



Environmental Statement: Volume 1

All Saints Library – Manchester Metropolitan University
(Demolition Application)

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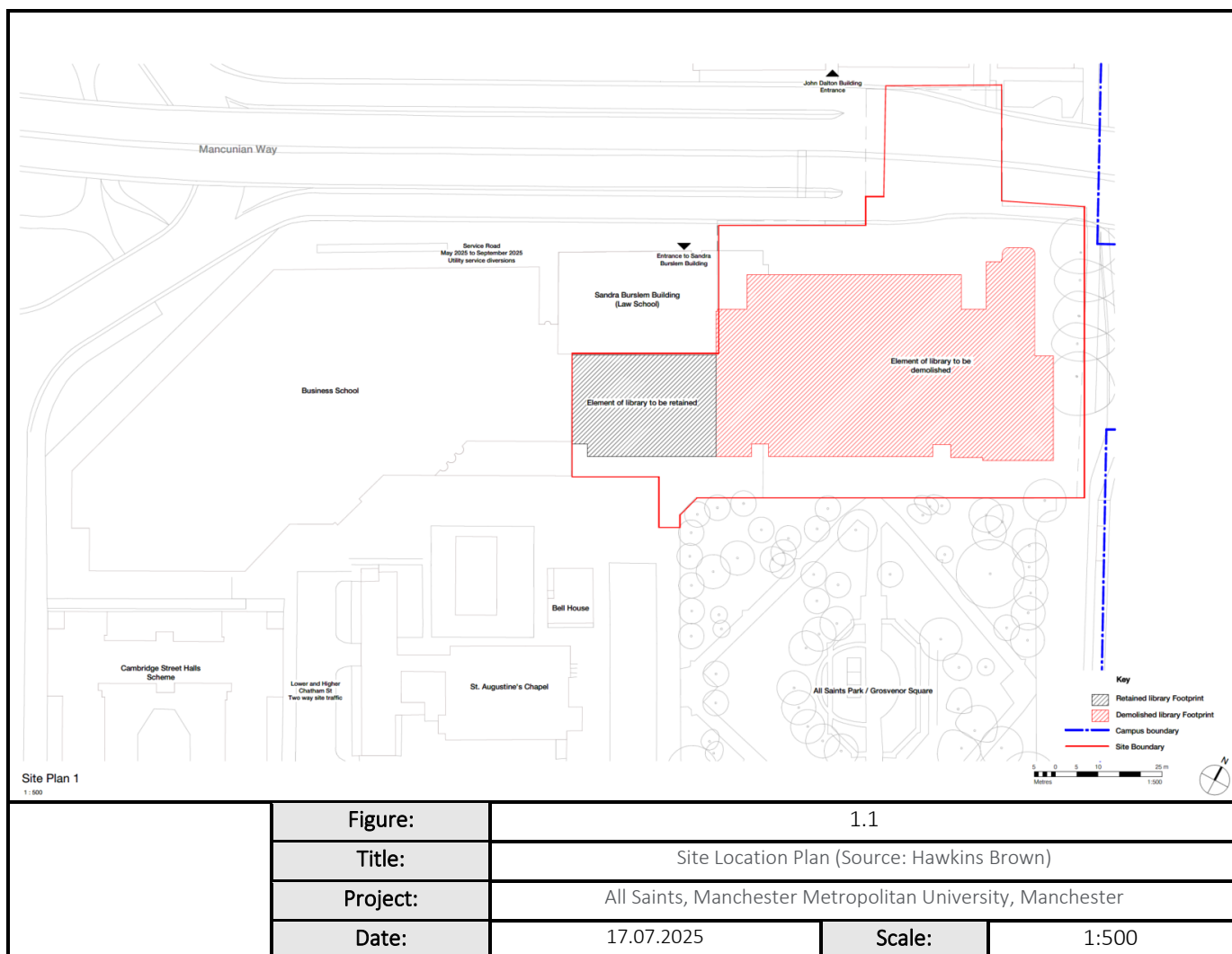
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1. Introduction

- 1.1. This Environmental Statement ('ES') has been prepared in respect of a full planning permission application for the partial demolition of the existing All Saints Library building within Manchester Metropolitan University's All Saints Campus in Manchester City Centre (the 'Site').
- 1.2. The Applicant is Manchester Metropolitan University (the 'Applicant').
- 1.3. The full planning application submitted to Manchester City Council ('MCC') and which forms the 'Proposed Demolition' has the following formal description of development:
"Full Planning Permission for partial demolition, temporary weatherproofing and associated works at Manchester Metropolitan University's All Saints Library"
- 1.4. The Proposed Demolition is required to facilitate the future development of the site for a new purpose-built library building for which proposals are currently being prepared. The new library proposals will be the subject of a separate application for full planning permission which will be submitted in due course.
- 1.5. Additionally, as part of the existing library will be retained as a consequence of the Proposed Demolition, a further application will be submitted to support the refurbishment and reuse of the retained element.
- 1.6. This Environment Statement (ES) only assesses the proposed demolition works. Further consideration will be given to the environmental effects of future development phases once details are confirmed and proposals come forward, a process that will be supported by further EIA Screening and Scoping processes, as appropriate.

The Site

- 1.7. Figure 1.1 shows the location of the Site in its local context as well as the application boundary edged in red.
- 1.8. The Site currently comprises a seven-storey brick building, which is used as a library facility for students and staff of the University. The existing accommodation provides desk spaces, book clusters and meeting rooms.
- 1.9. The Site is bound by a public footpath and All Saints Park to the south, the Manchester Metropolitan University Business and Law School to the west, the elevated Mancunian Way directly to the north and Oxford Road to the east (the 'Site'). It extends to c. 0.77 ha and is a prominent site located within Manchester's Oxford Road Corridor, which is a major focus of higher education and the City's knowledge economy more generally.
- 1.10. Please refer to Chapter 4 of this ES for further details on the Site Context.
- 1.11. This ES sets out the findings of an Environmental Impact Assessment ('EIA') carried out in respect of the Proposed Demolition of the Site.



Requirements for EIA

- 1.12. The EIA process is the mechanism by which development proposals are appraised in terms of their likely environmental effects, in addition to engineering and technical considerations.
- 1.13. The purpose of the EIA is to establish the nature of the Proposed Demolition and the environment in which it is likely to take place, during the demolition phase and operational phase, as to identify the likely significant effects on the environment. The assessment compares the existing situation at the start of the work (baseline) with the situation during demolition and operation.
- 1.14. The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations') require that any Proposed Development falling within the description of a 'Schedule 3 development' (as defined within the meaning of the EIA Regulations), will be subject to an EIA where such development is likely to have 'significant' effects on the environment by virtue of such factors as its characteristics, location, types and characteristics of its potential impact (Regulations 5(4)).
- 1.15. The Proposed Demolition is assessed for its likely significant effects on the environment based on Schedule 3 criteria, considering that the Site covers an area of approximately 0.77 ha, and will produce demolition debris and has the potential to cause air and noise pollution. Following consultation with the Local Planning Authority, it has therefore been determined that an EIA is appropriate to test the likely significant effects of the Proposed Demolition

- 1.16. The Local Planning Authority (LPA) was contacted via email on 17 June 2025 requesting their opinion on the proposed scope of the EIA required in respect of the Proposed Demolition. The LPA confirmed via email on 18 June 2025 that the Environmental Statement (ES) for this application should be scoped to include only Air Quality and Noise & Vibration. A copy of the EIA scoping email, and opinion received in response is included in Appendix 2.1 of this ES.
- 1.17. In accordance with the EIA Regulations, this ES sets out the following information:
- A description of the Proposed Demolition comprising information on the Site, design, size and other relevant features of the development.
 - A description of the likely significant effects of the Proposed Demolition on the environment.
 - A description of any features of the Proposed Demolition or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment.
 - A description of the reasonable alternatives studied by the developer, which are relevant to the Proposed Demolition and its specific characteristics, and an indication of the main reasons for the option chosen, considering the effects of the development on the environment.
 - A non-technical summary of the information, of the information specified above.
 - Any additional information specified in Schedule 4 relevant to the specific characteristics of the development or type of development and to the environmental features likely to be significantly affected.

Project Team

- 1.18. Deloitte has significant experience and expertise in managing the EIA process and hold the Institute of Sustainability and Environmental Professionals (formerly IEMA) EIA Quality Mark. Details of the Project Team, EIA Technical Team and qualifications are set out in Table 1-1 and Table 1-2 below.

Consultant	Technical Disciplines
Deloitte	Planning and EIA Co-ordinator
Hawkins Brown	Architecture and design
Buro Happold	Air Quality
Buro Happold	Noise and Vibration
Planit	Ecology
Connell Brothers	Demolition and Waste
Buro Happold	Ground Conditions and UXO
Planit-IE	Arboriculture

Table 1-1: Project Team and Technical Discipline

Topic	EIA Consultant	Qualifications
EIA Coordinator	Deloitte	MRTPI, MSc, MA (Hons)

IEMA Quality Mark Registered		
Construction and Demolition	Connell Brothers	NA
Air Quality	Buro Happold	BSc, MIAQM
Noise and Vibration	Buro Happold	BSc (Hons), Dip. IoA, MIOA, IEng

Table 1-2 EIA Technical Team

Organisation of the Environmental Statement

- 1.19. This ES comprises 9 Chapters and is supported by figures (located at the back for each Chapter within Volume 1) and technical appendices (within a separate Volume 2). A non-technical summary (NTS) of the full ES is provided as a separate standalone document (Volume 3).
- 1.20. Figures have been referenced using the Chapter number as a prefix followed by the number of the figure within a given Chapter. Appendices have been referenced in the same way but due to their size they are contained separately in Volume 2. Table 1-3 sets out the structure of the ES.

Chapter No.	Chapter Title	Description
VOLUME 1		
1.	Introduction	Introduction to the ES, EIA requirements, details of the project team, ES organisation and availability.
2.	EIA Methodology	Methods used to prepare each Chapter, description of ES structure and content, generic significance criteria, scoping and consultation.
3.	Alternatives and Design Evolution	Outline of the main alternatives considered by the Applicants.
4.	Description of the Site and its Surroundings	Information about the site and its surroundings relevant to the assessment of the Proposals.
5.	Construction Management – Programme and Methodology	Description of the Proposed Demolition a
6.	Air Quality	To assess the potential air quality impacts associated with the Proposed Demolition due to changes in traffic flows, construction etc. It also includes a cumulative assessment of impacts.
7.	Noise and Vibration	To assess the likely significant effects of the Proposed Demolition in relation to noise and vibration.
8.	Summary of Residual Effects	Summary of residual effects of the Proposed Demolition (including cumulative impacts alongside other committed developments).

Chapter No.	Chapter Title	Description
9.	Type 1 Cumulative Effects	An assessment of the combined effects arising from the Proposed Demolition upon a set of defined sensitive receptors.
VOLUME 2	Technical Appendices	Technical data and reports to support the Chapters in Volume 1.
VOLUME 3	Non-Technical Summary	A short concise document written in a non-technical language, necessary to meet the requirements of the EIA Regulations, to make the ES accessible to a non-technical audience.

Table 1-3: Structure of this Environmental Statement

Other Documents

- 1.21. Together with this ES and its appendices, the following documents will be submitted to MCC in support of the planning application:

Application Documentation	Author
Application Form and Notices	Deloitte
Covering Letter	Deloitte
Site Location Plan	Hawkins Brown
Site Layout Plan	Hawkins Brown
Site Elevation Plan (Proposed)	Hawkins Brown
Planning Statement	Deloitte
Ecology Report	Tyler Grange
Arboricultural Impact Assessment and Method Statement	Amenity Tree
Demolition Management Plan	Connell Brothers
Asbestos Report and Management Plan	Manchester Metropolitan University
Dilapidation Survey	Morgan Sindall
Ground Conditions and UXO	Buro Happold

Application Documentation	Author
Environmental Statement	
Volume 1: Environmental Statement including: • Introduction • EIA Methodology • Alternatives and Design Evolution • Site and Description of Development • Construction Management – Programme and Methodology • Air Quality • Noise and Vibration • Summary of Residual Effects • Type 1 Cumulative Effects	EIA team
Volume 2: Technical Appendices	EIA team
Volume 3: Non-Technical Summary	Deloitte

Table 1-4: Planning Application Supporting Documents

- 1.22. The ES is available for public viewing on MCC's Public Access website at the following address: <http://pa.manchester.gov.uk/online-applications/> once the application has been submitted and validated.
- 1.23. The ES may be purchased in volumes, the costs for which are set out below:
- Volume 1: ES Main Text and Figures - £150;
 - Volume 2: ES Appendices - £150;
 - Volume 3: Non-Technical Summary (NTS) - £15;
 - Full Copy (Volumes 1 and 2, and NTS) of the ES on CD - £15.
- 1.24. For copies of any the above, please contact the Manchester Planning Team at Deloitte:
- All Saints, MMU – Planning and EIA Team
Deloitte LLP
100 Embankment
Cathedral Approach
Manchester
M3 7FB

2. EIA Methodology

Introduction

- 2.1. This Chapter sets out the methodology used to prepare each Chapter of the ES and describes its structure and content. In particular, it sets out the process of identifying and assessing the likely significant effects of the Demolition on the environment as defined in Chapter 1 and described in detail in Chapter 5.

Legislation and Guidance

- 2.2. The ES has been prepared to comply with EIA Regulations, which implement European Council Directive No. 85/337/EEC as amended by Directive 2014/52/EU and entered into force on 17 May 2017. The EU legislation as it applied to the UK on 31 December 2020 is now a part of UK domestic legislation, under the control of the UK's Parliaments and Assemblies. The European Union (Withdrawal) Act 2018 introduced "retained EU law" which provides that EU-derived domestic legislation continues to have effect.

- 2.3. Reference has also been made to currently available good practice guidance in EIA including:

- Circular 02/99: Environmental Impact Assessment
- The European Commission's numerous EIA guidance documents available here: <http://ec.europa.eu/environment/eia/eia-support.html>
- Guidance on EIA Scoping, European Commission, June 2001
- Guidance on Transport Assessment, DCLG and DfT, March 2007
- National Planning Practice Guidance – Department for Communities and Local Government (March 2014 and continuously updated as a 'live' resource)
- Reference has been made to the Institute of Environmental Management and Assessment (IEMA) publications, including:
 - IEMA ES Review Criteria
 - IEMA Guidelines for Environmental Impact Assessment (2004)
 - IEMA Special Report into the State of Environmental Impact Assessment Practice in the UK (2011)
 - IEMA Shaping Quality Development (2015)
 - IEMA Delivering Quality Development (2016)
 - IEMA Delivering a Proportionate EIA (2017)

- 2.4. The ES has also had regard to the National Planning Policy Framework 2024 (NPPF). The NPPF sets out the Government's economic, environmental and social planning policies for England, articulating the Government's aspiration for sustainable development. The NPPF has been considered where it is relevant to EIA.

- 2.5. As relevant to the ES technical chapter’s scope, methodology and assessment of effects, key local planning policy documents have been considered. These include:
- Places for Everyone (PfE) (2024)
 - Manchester City Council Core Strategy (2012)
 - Saved Unitary Development Plan Policies (1995)
- 2.6. Any additional planning policy or guidance documents considered relevant have been identified within the relevant technical chapters.

Screening and Scoping

- 2.7. Further to Scoping exercise as noted in Chapter 1, following Chapters have been scoped into the EIA:
- Air Quality
 - Noise and Vibration

EIA Scenarios

Scenarios

- 2.1. The scenarios to be tested within the EIA take into the account the project specifics and are proportionate to the scale of development proposed.
- 2.2. The scenarios are as follows:

Scenario 1	Baseline Conditions (existing Site as of August 2025 including developments defined within the Baseline section of the committed development schedule in Appendix 2.2)
Scenario 2	Baseline + Demolition

Table 2-1: Scenarios

- 2.3. The Committed Developments have been considered by the technical team and the technical consultants have advised that given the nature of the proposed development no propensity for cumulative effects has been identified. Therefore, Committed Developments have not been included as part of the scenarios to be assessed.

Topic	Scenarios Assessed
Air Quality	1,2
Noise and Vibration	1,2

Table 2-2: EIA Scenarios to be assessed

Consultation

- 2.4. The Proposed Demolition has been discussed with MCC Planning Authority who were also consulted upon as part of the EIA Scoping exercise.

- 2.5. Prior to submission of the application, engagement has taken place with the LPA to agree the principle of the works and the scope of the application documentation and EIA required to accompany the application. Engagement has also commenced with relevant Local Ward Councillors. A broader consultation strategy is underway in relation to the refurbishment of the retained western part of the library and the main library application. Further details are provided in the Planning Statement that accompanies the application.
- 2.6. Considerations of any reasonable alternative proposals are set out in Chapter 4 of this ES.

Non-Significant Effects

- 2.7. It has been confirmed via the informal Scoping Opinion (received via email 18.06) that the following disciplines will not give rise to likely significant effects on the environment and therefore do not require inclusion in the Environmental Statement. An explanation for scoping out each discipline set out below is provided in the EIA Scoping email dated 17 June 2025, in Appendix 2.1:
- Aviation.
 - Archaeology.
 - Ecology.
 - TV Reception.
 - Flood risk and drainage.
 - Traffic and transport.
 - Heritage.
 - Townscape and Visual impact.
 - Climate Change.
 - Human Health.
 - Solar Glare.
 - Wind.
 - Daylight, Sunlight, and Overshadowing.
 - Ground Conditions.

Approach to Technical Studies

- 2.8. Various technical studies were commenced at an early stage in the process. The findings of the baseline environmental studies played an important role in the design of the Proposed Demolition by defining the environmental sensitivities, constraints and opportunities associated with the Site.
- 2.9. Project team reviews, attended by members of the project team, were held throughout the pre-application process. These reviews provided a valuable forum for the exchange of information and sought to ensure that the project team was fully aware of the environmental constraints and opportunities and of the interactions between disciplines. Pre-application engagement was also undertaken with MCC as the Local Planning and Highway Authority.
- 2.10. The technical studies have been undertaken in accordance with current best practice. Specific guidance used is referenced within each of the respective assessment Chapters.
- 2.11. The majority of assessments involved desk-based research, Site inspections and surveys, impact prediction and mitigation.

- 2.12. The assessment and conclusions of the ES are based on the description of the Proposed Demolition provided in Chapter 5.

Structure of Technical Chapters

- 2.13. Each technical Chapter of the ES has been set out broadly in line with Table 2.3. Where chapters differ from the structure set out below, the reasons for that have been clearly articulated within the chapter introduction.

Table 2-3: Structure of the ES Technical Chapters

Technical Chapter Subheading	Summary of information
Introduction	Each of the technical Chapters begins with an introduction providing context to the EIA completed.
Policy Context	This section includes a summary of legislation and of national and local policies relevant to the environmental discipline and explains its purpose in the context of the Proposed Demolition and the ES.
Assessment Methodology and Significance Criteria	This section describes the method or approach employed in the assessment of impacts, the criteria against which the significance of effects has been evaluated, the sources of information used and any technical difficulties encountered. Relevant legislation is also identified.
Baseline Conditions	This section describes and evaluates the baseline environmental conditions i.e. the current situation and anticipated changes over time assuming the Site remains unchanged. This is a critical part of the EIA process as it provides a measure against which potential environmental effects can be assessed.
Identification and Evaluation of Key Impacts	This section identifies the likely significant effects on the environment resulting from the Proposed Demolition. A description of the likely effects of the Proposed Demolition and an assessment of their predicted significance is provided. The assessment of effect significance has been undertaken using appropriate national and international quality standards. Where no such standards exist, the judgments that underpin the attribution of significance are described. The guidelines, methods and techniques used in the process of determining significance of effects are contained within each of the technical Chapters presented.
Mitigation Measures	One of the main aims of the EIA process is to develop suitable mitigation measures to avoid, reduce or compensate for any significant adverse effects of a project. This section of each technical Chapter describes the measures which would be implemented to mitigate potential adverse effects. Where possible, enhancement measures have also been proposed.
Residual Effects	The residual effects, i.e. the remaining effects of the Proposed Development assuming implementation of the proposed mitigation measures, have been estimated and presented. The methods used to make these estimates are described and proposed methods of treatment for any residual effects have been identified and quantified where possible.
Summary	Each technical Chapter concludes with a brief summary outlining the potential residual effects of the Proposed Development.

- 2.14. Chapter 5 provides information to allow the construction phase of the Proposed Development to be assessed by the disciplines set out in Chapter 1.

Magnitude

- 2.15. The methodology for determining the scale, or magnitude, of effect is set out in Table 2-4.

Table 2-4 Methodology for Assessing Magnitude

Magnitude of Impact	Criteria for Assessing Effect
Major	Total loss or major/substantial alteration to key elements/features of the baseline conditions such that the post development character/composition/attributes will be fundamentally changed.
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character / composition / attributes of the baseline condition will be similar to the pre-development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

Sensitivity

- 2.16. The sensitivity of a receptor is based upon the relative importance of the receptor using the scale in Table 2-5.

Table 2-5: Methodology for Assessing Sensitivity

Sensitivity	Examples of Receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Medium	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

Significance

- 2.17. The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the impacts can be positive or negative. Table 2-6 below shows how magnitude and sensitivity interact to derive effect significance.

Table 2-6: Methodology for Assessing Significance

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

- 2.18. The above magnitude and significance criteria have been provided as a guide for technical specialists to assess impact significance. Where discipline specific methodology has been applied that differs from the generic criteria above, this has been clearly explained within the given Chapter under the heading of 'Assessment Methodology and Significance Criteria'.
- 2.19. For the purposes of this Environmental Statement, an effect will be potentially 'significant' if it is classed as either 'moderate' or 'major' (bold text in Table 2-6).

Baseline Conditions

- 2.20. Each technical Chapter includes a section which describes and evaluates the baseline environmental conditions (i.e. the current situation and anticipated changes over time assuming the Site remains unchanged). Baseline data has been obtained from a variety of sources, including published documents, maps, historical information and Site survey data. Given the complex nature of the Site and surroundings, each technical Chapter (Chapters 6 to 8) includes a clear description of what is assumed as the baseline against which the assessment is being made.
- 2.21. The method used to obtain baseline information, where relevant and possible, has been clearly identified within each technical Chapter and agreed in advance with statutory consultees.

Mitigation

- 2.22. Any adverse environmental effects have been considered for mitigation from the outset and, where practicable, specific measures have been put forward. Measures have been considered based on the following hierarchy of mitigation:
- Avoidance;
 - Reduction;
 - Compensation;
 - Remediation; and
 - Enhancement.
- 2.23. Where the effectiveness of the mitigation proposed has been considered uncertain, or where it depends upon assumptions of operating procedures, data and/or professional judgement has been introduced to support these assumptions.

- 2.24. Mitigation recommended during the construction phase would be set out in the Demolition Management Plan (DMP) to be agreed with MCC prior to the commencement of work and implemented throughout the duration of the works. Outline mitigation measures to be included in a future DMP are set out in Chapter 5: Construction Methodology and Programme and are cross referred to in the relevant chapters.

Residual Effects

- 2.25. The likely significant effects on the environment, assuming the successful implementation of mitigation measures proposed, have been estimated within each Chapter. These are termed 'residual effects' and are considered in Chapter 8 of this Statement.

Cumulative Effects

- 2.26. A search of MCC's planning applications database and knowledge of the area has identified schemes for which cumulative effects are considered more likely, this includes other reasonably foreseeable schemes, i.e. those contained within the Development Plan or other material considerations. A full list, as of June 2025 is contained within the Scoping Email at Appendix 2.1, to which agreement has been provided from the LPA as part of the Scoping Opinion process.
- 2.27. As part of the Scoping process the technical consultants reviewed the Committed Developments and advised that these are of relevance to the Proposed Development and have therefore been scoped into the assessments.
- 2.28. Chapter 9 assesses the Type 1 Cumulative effects. Type 1 cumulative effects are also known as 'inter-project' effects, which are the combined effects arising from the development upon a set of defined sensitive receptors.

Assumptions and Limitations

- 2.29. The principal assumptions that have been made and any limitations that have been identified in preparing the ES are set out in each technical Chapter. General assumptions include the following:
- All of the principal land uses adjoining the Site remain. Where redevelopment proposals have been granted planning permission, the effect of those proposals are considered as part of the Cumulative Impacts;
 - Information received from third parties is complete and up to date;
 - The various stages of the Proposed Development will satisfy minimum environmental standards, consistent with contemporary legislation, practice and knowledge;
 - Assessments are based upon, and conclude, the 'worst case' effects that would arise from the application as defined by the description of development set out in Chapter 4, Site Surroundings and Description of the Proposals;
 - Construction and demolition methods and phasing will follow the timetable and methods set out in Chapter 5, Construction Management;
 - Conditions will be attached to the planning permission that will control disturbance during the Proposed Development; and
 - Necessary off-site services infrastructures for the Proposed Development will be provided by statutory undertakers.

Objectivity

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

- 2.31. The assessment has been explicit in recognising areas of limitation within the ES and any difficulties that have been encountered, including assumptions upon which the assessments are based. Where appropriate, the assessment of significance has been given confidence levels.

3. Alternatives and Design Evolution

Introduction

- 3.1. Regulation 18(3) and Schedule 4, Paragraph 2 of the EIA Regulations require an outline of considered alternatives and the rationale for the chosen option, considering environmental effects. This includes describing reasonable alternatives (design, technology, location, size, scale) and comparing their environmental impacts.
- 3.2. This chapter addresses this requirement by evaluating:
 - The "do nothing" alternative: Not proceeding with the demolition.
 - Alternative proposals: Other options considered for the site.
 - Alternative demolition technologies: Different demolition methods.
- 3.3. The detailed demolition proposal (Chapter 4) resulted from close collaboration with MCC and stakeholders to optimise the development.

The “do nothing” Alternative

- 3.4. The “do nothing” scenario refers to the option of leaving the Site in its current use. The Site is brownfield land in Manchester City Centre. The Site currently contains an operational library building; however, the existing library building is no longer fit for purpose and therefore has reached the end of its operational life.
- 3.5. The Site and wider University Campus are located at the heart of Manchester’s Oxford Road Corridor, which is a long-established priority location for higher education and a principal driver of Manchester’s knowledge economy. As such, the area is also important as an economic driver for Manchester and the wider City Region with much of the activity that takes place in the Oxford Road Corridor also being nationally and internationally significant.
- 3.6. The Proposed Demolition will support future proposals, which are currently under preparation, for a new library building that will provide a dynamic and active library environment, which redefines the role of the library for modern day use, improving the experience of students and staff.
- 3.7. The redevelopment of the current library accommodation will align with the key strategies outlined within the University’s ‘Road 2030’ strategic vision, particularly in regard to inclusivity, accessibility, innovation and sustainability, which are not met within the current library design.
- 3.8. In light of this, the Site forms part of an area identified as a strategic priority for regeneration and redevelopment, the “do nothing” alternative has been discounted.

Alternative Proposals

- 3.9. Given this EIA only covers proposed demolition, and not the design of the replacement library, it is not considered to be a relevant consideration.

Alternative Demolition Technologies

- 3.10. The contractor is proposing the use of demolition technologies for the site which are in accordance with best practice regulations. This is further evidenced within the Demolition Methodology Chapter (3.2.5) within the accompanying DMP (Appendix 5.1).
- 3.11. A complete structural survey will be completed prior to any works commencing. The working sequence will commence with the use of hand tools to separate the building from retained structures, followed by the use of mini excavators to demolish the roof of the first bay. The remaining structure will be demolished floor by floor, using ground-based and mini-excavators with pulverisers, and high-reach excavators.
- 3.12. This is further evidenced within Appendix J and K of the supporting DMP (Appendix 5.1).
- 3.13. The technologies included with the Proposed Development are therefore considered to represent the most appropriate for the proposals.

Summary

- 3.14. Where possible, alternative options have been considered throughout the proposed demolition process. The above has set out why the Site is considered suitable for the Proposed Demolition.
- 3.15. This process has been informed by the site constraints and opportunities, and the desire to support the ongoing growth and success of Manchester Metropolitan University as an academic institution.
- 3.16. The Proposed Demolition has been influenced by pre-application consultation with MCC. On this basis, Regulation 18(3) and Paragraph 2 of Schedule 4 of the EIA Regulations has been considered.

4. Description of the Site and its Surroundings

Site Location

- 4.1. The Site is located in Manchester City Centre. The Site and wider University Campus are located at the heart of Manchester's Oxford Road Corridor, which is a long-established priority location for higher education and a key focus of the City's knowledge economy.
- 4.2. The Site is bound by a public footpath and All Saints Park to the south, the Manchester Metropolitan University Business and Law School to the west, the elevated Mancunian Way directly to the north and Oxford Road to the east. Please refer to Figure 1.1 for the Site Location Plan.

Surrounding Land Uses

- 4.3. The Site is located within the Manchester Metropolitan University's All Saints Campus.
- 4.4. East of the site, across Oxford Road, are low-rise buildings containing shops, commercial properties, and residential units above. To the south lies All Saints Park, bordered by various Manchester Metropolitan University buildings, St Augustine's Church, and structures of differing scale and height.
- 4.5. University buildings and student accommodation are located to the west. To the north, the elevated Mancunian Way runs east-west, beyond which lies the Manchester Metropolitan University John R Dalton Building and the high-density Circle Square development. Circle Square features a mix of commercial, residential (including student accommodation), and food and beverage uses.
- 4.6. The Site is located within the Hulme ward, and the Piccadilly Ward is located just to the north on the opposite side of Oxford Road.

Site Description

Site Area

- 4.7. The Site extends to circa 0.77 ha.

Existing Buildings, Structures and Spaces

- 4.8. The Site currently contains an operational library building, but this is no longer fit for purpose.

Trees

- 4.9. A total of five trees border and are partially located within the Site to the east. Of these, all five trees are in A1 category, which is characterised by trees of high quality and value. For completeness, all trees are to be retained and protected during the works. The application is accompanied by a Tree Survey.

Access and Topography

- 4.10. The Site can currently be accessed via Oxford Road, a key pedestrian, cycle and vehicular route, located immediately adjacent to the east of the Site. A servicing route is located to the north of the Site, which feeds in from Lower and Higher Chatham Street to the south west of the Site. The Site can also be accessed by foot from Lower Ormond Street.

- 4.11. There is a difference in level change of 37.20 metres across the Site from Oxford Street to the east to Lower Ormond St to the west.

Connectivity

- 4.12. The Site is in a highly accessible location in Manchester City Centre and enjoys a range of excellent transport links and proximity to similar and necessary establishments. Numerous bus stops are located along the Oxford Road Corridor, along with Oxford Road Station and a major tram interchange at St Peter's Square. This provides sustainable transport options, all conveniently close to the Site. See below for accessibility breakdown by sustainable transport modes.

Rail

- 4.13. Oxford Road train station is located less than 0.5 metres away from the Site, meaning access to the wider city region is situated only a seven-minute walk away. Additionally, 1.2 km to the east of the Site is Manchester Piccadilly, another key transport link offering commuters access to major cities such as London and Birmingham.

Metrolink

- 4.14. St Peter's Square Tram Stop, a 12 -minute walk away from the Site offers multiple services taking commuters from the centre of Manchester to a variety of towns and neighbourhoods across the City Region, including Didsbury, Ashton-under-Lyne, Altrincham and Bury.

Bus

- 4.15. Bus stops are located within 100m of the Site, on Oxford Road, which is one of the main bus route corridors leading to the city centre, with high frequency bus services. The bus services close to the Site include: 50, 147, 191, 197, V1 Vantage and V2 Vantage, which provide connections to destinations such as Manchester City Centre, Leigh, Ancoats, Atherton, the Lowry and West and East Didsbury.
- 4.16. Additional bus stops are located on the A5067 Higher Cambridge Street, within 250m of the Site, which provide services connecting to Piccadilly Gardens.

Walking

- 4.17. The Site benefits from excellent pedestrian connectivity, with readily accessible transport infrastructure and a range of amenities within comfortable walking distance.
- 4.18. The Site's adjacency to other academic uses within Manchester Metropolitan University's All Saints campus at Oxford Road is ideal for students. The presence of numerous green spaces, including All Saints Park, contributes to a pleasant and healthy living environment.

Site Specific Environmental Designations

Air Quality

- 4.19. The Site is located within the Greater Manchester Air Quality Management Area (AQMA), referring to an area where air pollution levels are, or are likely to, exceed national air quality objectives. This means that the NO₂ is monitored, and the local authority has a strategy in place to manage and improve air quality in these areas.

Ecology

- 4.20. The site has no nature conservation designations, and no statutory protected sites are located on or immediately adjacent to it. While the Rochdale Canal Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC) lies within 10km, no nationally designated or non-statutory sites are within 2km. The site's distance from all designated sites ensures the proposed works will not cause adverse impacts.
- 4.21. The Site is largely hard standing and five trees. As outlined within the submitted Ecological Assessment, the current hardstanding and on and off-site trees have low bat roosting potential. Therefore, subject to the implementation of suitable mitigation measures during the proposed works and provision of opportunities for bat-roosting at the post-development stage, the Proposed Development is in accordance with Bat Conservation Trust 'Good Practice Guidelines', statutory legislation and national and local policy.

Flood Risk and Drainage

- 4.22. According to The UK Government's Flood Map (Figure 4.2), the Site is located within is in Flood Zone 1, indicating a less than 1 in 1,000 annual probability of river or sea flooding.
- 4.23. As with the majority of the Regional Centre, the Site is located within the Conurbation Core Critical Drainage Area, as defined in the Manchester, Salford, Trafford Strategic Flood Risk Assessment (SFRA).

Heritage

- 4.24. There are no Conservation Areas within the immediate vicinity of the Site, the nearest being the Whitworth Street Conservation Area c. 470m to the north.
- 4.25. Additionally, as confirmed by a search of the Historic Environment Record, the Site is not categorised as a Non-Designated Heritage Asset ('NDHA') and there are no NDHAs within the surrounding built environment.
- 4.26. Whilst the Site does not contain any heritage assets, there are 11 Listed Buildings located within 200m of the Site as listed below:

Table 4-1: Historic England Listed Asset List

Map Location No.		Grade	List Entry Number
1	Former Manchester Ear Hospital	II	1197922
2	Roman Catholic Church of St Augustine	II	1392331
3	Ormond Building	II	1219718
4	Righton Building	II	1197781
5	Grosvenor Building	II	1293192
6	Former Town Hall Façade to Mabel Tylecote Building	II	1283062
7	Former Grosvenor Picture Palace	II	1218431
8	Former Adult Deaf and Dumb Institute	II	1200839
9	Chatham Mill	II	1293040
10	Dalton Statue in Forecourt of Dalton College	II	1197791
11	Dancehouse Theatre Including Numbers 6-14	II	1384997

Planning History

- 4.27. A search of the Site's planning history has been undertaken using MCC's Public Access system and those of relevance to the Site have been summarised below:

Table 4-2: Planning History

Planning Permission Ref.	Description of Development	Note
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	Adjacent to the Site

Planning Permission Ref.	Description of Development	Note
	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 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.	
138424/FO/2023	Part demolition and redevelopment of existing library building to form new library (Use Class F1) including a new 13 storey building, external amenity spaces, public realm, access and servicing arrangements and other associated works	Approved 16 February 2024
140100/NMC/2024	Non material amendment to amend the wording of condition 3 (Materials) attached to planning permission 138424/FO/2023	Approved 5 July 2024

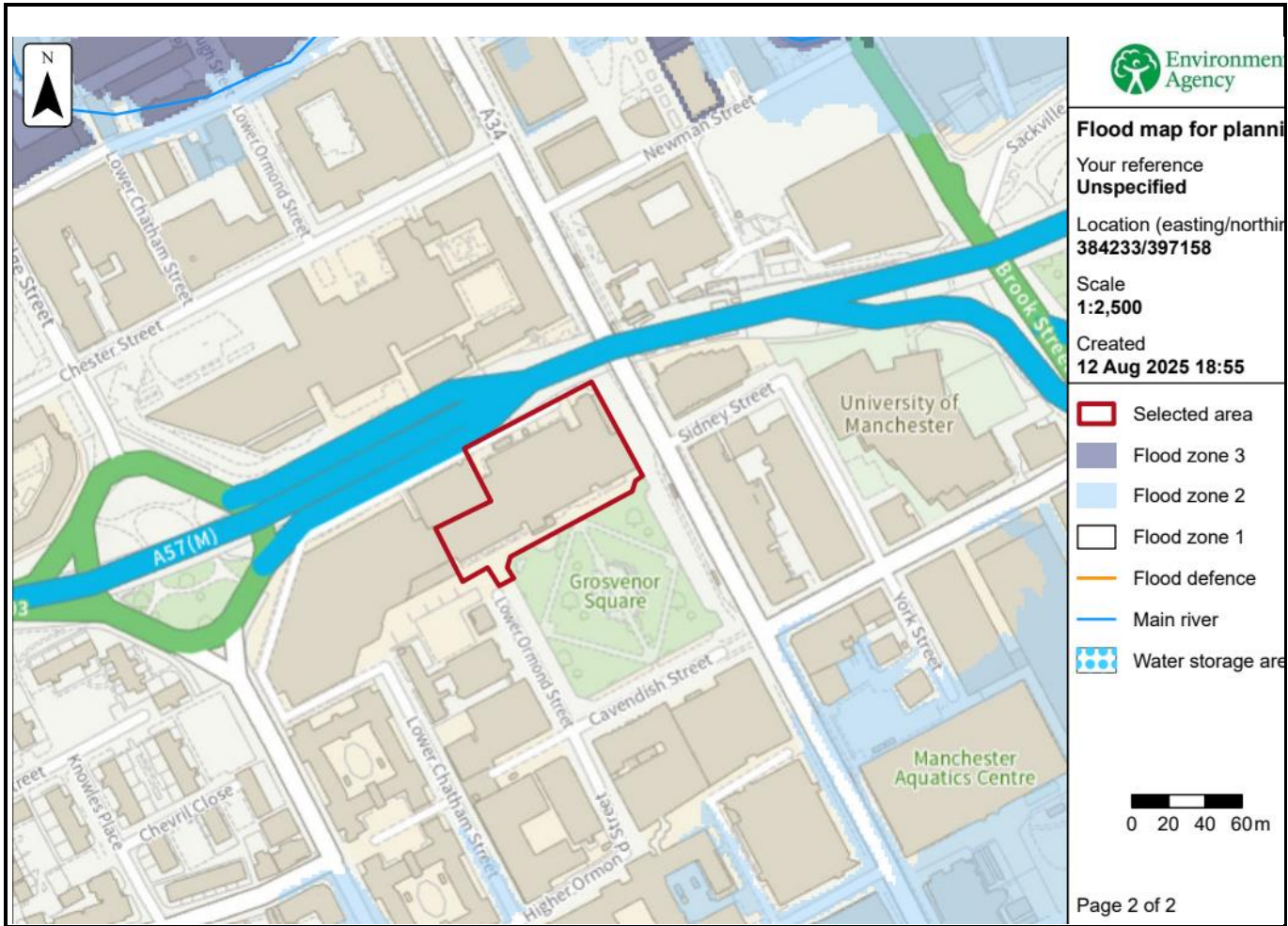


	Figure:	4.2		
	Title:	UK Government Flood Map		
	Project:	All Saints Library, Manchester Metropolitan University, Manchester		
	Date:	12/08/2025	Scale:	1:2500



	Figure:	4.3		
	Title:	Historic England Listed Asset Map		
	Project:	All Saints Library, Manchester Metropolitan University, Manchester		
	Date:	12/08/2025	Scale:	Not To Scale

5. Construction Management – Programme and Methodology

Introduction

- 5.1. This has been prepared by Connell Brothers Ltd and describes the proposed Demolition programme and the likely key activities that will be undertaken. Detailed consideration of potential impacts during the demolition process and any necessary mitigation measures are provided in each relevant chapter. It should be read in conjunction with Appendix 5.1 (DMP).
- 5.2. The main aim throughout the Demolition period is to minimise the impact on the rest of the Manchester Metropolitan University campus, and surrounding roadways for the duration of the work. Close collaboration with Manchester Metropolitan University will be maintained at all times to achieve this aim.
- 5.3. The following narrative explains this methodology and timescales envisaged at the time of the planning application. More detailed proposals will be developed prior to commencement on Site. This will include preparation of detailed plans to incorporate Demolition Management, Demolition Phase Health and Safety, Environmental Management as well as Site Waste Management, Logistics and Traffic Management.

Programme

- 5.4. Subject to planning permission, the total Demolition programme will span a period of approximately 36 weeks incorporating the Pre-Commencement duration commencing on 03 November 2025.

Demolition

- 5.5. Demolition includes removal of all asbestos containing materials then careful deconstruction of the existing All Saints Building. Further details of the asbestos removal works are outlined within the submitted DMP, prepared by Connell Brothers.
- 5.6. Demolition works will be phased to limit disruption to the site and surrounding areas. Method Statements will be generated for all works involving the removal of non-notifiable asbestos.
- 5.7. Any material found during demolition activities suspected of being asbestos will result in work being stopped. Actions will be carried out as detailed in the Asbestos Unexpected Discovery flowchart (Appendix I of DMP).

Hours

- 5.8. The programme has been developed based upon normal working hours in line with MCC guidance of 0730hrs to 1800hrs Monday to Friday and 0800hrs to 1400hrs on Saturday. Outside of these hours, any works that takes place will have been agreed in advance with the Council. Access to Site will be permitted within the site hours prescribed above with noise kept to a minimum for the first hour of each shift.
- 5.9. The proximity of the neighbouring uses is noted and as such a programme and working hours are adhered to in order to protect local amenity. Noisy works will be scheduled to avoid critical periods identified by Manchester Metropolitan University, including lectures, examinations, etc.

- 5.10. Work outside these hours will be discussed with the Client and MCC to obtain agreement and ensure the works do not conflict with the Council's requirements, i.e. noise levels and labour laws restricting abnormal work hours.

Demolition Methodology

- 5.11. The following is a brief overview of the methodology to be adopted for the demolition of the existing building. This section also considers general logistics as well as traffic management for the movement of material for the disposal of waste.
- 5.12. To allow the safe demolition of all structures on site, various demolition methods will be adopted to allow the works to be carried out safely within a busy city centre environment.
- 5.13. Following the erection of scaffolding, demolition of the rear single storey section will be carried out by ground-based excavators using pulverisers. Commencing at the gable end the wall will be removed first to expose the roof. The roof will be pulverised in-situ and the side and internal walls rotated onto the footprint of the building as demolition proceeds along its length.
- 5.14. Mini excavators will be used to carry out floor by floor demolition to the interface with the Sandra Burslem building, retained Library and the Oxford Road elevation. Operatives using hand tools will form a separation of the floor and walls to the retained buildings and then the mini excavators will be utilised to demolish the roof of the first bay. The walls will then be reduced in height and the arisings cleared to the remaining floors.
- 5.15. Demolition will then continue floor by floor working along and down the building in a progressive manner until the building has been demolished to ground floor level. Scaffold will be reduced in height as the demolition proceeds.
- 5.16. Ground floor slabs and foundations will be removed by excavators utilising hydraulic breakers following the demolition of the buildings. Basements will be broken out and removed and voids backfilled with crushed site material.
- 5.17. Method Statements will be generated for all works involving the removal of non-notifiable asbestos. The removal will be interlinked with the demolition programme, so as to minimise likelihood of exposure to asbestos containing materials. Any material found during demolition activities suspected of containing asbestos will result in work being stopped. Actions will be carried out as detailed in the Asbestos Unexpected Discovery flowchart (see Appendix I of submitted DMP).
- 5.18. During the delivery and collection of demolition plant and equipment, all loading and unloading activities will be carried out within the footprint of the site, and away from the public highway to minimise disruption to the road users and local residents. In circumstances when abnormal loads are required to site, these vehicle movements will be planned and agreed with affected parties in advance of the work.

Site Logistics

- 5.19. For the duration of the project, site offices and welfare will be located within the red line boundary. The offices and welfare are in close proximity to site and provide ample accommodation for site staff, operatives, and visitors. Access to the site will be through a secure gate to enter the site or access the welfare accommodation. Refer to details within submitted DMP (Appendix 5.1).
- 5.20. Access to the Site will be via controlled entrance located on Lower Chatham Street (See Site Layout Plan - Appendix 5.2). They will not only monitor operatives' movements but also prevent unauthorised public access during and out of working hours. Segregated access for pedestrian and vehicle entrances will be provided.
- 5.21. Vehicle access will be via an existing barrier off Lower Chatham Street which will be manned by Connell Brothers Banksman. A banksman will be in attendance when vehicles are entering the site and will escort the vehicle from the Lower Chatham Street barrier to the site. Barriers and gates will be located along the pedestrian crossing outside the business school entrance to separate the working zone and

students/pedestrians. The pedestrian crossing point to the rear of the Sandra Burslem building will be manned by banksmen and barriers utilised to temporarily prevent the use of the crossing when a vehicle is passing.

- 5.22. It is envisaged that demolition vehicle access will utilise a one-way delivery system for access and egress on the Site. In areas where this is impracticable, vehicles will not be allowed to reverse unless controlled by a banksman. During all vehicle movements into and out of site, the site entrance will be controlled by a banksman / vehicle marshal.
- 5.23. Material storage will be contained within the Site boundary. All supply chain members will co-ordinate their respective needs with the site gateway and deliveries team. All deliveries will need to be booked in on an online delivery system. This will help alleviate construction traffic in the surrounding area. Materials will be offloaded from the vehicle directly to the point of use wherever possible.
- 5.24. A permanent solid hoarding around the full perimeter of the Site will be erected prior to the start of the construction works proper.
- 5.25. The Site will operate a one-way system with traffic exiting in the same direction as they entered, as far as possible in areas where this is impracticable, vehicles will not be allowed to reverse unless controlled by a banksman. During all vehicle movements into and out of site, the site entrance will be controlled by a banksman / vehicle marshal.
- 5.26. Welfare facilities will be located within the hoarded zone under the Mancunian Way, please see Chapter 3.3.7 within the supporting DMP (Appendix 5.1) for details. These will include office accommodation, drying rooms, canteen, and WC facilities. Separate smoking and waste areas will be created. The compound will also contain laydown areas for scaffold components, protected fuel stores (if required), and segregated skip zones. The welfare facilities will be suitably sized to suit the anticipated number of operatives.
- 5.27. When entering via public highways and in any area where delivery/removal activities impinge on public thoroughfares, access and egress and egress will be controlled by a banksman.
- 5.28. Where required, appropriate wheel and vehicle wash facilities will be in place to ensure delivery wagons leave the Site clean and tidy with regular cleaning of adjacent roads using road sweepers.
- 5.29. Loading and unloading material deliveries will occur within the site boundary. All materials will be unloaded in nominated lay down areas and transported to working areas as required. Materials will be moved around the site and unloaded by suitable vehicles e.g. telehandler, crane, HIAB lorry, etc.

Demolition Scope

- 5.30. The demolition works generally comprise the following:
 - Site establishment
 - Erection of temporary site fencing
 - Carry out dilapidation survey
 - Service disconnection verification works
 - Asbestos removal works
 - Soft stripping works
 - Interface demolition adjacent to retained buildings
 - Temporary weather protection to exposed elevation

- Demolition of identified structures to top of ground floor slab
- Removal of ground floor slabs and foundations
- Removal of basements
- Backfilling of voids with site won 6F2 material
- Site Finishes.

Traffic Management Plan

- 5.31. It is envisaged that construction vehicles will approach site via Lower Chatham Street during the demolition phase. Refer to Appendix 5.2 and 5.3.
- 5.32. A full traffic management plan will be developed to address the following issues:
- Access, egress, drop off and turning areas
 - Temporary and/or permanent alterations to local traffic routes (both vehicular and pedestrians).
 - Additions, alterations and positions of any temporary signage, road markings or protection barriers.
 - Pedestrian access around the site and relevant protection, lighting and signage schemes.
 - Segregation of plant, materials and pedestrians on site and safe access routes between welfare and site areas.
 - There is no provision of car parking, off and on site, and public transport strategy for staff and operatives.
 - Any other measures to ensure the safe integration of pedestrians, cyclists and road users both on, off and surrounding the development.
- 5.33. In preparation of the above document, the contractor will incorporate a policy of timed and booked deliveries, off-peak deliveries and prefabrication to minimise local disruption and normal workings of the surrounding properties.
- 5.34. The Applicant will continue to consult with MCC Highways to identify opportunities to minimise any temporary highways disruption during the construction period.

Deliveries

- 5.35. As set out above, deliveries will be undertaken via Site access and within the Site boundary.
- 5.36. This will include the implementation of delivery schedules and programmes to ensure that all deliveries arrive at the right time with materials being efficiently despatched to the correct offloading and storage zone to minimise local disruption and the normal workings of the surrounding properties.
- 5.37. Delivery scheduling will avoid student peak periods. Reversing will be minimised or eliminated through route planning, and temporary closures of minor campus walkways will be implemented. The high-reach moves will be planned and carefully managed utilising the existing pedestrian zone, additional banksmen and protective plates will be utilised during the moves.

Health & Safety

- 5.38. The Principal Contractor will produce a Health and Safety Plan prior to works commencing on site that will be reviewed and signed off by the client and their Principal Designer. This document will form the basis of the

procedure for managing health and safety during the construction phase and will be periodically reviewed as the work progresses. This will address, amongst other things, flood risk, control of pollution, and relevant permits / consents required to complete the works.

- 5.39. The appointed Principal Contractor will have appropriately trained management resources and procedures in place to oversee the activities of a complex, city centre construction project. The plan will set out the arrangements for managing and monitoring the project. Contractors engaged to carry out works on the project will be issued with this Health & Safety Plan so that they can integrate this management philosophy into their health & safety plans.

Site Security and Safety

- 5.40. Protecting the public from risks to their health and safety arising from the construction work is a high priority. Every care will be exercised to prevent risk to members of the public and appropriate action, including dust and noise control and the erection of perimeter fencing to a specified standard, will be taken.
- 5.41. Site securement will be achieved through a combination of secure fencing, barriers or hoarding, depending on the exact requirements and proximity to specific works. In addition, the principal contractor will be responsible for the provision of construction staff at key interfaces between the Site (and working areas) and retained accesses to public areas at key stages of demolition and construction activities.
- 5.42. Vandalism and theft of plant, equipment, materials and fuel is possible throughout the duration of the demolition. The Contractor will take appropriate action, as described in previous sections, to ensure the site is always secure from unauthorised access. As described previously, the Site will have Gateman and security.

Environmental Management

- 5.43. The DMP has been developed to address and monitor the following issues on site and to the surrounding area:
- Applicable environmental legislation
 - Pollution
 - Nuisance (noise, vibration, dusk, emission and light)
 - Public relations

Environmental Legislation

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

Nuisance (Noise, Vibration & Dust)

Noise & Vibration

- 5.45. The principal concerns relating to the nuisances of noise and vibration come from construction activities such as demolition, excavation, cutting, breaking out and plant movements. Mitigation measures will be considered to include low noise options, noise attenuation techniques and carrying out certain activities during agreed hours of the day.
- 5.46. In order to minimise the noise, the Contractor will likely provide the following:
- The contractor uses the most innovative plant with the most environmentally friendly specifications. Any plant, machinery and vehicles will be switched off when not in use, as this minimises unnecessary air pollution.

- All current legislation, noise abatement orders, guidance notes and codes of practice will be consulted and strictly adhered to.
- Where necessary noise levels will be monitored and noise assessments carried out.
- Noisy plant and equipment will be located to provide minimum disturbance.
- Plant, wherever practicable, will be electrically powered.
- All plant and machinery will be fitted with efficient exhausts, silencers and mufflers and maintained in good condition.
- All compressors used on site shall have 'sound reduced' units fitted with acoustic linings or enclosures and all ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturer.
- Acoustic screens / barriers will be erected around excessively noisy plant.
- In order to minimise the vibration, the Contractor will likely provide the following:
- If suitable, drop mats and machine pads can be positioned to reduce plant, vehicle and process vibration.
- Regular resident liaison to confirm that vibration levels are acceptable and not impacting on the environment.
- Use of modern intrinsically compliant plant and equipment ensuring vibration levels are minimised.
- Utilisation of the right machine for the right job ensuring that plant is not under-powered to carry out the task and hence, generating more vibration than necessary. Also maintaining modern equipment with intrinsic vibration reduction designed in.

Dust

- 5.47. The principal concerns relating to air quality and emissions from construction activities are in the form of dust and fumes. The degree of dust deposition is usually dependent on the nature of the works. Increased levels of dust are most likely to occur during site activities related to demolition and moving construction traffic.
- 5.48. In order to minimise the dust and fumes, the Contractor will likely provide the following:
- Providing a hard surface where vehicle movements occur.
 - Control measures and dust suppression techniques.
 - Where dust is observed this will be managed with a review of the work methods and the implementation of dust suppression such as screening, covering over or dampening down. Emissions will be monitored and recorded at various positions along the boundary of the site using static dust monitoring devices e.g., frisbees, this will allow us to assess the potential impacts from our activities beyond the site boundary.
 - Minimising stock piling and positioning in a manner that reduces risk of dust arising through wind action.
 - Measures such as screening and covering.
 - Installation of appropriate wheel and body wash facilities.
 - Keeping of adjacent roads and pavements clean.

- Ensure plant is turned off and not left running when not in use.
- Selection of electrically powered plant where possible in lieu of diesel or petrol plant.
- Off-site manufacture of façade panels.

Public Relations

- 5.49. To align with the strategic regeneration framework objectives, the Contractor will ensure that regular contact is made with and University Staff and Students to ensure they are kept up to date with general progress on the Site. This is especially important for major work elements such as main demolition due to the close proximity of adjacent residential schemes. The Contractor will display a contact number on hoardings which will be operational 24/7.
- 5.50. The Contractor will meet regularly with Manchester Metropolitan University to discuss upcoming significant activities on Site which would impact on traffic management and cause any other significant nuisance works with a view to reducing the effects to a minimum.

Waste Management Strategy

- 5.51. In line with the “Site Waste Management Plan Regulations 2013”, a Site Waste Management Plan (SWMP) will be developed by the principal contractor and agreed with Manchester City Council.

Operational Waste Removal

- 5.52. Whilst the Site Waste Management Plan Regulations have been revoked, the principles are still utilised; a Pre-Demolition Site Audit is carried out and the information transferred to the Waste Management Plan (WMP).
- 5.53. This WMP identifies non-hazardous waste that can be re-used or recycled in whole or in part and gives the anticipated Demolition Recovery Index (DRI). Unless there is a significant amount of hazardous waste, notably asbestos, the DRI generally exceeds 90%:
- Full attention to the waste minimisation hierarchy – eliminate, reduce, reuse, recycle & dispose.
 - Environmental benefits such as reduction in vehicular movements to and from site.
 - Greater control over risks in relation to materials and waste on site, good housekeeping assists with safety.
 - A demonstration of waste minimisation and compliance with relevant legislation including duty of care and statutory licences.
- 5.54. All asbestos removal arisings will be stored in appropriate locations; this may include dedicated skips, including locked asbestos skips and waste skips, dedicated segregated storage areas, either for processing or removal from Site for reuse and/or recycling.
- 5.55. Enough trolleys/wheeled bins will be located across all floors whilst soft stripping activities are taking place and contents will be transported to the appropriate designated location, either a skip or designated storage point for segregation; where practicable, waste streams will be segregated on site and arrangements made for removal/ disposal.
- 5.56. Where practicable on-site segregation will be promoted; however, any mixed loads will still be subject to off-site segregation to maximise reuse, recycling or recovery. Soft strip material will be segregated at source and placed in suitable skips for recycling and disposal from site. Soft strip will not be allowed to accumulate on the floors and skips will be removed at regular intervals.

- 5.57. Arisings from demolition activities will be removed from the work area and subsequently from Site on an ongoing basis. Records of all waste will be recorded within the Waste Management documentation; this will record details of waste, category, volume, etc.

6. Air Quality

Introduction

- 6.1. This Chapter of the ES has been prepared by Buro Happold and assesses the likely significant air quality impacts associated with the construction phase of the Proposed Development and the surrounding area. This Chapter also describes the methods used to assess these effects, the existing baseline conditions, the proposed mitigation measures required to prevent, reduce or offset any significant negative effect associated with demolition activities and the likely residual effects after these methods have been adopted. For the purpose of this assessment, the construction phase refers to the impact of demolition activities only as will be referred to as “Demolition Phase”.
- 6.2. The authors of this Chapter have the following qualifications and experience as shown in Table 6-1.

Table 6-1 Technical competence of chapter authors

	Lead Author	Reviewer
Name	Rachael Harrison	Kathryn Woolley
Company	Buro Happold	Buro Happold
Qualifications/Accreditations relevant to technical area incl. IEMA	BSc MIAQM	BSc MIAQM
Years technical experience (in technical area)	7	11
Number of EIA's delivered to date	30+	Over 100

Assumptions and Limitations

- 6.3. Potential effects during the Demolition Phase are dependent on a number of factors, including weather conditions during specific demolition activities, therefore the IAQM methodology uses a risk-based approach to identify appropriate mitigation measures to be implemented during the Demolition Phase. This is assumed to be implemented through appropriate measures such as a Demolition Management Plan (DMP) or equivalent.
- 6.4. There is always some uncertainty regarding the prediction of air quality. This is associated with both the difficulty in simulating mathematically the complex atmospheric processes that affect pollutant concentrations and the uncertainties in the input/prediction data. However, the professional judgement and experience of the consultants preparing this Air Quality ES Chapter have been used, and the method for assessing air quality agreed to produce a robust assessment.

Relevant Legislation, Policy and Guidance

Legislation

- 6.5. This section appraises the current legislation used to inform the Air Quality Assessment;
- Air Quality Standards Regulations 2010 (HM Government, 2010); and
 - The Environment Act 1995, amended 2021.

- Environmental Targets (Fine Particulate Matter) (England) Regulations 2023

6.6. Full details of relevant legislation are provided within Appendix 6.1

Air Quality Objectives

6.7. This air quality assessment has been conducted to assess the likely air quality effects of the proposed development, based on the extent to which it complies with the UK air quality objectives (AQO). The air quality objectives relevant to this assessment are presented in Table 6-2. The air quality objectives are numerically consistent with the 2008 EU limit values detailed within the Air Quality Standards Regulations (HM Government, 2010), however, differ in terms of compliance dates, locations where the limit values apply, and the legal responsibility for ensuring compliance.

Table 6-2 National Air Quality Objectives relevant to the assessment

Pollutant	Concentration ($\mu\text{g}/\text{m}^3$)	Averaging Period	Number of allowable exceedances per calendar year
Nitrogen dioxide (NO₂)	40	Annual mean	N/A
	200	Hourly mean	18
Particulates <10μm in diameter (PM₁₀)	40	Annual mean	N/A
	50	Daily mean	35
Particulates <2.5μm in diameter (PM_{2.5})	20	Annual mean	N/A

6.8. The Environment Act was amended in 2021, requiring the government to set new targets for fine particulate matter (PM_{2.5}). The subsequent Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 (HM Government, 2023) set the following targets:

- Annual mean PM_{2.5} concentration of 10 $\mu\text{g}/\text{m}^3$ by 2040; and
- At least a 35% reduction in population exposure of PM_{2.5} by the end of 2040 (compared to base year of 2018).

6.9. The Environment Act 2021 requires the publication of an Environmental Improvement Plan every five years, with progress against the set targets reported on annually. The Environmental Improvement Plan 2023 (Defra, 2023) sets the following interim target for PM_{2.5}:

- Annual mean PM_{2.5} concentration of 12 $\mu\text{g}/\text{m}^3$ by 2028; and
- At least a 22% reduction in population exposure of PM_{2.5} by the end of 2028.

6.10. The PM_{2.5} Targets: Interim Guidance was published in 2024 (Department for Environment Food & Rural Affairs, 2024) and outlines some actions to be taken by applicants and local authorities in addressing the new PM_{2.5} target. Air quality assessment reports would need to include evidence of identifying key pollution sources within their schemes and proof of actions taken to minimise PM_{2.5} emissions.

6.11. This report outlines qualitative actions taken to address the interim guidance in Appendix 6.1.

Policy

National Planning Policy

- 6.12. The National Planning Policy Framework (NPPF) (MHCLG, 2024) sets out the Government's planning policy for England. The policies mandate that most new development should provide net gains for biodiversity, prevent waste and pollution, and take proactive action in mitigating and adapting to climate change.
- 6.13. With particular regard to air quality management, Section 9 of the NPPF advises that the environmental impact of transport and traffic should be identified and assessed, while mitigating adverse effects to bring about net environmental gains. The document states that the planning system should actively manage patterns of growth, offering a choice of transport modes to reduce air pollution.
- 6.14. Section 15 of the NPPF states that planning policies 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 (CAZ), 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. As 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. Additionally, the NPPF states that planning decisions should ensure that any new development in AQMAs and CAZs is consistent with the local air quality action plan.

Local

- 6.15. The following local policy has been used to inform this Air Quality ES chapter:
- Manchester Core Strategy (MCC, 2012);
 - Addendum to Manchester Core Strategy (MCC, 2024)
- 6.16. Full details of relevant policy are provided within Appendix 6.1

Guidance

National Guidance

- 6.17. Planning Practice Guidance (PPG) provides guiding principles on how the planning process can consider the impact of developments (including demolition) on air quality. The guidance outlines when air quality considerations could be relevant to the development management process. Full details of the PPG are outlined within Appendix 6.1.
- 6.18. The following national guidance documents have also been used to inform the Air Quality ES chapter:
- IAQM land-use planning & development control: planning for air quality (IAQM , 2017);
 - IAQM Guidance on the assessment of dust from demolition and construction (IAQM, 2024);
 - Defra Local Air Quality Management Technical Guidance ('TG22') (Defra, 2022); and
 - PM2.5 Interim Targets Guidance (Department for Environment Food & Rural Affairs, 2024).
 - Local and Regional Guidance
 - The following regional and local guidance has been used to inform this ES chapter:
 - MCC Air Quality and Planning Technical Guidance (MCC, 2022);

- The Greater Manchester Strategy 2021-2027 (GMCA, 2021);
- GMCA 5-year Environment Plan 2025-2030 (GMCA, 2024);
- GMCA Air Quality Action Plan (GMCA / TfGM, 2016); and
- GM Clean Air Plan (GMCA, 2023).

6.19. Full details of relevant national and local guidance are provided within Appendix 6.1.

Assessment Methodology and Significance Criteria

Scenarios Tested

- 6.20. The following scenarios have been assessed for the purposes of this ES Chapter:
- 2023 Baseline Scenario: Establish existing baseline conditions;
 - 2026 peak demolition year Do Minimum ('DM'): future baseline traffic flows for the peak demolition year, with cumulative developments only;
 - 2026 peak demolition year Do Something ('DS'): future baseline traffic flows for the peak construction year, with cumulative developments and traffic flows associated with the Proposed Development.
- 6.21. For this assessment, 2024 is considered the most representative typical baseline year as it is the latest year with fully ratified air quality monitoring data representing the post-pandemic baseline, following the Institute of Air Quality Management (IAQM) recommendation (IAQM, 2017).

The Study Area

- 6.22. The study area for this assessment includes the Site and the area that can potentially experience air quality impacts from the Demolition Phase of the Proposed Development.
- 6.23. The study area has been determined based on the scale of the proposed demolition activities at the Site (receptors within 250m from the site boundary). The study area has also been determined based on potential air quality effects from any road links on which there is an increase in traffic volume resulting from the Proposed Development that exceeds the criteria outlined in IAQM/EPUK guidance on land-use planning and development control (IAQM, 2017) (human receptors within 50m from construction routes, up to 250m from site access).
- 6.24. Worst-case existing sensitive receptors within 250 m of site boundary have been identified and the high sensitive receptors areas (Residential) and medium sensitivity (higher educational, commercial) receptors have been identified within the surrounding site context. For the purpose for this assessment, when assessing the overall sensitivity of receptors there is no distinction in the sensitivity of different human receptors to air quality and all existing sensitive receptors are considered high sensitivity. The Study Area and existing site context is shown in Figure 6.5 within Appendix 6.3.

Surveys and Data Sources

- 6.25. This Chapter is accompanied by the following technical appendices:
- Appendix 6.1 - Air Quality Legislation, Policy, and Guidance.
 - Appendix 6.2 – Construction Dust Risk Methodology and Mitigation Measures.

- Appendix 6.3 – Air Quality Figures.

6.26. A baseline air quality review has been undertaken to determine the existing air quality in the vicinity of the Site. This baseline study has been undertaken using the following sources:

- Air quality data for MCC and GMCA, including a review of the most recent MCC air quality annual status report and Clean Air Plan monitoring data (GMCA, 2024);
- Background pollution maps from Defra’s Local Air Quality Management (LAQM) website (Defra, 2025);
- Environment Agency Pollution Inventory (Environmental Agency, 2024); and,
- Aerial photography from Google Maps (Google, 2025).

Source of Effect

- 6.27. The source of construction dust impacts on dust soiling and human health effects during the demolition activities of the Proposed Development has been assessed in line with the IAQM guidance on the assessment of dust from demolition and construction (IAQM, 2024) which recommends that significance criteria are only assigned to the identified risk of dust impacts occurring from a demolition activity with appropriate mitigation measures in place. A construction dust risk assessment (demolition phase only) has been carried out to inform the appropriate mitigation measures.
- 6.28. Emissions from Non-Road Mobile Machinery (NRMM) vehicle exhausts during the demolition activities in line with the IAQM guidance.
- 6.29. The emissions from vehicles associated with the Proposed Development during the demolition activities in line with the EPUK/IAQM guidance.

Significance Criteria

Effects of emissions generated by demolition dust

- 6.30. For the assessment of the impact of demolition dust on dust soiling and human health effects, the IAQM guidance on the assessment of dust from demolition and construction (IAQM, 2024) has been used.
- 6.31. The risk of dust emissions has been assessed for the demolition phase with respect to:
- Potential loss of amenity due to dust soiling; and
 - The risk of health effects due to a significant increase in exposure to PM10.
- 6.32. The first stage of the assessment involves screening to determine whether there are any sensitive receptors within the threshold distances defined by the IAQM guidance. A detailed assessment of the impact of dust from demolition sites is required where:
- 6.33. A ‘human receptor’ is located within 250 m of the boundary of the Site or within 50 m of the route(s) used by Demolition Phase vehicles on the public highway, up to 250 m from the Site entrance; and/or
- 6.34. An ‘ecological receptor’ is located within 50 m of the boundary of the Site or within 50 m of the route(s) used by Demolition Phase vehicles on the public highway, up to 250 m from the Site entrance.
- 6.35. The magnitude (small, medium, large) of dust emission for the demolition is determined based on the guidance, indicative thresholds, information available relating to the project and expert judgement. The risk of dust effects (negligible, low medium, high) arising is based on the relationship between the dust emission

magnitude and the sensitivity of the area (high medium, low sensitivity). The risk of impact is then used to determine the mitigation requirements. Descriptors for magnitude of impact and effect significance used in this assessment of construction phase dust are given in the IAQM guidance on the assessment of dust from demolition and construction.

- 6.36. A full construction (demolition only) dust risk assessment methodology is outlined within Appendix 6.2.
- 6.37. Effects of emissions generated by non-road mobile machinery vehicle exhausts during demolition activities
- 6.38. Non-Road Mobile Machinery (NRMM) refers to mobile machines, transportable industrial equipment or vehicles which are fitted with an internal combustion engine and not intended for transporting goods or passengers on roads. NRMM emissions have been screened following IAQM guidance.
- 6.39. Exhaust emissions of NO_x and fine particulate matter (PM₁₀ and PM_{2.5}) from NRMM associated with demolition and construction sites, may have a significant adverse effect on local air quality. In line with the MCC Air Quality & Planning Technical Guidance there is a requirement for all NRMM to demolition works should meet EU Stage IV of EU directive 97/68/EC, and Stage IIIA as a minimum.

Effects of emissions generated by demolition traffic

- 6.40. Traffic generated by the Proposed Development during demolition activities has been provided by Buro Happold and is outlined within Chapter 5: Construction Management – Programme and Methodology. For this assessment, the approach in the EPUK/IAQM guidance (IAQM , 2017) has been used to describe the impacts as a result of additional traffic generation from the demolition phase.
- 6.41. In the first instance, the EPUK/IAQM guidance (IAQM , 2017) provides indicative criteria for when a detailed assessment is required. Within an AQMA, this is when a development will lead to:
 - a change of Light Duty Vehicle (LDV) flows of more than 100 AADT; and/or
 - a change of Heavy-Duty Vehicle (HDV) flows of more than 25 AADT.
- 6.42. As confirmed by Connell Brothers, the appointed contractors, the Demolition Phase is likely to give rise to a maximum increase of up to between 60 HDVs movements per week. As such the Demolition Phase vehicle fall below the criteria listed within the EPUK/IAQM guidance (100 LDVs and/or 25 HDVs), the air quality impact of additional trips generated by vehicle during the demolition is likely to be negligible and not significant. Further detailed assessment of the impact of construction vehicles has not been considered further within this chapter.
- 6.43. The determination of the significance of the likely effects includes elements of professional judgement and the professional experience of the consultants preparing this chapter is set out in Table 6-1. The significance of effect descriptors use the same terminology as the impact magnitude descriptor as outlined within the EPUK/IAQM guidance.

Baseline Conditions

- 6.44. An Air Quality Management Area (AQMA) has been declared across Manchester City Centre and surrounding arterial roads owing to consistent exceedances of the AQO for the annual average concentration of NO₂. These exceedances are predominantly due to pollution from road transport, which accounts for 65% of the total NO₂ emission within Greater Manchester (GMCA , 2019). The entirety of the Site is within the AQMA.
- 6.45. GMCA has established an extensive monitoring network for LAQM purposes and to support the Greater Manchester Clean Air Plan (GM CAP). According to the latest ASR, GMCA has deployed 20 automatic monitoring sites and 368 non-automatic (diffusion tube) monitoring sites for LAQM. In addition, 503 non-automatic roadside monitoring sites have been operated for monitoring and evaluation purposes of GM CAP.

6.46. Monitoring data from 2024 is considered the most appropriate year for determining baseline air quality conditions in the aftermath of the COVID-19 pandemic. The latest update (v1.1) of the IAQM position statement on the use of 2020 and 2021 monitoring datasets states that 2022 (or later) monitoring data should be used for model verification, as it represents a typical post-pandemic year (IAQM, 2023).

6.47. Figure 6.1 and Figure 6.2 within Appendix 6.3, present the CAP and LAQM monitoring sites in proximity to the Site. Monitoring data from the recent five years are presented in Table 6-3.

Table 6-3 Monitoring results from CAP and LAQM monitoring sites in proximity to the Site.

Site ID	Distance from the Site (m)	Site type	Annual average NO2 concentration (µg/m3)					
			2019	2020	2021	2022	2023	2024
MCC Monitoring								
MA82NO,MA83NO,MA84NO	72	Roadside	52	34.1	40.7	42.6	41.1	41.7
MA29ANO	330	Roadside	55.4	39	44.8	49.8	49.6	51.3
MA112BNO	456	Urban Background	-	-	21.4	22.7	19.8	19.3
MA72NO	520	Urban Background	32.8	24.5	27.5	26.3	24.3	24
MA77NO	705	Urban Background	32.8	24.5	27.5	26.3	24.3	28.4
CAP Monitoring								
19	85	Roadside	-	-	-	44.4	41.3	40.9
122	184	Roadside	-	-	-	39.4	37.9	37.5
121	222	Roadside	-	-	-	38.6	37.3	36.8
120	277	Roadside	-	-	-	39.4	37.9	-
184	285	Roadside	-	-	-	41.4	39.5	39.4
183	288	Roadside	-	-	-	54.4	54.1	53.1
185	326	Roadside	-	-	-	49.7	48.5	46.5
186	355	Roadside	-	-	-	42.4	43	42
43	359	Roadside	43.8	31.2	33.2	35.7	-	-
21	457	Roadside	-	21.7	24.8	23.7	-	-
20	523	Roadside	-	22.1	25.6	26.2	-	-
6	587	Roadside	42.7	26.9	29.9	30.8	25.6	26.5

Site ID	Distance from the Site (m)	Site type	Annual average NO2 concentration (µg/m3)					
			2019	2020	2021	2022	2023	2024
22	600	Roadside	49.5	32.9	32.7	35.5	33.3	31.8
2	610	Roadside	-	32.2	33.8	35.5	34.2	32.6
4	613	Roadside	46.9	28.4	31.2	33.4	33	30.1
167	662	Roadside	-	-	-	48.1	49.1	44.6
73	667	Roadside	43.6	25.8	29.3	34.8	32.9	32.1
166	866	Roadside	-	-	-	38.6	37.1	37.0
<i>Notes:</i> <i>Figures in bold indicate an exceedance of the long-term air quality objective (40 µg/m3).</i> <i>Owing to the influence of lockdown measures implemented in response to the COVID-19 pandemic, monitoring data from 2020 and 2021 should be treated with caution as it may not represent typical conditions.</i>								

- 6.48. The Manchester Oxford Road site (MAN1) is the closest automatic monitoring site to the Site, approximately 76 m to the north of the Site. The annual average NO2 levels at the MAN1 were above the AQO level of 40 µg/m3 in the past five years, except for 2020, in which traffic flows were reduced considerably due to policies in response to the COVID-19 pandemic.
- 6.49. The 1-hour averages at the MAN1 exceeded the 200 µg/m3 threshold for no more than three times in each of the past five years, in compliance with the permitted 18 allowable exceedances outlined in the AQO's (Table 6-4).
- 6.50. Figure 6.3, within Appendix 6.3 demonstrates the annual average NO2 concentrations at all nearby monitoring sites during 2019-2024. Overall, pollution concentrations have decreased over the five years. Among all monitoring sites that began operating before 2020, the lowest concentrations were recorded in 2020, attributed to behavioural changes during the COVID-19 pandemic. Slight concentration increases are observed in 2021 and 2022. Despite the increases, 2024 annual average NO2 concentrations at all sites remain lower than the 2019 level.
- 6.51. Similar to NO2, the MAN1 site recorded higher annual average PM10 concentrations and greater number of short-term exceedances, compared to the MAN3 site (Table 6-4). Despite this, long-term and short-term AQOs for PM10 have been achieved at both sites since 2019, and a general decrease in annual average concentration has been observed in the recent five years.
- 6.52. MAN3 is the only nearby automatic monitoring site that monitors PM2.5. Results at this location have not exceeded the annual average PM2.5 AQO (20 µg/m3) since 2018 (Table 6-4).
- 6.53. The annual average NO2 levels at the MAN1 were above the AQO level of 40 µg/m3 in the past five years, except for 2020, in which traffic flows were reduced considerably due to policies in response to the COVID-19 pandemic. The 1-hour averages at the MAN1 exceeded the 200 µg/m3 threshold for no more than three times in each of the past five years, in compliance with the permitted 18 allowable exceedances outlined in the AQO's (Table 6-4).

- 6.54. Figure 6.3, within Appendix 6.3 demonstrates the annual average NO₂ concentrations at all nearby monitoring sites during 2019-2024. Overall, pollution concentrations have decreased over the five years. Among all monitoring sites that began operating before 2020, the lowest concentrations were recorded in 2020, attributed to behavioural changes during the COVID-19 pandemic. Slight concentration increases are observed in 2021 and 2022. Despite the increases, 2024 annual average NO₂ concentrations at all sites remain lower than the 2019 level.
- 6.55. Similar to NO₂, the MAN1 site recorded higher annual average PM₁₀ concentrations and greater number of short-term exceedances, compared to the MAN3 site (Table 6-4). Despite this, long-term and short-term AQOs for PM₁₀ have been achieved at both sites since 2019, and a general decrease in annual average concentration has been observed in the recent five years.
- 6.56. MAN3 is the only nearby automatic monitoring site that monitors PM_{2.5}. Results at this location have not exceeded the annual average PM_{2.5} AQO (20 µg/m³) since 2019 (Table 6-4).

Table 6-4 Monitoring results at automatic monitoring sites in the vicinity of the Site

Site ID	Distance from the Site (m)	Site type	Air Quality Objectives	Annual average NO2 concentration (µg/m3)					
				2019	2020	2021	2022	2023	2024
NO2									
MAN1	79	Kerbside	Annual Mean (40 µg/m3)	59	36	44	43	41	44
			Number of hours with concentrations >200 µg/m3 (18 allowable)	1	0	0	3	0	0
MAN3	1,100	Urban Centre	Annual Mean (40 µg/m3)	36	27	30	29	27	27
			Number of hours with concentrations >200 µg/m3 (18 allowable)	0	0	0	0	0	0
PM10									
MAN1	76	Kerbside	Annual Mean (40 µg/m3)	26	18	18	18	18	21
			Number of hours >50 µg/m3 (35 allowable)	18	5	2	8	4	0
MAN3	1,100	Urban Centre	Annual Mean (40 µg/m3)	20	15	15	17	15	15
			Number of hours >50 µg/m3 (35 allowable)	7	1	2	4	1	1
PM2.5									
MAN3	1,100	Urban Centre	Annual Mean (20 µg/m3)	12	8	9	10	9	9

Notes:

Figures in bold indicate an exceedance of the long-term air quality objective (40 µg/m³).

Owing to the influence of lockdown measures implemented in response to the COVID-19 pandemic, monitoring data from 2020 and 2021 should be treated with caution as it may not represent typical conditions.

Defra Predicted Concentration

- 6.57. Defra model gridded background concentrations across the UK on 1km x 1km grid squares, utilising a base year of 2021 (Defra, 2024). Table 6-5 presents the Defra Modelled background pollution concentrations for NO₂, PM₁₀ and PM_{2.5} for the grid square in which the majority of the Site lies (384500,397500) for the existing baseline year 2024 and peak construction year for demolition, alongside the 2024 monitored data

recorded at automatic monitoring site MAN 3. Monitored and modelled annual mean background concentrations of NO₂, PM₁₀, and PM_{2.5} across the study area are all below their relevant AQOs.

Table 6-5 Defra modelled background concentrations for the baseline year (2024) and peak year for demolition (2026)

Year	Defra modelled annual average background concentration (µg/m ³) (Grid square: 384500,397500)				Monitored annual average concentrations at Urban Centre monitoring site (MAN3) (µg/m ³)		
	NO ₂	NO _x	PM ₁₀	PM _{2.5}	NO ₂	PM ₁₀	PM _{2.5}
Baseline 2024	22.5	32.9	15.1	8.1	27.0	15.0	9.0
Peak demolition Year 2026	20.9	30.2	15.0	8.0	-	-	-

6.58. It can be seen from Table 6-5 that background concentrations at the Site are anticipated to reduce over time, with an improvement in concentrations predicted in 2026 when compared against the background concentrations for 2024.

6.59. However, it is important to note that these future baseline concentrations are only predictions and there remains some uncertainty regarding future concentrations of NO₂ as emissions from diesel vehicles have not declined as expected. Therefore, the future year background concentrations are provided for information only and 2024 background concentration from MAN3 are considered to be most representative of the pollutant concentrations at the Site. This is considered a conservative approach.

Summary of Baseline

6.60. The baseline assessment has shown that monitored baseline concentrations at monitoring locations along the Mancunian Way, adjacent to the Site, are in compliance with the UK NO₂ AQOs. Defra predicted background concentrations for NO₂, PM₁₀ and PM_{2.5} are predicted to be in compliance with the relevant air quality objectives at the Site in 2024.

6.61. Annual average NO₂ 2024 concentrations measured at the nearest background air quality monitoring locations, MAN 3 are ~13% higher than the Defra modelled concentrations. Annual average PM₁₀ concentrations remain comparable to the Defra background, whilst PM_{2.5} concentrations are 8% higher. This suggests that Defra background modelling may underpredict background concentrations in this location and concentrations from MAN3 would provide a worst case baseline for all pollutants.

Identification and Evaluation of Likely Significant Effects

Effects of emissions generated by demolition dust

- Step 1: Screen the need for a detailed assessment

6.62. In accordance with the screening criteria in the IAQM guidance, an assessment is required as there are sensitive human or ecological receptors in proximity to the Site. For human receptors within 250 meters of the Site, there are university buildings to the north, east and west sides of the Site, and green spaces to the south of the Site, and residential buildings to the east and southeast of the Site. Cumulative schemes such as the redevelopment of Cambridge Hall to the North of the Site may introduce sensitive receptors to the area. Therefore, the screening indicates the need for a demolition dust assessment.

6.63. There are no designated ecological sites in the vicinity of the Site, hence ecological impacts are screened out from detailed construction dust assessment.

- Step 2A Define the potential Dust Emission Magnitude

6.64. Dust emission magnitudes for construction activities and relevant justification are summarised in Table 6-6.

Table 6-6 Dust magnitude and justification

Activity	Dust emissions magnitude	Justification
Demolition	Large	The planned building demolition volume falls within the medium impact range (12,000 m ³ – 75,000 m ³) stated in the IAQM guidance. Demolition activities will occur at a height of >12 m above ground level. As such dust emission magnitude for demolition is deemed to be Large.
Trackout	Medium	The current number of HDV movements is currently unknown, however it is considered that there would be up to 60 HDV outward movements per week (max daily 22 HDVs movements per day). The subsoil is variable clay, silt and gravel, with light, medium and heavy textures present (UK Soil Observatory 2024). Therefore, both small (with higher dust potential) and large (with lower dust potential) soil particles are present. Overall, the emission magnitude is deemed to be Medium.

Step 2A Define the sensitivity of the area

- 6.65. Figure 6.4 within Appendix 6.2 presents an overview of identified construction dust receptors within 250 m (as the of the Site boundary and 50 m of the trackout route from up to 250 m from the Site entrance.
- 6.66. In determining the area sensitivity, the following has been considered:
- 6.67. Sensitive receptors (more than 100) within 100m to the Site are a mix of educational, residential or places of work. North of the Mancunian Way and the Site, there are further residential receptors (more than 100).
- 6.68. There are no designated ecological sites within 2 km from the Site.
- 6.69. The background PM₁₀ level in the existing baseline year (2024) at the Site is 15.1 µg/m³ as monitored by automatic station MAN3 (Table 6-6).
- 6.70. Mayfield Park is located more than 500m away from the Site and is therefore located outside of the 250 m for assessment screening criteria within the IAQM construction guidance and Demolition Phase dust effects are not considered to be significant.
- 6.71. Considering the number and sensitivity of receptors, the sensitivity of the surrounding area to potential Demolition Phase impacts is presented in Table 6-7, which is in line with the IAQM criteria.

Table 6-7 Sensitivity of surrounding

Potential Effect	Sensitivity of surroundings	
	Demolition	Trackout
Dust soiling	High	High
Human health	Medium	Medium

Step 2C Define the risks of impacts

- 6.72. The risks of dust impacts for relevant Demolition Phase activities are summarised in Table 6-8. These results consider both the potential dust emission magnitude and the sensitivity of the area.
- 6.73. It should be noted that activities on-site will be temporary in nature, and mitigation appropriate to the level of risk and in line with good industry practices will be implemented across the Proposed Development to ensure any adverse effects are minimized. The mitigation measures to be applied are presented below.

Table 6-8 Risk of dust soiling and human health impacts associated with construction activities.

Potential Effect	Risk associated with Demolition Phase activities	
	Demolition	Trackout
Dust soiling	High	Medium
Human health	High	Medium

Effects of emissions generated by from non-road mobile machinery vehicle exhausts during demolition activities

- 6.74. Based on the information provided by the demolition contract (outlined within Appendix 6.2) the NRMM vehicles anticipated to be used onsite will adhere to requirements outlined within the MCC Air Quality & Planning Technical Guidance and therefore no further assessment is required.
- 6.75. Table 6-9 outlines the onsite NRMM confirmed by the contractor that is to be utilised during the demolition phase.

Table 6-9 NRMM to be used during demolition phase.

Plant Specification	Weeks on Site	Total Hours on Site
50 T Excavators	8	360
30 T Excavators	15	675
4 T Excavator	46	1090
1.8 T Excavator	10	225
Crusher	24	540
Floor Tile Lifter	12	540
Skid Steer Loader	12	540
Telehandler	24	540
Bunded Diesel Bowser	32	825

- 6.76. Furthermore, the IAQM construction guidance states that “Experience of assessing the exhaust emissions from on-site plant (also known as non-road mobile machinery or NRMM) and site traffic suggests that they are unlikely to make a significant impact on local air quality, and in the vast majority of cases they will not need to be quantitatively assessed.”
- 6.77. It is therefore considered the likely effects of Demolition Phase plant on local air quality would not be significant.
- 6.78. In addition to the above, an assessment of the predicted NOx and PM10 emissions generated by the NRMM has been undertaken using the Arup Construction Emissions tool for Construction emissions Exemplar sites. This process indicates that the NOx emissions from NRMM used during the demolition of the Proposed Development are likely to fall below relevant construction emissions benchmarks.
- 6.79. A full overview of demolition activities (demolition dust, traffic and onsite plant) to be undertaken on site can be found within Appendix 6.2 and in Chapter 5: Construction Management – Programme and Methodology.

Effects of emissions generated by demolition traffic

- 6.80. Vehicle emissions from road traffic generated as a result of the demolition phase of the Proposed Development have the potential to results in local air quality effects on local receptors.

- 6.81. The demolition traffic is to access the Site via Lower and Higher Chatham St utilising a two way site traffic system on which there are an isolated number of sensitive receptors (Cambridge Halls student accommodation).
- 6.82. Demolition activities are anticipated to lead to an AADT increase of less than 100 AADT, with less than 25 new HDV trips on the surrounding road network in line with the criteria outlined within EPUK/IAQM guidance for development within an AQMA. In accordance to the IAQM guidance construction phase road traffic emissions, principally HDV movements, have been screened out for further detailed assessment.
- 6.83. As such, the overall significance of Demolition Phase vehicle emission impacts from the Proposed Development on NO₂ PM₁₀ and PM_{2.5} concentrations will be not significant in line with EPUK and IAQM guidance.
- 6.84. The demolition programme is estimated to last 36 weeks and additional trips generation from Demolition Phase vehicles and associated emissions will be short term in nature. Visual representation of the proposed access is shown within Figure 6.4 within Appendix 6.3.

Cumulative Effects

- 6.85. The list of cumulative schemes that have been scoped into the EIA are outlined within Appendix 6.2.

Construction

- 6.86. Two of the cumulative schemes fall within 250m of the Proposed Development; therefore, there is potential for cumulative effects on construction dust impacts from these schemes should the construction phases overlap for each scheme.
- 6.87. IAQM guidance indicates that with appropriate mitigation measures in place, the impact from construction dust will be not significant. Guidance also suggests that cumulative effects may occur from sites within 500m of one another. In line with proposed mitigation measures, the contractor should hold regular liaison meetings with other high risk construction sites within 500m of the Site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. Additionally, a construction traffic management plan should also be in place to minimise potential cumulative effects from construction vehicle emission associated within cumulative schemes.
- 6.88. It is assumed that an CEMP will have been carried out to minimise the potential construction effects at cumulative schemes and necessary mitigation will have been identified.
- 6.89. The closest cumulative development to the Site is Cambridge Halls located approximately 85m to the south west of the Site. A CEMP has been submitted for this scheme as part of the planning application (Planning Ref: 142888/FO/2025) and outlines the mitigations measures to be implemented during construction. In addition it is anticipated that there will be an HDV trip generation of 36 AADT associated with the Cambridge Hall development that are to be controlled via the DMP and a dust management plan to include dust management measures in line with appropriate guidance and implementation of trigger and action levels.
- 6.90. As such, mitigation for this Proposed Development will therefore compliment the mitigation identified for the other cumulative developments and ensure overall impacts are negligible.

Mitigation Measures

Construction Phase

- 6.91. In line with best practice, the IAQM construction guidance sets out the recommended mitigation measures to be implemented in order to mitigate the potential effects during the Demolition Phase. Table A2.11 within Appendix 6.2 outline the specific mitigation measures to be incorporated into the Demolition Management Plan (DMP) for the Proposed Development. The dust risk assessment results show that high risk mitigation measures are required to minimise potential dust impacts due to the proximity of high sensitive receptors.

6.92. The following dust control measures will be implemented onsite:

- Any plant, machinery and vehicles will be switched off when not in use, as this minimises unnecessary air pollution;
- Regular physical observation by key members of staff and the Environmental Team audit process is carried out;
- Local engagement to keep residents informed on progress and if works producing excess dust are due to commence;
- Lorries are sheeted before leaving site and damping down measures implemented;
- Minimising stockpiling on site where practicable - stockpiles and demolition activities will be dampened down to minimise windborne emissions;
- Vehicle movements on site will be restricted to prevent any additional exhaust fumes along with the implementation of a Traffic Management Plan to prevent unnecessary movement of plant or vehicles.
- Dust monitoring will be carried out at site perimeters on a weekly basis.
- Dust monitoring will be carried out at site perimeters on a weekly basis. A specific Demolition Management Plan (DMP) will be submitted as part of the planning application to denote monitoring points at the site boundary, monitoring will be carried out periodically via hand-held devices with readings logged, reported and maintained on site for reference.

6.93. A full list of required mitigation measures is outlined within Table A2.11 of Appendix 6.2 and should be read in conjunction with this chapter.

Residual Effects

Construction Phase

6.94. The residual effects for the demolition phase are presented in Table 6-10.

Table 6-10 Summary of Demolition phase Residual Effects

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Demolition phase				
Effects of emissions arising from dust generated during the demolition of existing building on the Site on human health	Surrounding sensitive uses, e.g. residential properties(high) and higher education (medium*)	Recommended mitigation measures has been outlined within Appendix 6.2.	Mitigation measures typically implemented through a DMP to be submitted as part of the planning application.	Negligible, short-term and temporary

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Effects of emissions arising from traffic generated by onsite NRMM during demolition of existing building on the Site on human health	Surrounding sensitive uses, e.g. residential properties(high) and higher education (medium*)	Recommended mitigation measures have been outlined within Appendix 6.2.	Mitigation measures typically implemented through a DMP to be submitted as part of the planning application.	Negligible, short-term and temporary
Effects of emissions arising from traffic generated by the demolition of existing building on the Site on human health	residential properties(high) and higher education (medium*)	No mitigation is required	N/A	Negligible, short-term and temporary
*All existing sensitive receptors have been considered as high sensitivity receptors to provide a robust assessment.				

Monitoring

- 6.95. As no significant air quality effects have been identified during the demolition activities of the Proposed Development, monitoring is not deemed a requirement.

Reference List

Bibliography

- Defra. (2022). Local Air Quality Management Technical Guidance (TG22). Retrieved from <https://laqm.defra.gov.uk/wp-content/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf>
- Defra. (2025). Background Mapping Data for Local Authorities. 2021 Base Year. Retrieved from <https://uk-air.defra.gov.uk/data/laqm-background-home>
- Department for Environment Food & Rural Affairs. (2024). PM2.5 Targets: Interim Planning Guidance. Retrieved from <https://uk-air.defra.gov.uk/pm25targets/planning>
- Department of Levelling Up, Housing and Communities. (Dec 2023). National Planning Policy Framework. Online resource: Ministry of Housing, Communities & Local Government.
- Environmental Agency. (2024). Public Registers Online. Retrieved from <https://environment.data.gov.uk/public-register/view/index>
- GMCA . (2019). Greater Manchester's Plan for Homes, Jobs and The Environment. Revised Draft. Retrieved from https://www.greatermanchester-ca.gov.uk/media/1710/gm_plan_for_homes_jobs_and_the_environment_1101-web.pdf
- GMCA / TfGM. (2016). Greater Manchester Air Quality Action Plan. Retrieved February 11, 2023, from https://www.manchester.gov.uk/download/downloads/id/24676/greater_manchester_air_quality_action_plan_-_2016-2021.pdf

- GMCA. (2021). Greater Manchester Strategy (2021-2027). Retrieved February 14, 2023, from <https://aboutgreatermanchester.com/media/jlslgbys/greater-manchester-strategy-our-plan.pdf>
- GMCA. (2023). Greater Manchester Clean Air Plan. Retrieved February 11, 2023, from <https://cleanairm.com/clean-air-plan/>
- GMCA. (2024). 5-year Environment Plan 2025-2030. Retrieved February 11, 2023, from <https://democracy.greatermanchester-ca.gov.uk/documents/s34876/13A%20YEP%20Draft.pdf>
- GMCA. (2024). Greater Manchester Combined Authority 2023 Air Quality Annual Status Report. Retrieved June 2023, from <https://cleanairm.com/data-hub/monitoring-reports/>
- Google. (2025). Google Maps. Retrieved from <https://www.google.com/maps>
- HM Government. (2010). The Air Quality Standards Regulations. Retrieved January 18, 2023, from <https://www.legislation.gov.uk/uksi/2010/1001/contents/made>
- HM Government. (2010). The Air Quality Standards Regulations 2010. Retrieved from <https://www.legislation.gov.uk/uksi/2010/1001/contents>
- HM Government. (2023). The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023. Retrieved from <https://www.legislation.gov.uk/ukdsi/2022/9780348242959>
- IAQM . (2017). IAQM land-use planning & development control: planning for air quality . Retrieved from <https://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf>
- IAQM. (2023). Use of 2020 and 2021 Monitoring Datasets – Position Statement. Retrieved from https://iaqm.co.uk/wp-content/uploads/2013/02/IAQM_2020_and_2021_monitoring_datasets_v1.1EC2.pdf
- IAQM. (2024). Assessment of dust from demolition and construction 2024 V2.2. Retrieved from <https://iaqm.co.uk/wp-content/uploads/2013/02/Construction-Dust-Guidance-Jan-2024.pdf>
- ICOMOS. (2011). Guidance on Heritage Impact Assessments for Cultural World Heritage Properties. Online resource: International Council on Monuments and Sites.
- MCC. (2012). Manchester Core Strategy Development Plan . Retrieved from https://www.manchester.gov.uk/info/200074/planning/3301/core_strategy
- MCC. (2022). Air Quality & Planning Technical Guidance. Retrieved June 2023, from https://www.manchester.gov.uk/downloads/download/5199/information_for_developers
- MCC. (2024). Places for Everyone Joint Development Plan Document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan 2022 To 2039. Retrieved from <https://www.greatermanchester-ca.gov.uk/media/3ccbetc4/post-adoption-places-for-everyone-joint-development-plan.pdf>
- MHCLG. (2019). Planning Policy and Guidance: Air Quality. Retrieved from <https://www.gov.uk/guidance/air-quality--3>

- MHCLG. (2024). National Planning Policy Framework. Retrieved from <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

7. Noise and Vibration

Introduction

- 7.1. This Chapter of the Environmental Statement / Environmental Impact Assessment ('ES' / 'EIA') has been prepared by Buro Happold on behalf of the applicant, Manchester Metropolitan University ('The Applicant'). It assesses the likely noise and vibration impacts of the Proposed Development upon the Site and the surrounding area.
- 7.2. The baseline situation is considered before the likely environmental effects of the Proposed Development are identified during the demolition phase only. Mitigation measures to reduce any adverse environmental effects are recognised as appropriate before the residual environmental effects are assessed.
- 7.3. The proposed development has the potential to generate noise and vibration associated with the demolition of the building.
- 7.4. Demolition traffic noise and vibration have been scoped out of the assessment and are not considered in this chapter.
- 7.5. This Chapter is accompanied by four appendices, 7.1 to 7.5.

Table 7-11 Technical competence of chapter authors

	Lead Author	Reviewer
Name	Rhiannon Hawkins	Daniel Bailey
Company	Buro Happold	Buro Happold
Qualifications/Accreditations relevant to technical area inc. IEMA	PhD, Dip IoA, BSc, AMIOA	BSc (Hons), Dip. IoA, MIOA, Ieng
Years technical experience (in technical area)	2	13
Number of EIA's delivered to date	0	4

Assumptions and Limitations

- 7.6. The Demolition programme schedule included in Chapter 5: Construction Management – Programme and Methodology is indicative and based on what is considered typical in terms of noise levels and site logistics. The demolition noise and vibration assessments are, therefore, to be considered as a conservative estimation of likely noise levels at the Nearby Sensitive Receptors (NSR).
- 7.7. It is assumed that a Demolition Environmental Management Plan (DEMP) and Best Practicable Means (BPM) will be implemented by the contractor, in accordance with best practice guidance as identified in Manchester City Council planning requirements.
- 7.8. The Demolition contractor's appointed representative will coordinate the DEMP measures, including community liaison, in accordance with best practice principles. This coordination will include the management of demolition noise and vibration with other Cumulative Schemes under Demolition, as required and as appropriate.

Relevant Legislation, Policy and Guidance

- 7.9. The following National and Local Policy has been used to inform this Noise and Vibration ES chapter:
- National Planning Policy Framework (NPPF)
 - Noise Policy Statement for England (NPSE 2019)
 - Planning Practice Guidance for Noise (NPPG 2019)
 - Manchester City Council - Core Strategy Development Plan Document 2012 -2027
- 7.10. The following Guidance documents have been used to inform the Noise and Vibration ES chapter:
- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on Demolition and open sites - Noise
 - BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on Demolition and open sites – Vibration
 - BS 7385-2:1993 Evaluation and measurement for vibration in buildings. Guide to damage levels from ground-borne vibration;
 - CALTRANS – Transportation and Demolition Induced Vibration Guidance Manual.
- 7.11. Full details of the relevant policy and guidance documents are provided within Appendix 7.2.

Assessment Methodology and Significance Criteria

The Study Area

- 7.12. The Site is located on the Manchester Metropolitan University Campus, South of Mancunian Way. The site is surrounded by residential buildings, as well as university buildings, commercial buildings, and hotels.
- 7.13. The study area for the assessment is receptor-led (i.e., based on the nearest receptors where significant effects may occur). The most affected NSRs have been identified as the following, and are highlighted in blue in the below image:
- Cavendish Halls of Residences
 - 113- 135 Oxford Road
 - Premier Inn
 - Residences on Chester Street.



Figure 7-1 Study Area (Source: Google Earth)

7.14. Residential receptors are considered ‘high’ sensitivity receptors.

Surveys and Data Sources

7.15. An attended noise survey was carried out on 07/07/2025. Normal road and rail conditions prevailed for the duration of the survey, which was conducted during university term time. Further details of the survey methodology and results can be found in Appendix 7.3.

7.16. The monitoring positions adopted were agreed with the Council’s EHPO on 02/07/2025. These are considered representative of the nearest noise sensitive receptors to the site, and are as follows:

Table 7-12 Nearest noise sensitive Receptors

Short Term Measurement Location	Location	Receptor	Category
ST1	Cavendish Street	Cavendish Halls of Residence	Residential (Student Accommodation)
ST2	Oxford Road	113 Oxford Road – 135 Oxford Road	Residential
ST3	Premier Inn	Premier Inn	Hotel

ST4	Chester Street	Residences on Chester Street	Residential
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Source of Effect

Demolition Noise

- 7.17. Information regarding the expected demolition works associated with the Proposed Development can be found in Chapter 5: Construction Management – Programme and Methodology.
- 7.18. It is generally expected that demolition activities would take place during the daytime periods only (i.e. Monday to Friday 08:00 – 18:00 and Saturday 08:00 – 13:00) with no working on Sundays, Bank or Public Holidays unless otherwise agreed with the Local Planning Authority. Consequently, only daytime Demolition impacts are considered. Whilst some information regarding the proposed works is available and has been provided by the project team, prior to a contractor being appointed, it should be considered indicative and may be subject to modification. However, the information forming the basis of the assessment is informed by reasonable worst-case assumptions and experience of similar projects, as well as the constraints present at this Site.
- 7.19. Demolition works are scheduled to start in Q1 2026 and finish in Q4 2026; this equates to an anticipated demolition period of 10-12 months.
- 7.20. The indicative equipment and plant assumptions for each activity are presented in Appendix 7.4. Predictions have been undertaken to determine likely Demolition noise levels at the nearest noise-sensitive receptors. The noise prediction methods described in Annex F of BS 5228-1:2009+A1:2014 have been used to determine an overall noise level for each activity listed above.
- 7.21. The propagation of Demolition noise has then been predicted using standard acoustic calculations and the principles contained in BS 5228-1:2009+A1:2014.
- 7.22. Demolition noise levels have been predicted for the minimum source to receiver distance, per phase. By assuming that all the plant and equipment is concentrated on that part of the Site in closest proximity to the relevant receptor and operating simultaneously. This captures the highest expected noise levels and this worst-case scenario would only be likely to occur on a small proportion of days during the Demolition phase of the Proposed Development.
- 7.23. The predictions do take account of the embedded mitigation that is contained in the DMP.

Demolition Vibration

- 7.24. The assessment of Demolition effects considers:
- Demolition vibration prediction methodology in line with the BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on Demolition and open sites – Vibration (BS 5228)
 - BS 7385-2:1993 Evaluation and measurement for vibration in buildings. Guide to damage levels from ground-borne vibration
 - CALTRANS.– Transportation and Demolition Induced Vibration Guidance Manual.
- 7.25. Demolition activities should be carried out in such a way that will not cause significant damage to adjacent structures. Further guidance may be obtained from BS 7385–2:1993.
- 7.26. The potential for adverse impact generated by Demolition vibration at the identified nearest receptors is based on the CALTRANS guidelines.

- 7.27. The estimated vibration transfer at the nearest receptors is based on the algorithm reproduced below:
- 7.28.
$$\text{PPV vibratory pile drive} = \text{PPV ref} \left[\frac{25}{D} \right]^n$$
- 7.29. Where:
- PPV ref is recorded at 0.65 in/sec for a reference pile driver at 25ft
 - D is the distance between pile driver and receiver in ft
 - n is the value related to the attenuation rate through ground, and it is directly related to the soil characteristics.
- 7.30. The PPV will be converted to mm/sec (i.e. 1 in/sec = 25.4 mm/sec), to enable comparison with the set criteria.
- 7.31. According to the Site's soil characteristics, the attenuation rate through ground is likely to be equivalent to 1.1, as indicated in the CALTRANS soil classification and vibration transmission factor (Table 7-13).

Table 7-13 CALTRANS soil classification and vibration transmission factor

Soil Class	Description of soil material	Qualitative description	Value of "n" measured by Woods and Jedele	Suggested value of "n"
I	Weak or soft soil: loose soils, dry or partially saturated peat and muck, mud, loose beach sand, dune sand, recently ploughed ground, soft spongy forest or jungle floor, organic soils, topsoil	Shovel penetrate easily	Data not available	1.4
II	Competent soils: most sands, sandy clays, silty clays, gravel, silts, weathered rock	Can dig with shovel	1.5	1.3
III	Hard soils: dense compacted sand, dry consolidated clay, consolidated glacial till, some exposed rock	Cannot dig with shovel, need pick to break up	1.1	1.1
IV	Hard, competed rock: bedrock, freshly exposed hard rock	Difficult to break with hammer	Data not available	1.0

- 7.32. The BS 5228 guidance on the human response to vibration is reproduced in Table 7-14.

Table 7-14 BS 5228 human response to vibration

Magnitude	PPV level	Effect
Large	10 mm/sec	Vibration is likely to generate adverse impact and complaints
Medium	1.0 mm/sec	Vibration is perceived and may cause complaints; however, can be tolerated if prior warning and explanation is given.
Small	0.3 mm/sec	Vibration might be just perceptible

Negligible	0.14 mm/sec	Vibration might be just perceptible
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- 7.33. There is little probability of structural damage occurring in residential buildings due to Demolition activities. However, it should be noted that damage to buildings can sometimes arise indirectly from vibration in certain ground conditions where the vibration is of sufficient magnitude to cause soil compaction (BS 7385 Annex C).
- 7.34. Table 7-15 presents transient vibration guidance values that potentially would result in cosmetic damage.

Table 7-15 BS 5288 Typical building damage thresholds

Type of building	PPV frequency range of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures	50 mm/sec at 4 Hz and above	50 mm/sec at 4 Hz and above
Industrial and heavy commercial buildings	50 mm/sec at 4 Hz and above	50 mm/sec at 4 Hz and above
Unreinforced or light-framed structure	15 mm/sec at 4 Hz, increasing to	20 mm/sec at 15 Hz, increasing to
Residential or light commercial buildings	20 mm/sec at 15 Hz	50 mm/sec at 40 Hz and above

Significance Criteria

General Approach

- 7.35. The overarching approach to the identification and assessment of adverse noise effects is based on the National Planning Policy Framework (NPPF), the Noise Policy Statement for England (NPSE), and the associated Planning Practice Guidance on Noise (PPG:N).
- 7.36. Fundamental to this approach are the aims that potentially adverse effects on health and quality of life resulting from noise from new developments should be mitigated and minimised, and that significant adverse effects should be avoided.
- 7.37. Key to the identification of adverse and significant adverse effects are the concepts of the Lowest Observed Adverse Effect Level (LOAEL) and Significant Observed Adverse Effect Level (SOAEL), introduced in the NPSE in 2010.
- 7.38. Current government policy does not include specific, quantified definitions of the LOAEL or SOAEL. The NPSE does note that the SOAEL is likely to be different for different sources of noise, for different receptors and at different times. Typically, thresholds to represent the LOAEL and SOAEL are taken from recognised guidance such as relevant British Standards, Regulations or research and guidance produced by the World Health Organisation, as well as accepted thresholds previously defined for other, similar schemes.
- 7.39. In general, the assessment methodology used for each part of the assessment is different in terms of how the potential noise or vibration impact is predicted and how the effect is assessed. These are described in the following sections.

Defining the Effect

- 7.40. The scale, and ultimately significance, of a potential adverse effect are derived by considering both the sensitivity of the receptor and the magnitude of deviation from set criteria.
- 7.41. Table 7-16 illustrates the scale of the effect matrix for high-sensitivity receptors.

Table 7-16 scale of effect matrix

Receptor sensitivity	Magnitude of change

High	Major	Moderate	Minor	Negligible
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7.42. The Explanatory Note¹ (EN) issued alongside the NPSE has introduced three Observed Effect Level (OEL) definitions to the assessment of noise in England, to identify and rate noise impact on the community from any Proposed Development:

- NOEL – No Observed Effect Level. This is the level below which no effect can be detected and below which there is no detectable effect on health and quality of life due to noise
- LOAEL – Lowest Observable Adverse Effect Level. This is the level above which adverse effects on health and quality of life can be detected
- SOAEL – Significant Observed Adverse Effect Level. This is the level above which significant adverse effects on health and quality of life occur.

7.43. The potential significance of Demolition noise at the receptors has been based on the methods described in Annex E of BS 5228-1, and is expressed in terms of LOAEL and SOAEL thresholds together with the duration of any exceedance of SOAEL. The effect level thresholds and significance criteria are presented Table 7-17:

Table 7-17 Effect level thresholds and significance criteria for demolition noise

Effect Level	Time Period (T)	Threshold Value (dB L _{Aeq,T}) ¹
LOAEL	Working day	65
SOAEL ²	Working day	75
Identification of effect significance and other notes: ¹ Values apply to a location one metre from a residential building façade containing a window, including the effect of the acoustic reflection from that façade. Usually referred to as a façade level. ² A significant effect is indicated if the programme of works indicates that the SOAEL threshold value is likely to be exceeded for a period of at least one month.		

7.44. The criteria defined in Table 7-17 relate primarily to residential receptors, which are of high sensitivity. Therefore, they have also been used when assessing the potential effects of demolition noise on any other types of sensitive receptors, which is considered to be a cautious approach. Where predicted Demolition noise levels are above the LOAEL but below the SOAEL, then adverse (non-significant) effects are indicated.

7.45. To maintain consistency with the standard descriptors of effect significance typically used in EIA, the effect level thresholds and significance criteria have been equated to the “level” of significance in Table 7-18 for noise. Note that for Demolition noise and vibration, all effects are considered to be adverse.

Table 7-18 EIA descriptors significance level for Demolition noise

Relationship of predicted demolition noise level to effect level	Duration of Demolition noise	Level of significance (EIA)	Indication of a significant effect
≤ LOAEL	N/A	Negligible	No

¹ Explanatory note of the Noise Policy Statement for England (NPSE), Defra 2010

Relationship of predicted demolition noise level to effect level	Duration of Demolition noise	Level of significance (EIA)	Indication of a significant effect
Between LOAEL and SOAEL	N/A	Low	No
> SOAEL	< one month	Moderate	No
> SOAEL	≥ one month	Major	Yes

Categorising Likely Significant Effects

- 7.46. Effects identified as being “moderate” or “major” are classified as significant effects that occur during Demolition works for the Proposed Development or once it is completed and operational.
- 7.47. The sensitivity of the receptors selected is taken as high. This is on the basis that the receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
- 7.48. Table 7-19 presents a significance of effects matrix based on receptor sensitivity for noise. It should be noted that this is based on the effects being temporary in nature for demolition noise.

Table 7-19 Significance of Effect matrix

Magnitude	Sensitivity		
Major	Major Adverse/Beneficial	Major - Moderate Adverse/Beneficial	Moderate or Minor Adverse/Beneficial
Moderate	Major - Moderate Adverse/Beneficial	Moderate Adverse/Beneficial	Minor Adverse/Beneficial
Minor	Moderate or Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor Adverse/Beneficial - Negligible
Negligible	Negligible	Negligible	Negligible

Baseline Conditions

- 7.49. Baseline conditions were assessed by way of attended noise-monitoring. A noise survey was carried out on 07/07/2025 on the site and surrounding area to capture the existing environmental noise climate at the nearest residential neighbours. Further details of the survey methodology and results can be found in Appendix 7.3.
- 7.50. A summary of the attended measurement data is presented below. The average sound levels are logarithmic averages at each measurement location.

Table 7-20 Measured noise levels from survey

Measurement Location	Measurement Time	Measured $L_{Aeq,T}$ dB	Average $L_{Aeq,T}$ dB
ST1	10:00-10:30	56	57
	13:30-14:00	57	
ST2	10:45-11:15	68	67
	14:20-14:50	66	

ST3	12:10-12:40	60	59
	15:00-15:30	58	
ST4	12:50-13:20	62	61
	15:40-16:10	60	

Identification and Evaluation of Likely Significant Effects

Demolition Phase

Demolition Vibration

- 7.51. Ground-borne vibration is propagated in the ground and can be transmitted into the foundations of nearby buildings. This causes vibration transfer to the building and can instigate an adverse response from inhabitants.
- 7.52. Vibration levels of typical plant and equipment have been extrapolated from BS 5228-2:2009+A1:2014 and CALTRAN Standard Plans 2013. Using empirical prediction formulas contained in these documents, the vibration level can be predicted to the nearest affected vibration-sensitive receptor.
- 7.53. The key sources of vibration having reviewed the proposed demolition equipment are excavators and telehandlers. On this basis, a large bulldozer has been adopted as a representative worst case in terms of the most relevant demolition vibration levels.

Table 7-21 Reference vibration levels for Demolition equipment

Demolition activity	Equipment	Reference PPV at 25 ft (in/sec)
Site preparation	Large bulldozer	0.089

- 7.54. Table 7-22 presents the summary of the predicted vibration transfer at the nearest identified sensitive receptors at approximately 30 m distance and during the likely highest vibration activities.

Table 7-22 Predicted vibration levels at nearest-sensitive receptor

Equipment detail	Equipment	Likely vibration at nearest receptor	Estimated significance of effect
Site preparation	Large bulldozer	0.5m m/s	Small

Note: Calculated values have been converted to mm/sec (i.e. 1in/sec = 25.4mm/sec).

- 7.55. Based on the empirical vibration source amplitudes and the subsequent calculated vibration levels at 30 m distance (i.e. at the nearest receptor at NSR 2), the predicted vibration transfer would result in a small magnitude impact and a LOAEL effect.
- 7.56. The expected vibration levels would remain below 15 mm/s, commonly taken to be the threshold of risk of cosmetic damage in lightweight buildings as per BS 5228-2:2009+A1:2014.
- 7.57. It should be noted that the calculated values are based on a single broadband value and more refined predictions would entail additional consideration of the receptor's building structure and foundation characteristics and how these affect vibration levels across different frequencies. However, these effects tend to reduce predictions of vibration transfer to the building structure, particularly over the low-frequency range (between 4Hz to 15Hz).
- 7.58. Based on the results, no additional monitoring or mitigation is considered necessary.

Demolition Noise

- 7.59. The predicted noise levels during the on-site Demolition works are presented in Appendix 7.4 for the existing noise-sensitive receptors. The tables have been shaded to indicate when the noise levels are between the LOAEL and SOAEL thresholds and when they are above the SOAEL threshold set out in Table 7-17 of this chapter.
- 7.60. Noise levels at NSRs 1, 3 and 4 are below the LOAEL levels for all periods of construction tested.
- 7.61. Noise levels at NSR 2 are predicted to be 1 and 4 dB greater than the SOAEL during two of the three example construction phases tested, weeks 24-29 and 30-35.
- 7.62. The predicted Demolition noise levels during each phase of work are summarised in Table 7-23. The three phases of demolition used for the calculations encompass the following:
- **Weeks 2-4:** Mechanical demolition of low-level buildings adjacent to Mancunian Way, as well as soft strip works, asbestos removal, and scaffolding erection
 - **Weeks 24-29:** High reach demolition of main building
 - **Weeks 30-35:** Slab and Foundations removal
- 7.63. Predictions include natural screening afforded by existing building massing, but do not include any mitigation measures that should be implemented, returning worst-case, unmitigated construction noise levels at receptors.
- 7.64. No mitigation has been embedded in the results calculated above. It should be noted that natural screening is provided by intervening buildings and is included above. This natural screening is particularly relevant for NSRs 1, 3, and 4. NSR2 is subject to minimum natural screening and would benefit from localised screening during the demolition phase.
- 7.65. Where there is partial screening, a reduction of -5 dB has been applied; where there is full screening, -10 dB has been applied.

Table 7-23 Estimated noise levels at the identified NSRs ($L_{Aeq,T}$ dB)

NSR	Week of Construction	Resultant Construction Noise Level $L_{Aeq,T}$ dB
1	2 - 4	54
	24 - 29	63
	30 - 35	63
2	2 - 4	65
	24 - 29	76
	30 - 35	79
3	2 - 4	57
	24 - 29	61
	30 - 35	61
4	2 - 4	51
	24 - 29	56
	30 - 35	55

- 7.66. The predicted effect as a result of the expected Demolition noise level during each phase of work is summarised in Table 7-24.

Table 7-24 Summary of Scale of Effect

NSR ID (sensitivity)	Effect Level		
	Weeks 2-4	Weeks 24-29	Weeks 30-35
Cavendish Street (High)	≤ LOAEL	≤ LOAEL	≤ LOAEL
Oxford Road (High)	≤ LOAEL	≥ SOAEL	≥ SOAEL
Premier Inn (High)	≤ LOAEL	≤ LOAEL	≤ LOAEL
Chester Street (High)	≤ LOAEL	≤ LOAEL	≤ LOAEL

- 7.67. Whilst there are some adverse effects during the Demolition programme, these will be temporary and will be managed in line with the embedded mitigation to minimise adverse effects.
- 7.68. Table 7-24 demonstrates that the predicted worst-case demolition noise levels exceed the SOAEL. As shown in Table 7-17 of this chapter, the final assessment of significance is based on the SOAEL being exceeded for a period of at least one month. At the time of writing, the indicative demolition programme suggests that relevant works where the SOAEL is exceeded may occur for periods exceeding one month, after which SOAEL exceedance results in significant adverse effects.

Mitigation Measures

- 7.69. No mitigation has been embedded in the results calculated above. Mitigation measures that can be applied to control noise and vibration from demolition activities are shown below.

Demolition Phase

Demolition Noise

- 7.70. The MCC noise and vibration criteria should be implemented by the appointed Contractor in determining the method of demolition, type of equipment and plant to be used and noise mitigation measures. Before commencement or during works, the Contractor will be required to demonstrate compliance with agreed noise and vibration standards.
- 7.71. The use of any plant or equipment required for any emergency which causes a breach of the above conditions shall be notified to MCC as soon as practicable, and the Contractor should advise if previously agreed noise and vibration levels will be exceeded in terms of both levels and duration.
- 7.72. Community liaison is key to increasing community tolerance to noise and vibration. The local community should be kept informed of what is going to happen, when and for how long. The local residents' attitude to Demolition noise can be influenced by the knowledge that the contractor is taking all possible measures to avoid unnecessary noise.
- 7.73. Therefore, it is good practice to promote good communication, liaison and provision of a helpline to respond to queries and complaints.
- 7.74. Noise levels from individual items of plant can vary considerably depending on their power system, how they are configured in relation to receptors and the operational time and percentage of use. Therefore, careful

selection of plant, orientation, distance and screening between source and receptor, in addition to the plant's daily percentage of operational time, is essential when noise control is necessary.

- 7.75. Therefore, if noisy plant items need to be used, they should be operated in isolation or for a shorter daily period of time to reduce the estimated adverse noise impact upon nearby NSRs.
- 7.76. Fixed demolition plant items may have to be electrically powered or if not suitable, should be installed within an acoustic enclosure.
- 7.77. Additional examples of mitigation measures that should be implemented to control demolition noise are found in Section 8 of BS 5228-1:2009+A1:2014 and include:
- Pneumatic percussive tools must be fitted with shrouding or silencers
 - Machines in intermittent use should be shut down or throttled down to a minimum when not in use
 - Equipment that breaks concrete by munching rather than by percussion should be favoured
 - Care should be taken when loading or unloading vehicles or dismantling scaffolding or moving materials to reduce adverse impact
 - Use rubber linings in chutes and dumpers to reduce impact noise
 - Minimise drop height of materials
 - Ensure that audible warning systems (including reversing alarms) are not tonal or to a minimum audible volume and set traffic routes that avoid reversing on site
 - Avoid unnecessary revving of engines and switch off equipment when not required
 - Keep internal haul routes well maintained and avoid steep gradients
 - Startup plant and vehicles sequentially rather than all together
 - Selecting quieter plant and equipment
 - Turning equipment off when they are not in use
 - Providing enclosures around fixed plant, like power generators or using mains power
 - Ensuring that all plant and equipment is well maintained
 - Keep internal haul routes well-maintained and avoid steep gradients
 - Use rubber linings in chutes and dumpers to reduce impact noise
 - Minimise drop heights of materials
 - Start plant up sequentially rather than simultaneously
 - Move fixed plant away from identified noise sensitive receptors
 - Modify existing plant with noise attenuation packages such as acoustic enclosures and attenuators

- For impact driven piling, a non-metallic dolly between the hammer and the driving helmet should be used
- Introducing an acoustic shroud for impact driven piles
- Choose a quieter piling method such as auger piling rig
- Avoiding unnecessary revving of engines
- Avoid using diesel power generators and use local electricity grid wherever possible. However, in any case generators and other stationary noisy plant unit, should be encased in a proprietary acoustic rated enclosure as detailed in the BS5228 guidance.

Demolition Vibration

- 7.78. Before and the commencement of Demolition works, the existing conditions of the nearby buildings should be recorded, such as cracks and their widths, loose or broken tiles, pipes, gullies and plaster. An equivalent post-completion inspection should also be carried out to help establish alleged or actual damage caused by the Demolition works.
- 7.79. The Contractor shall select and utilise methods of working and items of plant to minimise ground borne vibration so that the maximum measure ground vibrations do not exceed the BS 7385 and BS 5228 guidelines.
- 7.80. Additional examples of mitigation measures that can be used to control Demolition vibration are found in Section 8 of BS 5228-2-2009+A1:2014 include:
- Substitute plant and/or methods with less obtrusive plant and/or methods
 - Where reasonably practical, move vibrating equipment away from identified NSRs
 - Vibration isolation of stationary plant
 - Employ cut-off trenches which are analogous to noise barriers.

Residual Effects

Demolition Phase

- 7.81. Table 7-25 summarises the likely residual effects of the proposed project, incorporating the anticipated reduction in noise levels due to mitigation.

Table 7-25 Summary of residual effects during demolition

Receptor	Effect	Significance before mitigation	Supplementary mitigation	Residual effect significance
1	Demolition noise	Non-significant: negligible adverse	Production of a detailed DEMP and implementation of mitigation measures during works	Non-significant: negligible adverse
	Demolition vibration	Non-significant: negligible adverse		Non-significant: negligible adverse
2	Demolition noise	Significant: major adverse		Non-significant: low adverse
	Demolition vibration	Non-significant: negligible adverse		Non-significant: negligible adverse
3	Demolition noise	Non-significant: negligible adverse		Non-significant: negligible adverse

	Demolition vibration	Non-significant: negligible adverse	Non-significant: negligible adverse
4	Demolition noise	Non-significant: negligible adverse	Non-significant: negligible adverse
	Demolition vibration	Non-significant: negligible adverse	Non-significant: negligible adverse

- 7.82. Following the implementation of the supplementary mitigation, the residual demolition noise effect on receptor 2 is anticipated to reduce to a non-significant low adverse effect.

Monitoring

Vibration Monitoring

- 7.83. Calculations have demonstrated that Vibration effects are below the LOAEL. Real-time vibration monitoring is therefore not considered necessary during the demolition phase.

Noise Monitoring

- 7.84. Noise monitoring during the demolition works is recommended as one of the mitigation measures outlined in this chapter. This is recommended as part of a wider suite of mitigation measures to reduce significant residual effects.

Cumulative Effects

- 7.85. This section considers potential cumulative demolition effects at relevant identified noise-sensitive receptors.
- 7.86. A single cumulative scheme has been identified. This is the Cambridge Halls development located to the southwest of the proposed Manchester Metropolitan University demolition site.
- 7.87. Due to the negligible impact of vibration demonstrated for the Manchester Metropolitan University demolition and the unlikely nature of interactive vibration effects, vibration has been scoped out of the cumulative effects assessment.
- 7.88. Based on the construction management plan for the Cambridge Halls development, there is a potential for overlap in Demolition and Construction noise from both developments between Q1 2026 and Q4 2026.
- 7.89. A single receptor, NSR2, Oxford Street, has been considered; this is the only receptor where an effect greater than negligible has been identified as part of the Manchester Metropolitan University demolition construction noise assessment. The impact on all other receptors has been demonstrated to be negligible and cumulative impacts have therefore been scoped out.
- 7.90. The receptor on Oxford Street, NSR 2 is located approximately 30 m from the red line boundary of the Manchester Metropolitan University demolition and is located approximately 215 m from the Cambridge Halls cumulative scheme.
- 7.91. Limited information is available for the Cambridge Halls Scheme. A Construction Management Plan is available and has been reviewed. This document outlines daytime working hours from 08:00 to 18:00 on weekdays. It details the agreement with MCC on action noise limits that will be agreed, along with the implementation of mitigation measures in accordance with BS5228-1:2009+A1:2014 as necessary. No objective assessment of noise is provided as part of the application for Cambridge Halls.
- 7.92. The following assessment follows the principles of BS 5228-1:2009+A1:2014 and assumes the summing of simultaneous noise sources.

- 7.93. It is assumed that the closest receptor to the Cambridge Halls development is the Cavendish Street residential halls to its west. It is understood that the separation distance between the red line boundary of Cambridge Halls and the Cavendish Street residents (NSR1) in this ES chapter is approximately 17 m.
- 7.94. In the absence of predicted noise data for Cambridge House impacting the Oxford Street residences, the following scenario has been tested.
- 7.95. On the assumption that the Cambridge Halls site reduces construction noise levels at the Cavendish Street (NSR1) receptor (approximately 17 m between source and receiver) to below the SOAEL ($\leq L_{Aeq,T} 75$ dB), the resultant noise level at the Oxford Street residences would be approximately $L_{Aeq,T} 53$ dB. This is based on the point source propagation of sound.
- 7.96. Where Cambridge Halls construction/demolition noise levels are controlled to a noise level up to the SOAEL at its nearest noise sensitive receptor (NSR1 17m away), the resultant noise level associated with Cambridge Halls construction/demolition works at Oxford Street (NSR2) is 12 dB below the LOAEL and 22 dB below the SOAEL.
- 7.97. A difference of this magnitude is considered significant, with a 10 dB change in sound level typically perceived to be a halving in loudness. In terms of cumulative effects, logarithmically summing a source that is 10 dB below the LOAEL will increase the noise level by less than ≤ 0.3 dB, with such a change being likely imperceptible to residents and therefore is not significant in terms of planning.

Reference List

- BSI Standards Limited (2014), BS 5228-1:2009+A1:2014 Code of Practice for noise and vibration control on construction and open sites, Part 1 Noise.
- BSI Standards Limited (2014), BS 5228-2:2009+A1:2014 Code of Practice for noise and vibration control on construction and open sites, Part 2 Vibration.
- Department for Environment, Food & Rural Affairs (DEFRA) (2010), Noise Policy Statement for England.
- Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2019), Planning Practice Guidance: Noise.
- Ministry of Housing, Communities and Local Government (2024), National Planning Policy Framework.
- Manchester City Council, 2012, Manchester's Local Development Framework – Core Strategy and Development Plan Document.
- Manchester City Council, 2022, Planning and Noise Technical Guidance.
- Ministry of Housing, Communities & Local Government (2021), National Planning Policy Framework.
- The Association of Noise Consultants (2012), ANC Guidelines: Measurement & Assessment of Groundborne Noise & Vibration
- CALTRANS – Transportation and Demolition Induced Vibration Guidance Manual.

8. Summary of Residual Effects

Introduction

8.1. This chapter summarises the residual effects that are set out in each individual relevant chapter.

Air Quality

Construction Phase

8.2. The residual effects for the demolition phase are presented in Table 6-10.

Table 8-26 Summary of Demolition phase Residual Effects

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Demolition phase				
Effects of emissions arising from dust generated during the demolition of existing building on the Site on human health	Surrounding sensitive uses, e.g. residential properties(high) and higher education (medium*)	Recommended mitigation measures have been outlined within Appendix 6.2.	Mitigation measures typically implemented through a DMP to be submitted as part of the planning application.	Negligible, short-term and temporary
Effects of emissions arising from traffic generated by onsite NRMM during demolition of existing building on the Site on human health	Surrounding sensitive uses, e.g. residential properties(high) and higher education (medium*)	Recommended mitigation measures have been outlined within Appendix 6.2.	Mitigation measures typically implemented through a DMP to be submitted as part of the planning application.	Negligible, short-term and temporary
Effects of emissions arising from traffic generated by the demolition of existing building on the Site on human health	residential properties(high) and higher education (medium*)	No mitigation is required	N/A	Negligible, short-term and temporary
*All existing sensitive receptors have been considered as high sensitivity receptors to provide a robust assessment.				

Noise and Vibration

Demolition Phase

8.3. Table 8-2 summarises the likely residual effects of the proposed project, incorporating the anticipated reduction in noise levels due to mitigation.

Table 8-2 Summary of residual effects during demolition

Receptor	Effect	Significance before mitigation	Supplementary mitigation	Residual effect significance
1	Demolition noise	Non-significant: negligible adverse	Production of a detailed DEMP and	Non-significant: negligible adverse

Receptor	Effect	Significance before mitigation	Supplementary mitigation	Residual effect significance
	Demolition vibration	Non-significant: negligible adverse	implementation of mitigation measures during works	Non-significant: negligible adverse
2	Demolition noise	Significant: major adverse		Non-significant: low adverse
	Demolition vibration	Non-significant: negligible adverse		Non-significant: negligible adverse
3	Demolition noise	Non-significant: negligible adverse		Non-significant: negligible adverse
	Demolition vibration	Non-significant: negligible adverse		Non-significant: negligible adverse
4	Demolition noise	Non-significant: negligible adverse		Non-significant: negligible adverse
	Demolition vibration	Non-significant: negligible adverse		Non-significant: negligible adverse

- 8.4. Following the implementation of the supplementary mitigation, the residual demolition noise effect on receptor 2 is anticipated to reduce to a non-significant low adverse effect.

9. Type 1 Cumulative Effects

- 9.1. This section gives consideration to 'Type 1' cumulative effects.
- 9.2. The assessment is informed by the results of the technical assessments as set out in Chapter 6 - 13 of the ES. It is based on professional opinion and experience of Deloitte in capacity as the EIA coordinator.
- 9.3. Type 1 cumulative effects are also known as 'inter-project' effects, which are the combined effects arising from the Proposed Development upon a set of defined sensitive receptors.
- 9.4. Type 2 cumulative effects are considered within the ES technical chapters. The technical chapters also had regard to the potential for Type 1 cumulative effects, however for robustness the results of a standalone assessment of these is provided below.

Legislation, Policy and Guidance

Legislation

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

Policy

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

Guidance

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

"Each application (or request for a screening opinion) should be considered on its own merits. There are occasions, however, when other existing or approved development may be relevant in determining whether

significant effects are likely as a consequence of a Proposed Development. The local planning authorities should always have regard to the possible cumulative effects arising from any existing or approved development.”

Assessment Methodology and Significance Criteria

Methodology

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

Significance Criteria

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

Limitations and Assumptions

- 9.22. Due to the reliance on qualitative data and subjective opinion, there are limitations related to the range and depth in which the cumulative effects have been investigated. It must be realised that analysing the cumulative effects of developments is often speculative and cannot be predicted as clearly as individual effects such as the effects upon traffic of a development, which relies heavily upon quantitative data to inform the assessment.
- 9.23. As a result, a number of assumptions have been made throughout in terms of the outcome of the accumulation of effects and based upon professional judgement. This section and the assessment process of identifying the likely significant Type 1 cumulative effects have, however, provided a reasoned consideration of and insight into the potentially significant Type 1 cumulative effects of the Proposed Development.

Identification of Likely Significant Type 1 Cumulative Effects

Construction Phase

- 9.24. Based on the methodology detailed above, Table 9-1 presents the results of the review of the potential for interactions of individual effects during the construction phase of development. The potential effect interactions are then discussed further.

Table 9-1 Type 1 Cumulative Effects Construction Phase

Sensitive Receptor Group	Construction Phase Residual Effects	Likely Significant Cumulative Effects
Humans	<u>Noise and vibration:</u> Construction noise for existing local residents and proposed future local residents. Construction traffic noise on local roads for existing local residents and proposed future local residents. Construction vibration to existing local residents. Negligible adverse (Not significant) Temporary and Short-Term <u>Air Quality:</u> Construction Phase - Dust Soiling and other air quality effects associated with the construction phase. Negligible, short-term and temporary	No likely significant Type 1 cumulative effects
Neighbouring Residential Properties	<u>Noise and Vibration:</u> Potential damage to neighbouring buildings as a result of vibration. Potential noise intrusion during construction works. Negligible adverse (Not significant). Temporary and Short-Term	No likely significant Type 1 cumulative effects

- 9.25. Table 9-1 shows that there is unlikely to be in-combination operational phase Type 1 cumulative effects to arise.

Mitigation Measures

- 9.26. Where relevant, the individual residual effects which contribute to the potential cumulation have been considered within the ES and mitigated where necessary and feasible.
- 9.27. Mitigation measures proposed will typically be implemented through a Demolition Management Plan (DMP) to be submitted as part of the application.



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