a Site Proposed Development
- Baseline vs Plot 10a Site Proposed Development + Cumulative

The Plot 10b Site

- Baseline vs Plot 10b Site Proposed Development
- Baseline vs Plot 10b Site Proposed Development + Cumulative

Combined Plot 10a Site & Plot 10b Site

- Baseline vs Plot 10a Site & Plot 10b Site Proposed Developments

- Baseline vs Plot 10a Site & Plot 10b Site Proposed Developments + Cumulative

The Study Area

- 5.134. In identifying the Study Area, the BRE Guidance has been used. The Guidance emphasises the assessment of residential accommodation, specifically habitable rooms within residential buildings. A non-residential building may be assessed if there is a reasonable expectation of daylight and sunlight, such as hospitals or schools. Commercial office buildings are not typically considered to be daylight and sunlight receptors requiring impact assessment. Therefore, the appropriate study area has been defined following a Site inspection and research to identify neighbouring buildings of residential use, with the application of professional judgement to consider which neighbouring buildings within 250m of the Site rely on the Site for the receipt of daylight and sunlight, warranting further technical appraisal.
- 5.135. The buildings identified as worthy of impact appraisal constitute the 'Study Area', and are as follows:
- Macintosh Mill, Cambridge Street
 - Cambridge Mill, Cambridge Street
 - Chorlton Mill, Cambridge Street
 - City South apartments, City Road East
 - The Site facing parts of the Plot 11 First Street Development
 - The Site facing windows of the Manchester Student Village development, Cambridge Street
- External Spaces
- James Grigor Square (Time in Sun)
 - Sunken gardens of Macintosh Mill fronting Hulme Street (Time in Sun)
- 5.136. Residential buildings outside of 250m from the Site, and those within 250m but not included within the scope of study, will not experience a material impact on daylight or sunlight amenity, based on distance from the Site and / or orientation
- 5.137. In line with BRE principles, any windows in the above-mentioned neighbouring buildings that are known to serve circulation space or welfare accommodation will not be analysed, neither will any windows that serve any non-domestic room uses .
- 5.138. The presence of the Premier Inn, located to the west of the Site, is acknowledged. On the basis that it is of short term and transient occupation, this city centre hotel – for business and city break use, as opposed to “R&R” – is not considered to have a special requirement for daylight and sunlight. On this basis it will not be appraised.
- 5.139. The BRE recommend that the availability of sunlight should be checked for all external spaces where it would be required and that would normally include the main back gardens of a dwelling house, parks and playing fields, sitting out areas and focal points, such as monuments or fountains.

Baseline Surveys and Assessment

- 5.140. The Baseline condition analysis will acknowledge the existing massing of the Site and its surroundings and neighbouring property developments that are “committed to” – Planning Approved and where construction works have commenced on site.
- 5.141. The Baseline condition model of the Site and its surrounding will be created using the following data:
- A laser scan Point Cloud survey of the elevations of the neighbouring buildings
 - A photogrammetric model of the wider massing context of the Site
 - Internal room arrangements of the neighbouring receptors, based on drawing available from Manchester City Council’s public access planning portal, Land Registry and sales / lettings particulars
 - Drawings available from Manchester City Council’s public access planning portal where neighbouring buildings to be included are under construction, and the final form is not included within the point cloud survey data nor photogrammetric model.

- 5.142. The Site is currently an open parcel of land and has predominantly been clear of buildings for over 10 years. In terms of daylight and sunlight to the neighbouring receptors, this absence of any mass in the Baseline condition is unusual for the City Centre context. It means that – save for the localised instances noted below – the neighbouring receptors do generally receive daylight and sunlight in excess of what might reasonably be expected in more developed parts of the City Centre.
- 5.143. The Baseline condition acknowledges the existing arrangement, configuration and massing of the Site and its immediate and general surroundings, along with the massing of other neighbouring committed developments, i.e. those neighbouring property developments that have the benefit of a live Planning Permission and work has commenced on site for their construction, a list of which is provided in Appendix 2 of this Statement. The baseline condition includes the development Plot 9a, to the west of the Site.
- 5.144. The Baseline condition will be illustrated by massing images contained with the future ES Chapter on Daylight and Sunlight.
- 5.145. Preliminarily and qualitatively at this juncture, because the existing massing of the Site is a cleared site / open parcel of land, all of the receptors that GSH have identified for evaluation (as identified above) are likely to enjoy good levels of daylight and sunlight over the Site.

Significant Criteria Effects

- 5.146. The primary purpose of any daylight and sunlight amenity impact assessment is to measure and evaluate the effects of any reduction in light on the identified key receptors of the surrounding built environment, which arise because of the Proposed Development.
- 5.147. Although the provisions of the BRE Guidance are not mandatory, nor are its aspirational targets by any means fixed, it does provide an objective means of appraising daylight and sunlight amenity impact. Using the provisions of the BRE Guidance as a starting point, professional judgement and experience has been used to further assess the significance of any impact identified, considering such things as the sensitivity of the receptors, and the nature / character of the impact and any other relevant factors that would justify the further flexible interpretation of the results.

Sensitivity of Receptors

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

Table 5.19 - Methodology for Determining Sensitivity

Sensitivity	Examples of receptor
High	The receptor has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Moderate	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.

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

Table 5.20- Methodology for Determining Sensitivity of Rooms

Room Use	Daylight Sensitivity	Sunlight Sensitivity
Living Room	High	High
Kitchen / Dining	Medium	Low
Bedrooms	Medium / Low	Low
PBSA	Low	Low
Communal Kitchens	Low	Low
Circulation Space	n/a	n/a
Toilets / Bathrooms	n/a	n/a
Commercial Uses	n/a	n/a

Determining the Magnitude of Change

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

Table 5.21- Methodology for Determining Impact Magnitude

Impact	Criteria for assessing impact
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. From a measurement perspective this will include any reduction in amenity of in excess of 40% of the existing or baseline values.
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. From a measurement perspective this will include any reduction in amenity of between 30-40% of the existing or baseline values.
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 pre-development circumstances/situation. From a measurement perspective this will include any reduction in amenity of between 20-30% of the existing or baseline values.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation. From a measurement perspective this will include any reduction in amenity of up to 20% less than the existing or baseline values.

- 5.153. It is important to note that anything more than a “Negligible” reduction in light levels does not necessarily mean that a window will be left with inadequate levels of daylight or sunlight; it simply means that the reduction in light will be more noticeable to the building occupants, which is not the same as having residual poor or insufficient natural light levels.
- 5.154. It is also important to note that magnitude of change does not, on its own, amount to an impact. Consideration also needs to be given to the sensitivity of the receptor.

Determining the Significance of Effects / Establishing Impact

- 5.155. The significance of an environmental impact is a factor of any magnitude of change and the receptor sensitivity. An impact or effect can be positive or negative. The table below defines an impact by reference to its general effect / consequence. The asterisk denotes sensitivity that is considered to be significant – those without an asterisk are considered to not have an impact that is classed as significant:

Table 5.22 - Impact 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

- 5.156. Notwithstanding the above generalisation of an impact, a reduction in daylight and sunlight amenity will at all times be subject to the BRE general compliance criteria, as follows:
- If the BRE targets are met in the Proposed condition, then any reduction in daylight and sunlight will not have a material impact on the amenity enjoyed.
 - Where the BRE targets are not achieved in the Baseline condition, a reduction of no more than 20% of the measured Baseline value will not have a material impact, on the grounds that such a reduction would not be noticed by the room occupants.
 - A 20% or less reduction of the measured baseline NSL will not have a material impact, on the grounds that such a reduction would not be noticed by the room occupants.
 - It is the professional opinion of GSH that a VSC of 21.6% is within an acceptable tolerance of the BRE targets, given the City Centre context of the Site.
 - It is the professional opinion of GSH that a 4% winter and 20% annual APSH is within an acceptable tolerance of the BRE targets, given the City Centre context of the Site.
 - There is always a possible need to consider the further flexible interpretation of the daylight and sunlight results, where the design/form/shape of the neighbouring building has an inherent negative influence on its own daylight and sunlight potential. In these situations, full commentary will be provided within the ES.

Source of Effect

- 5.157. The massing to be constructed on the Plot 10a Site and the Plot 10b Site are the source of daylight and sunlight impacts / effects of the Proposed Development. The construction of this massing may result in reduced sky visibility from within habitable rooms of neighbouring buildings, and the windows that serve them. This in turn will have an effect on the daylight and sunlight amenity enjoyed in the Baseline condition.

Potentially Significant Effects

Table 5.23 – Potentially Significant Daylight and Sunlight Impacts

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
All neighbouring buildings and external amenity spaces	Adverse impact on daylight and sunlight of all receptors during construction of the Proposed Development.	The effects of the construction phase are temporary because they are a function of the proposed massing, which will vary during the construction phase operations, progressing towards the final form / massing of the Proposed Development. Construction effects will be superseded by Operational effect.	C	Out
Site facing windows of Macintosh Mill	Adverse impact on daylight and sunlight amenity as a result of Proposed Development massing	Construction of the Proposed Development has the potential to reduce the daylight and sunlight amenity of habitable rooms due to the increase in massing on the Site	O	In
Site facing windows of Chorlton Mill	Adverse impact on daylight and sunlight amenity as a result of Proposed Development massing	Construction of the Proposed Development has the potential to reduce the daylight and sunlight amenity of habitable rooms due to the increase in massing on the Site	O	In
Site facing windows of Cambridge Mill	Adverse impact on daylight and sunlight amenity as a result of Proposed Development massing	Construction of the Proposed Development has the potential to reduce the daylight and sunlight amenity of habitable rooms due to the increase in massing on the Site	O	In
Site facing windows of Plot 11 Development	Adverse impact on daylight and sunlight amenity as a result of Proposed Development massing	Construction of the Proposed Development has the potential to reduce the daylight and sunlight amenity of habitable rooms due to the increase in massing on the Site	O	In
Site facing windows of City South Apartments	Adverse impact on daylight and sunlight amenity as a result of Proposed Development massing	Construction of the Proposed Development has the potential to reduce the daylight and sunlight amenity of habitable rooms due to the increase in massing on the Site	O	In

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
Site facing windows of Manchester Student Village	Adverse impact on daylight and sunlight amenity as a result of Proposed Development massing	Construction of the Proposed Development has the potential to reduce the daylight and sunlight amenity of student accommodation rooms due to the increase in massing on the Site	O	In
James Grigor Square	Adverse impact on sunlight amenity as a result of Proposed Development massing	Construction of the Proposed Development has the potential to reduce sunlight amenity of the external amenity area due to the increase in massing on the Site	O	In
Sunken gardens / terraces of Macintosh Mill	Adverse impact on sunlight amenity as a result of Proposed Development massing	Construction of the Proposed Development has the potential to reduce sunlight amenity of the external amenity area due to the increase in massing on the Site	O	In
Parkway Gate Student Accommodation	Adverse impact on sunlight amenity as a result of Proposed Development massing	Limited view of the 10a Site and 10b Site due to Plot 11 First Street development.	O	Out
Medlock House Student Accommodation	Adverse impact on sunlight amenity as a result of Proposed Development massing	Does not overlook Site directly and will not experience significant impact on daylight and sunlight amenity due to outlook and relationship to Site.	O	Out
Site facing windows of commercial buildings and non-habitable rooms of the residential buildings noted above	Adverse impact on daylight and sunlight amenity as a result of Proposed Development massing	Notwithstanding that construction of the Proposed Development has the potential to reduce the daylight and sunlight amenity of windows and rooms, these buildings are not considered to be sensitive receptors requiring daylight and sunlight impact assessment.	O	Out

5.158. For completeness, **Appendix 2** sets out which Committed Developments are considered relevant and included in the assessment.

Noise and Vibration

Introduction

- 5.159. This Chapter of the ES will be prepared by Cundall and assesses the likely Noise and Vibration impacts of the proposals upon the Site and surrounding area. This Chapter will also describe 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.
- 5.160. The author of this input has an MSc in Acoustics, is a Member of the Institute of Acoustics and has over 5 years' experience as an Acoustic Consultant in the industry. They have previous experience on contributing to EIA Chapters on 6 developments.

Assumptions and Limitations

- 5.161. There are a number of limitations and uncertainties associated with modelling of noise and, where applicable, realistic worst-case scenarios will be assumed (based on professional judgement):
- All values which will be presented in the ES will be the best possible estimates using professional judgement. To minimise uncertainty a realistic worst-case approach will be taken; and
 - The detailed construction method/programme information is not available at the time of writing. Therefore, professional experience from similar developments will be used to formulate construction phasing scenarios and select typical noisy activities for the assessment of noise. This will enable noise predictions to be made, but by its nature, construction noise is somewhat variable, and it is not possible to predict/model the noise exactly.

Legislative and Policy Context

Legislation

- 5.162. The effects of the Proposed Development upon existing sensitive receptors and impacts upon the Proposed Development are to be assessed with reference to the relevant British Standards and guidance documents set out in **Table 5.24** below.

Table 5.24: Relevant British Standards and Legislation

Source	Description
BS 5228-1:2009+A1:2014 & BS 5223-2:2009 Code of practice for noise and vibration control on construction and open Sites (BS 5228)	Recommendations for basic methods of noise and vibration control relating to construction sites where work activities may generate significant noise and / or vibration. It also provides guidance on methods of predicting and measuring noise and vibration, and assessing its impact on receptors.
BS 8233:2014 Guidance on sound insulation and noise reduction for buildings (BS 8233)	Recommendations for desirable internal and external ambient noise levels in dwellings that should not be exceeded for steady external noise sources.
Guide to Demonstrating Compliance with the Noise Requirements of Approved Document O (ANC / IOA Issued July 2022)	Recommendations demonstrating compliance with Approved Document O to see that internal ambient noise levels in dwellings should not be exceeded for steady external noise sources during periods of overheating.
BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound (BS 4142)	Methods for determining, at the outside of a building, noise levels from industrial and manufacturing premises, fixed installations and other associated activities. The rating method takes into account specific source characteristics, such as tonality, impulsivity and intermittency.
BS 7385-2:1993 Evaluation and measurement for vibration in buildings. Guide to damage levels from ground borne vibration (BS 7385).	Presents guide values or limits for transient vibration, above which there is a likelihood of cosmetic damage.
Design Manual for Roads and Bridges, Sustainability & Environment LA 111 Noise and vibration Revision 2 (DMRB)	Advice on the assessment of noise and vibration impacts due to road traffic. The guidance provides a classification of magnitude of impacts related to changes in road traffic noise levels.
The Department of Transport/Welsh Office Memorandum 'Calculation of Road Traffic Noise' (CRTN)	Describes procedures for traffic noise calculation, and is suitable for environmental assessments of schemes where road traffic noise may have an impact.

National Planning Policy and Guidance

- 5.163. The overarching planning policy document which applies to the Proposed Development in respect of noise is the National Planning Policy Framework (the Framework) (July 2021).

- 5.164. The key statements of the Framework relevant to the assessment are as follows:

“174 Planning policies and decisions should contribute to and enhance the natural and local environment by;

[...]

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans;”

180 Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the Site or the wider area to impacts that could arise from the development. In doing so they should:

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.”

- 5.165. With specific reference to noise effects, the Framework refers to the Noise Policy Statement for England (NPSE) (2010). The NPSE provides guidance which enables decisions to be made regarding the acceptable noise burden to place on society, using three key phrases: the No Observed Effect Level (NOEL), the Lowest Observed Effect Level (LOAEL) and the Significant Observed Adverse Effect Level (SOAEL).
- 5.166. In March 2014, the Planning Practice Guidance (PPG) for noise was published. This online document advises on how planning can manage potential noise impacts in new development.

Local Planning Policy and Guidance

- 5.167. The Core Strategy Development Plan adopted July 2012 is the adopted Development Plan for Manchester City Council for the 15 year period 2012 – 2027. Policy DM 1 states the following in regard to development management and noise:

“All development should have regard to the following specific issues for which more detailed guidance may be given within a supplementary planning document:-

[..]

- *Effects on amenity, including privacy, light, noise, vibration, air quality, odours, litter, vermin, birds, road safety and traffic generation. This could also include proposals which would be sensitive to existing environmental conditions, such as noise.”*

- 5.168. Manchester City Council’s (MCC) guidance on planning and noise is outlined in the ‘Planning & Noise Technical Guidance’ document (June 2022).
- 5.169. The aim of this document is to “provide help and advice in relation to noise in a planning context to encourage good acoustic design. It outlines what is expected in relation to current guidance and policy with the aspiration that new developments achieve the highest possible standards without compromising the health and wellbeing of people that live and work within the City of Manchester.”
- 5.170. Section 3 of the Planning & Noise Technical Guidance document provides guidance and assessment criteria for the following relevant impacts:
- Internal ambient noise levels in new residential developments;
 - Guidance for controlling noise and vibration during construction / demolition phases; and
 - Noise and vibration limits from fixed plant / equipment.
- 5.171. Section 3.7.1.1 of the document relates to internal noise limits for residential properties and states:
- “The Council has adopted the following internal noise limits for residential properties:*
- *Bedrooms (night-time – 23.00 – 07.00) 30 dB L_{Aeq} (individual noise events should not normally exceed 45 dB L_{Amax,F} by more than 15 times)*
 - *Living Rooms (daytime – 07.00 – 23.00) 35 dB L_{Aeq}*

- 5.172. It is understood that Manchester City Council have generally requested that as part of determining appropriate internal ambient noise levels, that in addition to the above requirements an assessment of noise levels during periods of overheating is undertaken.
- 5.173. Recently published guidance from the ANC/IOA relates to achieving newly introduced limits for noise during periods of overheating as specified in Approved Document O - 'Guide to Demonstrating Compliance with the Noise Requirements of Approved Document O (July 2022)'
- 5.174. This guidance will form the basis of assessing the overheating ventilation strategy with regards to compliance with the set noise limits, and though Approved Document O is Building Regulations legislation, this indicates to the Local Authority that should overheating strategies wish to be considered at the planning stage that compulsory legislation is in place to consider this throughout the design.
- 5.175. Section 3.7.1.5 of the document relates to noise limits from fixed building services plant and states:
- "Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5 dB (L_{Aeq}) below the typical background (L_{A90}) level at the nearest noise sensitive location."*
- 5.176. Section 3.7.1.4 of the document relates to noise from construction or demolition works and states:
- "All noisy works i.e. those that are audible beyond the Site boundary) should be restricted to the following hours to minimise disruption:*
- *Monday – Friday 7.30am – 6pm*
 - *Saturday: 8.30am – 2pm*
 - *Sunday/Bank holidays: No work*
- These restrictions apply to deliveries/collections to the Site."*
- 5.177. Section 3.7.1.2 of the document relates to noise from entertainment noise at structurally connected locations and states:
- "...a criterion that would achieve a condition of 'inaudible' / 'virtually inaudible' which is applicable for new residential developments that are structurally connected to entertainment venues (or vice versa) would be:*
- 'Music noise levels in the 63Hz and 125Hz octave centre frequency bands (L_{eq}) should be controlled so as not to exceed (in habitable rooms) 47dB and 41dB ($L_{eq,5min}$), respectively'."*
- 5.178. Section 3.7.1.2 of the document also relates to noise from entertainment noise at structurally detached locations and states:
- "A planning application for a new entertainment venue that is structurally detached from other building uses should demonstrate that music noise from the proposal will not be 'audible' in nearby residential properties, assuming that the residential properties in question have their windows open. The criterion here is:*
- 'Entertainment noise ($L_{Aeq,5min}$) should be controlled to 5dB below the background noise level (L_{A90}) without the entertainment noise present, in each octave band at the nearest noise sensitive location."*

Assessment Methodology and Significance Criteria

Scenarios To Be Tested

- 5.179. As a result of the proposed phasing, a number of test scenarios will be assessed such that all delivery sequences are considered. The proposed EIA scenarios are:
- Scenario 1: Baseline
 - Scenario 2: Baseline + Plot 10a
 - Scenario 3: Baseline + Plot 10a + cumulative
 - Scenario 4: Baseline + Plot 10b
 - Scenario 5: Baseline + Plot 10b + cumulative
 - Scenario 6: Baseline + Plot 10a + Plot 10b
 - Scenario 7: Baseline + Plot 10a + Plot 10b + cumulative

The Study Area

5.180. The Proposed Development sits within the jurisdiction of Manchester City Council. The main noise sources affecting the Proposed Development and surrounding sensitive receptors are:

- Road traffic on Medlock Street to the west of the Site
- Road traffic on section of the A57(M) Mancunian Way to the south of the Site
- Road traffic on River Street to the north and east of the Site
- Railway noise on section of the Manchester and Ordsall Lane Junction Branch Rail Line to the north of the Site

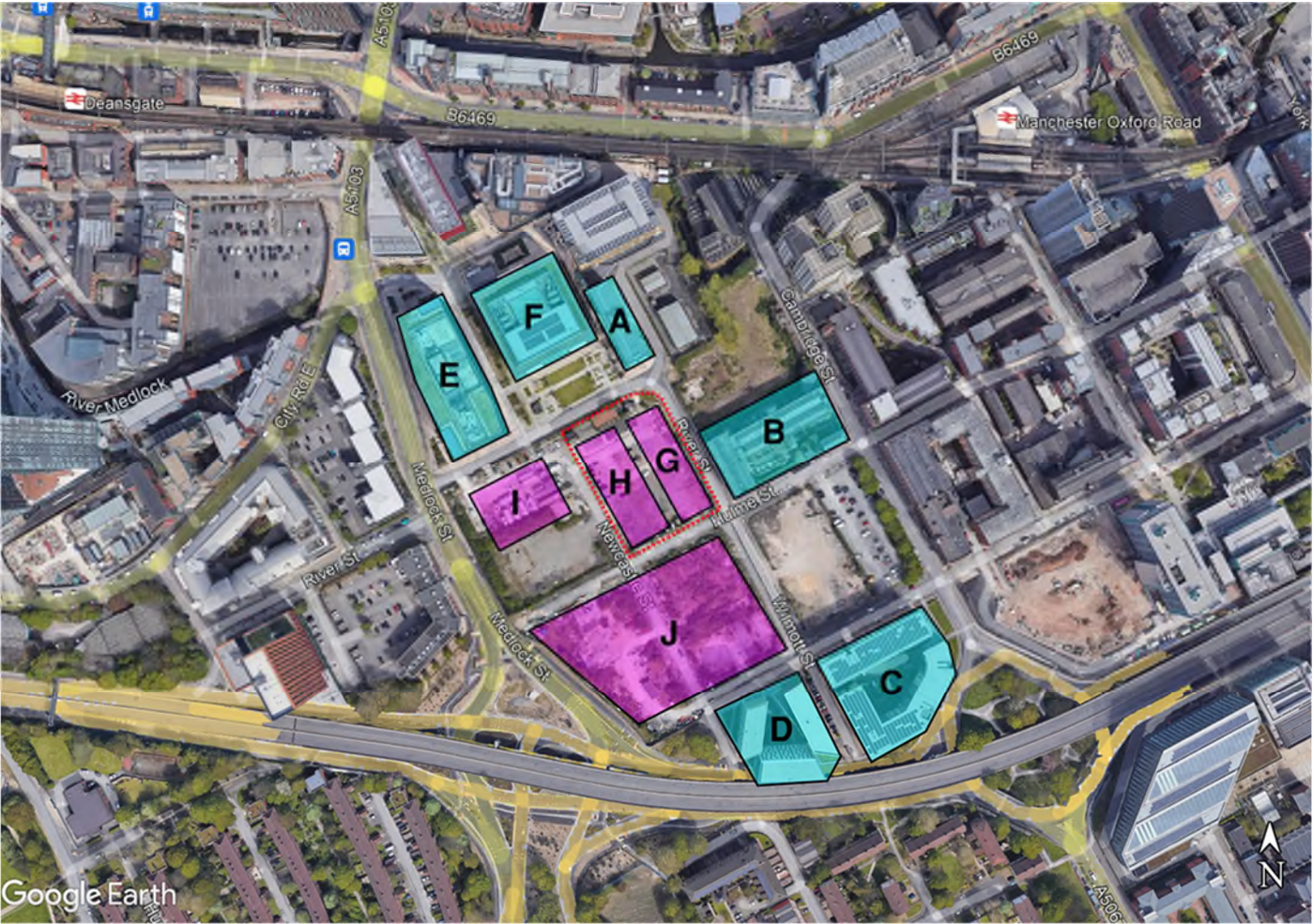
5.181. The noise and vibration sensitive receptors in proximity to the Site which have been taken into consideration in the assessment are summarised in table 5.28 below. The area has been defined as to where the nearest sensitive receptor is in relation to the Site and where it would represent the 'worse case' scenario.

Table 5.25 – Noise and Vibration sensitive receptors

Receptor	Existing / Future Development	Description	Sensitivity
A. Vita Students First Street	Existing Development	Residential dwelling	High
B. Macintosh Mills	Existing Development	Residential dwelling	High
C. Unite Students - New Medlock St	Existing Development	Residential dwelling	High
D. Unite Students - Parkway Gate	Existing Development	Residential dwelling	High
E. 8 First Street	Existing Development	Offices	Medium
F. 1 Tony Wilson Pl	Existing Development	Offices	Medium
G. Plot 10b (To be considered receptor in assessment with Plot 10a phased first)	Future Development	Residential dwelling / Ground Floor A3 Use	High
H. Plot 10a (To be considered receptor in assessment with Plot 10b phased first)	Future Development	Offices	Medium
I. Plot 9a First Street	Future Development	Offices	Medium
J. Plot 11	Future Development	Mixed residential and commercial (Classes A3 and D2)	High

5.182. The approximate location of identified sensitive receptors listed above which will be assessed in the ES is presented in **Figure 5.7** below and **Appendix 2**. Receptors shaded in blue are existing receptors, with those shaded in pink are future receptors. An approximate site boundary is provided in dashed red.

Figure 5.7 – Noise Vibration sensitive receptors plan –Site highlighted by dotted red line



Baseline Surveys and Assessment

- 5.183. In order to assess the prevailing levels of environmental noise affecting noise-sensitive receivers, a new noise survey conducted in 2022 has been undertaken, with supplementary data also being utilised from a previous noise survey undertaken by Cundall for the adjacent Plot 9a development in 2018. This is because the 2022 noise survey was undertaken whilst there was significant construction noise, meaning there may be an unreliably dominant noise source. As such, the survey has been supplemented by the 2018 noise data.
- 5.184. For the survey undertaken in 2022, continuous unattended noise logging measurements have been undertaken at two different locations.
- 5.185. **Table 5.26** below documents the monitoring positions and the corresponding measurement type / period.

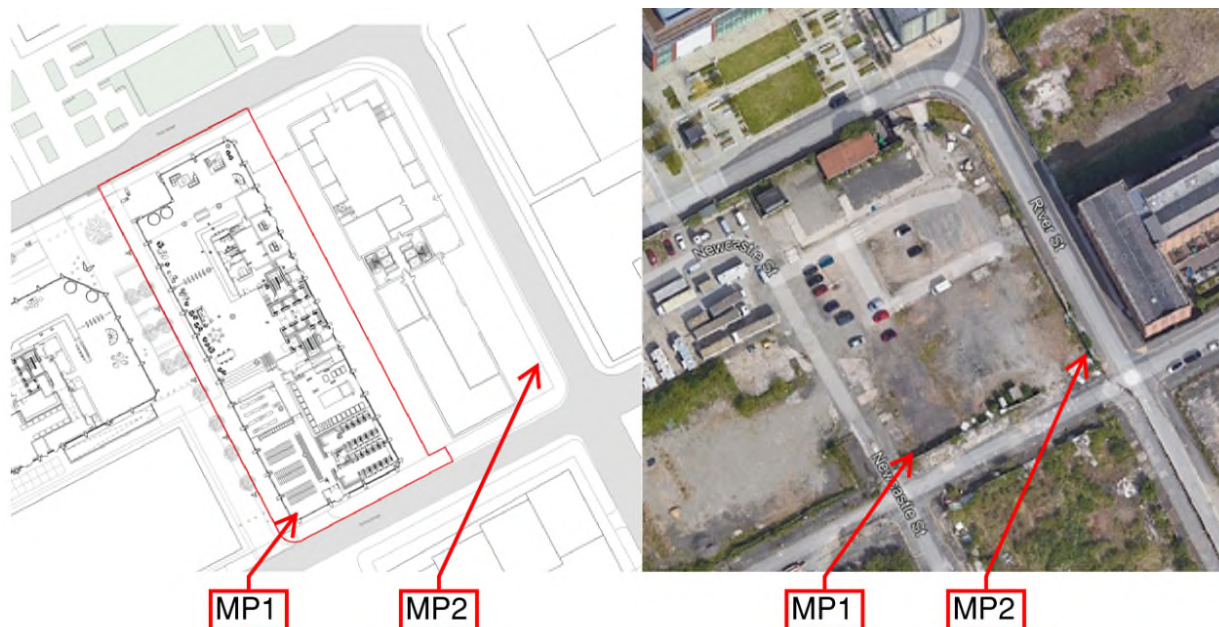
Table 5.26 – Monitoring positions and Measurement Periods 2022 Survey

Monitoring position	Monitoring location	Measurement duration
MP 1	East corner of the Site, overlooking the junction between River Street and Hulme Street.	Unattended measurement undertaken between 25 August and 30 August 2022.

Monitoring position	Monitoring location	Measurement duration
	For representative background sound levels, this measurement location is deemed appropriate for setting noise limits to Receptors A and B, due to the proximity to B and the equal distance from Medlock Street which is the primary noise source for Receptor A. It is also considered acceptable to use results from this position to set background limiting levels for Receptors C and D – these receptors are located in close proximity to A57(M) which will have elevated noise levels and therefore higher background levels, as such this is a worst case assessment.	
MP 2	South corner of the Site, overlooking the junction between Newcastle Street and Hulme Street. For representative background levels, this measurement location is deemed appropriate for setting noise limits to Receptor H, due to the equal distance from Medlock Street which is the primary noise source for Receptor H.	Unattended measurement undertaken between 30 August and 2 September 2022.

5.186. The approximate location of each unattended measurement position for the 2022 survey is presented in **Figure 5.8** below.

Figure 5.8 – Noise Measurements locations 2022 Survey



5.187. The approximate location of each unattended measurement position for the 2022 survey is presented in **Figure 5.8** below, which documents the monitoring position and the corresponding measurement type / period.

Table 5.27– Monitoring Positions and Measurement Periods 2018 Survey

Monitoring location	Survey Type	Date / period	Comments
MP3	Attended short-term measurements	21/06/2018 15:00 – 18:00 hrs 21/06/2018 23:00 hrs – 22/06/2018 02:00 hrs 22/06/2018 06:00 – 10:00 hrs	Selected in order to establish road traffic noise impacts from River Street, as well as representative background noise levels at noise-sensitive receptor at MacIntosh Mills, 4 Cambridge Street.
MP4		21/06/2018 15:00 – 18:00 hrs 22/06/2018 06:00 – 10:00 hrs	Selected in order to establish road traffic noise impacts from Medlock Street
MP5A		21/06/2018 15:00 – 18:00 hrs 22/06/2018 06:00 – 10:00 hrs	Selected in order to establish road traffic noise impacts from Medlock Street
MP5B	Unattended logging measurements	10/12/2018 11:45 hrs – 11/12/2018 11:45 hrs	Selected in order to establish road traffic noise impacts from Medlock Street
MP6		11/12/2018 12:45 hrs – 12/12/2018 12:45 hrs	Selected in order to establish road traffic noise impacts from Hulme Street

- 5.188. A summary of the average daytime (07:00 – 23:00 hours) and night-time (23:00 – 07:00 hours) ambient noise levels recorded for the 2022 survey is detailed will be included in the ES assessment . The values will be the logarithmically averaged $L_{Aeq,15min}$, the maximum $L_{AFmax,15min}$, the range of $L_{A10,15min}$ and the range of $L_{A90,15min}$ dB values measured. All values will be rounded to the nearest integer value (as fractions of a decibel are imperceptible) and are given in dBA.
- 5.189. It was noted on site that significant construction on sites to the western and southern boundaries of the Site were present, meaning these may be an unreliably dominant noise source. Subsequently it was notes that on the dates 27 – 29 August at Position MP1, levels were noticeably lower than for other dates, which corresponded to the bank holiday weekend days. In particular, L_{AFmax} levels were generally very high across both positions, and due to the position in relation to road noise sources it was concluded that these were being driven by construction noise.
- 5.190. Given the generally higher background noise levels in 2022, the lowest $L_{A90,15min}$ background levels measured in 2018 will be used to provide a robust set of limiting plant noise levels.
- 5.191. The approximate location of the unattended measurement position for the 2018 survey is presented in **Figure 5.9** below, alongside the approximate red line site boundary for Plots 10a and 10b.

Figure 5.9 – Noise measurement locations 2018 survey



- 5.192. For all surveys, the meters were field calibrated before and after with no significant drift witnessed. Calibration certificates for all equipment are available upon request. Monitoring equipment was set up by competently trained Cundall staff.

Significant Criteria Effects

- 5.193. There are a number of likely significant noise and vibration related environmental impacts, which will be fully assessed at sensitive receptors. These primarily relate to the impact of noise on existing residential and commercial receptors in the locality of the Site at both Construction and Operational phases, as well as impacts on future occupants of the Proposed Development itself.
- 5.194. It is understood that environmental impacts as a result of increased traffic flows has been scoped out of the ES, given that there are no car park facilities for either of the plots. Whilst there will be traffic associated with the Proposed Development it is not anticipated to have a significant impact on the highway network (a less than 25% change). As such, the potential increase in noise from traffic flow at the Operational Phase can therefore be scoped out of the ES assessment.
- 5.195. It is not considered that any element of the Operational Phase is likely to result in any significant vibration impacts. The only elements of the Proposed Development which may produce vibration are localised items of plant, whose vibration impact would be negligible as these will be appropriately isolated from occupants of the plots through design. This will also result in operational vibration to surrounding receptors being negligible, and on this basis, it is proposed that potential Operational vibration impacts are scoped out of the ES assessment.

Construction Noise

- 5.196. BS 5228 provides practical information on demolition and construction noise and vibration reduction measures and promotes a 'Best Practice Means' approach to control noise and vibration. The calculation method provided in BS 5228 Part 1 is based on the numbers and types of equipment operating, their associated Sound Power Levels (SWL), and the distance to receptors, together with the effects of any screening.
- 5.197. There are no current national standards or guidelines that give noise limits for construction sites. However, as a guide, typical daytime levels for noisy temporary works at neighbouring premises usually lie in the range of 70 – 80 dB L_{Aeq} .
- 5.198. It is therefore recommended that the following good practice limits apply to construction noise:

- 70 dB $L_{Aeq,T}$ Monday – Friday; and
- 70 dB $L_{Aeq,T}$ Saturday – Sunday (if weekend work is agreed with MCC at any point).

5.199. The Magnitude criteria for construction noise have been derived from BS 5228 guidance. A semantic scale for description of the magnitude of construction noise effects is shown in **Table 5.28**.

Table 5.28 – Construction Noise Magnitude Criteria

Magnitude	Description
Substantial	Daytime noise levels greater than 75 dB L_{Aeq} for a total of more than 10 days in any 15-day period, or for a total of days more than 40 in any 6-month period
High	Daytime noise levels greater than 75 dB L_{Aeq} for a total of less than 10 days in any 15-day period, or for a total of days less than or equal to 40 in any 6-month period
Moderate	Daytime noise levels between 70 and 75 dB L_{Aeq}
Minor	Daytime noise levels between 65 and 70 dB L_{Aeq}
Negligible	Daytime noise levels less than or equal to 65 dB L_{Aeq}
Neutral	Daytime noise levels more than 10 dB below existing background levels

5.200. Construction hours are proposed to be set as follows in line with the guidance from the Local Authority:

- 07:30 – 18:00 hours on Monday to Fridays, and
- 08:30 – 14:00 hours on Saturdays;
- No working on Sundays or Bank Holidays.

Construction Traffic Noise

5.201. Construction traffic will be assessed by considering the short-term increase in traffic flows during works, following the principles of CRTN and DMRB.

5.202. The criteria for the assessment of the magnitude of effect of traffic noise changes arising from construction works have been taken from Table 3.54a of DMRB and are provided in Error! Reference source not found. **5.29**.

Table 5.29: Construction traffic noise magnitude criteria

Description (change in dBA)	Magnitude of Impact
10 dBA or more*	Substantial
5.0 – 9.9 dBA	High
3.0 – 4.9 dBA	Moderate
1.0 – 2.9 dBA	Minor
0.1 – 1.0 dBA	Negligible
0 dBA	Neutral
*DMRB only categorises up to greater than 5 dB as a 'Major' magnitude, Substantial defined here as a further 5 dB noise change	

Construction Vibration

- 5.203. BS 5228 Part 2 provides further guidance on the perception of vibration resulting from construction activities within occupied buildings. This provides a simple method of determining annoyance alongside evaluation of cosmetic damage associated with vibration.
- 5.204. The table below details potential vibration levels measured in terms of 'Peak Particle Velocity' (PPV), and provides a semantic scale for description of construction vibration impacts on human receptors.

Table 5.30 – Guidance on Effects of Construction Vibration (PPV) Levels

Peak Particle Velocity Level	Description	Magnitude of Impact
15 mm/s	Vibration will be intolerable	Substantial
10 mm/s	Vibration is likely to be intolerable for any more than a very brief exposure to this level.	High
1.0 mm/s	It is likely that vibration of this level in residential environments will cause complaint, but can be tolerated if prior warning and explanation has been given to residents.	Moderate
0.3 mm/s	Vibration might be just perceptible in residential environments.	Minor
0.14 mm/s	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.	Negligible
0 mm/s	No vibration perceptible	Neutral

- 5.205. Construction activities that produce vibration may impact on adjacent buildings. The criteria used in this assessment relate to the potential for cosmetic damage, not structural damage. The principal concern is generally transient vibration due to piling. Cosmetic damage is most likely to occur within the first 20m of piling activities; at greater distances damage is less likely to occur. Likely levels of vibration at given distances can be estimated from existing piling vibration data, as provided in BS 5228 Part 2.
- 5.206. BS 7385 establishes the basic principles for carrying out vibration measurements and processing the data, with regard to evaluating vibration effects on buildings. Recommended PPV vibration limits for transient excitation for different types of buildings are presented in the following table.

Table 5.31– Peak Particle Velocity Limits for Cosmetic Damage to Non-Heritage Asset Buildings

Type of building	Peak Component Particle Velocity in Frequency Range of Predominant Pulse ¹	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures	50 mm/s at 4 Hz and above	
Industrial and heavy commercial buildings	15 mm/s at 4 Hz increasing to 20 mm/s at 15 Hz ²	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above
1 - Values referred to are at the base of the building; 2 - At frequencies below 4 Hz, a maximum displacement of 0.6 mm (zero to peak) should not be exceeded; mm/s – millimetres per second.		

- 5.207. Where vibration experienced at structures exceeds the values shown in the table above, this would be considered to be a significant adverse impact.

Operational Industrial/Commercial Noise

- 5.208. Industrial noise emissions will be assessed by in accordance with the methodology set out in BS 4142. This standard provides an assessment methodology and criteria relating to the following industrial noise sources:
- sound from industrial and manufacturing processes;
 - sound from fixed installations which comprise mechanical and electrical plant and equipment;
 - sound from the loading and unloading of goods and materials at industrial and/or commercial premises; and
 - sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes, such as that from forklift trucks, or that from train or ship movements on or around an industrial and/or commercial site.
- 5.209. The proposed criteria for the assessment of the magnitude of impact of industrial noise emissions from the Proposed Development are provided below in Table 5.18 and are based on the relative level difference between the BS 4142 Rating Levels ($L_{Ar,Tr}$) and the representative background sound levels ($L_{A90,T}$).

Table 5.32– BS:4142 Noise Management Criteria

Description	Magnitude
$L_{Ar,Tr} = L_{A90,T} + 15$	Substantial
$L_{Ar,Tr} = L_{A90,T} + 10$	High
$L_{Ar,Tr} = L_{A90,T} + 5$	Moderate
$L_{Ar,Tr} = L_{A90,T}$	Minor
$L_{Ar,Tr} = L_{A90,T} - 5$	Negligible
$L_{Ar,Tr} = L_{A90,T} - 10$	Neutral

- 5.210. It is a requirement of the Local Authority to control the operational plant noise rating level to 5 dB below the existing representative background level. This will therefore see the magnitude of impact controlled by default to Negligible at a maximum through design.

Operational Entertainment Noise

- 5.211. Should any entertainment noise be an aspect of the operation of the ground floor Food Hall within Plot 10b, it will be necessary to consider the significance of effect of this noise on nearby noise sensitive receptors.
- 5.212. Section 3.7.1.2 of the MCC Planning & Noise Technical Guidance document relates to noise from entertainment noise at structurally detached locations and states:

“A planning application for a new entertainment venue that is structurally detached from other building uses should demonstrate that music noise from the proposal will not be ‘audible’ in nearby residential properties, assuming that the residential properties in question have their windows open.

The criterion here is: ‘Entertainment noise ($L_{Aeq,5min}$) should be controlled to 5dB below the background noise level (L_{A90}) without the entertainment noise present, in each octave band at the nearest noise sensitive location.’

- 5.213. It is considered that a design to see that the above music criterion is achieved at the nearest noise-sensitive receptors would result in a Negligible magnitude of impact.
- 5.214. Should any entertainment noise be an aspect of the operation of the ground floor Food Hall within Plot 10b, it will also be necessary to consider the significance of effect of this noise on the upper floor residential spaces within the plot.
- 5.215. Section 3.7.1.2 of the MCC Planning & Noise Technical Guidance document relates to noise from entertainment noise at structurally connected locations and states:

“...a criterion that would achieve a condition of 'inaudible' / 'virtually inaudible' which is applicable for new residential developments that are structurally connected to entertainment venues (or vice versa) would be:

‘Music noise levels in the 63Hz and 125Hz octave centre frequency bands (L_{eq}) should be controlled so as not to exceed (in habitable rooms) 47dB and 41dB ($L_{eq,5min}$), respectively’.”

- 5.216. It is considered that a design to see that the above music criterion is achieved at the structurally adjoined noise-sensitive receptors would result in a Negligible magnitude of impact.

Noise Impacts on Proposed Development

- 5.217. BS 8233 provides design guidelines for appropriate internal acoustic environments within buildings according to their function. It deals with control of noise from outside the building, noise from plant and services within it. Sections 3.6.1.1 of the MCC Planning & Noise Technical Guidance document to BS 8233 guidelines and sets the following noise limits for internal noise limits for residential properties:

Table 5.33 – Internal Noise Limits for student residential bedrooms

Activity	Location	Daytime (07:00 – 23:00)	Night-time (23:00 – 07:00)
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hour}$	30 dB $L_{Aeq,16hour}$
			45 dB $L_{Amax,F}$ (not to be normally exceeded by more than 15 times)

- 5.218. It is considered that a design to see that the above ambient noise levels are achieved in new PBSA bedrooms would result in a Negligible magnitude of impact. Internal ambient noise levels in excess of the above limits would be considered as a Moderate / Major magnitude of impact.
- 5.219. Approved Document O is a new part of the Building Regulations that came into force in June 2022 and specifically covers the control of overheating and suitable mitigation for new residential buildings. With regard to noise, Section 3 of ADO discusses limitations to ensure the overheating strategy is useable and states:
- Windows are likely to be closed during sleeping hours if noise within bedrooms exceeds the following limits.*
- 40 dB $L_{Aeq,Tp}$, averaged over 8 hours (between 11pm and 7am).
 - 55 dB L_{AFmax} , more than 10 times a night (between 11pm and 7am).
- 5.220. It is considered that the requirement to comply with Building Regulations will mean the above targets must be achieved through design, and as such this would result in a Negligible magnitude of impact. Internal ambient noise levels in excess of the above limits would be considered as a Moderate / Major magnitude of impact.

Source of Effect

- 5.221. Potential noise related environmental impacts which may arise during the Construction Phase are considered to be as follows:
- Noise impacts associated with construction related fixed and mobile plant;
 - Vibration impacts associated with construction related fixed and mobile plant (e.g. piling); and
 - Noise impacts associated with increase in traffic on approach to Application Site due to construction related vehicles.
- 5.222. Potential noise related environmental impacts which may arise during the Operational Phase are considered to be as follows:
- Noise impact associated with the “industrial/commercial” noise emissions from the Proposed Development. This will be the operation of building services plant.
 - Noise impacts associated with entertainment noise should it be included as part of the ground floor food hall within Plot 10b. This could affect both surrounding receivers and structurally adjoined receivers at higher floor levels.
 - Noise impacts on future occupants of the proposed development due to existing sound sources, primarily from road traffic.

- Noise impacts associated with the use of a gym within the proposed development, plot 10b.

Potentially Significant Effects

5.223. **Table 5.38** below presents potentially significant effects on identified sensitive receptors for the construction and operational phases, and presents whether it is proposed to scope these in or out of the Noise and Vibration ES assessment.

Table 5.38: Potentially Significant Noise Impacts

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
Residential Receptors: A. Vita Students First Street B. Macintosh Mills C. Unite Students - New Medlock St D. Unite Students - Parkway Gate J. Plot 11	Construction Noise	Noise impacts associated with construction works at the proposed development site. Higher sensitivity to noise for residential receptors will result in a higher likelihood of negative adverse impacts. This should therefore be included in the ES assessment, with predictions of construction plant quantities based on experience of similar projects.	C	In
Residential Receptor within Development G. Plot 10b	Construction Noise	Noise impacts associated with construction works at the proposed development site, should Plot 10a be phased as under construction once Plot 10b is occupied. Higher sensitivity to noise for residential receptors will result in a higher likelihood of negative adverse impacts. This should therefore be included in the ES assessment, with predictions of construction plant quantities based on experience of similar projects.	C	In
Commercial Receptors: E. 8 First Street F. 1 Tony Wilson Pl I. Plot 9a First Street	Construction Noise	Noise impacts associated with construction works at the proposed development site. Commercial receptors will not have as high a sensitivity as residential ones, and as such the adverse impact is expected to be lower but still potentially significant. This should therefore be included in the ES assessment, with predictions of construction plant quantities based on experience of similar projects.	C	In
Commercial Receptor within Development H. Plot 10a		Noise impacts associated with construction works at the proposed development site, should Plot 10b be phased as under construction once Plot 10a is occupied. Commercial receptors will not have as high a sensitivity as residential ones, and as such the adverse impact is expected to be lower but still potentially significant. This should therefore be included in the ES assessment, with predictions of construction plant quantities based on experience of similar projects.		

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
Residential Receptors: A. Vita Students First Street B. Macintosh Mills C. Unite Students - New Medlock St D. Unite Students - Parkway Gate J. Plot 11	Construction Traffic Noise	Noise impacts associated with construction traffic noise during construction works at the proposed development site. Higher sensitivity to noise for residential receptors will result in a higher likelihood of negative adverse impacts. This should therefore be included in the ES assessment, with predictions of construction traffic movements based on experience of similar projects.	C	In
Residential Receptor within Development G. Plot 10b	Construction Traffic Noise	Noise impacts associated with construction traffic noise during construction works at the proposed development site, should Plot 10a be phased as under construction once Plot 10b is occupied. Higher sensitivity to noise for residential receptors will result in a higher likelihood of negative adverse impacts. This should therefore be included in the ES assessment, with predictions of construction traffic movements based on experience of similar projects.	C	In
Commercial Receptors: E. 8 First Street F. 1 Tony Wilson Pl I. Plot 9a First Street	Construction Traffic Noise	Noise impacts associated with construction traffic noise during construction works at the proposed development site. Commercial receptors will not have as high a sensitivity as residential ones, and as such the adverse impact is expected to be lower but still potentially significant. This should therefore be included in the ES assessment, with predictions of construction traffic movements based on experience of similar projects.	C	In
Commercial Receptor within Development H. Plot 10a	Construction Traffic Noise	Noise impacts associated with construction traffic noise during construction works at the proposed development site, should Plot 10b be phased as under construction once Plot 10a is occupied. Commercial receptors will not have as high a sensitivity as residential ones, and as such the adverse impact is expected to be lower but still potentially significant. This should therefore be included in the ES assessment, with predictions of construction traffic movements based on experience of similar projects.	C	In

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
Residential Receptors: A. Vita Students First Street B. Macintosh Mills C. Unite Students - New Medlock St D. Unite Students - Parkway Gate	Construction Vibration	Vibration impacts associated with construction works at the proposed development site. Higher sensitivity to noise for residential receptors will result in a higher likelihood of negative adverse impacts. This should therefore be included in the ES assessment, with predictions of vibration impacts based on the methods used and experience of similar projects.	C	In
Residential Receptor within Development G. Plot 10b J. Plot 11	Construction Vibration	Vibration impacts associated with construction works at the proposed development site, should Plot 10a be phased as under construction once Plot 10b is occupied. Higher sensitivity to noise for residential receptors will result in a higher likelihood of negative adverse impacts. This should therefore be included in the ES assessment, with predictions of vibration impacts based on the methods used and experience of similar projects.	C	In
Commercial Receptors: E. 8 First Street F. 1 Tony Wilson Pl I. Plot 9a First Street	Construction Vibration	Vibration impacts associated with construction works at the proposed development site. Commercial receptors will not have as high a sensitivity as residential ones, and as such the adverse impact is expected to be lower but still potentially significant. This should therefore be included in the ES assessment, with predictions of vibration impacts based on the methods used and experience of similar projects.	C	In
Commercial Receptor within Development H. Plot 10a	Construction Vibration	Vibration impacts associated with construction works at the proposed development site, should Plot 10b be phased as under construction once Plot 10a is occupied. Commercial receptors will not have as high a sensitivity as residential ones, and as such the adverse impact is expected to be lower but still potentially significant. This should therefore be included in the ES assessment, with predictions of vibration impacts based on the methods used and experience of similar projects.	C	In
Residential Receptors: A. Vita Students First Street B. Macintosh Mills C. Unite Students - New Medlock St D. Unite Students - Parkway Gate	Operational Industrial Noise	Noise impact associated with the operation of building services plant. Should this not be controlled to the appropriate level at noise sensitive receptors, then there is potential for negative adverse impact. This should therefore be included in the ES assessment. Compliance with the Local Authority's plant noise emission limits will see a lower significance of impact by default.	O	In

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
G. Plot 10b J. Plot 11				
Commercial Receptors: E. 8 First Street F. 1 Tony Wilson Pl H. Plot 10a I. Plot 9a First Street	Operational Industrial Noise	Noise impact associated with the operation of building services plant. Should this not be controlled to the appropriate level at noise sensitive receptors, then there is potential for negative adverse impact. This should therefore be included in the ES assessment. Commercial units will have a lower sensitivity than residential ones, and are also at a further proximity to the Site, so controlling noise levels to the Local Authority requirements at residential receptors will see a lower significance of impact by default.	O	In
Residential Receptors: A. Vita Students First Street B. Macintosh Mills C. Unite Students - New Medlock St D. Unite Students - Parkway Gate G. Plot 10b	Operational Entertainment Noise	Should any entertainment noise be an aspect of the operation of the ground floor Food Hall within Plot 10b, it will be necessary to consider the significance of effect of this noise on nearby noise sensitive receptors. This should therefore be scoped into the ES assessment – compliance with the Local Authority’s requirements will see a lower significance of impact by default.	O	In
Commercial Receptors: E. 8 First Street F. 1 Tony Wilson Pl H. Plot 10a I. Plot 9a First Street	Operational Entertainment Noise	Should any entertainment noise be an aspect of the operation of the ground floor Food Hall within Plot 10b, it will be necessary to consider the significance of effect of this noise on nearby noise sensitive receptors. This should therefore be scoped into the ES assessment – compliance with the Local Authority’s requirements will see a lower significance of impact by default.	O	In
Residential Receptor: G. Plot 10b J. Plot 11	Noise impact on proposed development	Noise should be appropriately controlled to see that new residential rooms do not experience adverse noise effects. This should therefore be scoped into the ES assessment - designing to the Local Authority’s requirements will see a lower significance of impact by default.	O	In

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
Residential Receptors: A. Vita Students First Street B. Macintosh Mills C. Unite Students - New Medlock St D. Unite Students - Parkway Gate E. Premier Inn Commercial Receptors: F. One City Road G. 8 First Street H. 1 Tony Wilson Pl	Operational Traffic Noise	It is understood that environmental impacts as a result of increased traffic flows has been scoped out of the ES, given that there are no car park facilities for either of the plots. Any potential increase in noise from traffic flow at the Operational Phase can therefore be scoped out of the ES assessment.	O	Out
Residential Receptors: A. Vita Students First Street B. Macintosh Mills C. Unite Students - New Medlock St D. Unite Students - Parkway Gate E. Premier Inn Commercial Receptors: F. One City Road G. 8 First Street H. 1 Tony Wilson Pl	Operational Vibration	It is not considered that any element of the Operational Phase is likely to result in any significant vibration impacts. The only elements of the Proposed Development which may produce vibration are localised items of plant, whose vibration impact would be negligible as these will be appropriately isolated from occupants of the plots through design. This will also result in operational vibration to surrounding receptors being negligible, and on this basis it is proposed that potential Operational vibration impacts are scoped out of the ES assessment.	O	Out

5.224. For completeness, Appendix 2 sets out which Committed Developments are considered relevant and included in the assessment.

Human Health

Introduction

5.225. The following section outlines the methods and scope of the assessment that are expected to be required to examine the likely human health impacts of the Proposed Development on the Site and surrounding area. The Environmental Impact Assessment Regulations (May 2017) amendments included making explicit the requirement to consider population – and human health. There is no prescribed EIA definition for human health but the identification, description, and assessment of effects on human health is well established in the UK for Strategic Environmental Assessment (SEA). Consideration of human health and well-being within EIA is separate from Health Impact Assessment (HIA), although each process can inform the other.

- 5.226. The complexities of development planning for human health are reported²⁷ - due to the multiple determinants of health and wellbeing, and the need for cross-sectoral understanding and collaboration. There are linkages between the global ecosystem, the natural and built environments, the local economy with communities, people, and their lifestyles, and likely interactions between different sectors.
- 5.227. It is considered that most of the factors scoped into the EIA can have impacts on health and quality of life/wellbeing – both positive and negative – and both physical and mental through townscape, air quality, climate change resilience, flood risk, noise, provision of/accessibility to good quality housing & employment, health & community services, transport, and green infrastructure. The overall approach to human health will be to consider the summary findings of each relevant technical topic and align these with their interconnectedness into the themes for healthy urban planning. The assessment will consider the potential impacts on human health from the Proposed Development on identified receptors during demolition, construction and operation.

Baseline Conditions

- 5.228. Different study areas will be used for the assessment of individual human health impacts, according to each relevant technical topic. Overall, the study area will be the Site with local surrounds, and the wider study area of Manchester City for the themes for healthy urban living and based upon professional judgement.
- 5.229. Baseline data will be gathered from a range of publicly available sources of information and will draw upon local health and wellbeing information and priorities, for example, published local authority health profiles through Public Health England (PHE, 2017-2019)²⁸ and Office for National Statistics (ONS) for health and life expectancies (2017-2019)²⁹, and as reported by Manchester City Council³⁰. The key baseline from the other technical topics will be considered where relevant. It is not anticipated to be necessary to undertake primary research or surveys specific to the Human Health chapter.

Method of Assessment

- 5.230. There is no standard methodology for assessing health in EIA and the complexities of investigating health impacts are recognised, for example, by Public Health England (PHE)¹⁴ with their Wider Determinants of Health tool that details the multiple determinants for health and the need for cross-sectoral understanding. This guidance is primarily focused on spatial plan makers and public health practitioners, but the principles and checklist can be applied to major development proposals. The recent Health Impact Assessment in Spatial Planning (PHE, 2020) similarly focuses on spatial planning and SEA but does include an annex on integrating HIA in EIA and asserts the importance of a “proportionate and justified approach”. The EIA professional body Institute of Environmental Assessment & Management (IEMA) has prepared outline guidance for practitioners – Health in EIA, a Primer for a Proportionate Approach (2017)³¹ - it is important that health in EIA is proportionate, balanced, and relevant.
- 5.231. The health impact assessment will consider the direct implications for health such as the provision of housing and employment. Also, implications such as those arising through pollution, air quality, or safety risks, and accessibility to healthcare facilities and sustainable transport (public, cycling and walking) for healthy living. It will further consider the wider implications for health and well-being, such as disturbance/nuisance, provision and accessibility to green infrastructure, amenity, cultural and recreational facilities.
- 5.232. It is proposed that the assessment will consider the four themes for health and wellbeing, as identified by the Healthy Urban Development Unit, as follows:
- Healthy Housing
 - Active Travel
 - Healthy Environment
 - Vibrant Neighbourhoods
- 5.233. Each technical impact assessment is subject to its own standards, regulations, and methods of assessment. The key findings from each topic will be considered such that any significant impacts for human health are clearly presented in a separate chapter. The key impacts for health will be considered and inter-relationships will be integrated within the four themes identified for healthy urban living.

²⁷ Barton H, Grant M & Guise R (2nd edition 2010) *Shaping Neighbourhoods: for local health and global sustainability* Taylor & Francis Ltd, England

²⁸ <https://fingertips.phe.org.uk/profile/health-profiles>

²⁹ <https://www.ons.gov.uk/peoplepopulationandcommunity>

³⁰ https://secure.manchester.gov.uk/info/200088/statistics_and_intelligence/2178/health_and_wellbeing

³¹ <https://www.iema.net/assets/newbuild/documents/IEMA%20Primer%20on%20Health%20in%20UK%20EIA%20Doc%20V11.pdf>

- 5.234. Sensitive receptors will include future users and occupiers of the Site and the surrounding local area, and will include:
- On-site operatives during construction;
 - existing residents, businesses, communities around the Site, as well as any other sensitive receptors identified by the technical assessments;
 - future users and visitors of the Site; and
 - pedestrians.
- 5.235. 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 as high, moderate, low. The criteria and categories of significance applied in the health impact assessment are, as follows:
- Major Adverse/Beneficial – important considerations at local or district scale; if adverse, are potential concerns to the project & may become key factors in the decision-making process
 - Moderate Adverse/Beneficial – modest important local effects that, if adverse, are not likely to be key issues for decision-making
 - Minor Adverse/Beneficial – Slight, short, or highly localised effects that, if adverse, are unlikely to be important in the decision-making process
 - Negligible – no appreciable effects on health factors
- 5.236. Standardised sectoral thresholds and significance criteria will be used for each of the relevant technical factors that contribute to health and well-being. The overall likely significant effects on health will then be determined in a qualitative way using professional judgment.
- 5.237. This Chapter of the ES will assess the completed scenario only as this is considered to represent the ‘worst case’ scenario.

Socio-Economics

Introduction

- 5.238. This Chapter of the ES will be prepared by ekosgen and assesses the likely socio-economic impacts of the proposals upon the site and surrounding area. This Chapter will also describe 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.
- 5.239. The author of this input has four years of experience in preparing socio-economic assessments to inform more than 25 EIA developments.

Assumptions and Limitations

- 5.240. There are no recognised criteria for the assessment of socio-economic impacts, and therefore ekosgen, drawing on their expertise, knowledge of overarching guidance and experience of working in the subject area, have taken a structured approach to quantifying and assessing the scale and nature of potential impacts relative to baseline conditions. In cases where impacts cannot be quantified, a qualitative judgement has been made, drawing on professional experience.
- 5.241. The most up to date data from official published sources has been used wherever possible; however, there are some limitations in the baseline data. Where this is the case, ekosgen have gathered data most closely aligning to the chosen Study Area and clearly stated what geography the data collected refers to.

Legislative and Policy Context

Legislation

- 5.242. There is no relevant legislation that relates specifically to the Socio-economics discipline.

National Planning Policy and Guidance

- 5.243. In July 2021, Government published a revised National Planning Policy Framework (NPPF). In order to achieve sustainable development, the NPPF sets out three interdependent overarching objectives: an economic, social and environmental objectives.

- 5.244. The economic objective is focused around building 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.”
- 5.245. The NPPF recognises the need to “ensure an integrated approach to considering the location of housing, economic uses and community facilities and services” as well as a need to provide “specialist accommodation for a group of people with specific needs (such as purpose-built accommodation for the elderly or students”.

Sub-Regional Planning Policy and Guidance

- 5.246. The Places for Everyone plan is the new long-term joint development plan for nine Greater Manchester districts. On 14 February 2022, the Plan and supporting documents were submitted to the Secretary of State for examination.
- 5.247. The Places for Everyone plan will serve as a Development Plan Document, setting out the need to maximise the potential of Greater Manchester’s key growth locations whilst also securing investment that raises the competitiveness of northern boroughs to deliver inclusive growth across the sub-region by ensuring that employment growth opportunities are well connected and accessible to all residents.
- 5.248. The Places for Everyone Plan includes a ‘brownfield preference’ policy which has sought to enable most efficient use of brownfield land supply across Greater Manchester and “maximise the supply of the brownfield land at the core of the conurbation and limit the need extent of Green Belt release”.
- 5.249. The Places for Everyone Plan acknowledges that “the universities and the knowledge economy are important assets for us, with a high concentration of students, research activity and scientific institutions. The Oxford Road Corridor is an internationally important location in this regard...”. It goes on to recognise that “the universities will be a vital component of developing Greater Manchester as a globally important city region”.
- 5.250. The Places for Everyone Plan notes the importance that the “growth potential of the Core Growth Area will continue through higher density development, building in opportunity areas, The Oxford Road Corridor, the existing office sectors, HS2 station proposals and improving the connections to other areas of Greater Manchester, which will assist growth within our boroughs”.
- 5.251. As well as this, it recognises the need for “maximising the reuse of previously-developed land and delivering higher densities in the most accessible locations will together help to reduce the total amount of land required for new buildings and hence minimise the need for development of greenfield sites”.

Local Planning Policy and Guidance

- 5.252. The **Manchester Core Strategy (2012)** sets the overall strategic direction for planning for Manchester over the plan period from 2012 to 2027, and is in line with national policies. The policies of the Core Strategy establish where major development and other forms of investment should be located in order to be sustainable, meet local needs and take full advantage of opportunities. A key spatial principle of the Core Strategy is that the regional centre of Manchester will be the focus for economic and commercial development, retail, leisure and cultural activity, alongside high quality city living. In relation to the Proposed Development, relevant policies include:
- Policy CC6** (City Centre High Density Development) sets out that City Centre development will generally be high-density to maximise land use efficiency.
- Policy H12** was developed with the objective of managing the supply of student accommodation in Manchester. It indicates that PBSA should be located in the areas immediately adjacent to the core university areas, principally the Oxford Road Corridor area.
- 5.253. The earliest iterations of the **First Street Strategic Development Framework (SDF)** identified the Site as falling within the ‘First Street Central’ character zone – a new office destination targeted at a range of commercial occupiers, particularly those seeking the benefits of a central and highly accessible city centre location, competitively priced to help distinguish the accommodation from other locations in the city centre.
- 5.254. The 2018 SDF update indicates that that the First Street Central character area can accommodate a greater scale and density of office accommodation to meet the level of demand in the area and maximise its contribution to the City’s economic growth. It also identifies an opportunity to introduce flexible commercial, retail and leisure uses along the Wilmott Street frontage of First Street Central, extending the commercial spine from First Street North through the area, enhancing linkages to the residential communities to the south. The subsequent 2020 SDF Addendum reiterates the economic context of the regeneration area, as well as the demand for office space in the city.

Assessment Methodology and Significance Criteria

Scenarios To Be Tested

5.255. This chapter of the ES will assess all scenarios as set out in Chapter 5 of this Scoping Report.

The Study Area

- 5.256. The approach to defining an appropriate study area has been informed by consideration of guidance on the topic. In respect of socio-economics, the relevant study area can vary according to different receptors; however, broadly, socio-economic impacts can be assessed with reference to a spectrum of spatial scales, ranging from the immediate local catchment through to the wider, sub-regional scale. The study area is also influenced by the availability of baseline data which may not always be available down to a local catchment area level.
- 5.257. In the case of the Proposed Development, the study area should reflect the Site's anticipated immediate local catchment. This can be defined using Lower Super Output Areas (LSOA) and is likely to comprise the LSOAs located within the southern portion of the Deansgate Ward (covering Manchester's city centre) but bounded to the south by the Mancunian Way. This area reflects the city's commercial core to the north as well as the Oxford Road Corridor, to the east of the Site, which is an innovation district with a mix of knowledge, business and cultural businesses. The wider, sub-regional study area reflects both the Manchester City Council area and the Greater Manchester City Region (comprising of the 10 Greater Manchester districts).
- 5.258. For some receptors a smaller study area may be required; for instance, with respect to the demand for social and community infrastructure within close proximity to the Proposed Development (i.e. within a certain distance radius from the Site).
- 5.259. Wherever possible, the baseline characteristics of the study area will be benchmarked against borough level (i.e. Manchester City Council) comparators as well as comparators at the sub-regional (Greater Manchester), regional and national level.

Baseline Surveys and Assessment

- 5.260. Baseline data have been derived from a range of publicly available secondary datasets, including (but not limited to) Annual Population Survey, Business Register and Employment Survey, the 2011 and 2021 Census (where appropriate), and NHS General Practice workforce data. The most recent available data for the study area will be obtained, wherever possible.
- 5.261. All committed developments identified are relevant to this Chapter; however, due to data availability and time lags in reporting updates, it is unlikely that publicly available baseline data will reflect these committed developments.

Significant Criteria Effects

- 5.262. Since there are no specific technical criteria to assess the significance of socio-economic effects, assessment will take place in accordance with the overarching EIA methodology (Chapter 3) and will apply professional judgement informed by experience of similar projects. The overarching approach towards the assessment of the magnitude, sensitivity and overall significance of impacts is set out at section 5.27/8/9 of the scoping report.
- 5.263. The magnitude of socio-economic impacts will be assessed in line with the approach outlined in **Table 5.39**. In addition to the magnitude, the duration of impact will also be taken into account with the impacts ranging from those that are likely to be temporary or permanent.

Table 5.39: Methodology for Determining Impact Magnitude

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

- 5.264. The sensitivity of a receptor is based on the relative importance of the receptor using the framework outline in **Table 5.40**.

Table 5.40: Methodology for Determining Sensitivity

Sensitivity	Example 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.
Moderate	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 no local importance.

5.265. The significance of the impact is determined by the interaction of magnitude and sensitivity, whereby the impacts can be positive or negative. The Impact Significance Matrix is set out in **Table 5.41**. All impacts assessed as ‘moderate’ or ‘major’ are considered to be ‘significant’ in EIA terms and denoted with an asterisk.

Table 5.41: Impact Significance Matrix

Magnitude	Sensitivity		
	High	Moderate	Low
Substantial	Major *	Major *	Moderate *
Moderate	Major *	Moderate *	Minor
Minor	Moderate *	Minor	Negligible
Negligible	Minor	Negligible	Negligible

5.266. A detailed assessment of the baseline conditions will be undertaken using sources

Potentially Significant Effects

Table 5.42: Potentially Significant Socio-Economic impacts

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
Individuals seeking construction employment and the local economy (through GVA)	Temporary employment uplift during the construction stage which will support uplift in GVA.	Alongside committed developments, the potential to deliver a significant uplift in construction GVA to the Greater Manchester economy, within a high productivity sector. Effect relevant to all eight scenarios.	C	In
Individuals seeking employment and the local economy (through GVA)	Net change in direct operational employment (and change in GVA)	Alongside committed developments, the potential to deliver significant uplift in employment (and related GVA) in the service economy (Plot 10a), aligning with surrounding uses and supporting continued growth of the city centre.	O	In

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
		It is expected that Plot 10b will also generate direct operational employment through ground floor 'food hall' uses as well as through operational maintenance of PBSA. Effect relevant to all eight scenarios.		
Students seeking accommodation	Increase in the number of student bedspaces and contribution towards local strategic objectives in respect of PBSA supply	Where possible, quantitative analysis of the Proposed Development's contribution towards increasing PBSA supply in the city centre, alongside committed student accommodation schemes. Also, qualitative contribution towards delivering strategic local priorities in relation to PBSA supply including location, density, quality and affordability issues. Effect relevant to scenarios 1 and 4-8.	O	In
Local economy (through GVA)	Uplift in spend, increasing local expenditure, including on retail, household goods, food and drink, local transport, recreation and leisure and other expenditure likely to be spent locally.	Potential for significant uplifts in spend attributable to increase in student population as well as the potential for office worker spend uplift in the local area. Effect relevant to all eight scenarios.	O	In
Primary healthcare facilities	Additional demand for healthcare facilities (GP services and dentists) as a result of the uplift in student population.	Potential for significant adverse impacts, particularly alongside additional demand from committed developments. Effect relevant to scenarios 1 and 4-8.	O	In
Education facilities	Additional demand for primary and secondary school places	The proposed uses will not generate new residents of school age, therefore should be scoped out.	O	Out

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
Crime	Reduction in crime and fear of crime	The proposed uses have the potential to lead to reduction in crime and fear of crime through 'Secured by Design' compliance which promotes and incorporates good design quality, layout and lighting. Whilst beneficial, these are unlikely to be significant in EIA terms, therefore recommended to be scoped out.	O	Out
Open space and recreational facilities and their users	Additional demand for the use of the existing leisure facilities and open/amenity space within close proximity to the Site.	Potential for significant adverse impacts, particularly alongside additional demand from committed developments. Effect relevant to scenarios 1 and 4-8.	O	In

5.267. For completeness, **Appendix 2** sets out which Committed Developments are considered relevant and included in the assessment.

Townscape and Visual Impact Assessment

Introduction

- 5.268. This Chapter of the ES will be prepared by Planit-IE and assesses the likely townscape and visual impacts of the proposals upon the Site and surrounding area. This Chapter will also describe 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.
- 5.269. The author of this input is a chartered member of the Landscape Institute and has over 15 years' experience in preparing townscape and visual impact assessments for EIA developments.

Assumptions and Limitations

- 5.270. The following methodology for assessment is proposed:
- The methodology is drawn from the GLVIA, 3rd Edition and
 - The photography and preparation of any Visually Verified Montages (VVMs) will be prepared in accordance with the Landscape Institutes Technical Guidance Note 06/19 entitled 'Visual Representation of Development Proposals'. The location and number of the views has been agreed with the Local Planning Authority.
 - The photography has been carried out by a professional photographer with substantial experience in this field of work. In accordance with the Technical Guidance Note, the photography was carried out with a 50mm Focal Length prime lens, unless there were exceptional conditions where wider-angle lenses are required to fully capture the scene. In this case, an appropriate lens was used to ensure the full potential height of new development could be captured at close-range.

- A plumb line was used to ensure that the centre of the camera lens was directly over the surveyed viewing position at a height of 1.64 metres. The metadata of each image records the exact time and date of each image allowing accurate lighting conditions to be recreated in the computer model as required. Further information is also recorded such as the camera, lens, and exposure and aperture settings. All camera data is recorded in a spreadsheet for reference. The aim with the photography is to create an image similar to that perceived by the human eye.

- 5.271. The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor and the magnitude of change to determine significance, on a scale of negligible, minor, moderate and major. Significant effects will be determined through professional judgment.
- 5.272. The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor and the magnitude of change to determine significance, on a scale of large or high, medium, small or low and negligible. Significant effects will be determined through professional judgment.

Legislative and Policy Context

Legislation

- 5.273. The European Landscape Convention (ELC, 2000) provides a foundation for closer co-operation on landscape issues across Europe and was ratified in the UK on the 21 November 2006, and became binding on 1 March 2007. The convention identifies the need to recognise landscape in law, to develop and promote landscape policies dedicated to the protection, management and creation of landscapes, and to establish procedures for the participation of the general public and other stakeholders in the evolution and implementation of landscape policies. It also encourages the integration of landscape into all relevant areas of policy, including cultural, economic and social policies.
- 5.274. The ELC defines landscape as ‘an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors’. It recognises that landscape has important cultural, ecological, environmental and social dimensions and is a key element of achieving sustainable development. In this context the use of the word ‘landscape’ is more appropriately termed ‘townscape’ though the constituent factors remain consistent.

National Planning Policy

- 5.275. The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor and the magnitude of change to determine significance, on a scale of large or high, medium, small or low and negligible. Significant effects will be determined through professional judgment.
- 5.276. The National Planning Policy Framework was updated in July 2021 and sets out the government’s planning policies for England and how these are expected to be applied.
- 5.277. The purpose of the planning system is to contribute to the achievement of sustainable development through three overarching objectives:
- 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 a well-designed and safe built environment, 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 contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.
- 5.278. The environmental objective is of particular relevance to the purpose of townscape and visual impact assessment.
- 5.279. Section 12 of the NPPF deals with the requirements of good design. The overarching principle is set out in paragraph 126, which states, “the creation of high quality buildings and places is fundamental to what the planning and

development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities.”

- 5.280. Paragraph 130 of the NPPF sets out a number of principles of good design. In order to accord with these principles, it should be ensured that new developments:
- will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;
 - are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;
 - are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);
 - establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;
 - optimise the potential of the Site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and,
 - 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.
- 5.281. Section 16 of the NPPF concerns conserving and enhancing the historic environment. Paragraph 189 states that heritage assets are, “an irreplaceable resource, and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations”.
- 5.282. Whilst the Site is not located in a Conservation Area and does not contain listed buildings, heritage is an intrinsic part of townscape assessment and potential views from Conservation Areas listed buildings have been considered as part of the assessment. There is also an overarching desirability set out within the NPPF for new development to contribute positively to local character and distinctiveness.

Guidance

- 5.283. The following guidance has been used in the assessment:
- Guidelines for Landscape & Visual Impact Assessment, 3rd Edition, 2013;
 - Planning Practice Guidance; and
 - IEMA Environmental Impact Assessment Guide to Shaping Quality Development, 2015.
 - IEMA Environmental Impact Assessment Guide to Shaping Quality Development, 2015.

Local Planning Policy - Manchester’s Local Development Framework, Core Strategy Development Plan Document (2012)

- 5.284. Manchester’s Core Strategy was adopted in July 2012. Relevant policies from the Strategy for the purposes of this chapter are outlined below.

Policy EN1 Design Principles and Strategic Character Areas

- 5.285. All development in Manchester will be expected to follow the seven principles of urban design, as identified in national planning guidance and have regard to the strategic character area in which the development is located. Opportunities for good design to enhance the overall image of the City should be fully realised, particularly on major radial and orbital road and rail routes.

Policy EN3 Heritage

“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”

- 5.286. 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.
- 5.287. Proposals which enable the re-use of heritage assets will be encouraged where they are considered consistent with the significance of the heritage asset.

Policy EN9 Green Infrastructure

- 5.288. New development will be expected to maintain existing green infrastructure in terms of its quantity, quality and multiple function. Where the opportunity arises and in accordance with current Green Infrastructure Strategies the Council will encourage developers to enhance the quality and quantity of green infrastructure, improve the performance of its functions and create and improve linkages to and between areas of green infrastructure. Where the benefits of a proposed development are considered to outweigh the loss of an existing element of green infrastructure, the developer will be required to demonstrate how this loss will be mitigated in terms of quantity, quality, function and future management.
- 5.289. 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.
- 5.290. The provision of new, and improvements to the quality and accessibility of existing green infrastructure assets, to mitigate for any loss of green infrastructure.
- 5.291. The encouragement of green roofs, green walls, tree planting and other forms of green infrastructure to allow for the adaption 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.

Place Making and Design

- 5.292. In accordance with NPPF development in Manchester will be expected to follow the seven design principles set out below:
- Character: a place with its own identity.
 - Continuity and enclosure: a place where public and private places are clearly distinguished.
 - Quality of the public realm: a place with attractive, and successful outdoor areas.
 - Ease of movement: a place that is easy to get to and move through.
 - Legibility: a place that has a clear image and is easy to understand.
 - Adaptability: a place that can change easily.
 - Diversity: a place with variety and choice.
- 5.293. The protection and enhancement of local environmental quality, however, involves understanding and respecting the character and distinctiveness of place and townscape. A Character Study was prepared which considered Manchester's historical development and topography and identified eleven strategic character areas. New development in Manchester will be expected to take into consideration its location within the specific character areas and reinforce the sense of place and local distinctiveness of the City. This is considered an important element in increasing the sense of local ownership of and respect for a neighbourhood.

First Street Strategic Development Framework

- 5.294. The principles for development within First Street were established within the First Street Development Framework, which was endorsed in 2005, and was subsequently updated in 2012, 2018 and 2020 in response to changing market conditions, the ongoing success of First Street, the emerging development context and the transition to a low carbon economy.

- 5.295. Plot 10 was first outlined in the 2012 update as part of the Central Development Zone. The vision for this area, the 'commercial heart' of First Street, has been further refined in subsequent updates. The SDF 2018 update allows for commercial office development on Plot 10 of up to 17 storeys in height.

Assessment Methodology and Significance Criteria

Scenarios To Be Tested

- 5.296. As a result of the proposed phasing, it will be necessary to test a number of scenarios within the Townscape and Impact Assessment to ensure robustness. The TVIA scenarios to be assessed are:
- Scenario 1: Baseline;
 - Scenario 2: Baseline + Plot 10a;
 - Scenario 3: Baseline + Plot 10a + cumulative;
 - Scenario 4: Baseline + Plot 10b;
 - Scenario 5: Baseline + Plot 10b + cumulative;
 - Scenario 6: Baseline + Plot 10a + Plot 10b, and;
 - Scenario 7: Baseline + Plot 10a + Plot 10b + cumulative.

The Study Area

- 5.297. The study area for the assessment is approximately 500m from the centre of the Site, in order to encompass the full extents of the Site, the wider First Street area as defined within the SDF, and the immediately adjacent townscape character areas which the Proposed Development may significantly influence. The study area also takes encompasses the visual envelope for the Proposed Development. The study area has been defined through a process of desktop and on-site survey and assessment, combined with professional judgement, in accordance with the Guidelines for Landscape and Visual Impact.

Baseline Surveys and Assessment

- 5.298. The Site is located within the central heart of the First Street masterplan area, which is now well established and partially completed. It also sits within the Regional and City Centre. The Site is not currently in use and there are no permanent structures or features on the Site due to historic clearance. There is currently no public realm or public open space within the Site. James Grigor Square is located to the north of Plot 10 and forms a key gathering space within the First Street masterplan area.
- 5.299. The First Street masterplan area forms a clearly defined sub-character area, characterised by high quality development set within a cohesive network of streets and spaces. The character of First Street is already well established in accordance with the vision set out within the SDF.
- 5.300. The First Street area sits within the wider townscape character area of the Oxford Road Corridor, an area extending from Oxford Road into the city centre and encompassing a range of education, business and cultural institutions. Corridor Manchester's Strategic Vision for 2025 sets out an ambition for the area to be, "Manchester's cosmopolitan hub and world-class innovation district, where talented people from the city and across the world learn, create, work, socialise, live and do business, contributing to the economic and social dynamism of one of Europe's leading cities."
- 5.301. The Site currently forms a void in the urban grain in a key location within First Street and the wider city centre. There are currently no routes through the Site. The Site is bound by River Street to the north and east, Hulme Street to the south, and Newcastle Street to the west. The key north-south axis through First Street is located to the western edge of Plot 10a and forms a key movement route through the development and a focus on high quality treatment.
- 5.302. It is considered that Site visibility is generally contained by relatively flat ground levels and surrounding development. Refer to **Appendix 4** for the location of key viewpoints.
- 5.303. Desk based studies using OS maps, topographic information and Google Earth were carried out to collate and map baseline townscape information. A review of policy and guidance was carried out to inform the assessment.
- 5.304. Potential viewpoints were initially identified through a process of desktop and onsite survey before being checked on site. Viewpoints were excluded where there was likely to be no significant impact beyond that which was already identified within the selected views.

Significant Criteria Effects

- 5.305. This assessment has been carried out with reference to the Guidelines for Landscape & Visual Impact Assessment, 3rd Edition, 2013 (referred to hereafter as “the Guidelines”) by Planit-IE Ltd; a registered practice of the Landscape Institute with considerable experience in landscape and visual assessment.
- 5.306. A three-stage assessment process has been adopted. Firstly, the nature of receptors (sensitivity) will be assessed by combining judgements on the susceptibility of the townscape receptor to the specific type of development proposed and the value attributed to that receptor combined with professional judgement. In assessing the sensitivity of visual receptors, key factors to be considered are the type of view and the number of viewers. Sensitivity of townscape and visual receptors will be assessed on a scale of high, medium and low.
- 5.307. Secondly, the magnitude of change is considered on a scale of large, medium, small or negligible. The magnitude of a townscape or visual effect is assessed in terms of its size or scale, the geographical extent of the area influenced by that effect, its duration and degree of reversibility and the impact these are likely to have on the baseline character of the townscape element or view. The magnitude of change in the view relates to the degree of contrast or integration likely to result from the proposed development and is influenced by the relative time over which a view is experienced and whether it is a full, partial or glimpsed view.
- 5.308. The magnitude of change in the view relates to the degree of contrast or integration likely to result from the proposed development and is influenced by the relative time over which a view is experienced and whether it is a full, partial or glimpsed view.
- 5.309. From this, the overall significance of the identified effects on receptors will be assessed. Significant effects will be determined through combining judgements about the sensitivity of the receptor and the magnitude of the effects, combined with professional judgment.
- 5.310. The photography and preparation of any Visually Verified Montages (VVMs) will be prepared in accordance with the Landscape Institutes Technical Guidance Note. The location and number of these has been agreed with the Local Planning Authority via email and are appended to this Scoping Report.
- 5.311. For the purposed of this Townscape and Visual Impact Assessment, ‘moderately significant’ effects and ‘significant’ effects are considered to be significant in EIA terms (EIA Regulations 2017).

Source of Effect

- 5.312. The following potential sources of affects attributable to the Proposed Development relating to townscape and views are:
- The local townscape character and its key components, including changes to townscape character areas, urban grain, land use, building heights, movement and linkages, public open space and environmentally designated areas.
 - Site character – the Site as a townscape receptor (as defined by the red line boundary).
 - Visual receptors, including local residents, users of public open space, visitors to heritage assets, users of the strategic movement network, and employees at their place of work.

Potentially Significant Effects

- 5.313. Potentially significant townscape and visual effects are set out in the table below. Refer to **Appendix 4** for viewpoint locations.

Table 5.43: Potentially Significant townscape and Visual Impacts

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
Changes to townscape character areas within the Site context.	Change to the First Street Character and indirect effects on neighbouring character areas.	Potential to positively reinforce the emerging First Street character as defined in the SDF	C/O	In

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
Changes to urban grain	Change to create a new urban grain.	Potential to positively establish a new urban grain on a current void within a key part of the city.	C/O	In
Changes to land use	Change to establish a new land use on a currently empty site.	Potential to establish a new land use in keeping with the First Street vision as established in the SDF.	C/O	In
Changes to building heights	Development will establish a new height datum on the Site.	Built development on a currently empty site will create the potential to reinforce the existing First Street character.	C/O	In
Changes to movement and linkages as a townscape effect.	Development will fit into the existing and new route hierarchy.	New development has the potential to reinforce existing surrounding routes by providing enclosure.	C/O	In
Changes to public realm/public open space.	Open space will be limited to the public realm along key movement routes surrounding the development.	Potential to positively reinforce the existing character of the public realm and key movement routes within First Street and contribute positively to wider connectivity.	C/O	In
Changes to site character	Change from an unused site to actively used site.	Potential to positively enhance the currently underused site.	C/O	In
Changes to the character and amenity of views (refer to Figure 1)	Changes to the character and quality of views.	Potential to create a new focal element which will provide legibility through the infilling of a currently empty site in a key location within the city.	C/O	In

5.314. For completeness, **Appendix 2** sets out which Committed Developments are considered relevant and included in the assessment.

Wind Microclimate

Introduction

- 5.315. This Chapter of the ES will be prepared by Architectural Aerodynamics and assesses the likely Wind Microclimate impacts of the proposals upon the Site and surrounding area. This Chapter will also describe 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.
- 5.316. The authors of this input have more than 15 years of experience in preparing more than 50 Environmental Statements for EIA developments.

Assumptions and Limitations

- 5.317. To ensure transparency within the EIA process, the following limitations and assumptions have been identified:
- Where adopted, a computational approach will adopt a steady-state 'RANS' CFD approach. This method employs turbulence models to approximate the magnitude of velocity fluctuations about the average wind speeds predicted, in order to derive an estimation of the effect of gusts. ArcAero conducts regular validation of proprietary CFD processes against experimental results; and
 - Where the wind tunnel based approach has been adopted to inform and appraise mitigation, this will adopt a discrete measurement approach, where sensors will be positioned in sensitive locations and those

locations that are expected by veteran practitioners to experience the most significant acceleration of winds. A longstanding approach of this nature would be expected to capture worst-case conditions

Legislative Policy Context

5.318. The following legislation and policy will inform the assessment of effects within the ES Chapter.

Legislation

5.319. There are no legislative policies relating to the assessment of environmental wind flows in the built environment.

National Planning Policy and Guidance

National Planning Policy Framework, 2021

5.320. There are no national policies relating to the assessment of environmental wind flows in the built environment.

National Planning Practice Guidance, 2019

5.321. Consider form: "Some forms pose specific design challenges, for example how taller buildings meet the ground and how they affect local wind and sunlight patterns should be carefully considered."

5.322. Consider Scale: "Account should be taken of local climatic conditions, including daylight and sunlight, wind, temperature and frost pockets"

5.323. Policy 41 of the National Design Guidance states that A new development "enhances positive qualities and improves negative ones. Some features are physical, including:" "environment – including landscape and visual impact, microclimate, orientation, flood risk, noise, air and water quality;"

5.324. Policy 71 of the National Design Guidance states that "Proposals for tall buildings (and other buildings with a significantly larger scale or bulk than their surroundings) require special consideration. This includes their location and siting; relationship to context; impact on local character, views and sight lines; composition - how they meet the ground and the sky; and environmental impacts, such as sunlight, daylight, overshadowing and wind. These need to be resolved satisfactorily in relation to the context and local character."

Local Planning Policy and Guidance

5.325. Manchester's Local Development Framework, Core Strategy Development Plan Document Policy EN2 (Tall Buildings), Paragraph 12.14 states "Tall buildings by their very nature can dominate the street scene and be highly visible over long distances. They can also have an impact on the local micro-climatic conditions, for example, by creating wind tunnels. It is for these reasons that it is considered particularly important that they are designed to the highest quality, both in terms of appearance and their impact on the functioning of surrounding space."

5.326. Guide to Development in Manchester - Supplementary Planning Document and Planning Guidance (SPD) Policy 12.8 states that key questions will be raised about the microclimate.

Assessment Methodology and Significance Criteria

Scenarios to be tested

5.327. The following methodology for assessment is proposed:

- The assessment will be informed by wind climate characterisation based upon at least 15 years of wind climate data from Manchester Airport and used to undertake a statistical analysis of the wind climate prevailing across the area;
 - The assessment will take into account the following factors:
 - The effect of the geometry, height, massing, exposure and orientation of the Proposed Development; and
 - The pedestrian activity to be expected, e.g. thoroughfare, ingress / egress, waiting areas, recreational spaces, outdoor seating spaces (such as cafes), and the Lawson comfort category that corresponds to the activity – long-term sitting, short-term sitting / standing, strolling or walking.
 - The season(s) in which the activity is anticipated to take place, e.g. thoroughfare, waiting (at bus stops, for example) and entrance use would all take place year-round and be assessed against a worst-case ('worst-seasonal' results) while prolonged outdoor seating (outdoor café spaces, for example) would be assessed during summer.
 - A digital model of the Site and surrounding area with a radius of approximately 450 metres will be prepared and assessments will be performed using computational modelling (CFD); and

- To provide confidence in the application of mitigation, mitigation options will be informed by physical wind tunnel testing (optional, only if mitigation is required). The testing will be carried out using a 1:300 scale model of the Site and the surrounding buildings within a radius of 450m. The following scenarios will be tested and presented within the ES in accordance with Chapter 4:
 - Scenario 1: Baseline
 - Scenario 2: Baseline + Plot 10a
 - Scenario 3: Baseline + Plot 10a + cumulative
 - Scenario 4: Baseline + Plot 10b
 - Scenario 5: Baseline + Plot 10b + cumulative
 - Scenario 6: Baseline + Plot 10a + Plot 10b
 - Scenario 7: Baseline + Plot 10a + Plot 10b + cumulative

- 5.328. All scenarios would be based on the model of the Proposed Development in accordance with the maximum massing and height parameters proposed. It is assumed that any detailed design or reserved matters applications will sit within these assessed parameters.
- 5.329. Gust and mean wind speed ratios (e.g. pedestrian level wind speeds as a ratio of a reference wind speed at a known height above ground) will be measured at key locations within the Site where increased windiness is expected as a result of the buildings' geometry and in areas of wind-sensitive activities, such as public entrances or pedestrian pathways;
- 5.330. Wind speed ratios measured in the wind tunnel will be combined with statistics of the local wind climate in Manchester to determine the net windiness at the Site. The wind statistics for Manchester will be obtained from historical wind data from Manchester Airport and will be corrected for terrain roughness around the airport and over the Site.
- 5.331. The results of the wind tunnel modelling will be presented, showing the adherence of conditions at all points to the LDDC variant of the Lawson Criteria and will be presented within a comprehensive report submitted as a technical appendix to the ES. The ES Chapter will provide the assessment of the environmental effects/receptor locations where significant effects are identified.
- 5.332. The LDDC variant of the comfort criteria (shown below) provides wind speed thresholds that should not be exceeded for more than 5% of the time in a season to be acceptable for the stated pedestrian activity. The safety criteria identifies areas where someone could find walking difficult, or even stumble and fall. This criterion provides a wind speed threshold (15 m/s) that should not be exceeded more than once per year

Table 5.44 – Wind Sensitivity Levels

Comfort Category	5% Exceedance Threshold	Description
Long-term sitting	4 m/s	Light breezes desired for outdoor restaurants and seating areas where one can read a paper or comfortably sit for long periods.
Short-term sitting / standing	6 m/s	Gentle breezes suitable for main building entrances, pick-up/drop-off points and bus stops.
Strolling	8 m/s	Moderate breezes that would be appropriate for strolling along a city/town centre street, plaza or park.
Fast walking	10 m/s	Higher speeds that can be tolerated if one's objective is to walk, run or cycle without lingering.
Uncomfortable	>10 m/s	Winds considered a nuisance for most activities.

- 5.333. An increase in windiness relative to the baseline will be considered not significant if the wind speed is not expected to exceed the limit for the pedestrian activity being undertaken in that area. In the case of windiness levels in excess of the tolerable limits for intended pedestrian use, mitigation measures will be developed in the wind tunnel.
- 5.334. The sensitivity of an affected receptor will be considered on a scale of high, medium, low or negligible.
- 5.335. The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor, the adherence (or not) to the LDDC criteria and the magnitude of change, if any, between 'target' and predicted comfort levels to determine significance, on a scale of major, moderate, minor and negligible. Significant effects will be determined through professional judgment.
- 5.336. The approach to cumulative assessment for wind will include the combination of the Proposed Development with other Committed Developments as presented in **Appendix 2**.
- 5.337. The assessment of cumulative effects will be presented in the 'Cumulative Effects' chapter of the ES in accordance with the methodology set out in **Chapter 4** of this EIA Scoping Report.
- 5.338. For the assessment of wind, Committed Developments located within 450m will be included within the scenario to be assessed. Committed Developments beyond 450m will be excluded. Developments beyond 450m are known to have negligible impact on wind conditions at such a distance and beyond the extent of the modelling. This approach is considered industry best practise.

The Study Area

- 5.339. The study considers all wind effects up to 450m radius from the Proposed Development and all features which are likely to impact the wind flow to and through the Site have been replicated. This distance is considered sufficient to capture all wind effects on Site, as well as those effects on the surrounding area.

Baseline Surveys and Assessment

- 5.340. The baseline wind microclimate in the area is driven by prevailing southerly winds. This is typical of the Manchester wind climate.
- 5.341. The existing Site comprises car park spaces and therefore the wind conditions are dominated by the low-rise nature of the surrounding buildings. Described in terms of the Lawson Comfort Criteria (LCC) wind conditions are generally expected to be suitable for a combination of strolling and short-term standing / sitting and thus suitable for comfortable pedestrian passage and for ingress / egress at surrounding entrances. Localised areas that are windier, exceeding strolling conditions during winter, may also exist in isolated spots.
- 5.342. Baseline conditions will be established directly by undertaking a CFD simulation of the wind velocities at the existing Site for a full range of wind directions. Once combined with a statistical model that describes wind climate prevailing across the area as a whole, predictions of pedestrian comfort and safety, classified in terms of the Lawson criteria (as clarified in Section 1.11), will be derived.

Significant Criteria Effects

- 5.343. For the scenario for the Proposed Development in place, receptors are defined to be pedestrians within the Proposed Development and surrounding areas. For the avoidance of doubt, this includes other users of the Site who may be sitting at provided seating areas or otherwise using the Site. All receptors are equally sensitive to the presence or absence of an acceptable wind microclimate. An unacceptable microclimate exists at a receptor when either an exceedance of the safety criteria exists, or when the comfort criteria is not met for the existing / planned pedestrian use at a receptor. All receptors are considered to be highly sensitive to the local wind microclimate conditions and are given an equal weighting.
- 5.344. Effect magnitude is defined by the severity of the deviation from the standards set out by the Lawson criteria. Exceedances of the safety criteria are deemed to be the most critical, given their potential effect on pedestrians' wellbeing, i.e. they may be unduly exposed to the potential for harm. Such effects are thus deemed to have a high impact magnitude. Where the comfort criteria are not met, i.e. where the conditions are too windy for a particular receptor to be sufficiently comfortable for existing or planned pedestrian uses and thus inconvenient but not unsafe, such effects are deemed to be of medium impact magnitude. Where the comfort criteria are marginally exceeded, to the extent that the exceedance is expected to be perceptible, but tolerable, such effects are deemed to be of very low impact magnitude.
- 5.345. On this basis, therefore, exceedances of the safety criteria are considered to be of major effect significance, while exceedances of the comfort criteria are considered to be of moderate or minor significance. Where the Proposed Development is unlikely to cause a noticeable change at a receptor, despite its level of sensitivity or there is a considerable change at a receptor which is not considered sensitive to a change, this will be considered negligible.

- 5.346. Major and moderate effects are considered to be significant in EIA terms. Minor effects, as noted above being tolerable, are not considered to be significant.
- 5.347. The following are the significance criteria used to assess likely wind conditions as a result of the introduction of the Proposed Development:
- Major Beneficial: Any effect on wind conditions which is expected to improve pedestrian safety, namely an improvement in conditions from being considered unsafe to being considered safe.
 - Moderate Beneficial: Any effect on wind conditions which is expected to improve pedestrian comfort from unsuitable to suitable for planned activities.
 - Minor Beneficial: Any effect on wind conditions which is expected to improve pedestrian comfort from unsuitable to marginal/tolerable for planned activities, or from marginal/tolerable to suitable for planned activities.
 - Negligible: Any effect that does not alter the suitability of existing wind conditions with respect to planned activities.
 - Minor Adverse: Any effect on wind conditions which worsens pedestrian comfort from suitable to marginal/tolerable for planned activities, or from marginal/tolerable to unsuitable for planned activities.
 - Moderate Adverse: Any effect on wind conditions that worsens pedestrian comfort from suitable to unsuitable for planned activities.
 - Major Adverse: Any effect on wind conditions adversely affecting pedestrian safety, namely a deterioration in conditions from being considered safe to being considered unsafe
- 5.348. The preceding description of significance of effect relates to the matrix defining significance of effect in relation to magnitude of change and sensitivity, on the basis that effects relating to safety are deemed to have a major magnitude of change and high sensitivity, while effects relating to comfort are deemed to have moderate sensitivity with moderate or minor magnitude of change for non-marginal and marginal effects on wind conditions, respectively.

Source of Effect

- 5.349. Adverse wind effects caused by interaction of the wind with the proposed development including, but not limited to:
- Downdraughts
 - Corner accelerations
 - Exposure
 - Location of recreational and other sensitive uses in and around the Site

Potentially Significant Effects

- 5.350. Table below outlines the likely significant effects and associated sensitive receptors which have been identified and will be assessed within the EIA and reported in the ES.

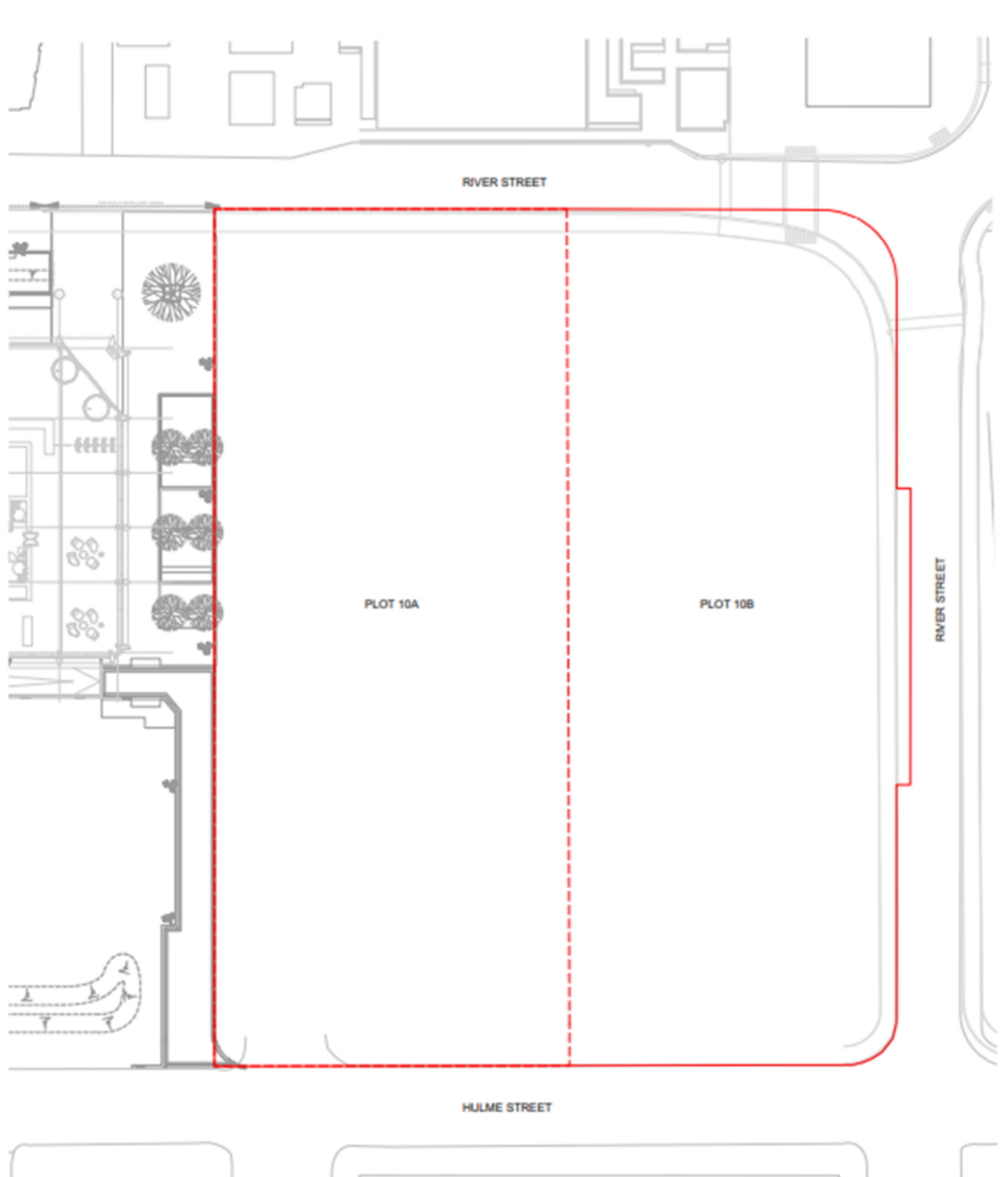
Table 5.45: Significant effects and associated sense receptors for wind microclimate

Receptor	Effect	Discussion of Effect	Applicable Development Phase (C / O)	Scoped In / Out
Thoroughfares, entrances, waiting areas and recreational spaces within and around the Site	Exceedance of the industry standard Lawson criteria for pedestrian safety.	Acceleration of wind has the potential for the greatest level of effect.	Operation	In

Thoroughfares, entrances, waiting areas and recreational spaces within and around the Site	Exceedance of the industry standard Lawson criteria for pedestrian comfort.	Acceleration of wind has the potential for the greatest level of effect or where pedestrian activities are most sensitive to wind and require the most benign conditions	Operation	In
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- 5.351. The construction of the Proposed Development will occur in a phased manner, gradually, across the entire construction stage. In the first instance when the demolition of some of the existing built form occurs, there is considered to be limited opportunity for accelerated wind due to channelling or downdraughts. Nonetheless, as the built form (specifically the massing) of the Proposed Development gradually occurs there will be instances where accelerated wind conditions may occur, albeit these will be gradual over the course of the construction stage. As the massing nears completion, the level of effect is likely to be similar to that being considered/assessed (see scenarios above). In instances where mitigation measures are identified as being required to ensure appropriate wind conditions at the operational phase, the timing of such mitigation will need careful evaluation to consider whether they need to be implemented during construction.
- 5.352. Assuming the timely implementation of mitigation, the resulting level of effect during construction would be less than reported at the operational stage. Therefore, it is considered that an assessment of operational effects would represent an approximation of a worst-case scenario during construction. Therefore, for the purpose of the EIA and ES, only the operational stage of the Proposed Scheme will be modelled and assessed.
- 5.353. For completeness, **Appendix 2** sets out which Committed Developments are considered relevant and included in the assessment.

Appendix 1 – Site Location Plan



Appendix 2 – List of Committed Developments

Application Reference	Description of Development Proposals	Date Approved	Map No	Distance from Site	Status as of August 2022	Scoped In/out							
						Air Quality	Climate Change	Daylight /Sunlight	Noise	Human Health	Socio Economic	TVIA	Wind
Baseline													
Plot 11, First Street 125573/FO/2019	Construction of four buildings of heights varying from 10 storeys to 45 storeys together comprising Co-living bedspaces (use class sui generis) and associated amenity facilities, with ground floor commercial units (Use classes A3 (Café / Restaurant and D2 (Gym)), private amenity space and public realm comprising hard and soft landscaping, car parking and cycle facilities and other associated works.	9 March 2021	1	Adjacent to site.	Under construction.	out	out	in	out	in	in	in	in
John Dalton West Building 125799/FO/2019	Demolition of existing John Dalton West Building and associated structures, and erection of a new 7 storey education building (Use Class D1) for the Faculty of Science and Engineering (comprising teaching and research spaces, academic offices, social learning areas, catering/kitchen facilities and an energy centre), physical connections to and external refurbishment of the John Dalton Tower, hard and soft landscaping works, car and cycle parking and associated works	12 March 2020	2	270m	Under construction	out	out	in	out	in	in	in	in
Barclay House 118033/P3OPA/2017 (original change of use application) 128804/FO/2020 (rooftop extension and car park conversion)	Notification for Prior Approval for a Proposed Change of Use of building (excluding basement) from Office Use (Class B1 (a)) to a provide 90 no. residential apartments (Use Class C3)	31 January 2018	3	250m	Under construction	out	out	out	out	in	in	in	in
70 Great Bridgewater Street 129081/FO/2021	Partial demolition and reconfiguration of 70 Great Bridgewater Street to create a new office building (Use Class E), including the replacement of building facades, a 2-storey rooftop extension and alterations to the internal layout including the infilling of the central atrium, servicing and cycle parking, access and associated works.	Approved 23 April 2021	4	280m	Under construction.	out	out	out	out	in	in	in	in
Vision, Whitworth Street West 111003/FO/2016/C1	Demolition of existing building at 10 - 12 Whitworth Street West, and redevelopment of the Site for a new 35 storey residential building (Use Class C3) comprising 327 apartments, with associated residents' services, facilities and communal spaces: servicing, highways, public realm and associated works	11 April 2016	5	300m	Groundworks started.	out	out	in	out	in	in	in	in
Viadux 115871/FO/2017	Erection of a 40 storey building to form 375 residential apartments (Use Class C3a) and the erection of a 14 storey building for form offices (Use Class B1) (31,756 sqm) together with ground floor commercial space (Use Class A1, A3 or A4) (1010 sqm) with associated enclosed service yard, public realm including staircase and lift to connect with viaduct, car and le parking, landscaping and other associated works	Approved July 2017	6	400m	Under construction	out	out	in	out	in	in	in	in
Plot 9a First Street 132600/FO/2021	Erection of a nine-storey building with rooftop plant and basement comprising office accommodation (Use Class E(c)) with ancillary facilites for occupiers including roof top terrace, winter gardens, gym/ yoga studio, basement car parking (26 spaces) and cycle parking (130 spaces) landscaping and other associated works	Approved 14 April 2022	7	50m	Due to start on site imminently	out	out	in	out	in	in	in	in
Crown Street Phase 2 (The Blade and Three60) 126668/FO/2020	Full planning permission for the erection of two 52-storey residential buildings (Use Class C3) each incorporating a podium accommodating residential amenity facilities and ground floor and first floor commercial units (Use	Approved 3 August 2020	13	600m	Under construction	out	out	in	out	in	in	in	out

Application Reference	Description of Development Proposals	Date Approved	Map No	Distance from Site	Status as of August 2022	Scoped In/out							
						Air Quality	Climate Change	Daylight /Sunlight	Noise	Human Health	Socio Economic	TVIA	Wind
	Classes A1, A2, A3, or D1), private and public basement car parking, landscaping and a public park, servicing and access arrangements, highways improvements, and associated works (Phases A, B, and D as defined on Drawing Reference: 10292Z1SHPG000PL00 B5D802 and 10292Z1SHPG000PLB1B5D801). Outline planning permission (with all matters reserved) for an educational facility (Use Class D1) (Phase C as defined on Drawing References: 10292Z1SHPG000PL00B5D802 and 10292Z1SHPG000PLB1B5D801)												
Cumulative													
One City Road 128002/FO/2020	Full Planning Application for demolition of existing structures on site, erection of one 11-storey plus basement office building (Use Class E) and one 14-storey plus basement office building with ground floor commercial unit (Use Class E), landscaping, highways works, and associated works	Approved 26 January 2021	8	170m	No start on site.	in	out	in	in	in	in	in	in
Hotspur House 120635/FO/2018	Part demolition and redevelopment and part retention and refurbishment of the former Hotspur Press Complex (Medlock Mill) to deliver 171 residential units (10 no. 1 bed, 1 person apartments, 49 no. 1 bed, 2 person apartments, 2no. 2 bed, 3 person apartments and 110 no. 2 bed 4 person apartments) - Use Class C3, within refurbished mill space and 28 storey building (including two levels of basement), commercial floorspace (Use Classes A1 (shop), A2 (financial and professional services), A3 (restaurants and cafes), B1 (office), D1 (medical clinic, health centre, art gallery and museum only) and / or D2 (gymnasium or bowling alley only) together with servicing, access, landscaping including a new public space and pedestrian route between Gloucester Street and First Street, and other associated works	Approved 30 October 2020	9	170m	No start on site.	in	out	in	in	in	in	in	in
Park Place 129273/FO/2021	Demolition of existing structures and the construction of two residential buildings of 56 storeys (plus basement and roof plant) (use class C3), with ground floor commercial uses (use class E), car parking, cycle provision, landscaping, access and other associated works	Minded to approve 29 July 2021	10	360m	Awaiting S106 to be signed to release decision notice.	in	out	in	in	in	in	in	in
GJS Plot F 132199/FO/2021	Full planning permission for the demolition of existing structures and the erection of two 51-storey residential buildings (Use Class C3) across two phases, including residential amenity facilities, basement car parking, landscaping and public realm, servicing and access arrangements, highways alterations, and associated works.	Approved 1 July 2021	11	370m	No start on site.	in	out	in	in	in	in	in	in
Student Castle 121252/FO/2018	Partial reconfiguration of existing Multi-Storey Car Park (MSCP), including temporary access off Great Marlborough Street, construction of 5 storey external ramps, closure of vehicular access to top level; and construction of new facade; and partial demolition of the surplus part of existing MSCP and erection of a part 55, part 11 storey, part 4 storey mixed-use building comprising 853 Purpose Built Student Accommodation units (sui generis), ancillary amenity space and support facilities, and 786sqm (GIA) SME incubator workspace (Use Class B1), including public realm improvements and other associated work	Approved 23 July 2021.	12	316m	No start on site.	in	out	in	in	in	in	in	in
Travelodge Deansgate Locks 126308/FO/2020	The demolition of 2 to 4 Whitworth Street West and the construction of a mixed-use building, comprising flexible units for retail, food and drink use at ground floor level with a hotel at upper storeys, together with associated landscaping, servicing, cycle parking and other associated works.	Approved 18 December 2020	14	360m	No start on site.	in	out	out	in	in	in	in	in
Apex Tower 133172/FO/2022	Erection of a 26 storey residential tower for 72 apartments (Use Class C3) with associated car parking, cycle parking, servicing, and associated landscaping works		15	340m	Live Planning Application. Validated 9 March 2022	in	out	in	in	in	in	in	in
All Saints Park 128485/FO/2020	Full Planning Permission for the refurbishment and expansion of All Saints Park public realm and surrounding streets including flexible use for temporary events, activities and pop-up retail (Use Classes E(a) and E(b)) facilities; works to include: the demolition of targeted areas of the existing stone wall and railings; removal of three existing trees and replacement tree planting and soft landscaping; installation of new drainage scheme; installation of lighting columns, wayfinding signage and other street furniture; provision of a	Approved 2 June 2021	16	500m	No start on site.	In	out	out	in	in	in	in	in

Application Reference	Description of Development Proposals	Date Approved	Map No	Distance from Site	Status as of August 2022	Scoped In/out							
						Air Quality	Climate Change	Daylight /Sunlight	Noise	Human Health	Socio Economic	TVIA	Wind
	redesigned memorial garden; provision of cycle parking and accessible car parking bays; highways and servicing access works, including the closure of parts of Higher Ormond Street, Lower Ormond Street and Cavendish Street to traffic through a stopping-up order; and, associated works.												
Deansgate South 129406/FO/2021	Full planning permission for a 28-storey purpose built student accommodation building (Sui Generis)	Appeal granted on 18 May 2022	17	500m	No start on site.	In	out	out	in	in	in	in	out
Transition 116850/FO/2017	Demolition of the existing buildings on the Site and construction of three residential buildings, 32, 26 and 18 storeys in height, comprising a total of 399 residential units (C3) and 50 retirement living units (C2) with roof top ancillary restaurant; 675 sq.m of commercial floor space (Use Classes A1, A2, A3, A4, B1, D1 or D2); associated car and cycle parking within a basement level; public realm and landscaping; access and servicing arrangements; and other associated works.	Approved 3 May 2019	18	470m	No start on site.	in	out	out	in	in	in	in	in
StayCity Deansgate 125804/FO/2019	Demolition of existing buildings and structures on-site and erection of 22-storey building comprising apart-hotel (Use Class C1) with flexible commercial uses at ground floor and within existing viaduct arches (Use Class A1, A2, A3, A4, D2), access, landscaping and other associated works	Approved 26 June 2020	19	490m	No start on site	In	out	in	in	in	in	in	out

Appendix 3 – Phase 1 GeoTechnical Reports

Appendix 4 – Visual Zone of Influence and Key Viewpoints





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