



No.3, Circle Square – Full Planning Application

Environmental Impact Assessment (EIA) Screening and Scoping Report

May 2022

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1 Introduction

- 1.1 This Environmental Impact Assessment (EIA) Screening and Scoping Report has been prepared in respect of the development proposals on the plot known as No.3, located in the south eastern part of the Circle Square Masterplan Site, Oxford Road, Manchester ("the Site"). A full planning application will be submitted to Manchester City Council ("MCC") by Bruntwood Circle Square 12 Ltd ("the Applicant").
- 1.2 The Proposed Development comprises of a Ground + 14 storey office development with ground floor commercial uses on what was previously known as Plot 12, of the Circle Square Masterplan.
- 1.3 This Screening and Scoping Report is submitted to MCC as a request for a Scoping Opinion under Regulation 15 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017. In accordance with Part 4: Regulation 15(2) this report contains:
- A brief description of the nature and purpose of the Proposed Development, including its location and technical capacity.
 - An explanation of the likely significant effects of the development on the environment.
 - A plan sufficient to identify the land enclosed at Appendix 1.

EIA Requirements

- 1.4 The EIA process is the mechanism by which development proposals are appraised in relation to the environmental criteria as well as socio-economic, engineering and technical considerations. The EIA process defines the context of the Proposed Development and examines the issues considered pertinent.
- 1.5 The purpose of the EIA is to establish the nature of the development and the environment on which it is likely to take place to identify likely significant effects on the environment that may arise, by comparing the existing situation at the start of the work (baseline) with the situation once the proposals are in place.
- 1.6 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 require that any proposed development falling within the description of a 'Schedule 2 development' within the meaning of the Regulations, will be subject to an EIA where such development is likely to have 'significant' effects on the environment by virtue of such factors as its nature, size or location (Regulation 4(2)).
- 1.7 The proposed development falls under the category of "Infrastructure Projects" (Schedule 2, 10, (b) i) as described in the Regulations. The applicable threshold above which EIA is more likely to be required is if the development "includes more than 1 hectare of urban development which is not dwellinghouse development".
- 1.8 The indicative thresholds and criteria state that:
- "In addition to the physical scale of such developments, consideration should be given to the potential increase in traffic, emissions and noise. EIA is unlikely to be required for the redevelopment of land unless the new development is on a significantly greater scale than the previous use, or the types of impact are of a markedly different nature or there is a high level of contamination".**
- 1.9 Given the nature of the Proposed Development in regard to the redevelopment of the Site, an EIA is considered appropriate to test the likely significant effects of the Proposed

Development. The Applicant therefore proposes to submit an Environmental Statement in support of the planning application.

Purpose of the Scoping Report

- 1.10 The process of identifying likely significant effects on the environment, which should be addressed by the EIA, is termed 'scoping' and the results are presented as a Scoping Report.
- 1.11 Regulation 15 of the EIA Regulations set out the requirements for obtaining a Scoping Opinion from the relevant planning authority.
- 1.12 This Scoping Report sets out the framework within which the Environmental Statement ('ES') will be produced and the topic areas and information that will be contained within the document. It is issued to MCC for circulation to Statutory Consultees and other organisations who are invited to express their views on the proposed scope of the EIA, or suggest additional issues which may be considered to be of significance. The views expressed by Statutory Consultees will then be used by the LPA to inform the formal Scoping Opinion.
- 1.13 The remainder of this report is structured as follows:
- Section 2: Site and the Proposed Development
 - Section 3: Scope, Structure and Consultation
 - Section 4: EIA Methodology
 - Section 5: Environmental Statement Chapters

2 Site Description and Proposed Development

Circle Square Masterplan

Strategic Context

- 2.1 A rare opportunity for large scale, comprehensive regeneration within Manchester City Centre arose in 2009 when the BBC announced that they would be relocating from their existing base at New Broadcasting House, Oxford Road to MediaCity:UK in Salford Quays. The Former BBC Site is around 4 hectares and is bounded by Oxford Road, the River Medlock and Princess Street, the Mancunian Way and Charles Street.
- 2.2 In order to ensure that any development on the Site would contribute to the sustained economic growth and competitiveness of the City and deliver employment-led regeneration, Manchester City Council's Executive Committee endorsed a Strategic Regeneration Framework (SRF) in July 2013. This SRF encompasses the Former BBC Site plus office accommodation to the south of Brancaster Road and Cloak Street at Armstrong House and the Manchester Technology Centre; and Manchester City Council landholdings at the junction of Upper Brook Street / Mancunian Way.
- 2.3 Bruntwood acquired the Masterplan Site in March 2015 and developed, with their development partner Select Property Group, a concept Masterplan that was endorsed by the Council's Executive in April 2015. This proposed a comprehensive, employment-led mixed use redevelopment of the Masterplan Site including the following: commercial office space; other business/research space; a new residential neighbourhood; ground floor retail and leisure space; and a series of public realm interventions that would see the Site becoming a vibrant new district, legibly connecting in to the wider city centre fabric.

Planning History

- 2.4 Since they acquired the Site, Bruntwood and Select Property Group have been developing the Masterplan concept and have submitted a number of planning applications that set the tone for the long term positive redevelopment of the Masterplan Site. These planning applications are summarised in the table below:

Table 2.1: Circle Square Planning History

Phase of Development	Application Reference Number	Description of Development	Date of Approval
Complete			
Enabling Works	109647/FO/2015/C1	Site preparation works including demolition of existing structures on site, removal of below ground structures, re-grading of the site, processing of removed materials, diversion of existing utilities and drainage connections, erection of perimeter hoarding and removal of 5 trees (4 adjacent to River Medlock and 1 adjacent to Brancaster Road)	06/10/2016
Phase 1A	110055/FO/2015/C1 (Plots 10 and 11)	Development comprising the erection of 1no. 12 floor serviced apartment building (Sui Generis) (Building 10) (384 units) with ground floor ancillary areas including reception, residents hub and associated facilities and 1no. part 14 floor part 18 floor serviced apartment building (Sui Generis) (Building 11) (220 units) with ground and mezzanine floor ancillary areas including reception, residents hub and amenities, plus commercial units	08/01/2016

Phase of Development	Application Reference Number	Description of Development	Date of Approval
		(Use Class A1, A2, A3, A4, B1, D2) and associated access, landscaping and cycle parking facilities to include landscaping to Brancaster Road.	
Phase 1B	111025/FO/2016/C1 Plots 2, 3 and 4	Blocks 2,3 and 4 - Erection of two buildings (18 and 14 storeys (Blocks 2 and 4)) comprising offices (Class B1) with ground and mezzanine floor commercial uses (Class A1 (shop), A2 (Financial and Professional Services), A3 (Restaurant and Cafe), A4 (Drinking Establishment), B1 (Offices), D1(Non-residential Institutions - Creche only) and D2 (Assembly and Leisure - Gym only)) and rooftop restaurant (Class A3) with associated external terrace (Block 4), creation of public green space with pavilion building (Block 3) for events space / uses within Classes A1, A3, A4, D1(Exhibition Hall / Public Hall only) , D2(Concert Hall / Music Hall only)(Sui Generis) accessed from ground level within basement level below alongside creation of areas of public realm including tree planting and all associated access and servicing.	02/06/2016
	111026/FO/2016/C1 (Plots 5 and 6)	Blocks 5 and 6 - Erection of part 17, part 36 storey building to comprise 411 residential apartments (Class C3) (14 studios, 136 x 1 bed, 228 x 2 bed and 33 x 3 bed) with mid and top roof level private dining / media room/ gardens, ground and mezzanine floor residential amenity uses including a gym,, plus lower ground, ground and mezzanine level commercial uses (Class A1 (shop), A2 (Financial and Professional Services), A3 (Restaurant and Cafe), A4 (Drinking Establishment), B1 (Offices), D1(Non-residential Institutions Creche only) and D2 (Assembly and Leisure - Gym only)) and associated junction improvements to Oxford Road / Charles Street, access, servicing, and landscaping.	01/07/2016
	111027/FO/2016/C1 (Plots 7 and 8)	Blocks 7 and 8 - Erection of 17 storey building to comprise 266 residential apartments (Class C3) (14 studios, 56 x 1 bed, 168 x 2 bed and 28 x 3 bed) with top roof level private dining / media room / gardens, ground and mezzanine floor residential amenity uses including a gym and home working lounge, plus ground and mezzanine level commercial uses (Class A1 (shop), A2 (Financial and Professional Services), A3 (Restaurant and Cafe), A4 (Drinking Establishment), B1 (Offices), D1(Non-residential Institutions - creche only) and D2 (Assembly and Leisure - gym only)) and associated access, servicing, and landscaping.	06/07/2016
	111028/FO/2016/C1 (Plot 14)	Block 14 - Demolition of any existing structures and erection of multi-storey car park (1028 spaces including 50 disabled) in 10 storey building, with ground and mezzanine commercial uses (Class A1 (shop), A2 (Financial and Professional Services), A3 (Restaurant and Cafe), A4 (Drinking Establishment), B1 (Offices), D1(Non-residential Institutions Creche only) and D2 (Assembly and Leisure Gym only)) and associated access, servicing, landscaping and cycle parking facilities.	23/06/2016
	113832/FO/2016 (Plot 14)	Block 14 - Demolition of any existing structures and erection of part 12, part 18 storey building to comprise a multi-storey car park (maximum 1,100 spaces including 55 spaces for disabled car users) (ground to 11th floor) a hotel (150 beds) (12th to 17th floor) and an energy centre (ground floor and mezzanine) with ground and mezzanine commercial uses (Class A1 (shop), A2 (Financial and Professional Services), A3 (Restaurant and Cafe), A4 (drinking Establishment), B1 (Offices), D1 (Non-Residential Institutions Creche only) and D2 (Assembly and Leisure Gym only)).	18/11/2016

Phase of Development	Application Reference Number	Description of Development	Date of Approval
Plot 9	114863/FO/2016	Erection of 18 storey serviced apartment building (384 units) with ancillary retail (A1, A2, A3, A4), residents hub and associated access and landscaping.	09/03/2017
Extant Permissions			
Plot 12 (NOW NO.3)	125451/FO/2019	Erection of new 15 storey building plus basement to include basement plant room, ground floor reception, cycle store and commercial space (flexible Use Classes A1 (Shop), A2 (Financial and Professional Services), A3 (Restaurant and Cafe), A4 (Drinking Establishment), D1 (Non-residential Institutions - Creche only) and D2 (Assembly and Leisure - Gym only) and 14 storeys of offices (Use Class B1) together with rooftop lounge and terrace, associated means of access and external landscaping around base of building	07/02/2020

- 2.5 Each of the phases of development outlined in the table above fall into the category of an "Urban Development Project" (Schedule 2, 10 (b)) as described in the EIA Regulations. The EIA regulations require that any proposed development falling within the description of a "Schedule 2 development" within the meaning of the Regulations, will be subject to an EIA where such development is likely to have "significant" effects on the environment by virtue of such factors as its nature, size or location (Regulation 2(b)).
- 2.6 Each of the development phases identified in the table above exceeds the threshold for Urban Development Projects. It was therefore necessary to assess the proposals against the EIA screening criteria and a checklist of potential effects, having regard for Schedule 3 of the EIA Regulations, and the National Planning Practice Guidance, in order to determine whether they were likely to have significant environmental impacts. This is further explained under each development phase below.

Enabling Works

- 2.7 The Enabling Works application site extended to approximately 2.29 hectares in size. It was bounded by Brancaster Road to the south and so excluded No.3. An EIA screening letter was submitted to Manchester City Council on 31 July 2015. The information provided within the Screening Request letter concluded that the proposed development was not of a type or scale which would result in its categorisation within Schedule 1 or Schedule 2 of the EIA Regulations, and therefore would not necessitate an EIA to be undertaken.
- 2.8 Written confirmation was received from Manchester City Council on 13 August 2015 which agreed with the conclusions in the Screening Letter.

Phase 1A

- 2.9 The Phase 1A application Site is approximately 1.86 hectares in size and located on the north eastern part of the Former BBC at Oxford Road, Manchester (Plots 10 and 11). As the Phase 1A proposals incorporated in excess of 150 units accommodated within tall buildings it was identified that an EIA should be carried out in relation to the topic areas where there is the potential for there to be a significant effect on the environment as a result of the development. These topic areas were defined as:
- Socio Economic Impact
 - Heritage and Townscape Impact
 - Wind Microclimate

- Ground Conditions
- Water Resources, Drainage & Flood Risk
- Daylight, Sunlight & Overshadowing

2.10 The EIA considered the impact of Phase 1A in solus and cumulatively with other committed developments and future phases of the Masterplan. As the future phases were only indicative when the EIA was undertaken, their effects were considered qualitatively using their expected scale, massing, use and density.

Phase 1B

2.11 Five planning applications were submitted seeking approval for the second phase of development (Phase 1B). These comprised: two commercial Buildings on Plots 2&4, the Green and Pavilion on Plot 3; two interlinked residential buildings on Plot 5 & 6; two interlinked residential buildings on Plot 7 & 8; and two planning applications for the Multi Storey Car Park (MSCP) and addition of the hotel on Plot 14.

2.12 The proposals were assessed under one EIA as a single phase of development. This was considered the most robust method of ensuring that the cumulative impact and interaction of effects of each application are fully and robustly considered as part of the planning process. The total quantum of development across the four Phase 1B planning applications and the scope of what was assessed as part of this EIA are highlighted in Table 2.2 below.

Table 2.2: Phase 1B Total Quantum of Approved Phase 1B Development

	Residential units	Office Floorspace (Use Class B1) (sq. ft.)	Commercial "Retail" and Leisure Floorspace (Use Class A1-5 and D2) (sq. ft.)	Car Park	Cycle Spaces
Phase 1B	677	305,631	98,080	1,028	724

2.13 It was agreed with the Council and other relevant stakeholders through the Scoping Process that the EIA for Phase 1B should be carried out in relation to the following topic areas where it was considered that there was potential for the proposed developments to result in significant effects on the environment:

- Socio-Economic
- Townscape and Visual Impact
- Heritage Impact
- Wind Microclimate
- Traffic and Transport
- Noise and Vibration
- Air Quality
- Ground Conditions
- Water Resources, Drainage and Flood Risk
- Daylight and Sunlight

- Electronic Interface

- 2.14 Future phases of the Circle Square masterplan were considered together with committed developments (including the approved Phase 1A proposal) to assess the cumulative impact of development. As with Phase 1A, the future phases were only indicative when the EIA was undertaken and their effects were therefore considered qualitatively using their expected scale, massing, use and density.
- 2.15 This EIA was then revised and re-submitted to re-assess the environmental impacts of the Phase 1B development, taking into account the revised Plot 14 proposals.

Plot 9

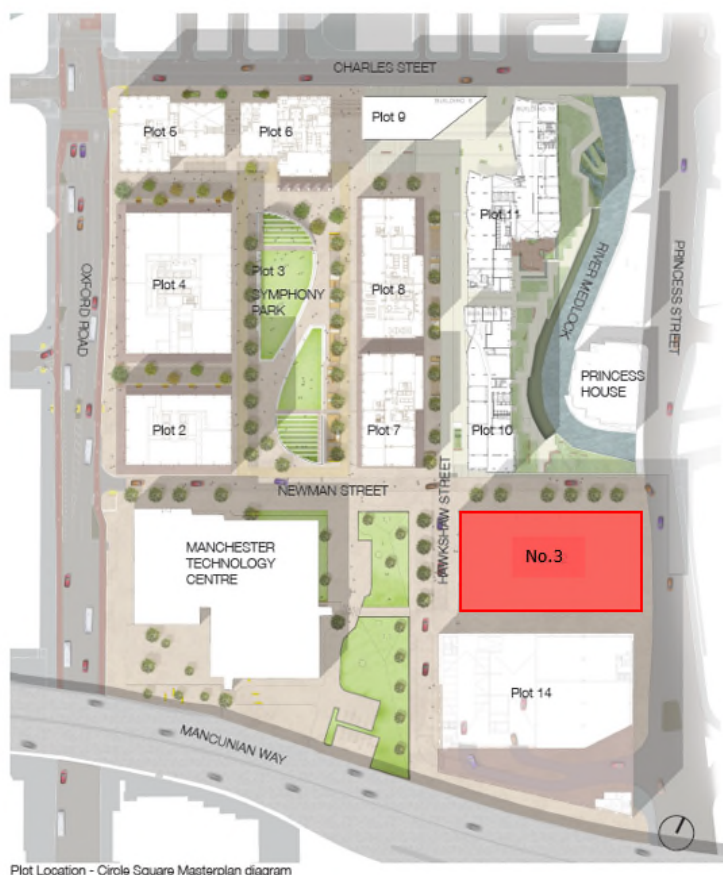
- 2.16 Plot 9 comprises the land in the north eastern part of the masterplan, adjacent to Charles Street and bound by buildings 5&6 to the west, buildings 7&8 to the south and building 10 to the east.
- 2.17 The overlapping delivery strategy for the masterplan meant that the proposed development of Plot 9 is being constructed in tandem with the Phase 1B development and will lead to potential combined impacts. As such, to ensure a robust approach to the EIA the updated Plot 14 EIA was further updated to incorporate detailed consideration of the Phase 1C Plot 9 development.

Masterplan Delivery

- 2.18 The phases detailed above are now complete. The below plan and bullets set out the current site position with the No.3 site shown in red.

Circle Square Plots Delivered

- **PHASE 1A:** Plots 10 & 11: Vita Serviced Apartments - 604 units (110055/FO/2015/C1)
- **PHASE 1B:**
 - Plots 2, 3 & 4: Two commercial buildings (28,394 sqm) & Symphony Park (6,587 sqm) (11025/FO/2016/C1)
 - Plots 5 & 6: Affinity Living Apartments– 411 units (111026/FO/2016/C1)
 - Plots 7 & 8: Affinity Living Apartments – 266 units (111027/FO/2016/C1)
 - Plot 14: MSCP and Hotel
- **PHASE 1C:** Plot 9: serviced apartments – 384 units (114863/FO/2016)
- **PHASE 2:** Plot 12 – No.3 Circle Square
- **PHASE 3:** Manchester Technology Centre (Plot 1)



Plot Location - Circle Square Masterplan diagram

No.3 EIA Strategy

- 2.19 Bruntwood are now looking to bring forward the next phase of development through the delivery of commercial office floorspace, on the plot previously referred to as at Plot 12.
- 2.20 A planning application on the Site (reference 125451/FO/2019) has previously been prepared and was approved on 07 February 2020. As part of that application, an EIA was undertaken. Due to the updated proposals, it is considered appropriate to prepare a new EIA for the development of No.3 to assess the evolved development proposals, rather than updating the previous EIA, due to changes in quantum of development and the time passed.
- 2.21 This will ensure a robust assessment of the future impact of No.3 against the existing masterplan, and wider cumulative developments.

Site Description

- 2.22 The Site is plot No.3 of the wider Circle Square Masterplan and indicatively set out for an office use. The Site is currently vacant and is bound by Newman Street (formally Brancaster Road) to the north, Sorton Street to the west, Cloak Street to the south and Princess Street to the east. The Site is 0.2ha.
- 2.23 A new area of public space is proposed between Manchester Technology Centre, the Mancunian Way and the Multistorey Car Park / Premier Inn hotel. In addition, landscaping improvements will be sought to Newman Street.
- 2.24 The Site most recently comprised the construction compound for Sisk, the contractors developing the other plots on the Circle Square Masterplan. It is now cleared and hoarded, awaiting development.
- 2.25 A site plan is provided at **Appendix 1**.

Site Context

- 2.26 Manchester is characterised by a compact City Centre and the Site is within walking distance of the City's economic, civic, cultural and leisure offer.
- 2.27 To the south west of the Site, which also forms part of the wider Masterplan Site, is the Manchester Technology Centre (Oxford House). This building remains in active use with commercial units located on the ground floor. The 'Hatch' development is located adjacent to the Manchester Technology Centre and beneath the Mancunian Way and provides a range of flexible retail and leisure uses.
- 2.28 The Mancunian Way fly-over is situated along the Circle Square Masterplan southern boundary and creates a barrier between Circle Square and the main University campuses further south.
- 2.29 To the north of the Site, on the eastern bank of the River Medlock are a number of residential apartments within Princess House and Montana House, both rising to approximately 12 storeys. Together these blocks accommodate c.130 apartments.
- 2.30 Further to the north of the Site, Charles Street has a mix of building heights and uses, including a number of public houses and bars to the eastern end, and residential uses at its junction with Oxford Road. The Grade II Listed Lass O'Gowrie pub is located north of the Site on Charles Street. Further Grade II and Grade II* Listed buildings are located further north on Princess Street and Whitworth Street West.

- 2.31 To the east of Princess Street boundary is the former UMIST campus, which is now known as the Sackville Street campus (or North Campus) of the University of Manchester. Princess Street bridges the River Medlock, a tributary of the River Irwell.
- 2.32 To the west of the Site is Oxford Road, which contains a mixture of uses and building. There are also a number of hotels within the immediate vicinity of the Site on Oxford Road, including the Grade II* Listed Palace Hotel and the Holiday Inn Express. The Grade II Listed Dancehall Theatre located on Oxford Road overlooks the Masterplan Site from the west.
- 2.33 The Site is not within a Conservation Area but the border of the Whitworth Street Conservation Area lies to the north of on Whitworth Street.
- 2.34 There are no trees located on or adjacent to the Site.

The Development Proposals

- 2.35 Bruntwood will be submitting a full planning application for a 15 storey office development with ground floor commercial uses and associated landscaping.
- 2.36 The proposed overall quantum of development is set out within Table 2.3. It should be noted that the proposed figures are not fixed and are part of an evolving design. The EIA will assess the worst case scenario for each technical discipline.

Table 2.3: Proposed Uses, Floorspaces and Heights

Use	Maximum Quantum
Class E (Office)	30,000 sq. m (NIA) 33,500 sq. m (GIA)
Commercial / Retail / F&B Floorspace (Use Classes E)	600 sq. m (NIA) 620 sq. m (GIA)
Height (Storeys)	15 storeys (ground plus 14) - this does not preclude the potential introduction of mezzanine spaces into double height areas)
Height (m)	Maximum building height 70m (lowest ground floor level to top of lift overrun)

3 Scope, Structure and Consultation

Scope

- 3.1 A scoping exercise has been carried out in order to determine the likely significant effects on the environment that may arise as a result from the Proposed Development. This process has enabled the team to determine which technical disciplines are pertinent to the Proposed Development and the scope of assessment required in order for any likely significant effects on the environment to be addressed as part of the EIA process.
- 3.2 This process has taken account of the relevant planning policy, knowledge of the Site, and the professional opinion of the Project Team.
- 3.3 The intention of this Scoping Report is to enable the team to determine which technical disciplines are pertinent to the Proposed Development and the scope of assessment required in order for any likely significant effects on the environment to be addressed as part of the EIA process.
- 3.4 The information presented in the ES will be provided in accordance with Schedule 4 of the EIA Regulations and will include:
- A description of the Proposed Development;
 - An outline of the reasonable alternatives studied;
 - A description of the aspects of the environment likely to be significantly affected by the proposals, including an assessment cumulative effects;
 - A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment;
 - A non-technical summary; and,
 - An indication of any difficulties encountered by the Applicant in compiling the required information.
- 3.5 The introductory chapters for the ES will provide the following information:
- An introduction to the ES in a legislative and the Site specific context;
 - Description of the Site and Proposed Development;
 - Alternatives considered and project design evolution;
 - EIA methodology;
 - Construction methodology and programme;
 - ES Structure; and,
 - Details of the EIA project team.
- 3.6 The geographical coverage of the EIA will be determined by a number of factors including:
- The physical extent of work;
 - The nature of the baseline environment, including the location of sensitive receptors;
 - The distance over which effects will be significant; and,

- The presence and type of “pathways” along which impacts may be spread.

Environmental Disciplines to be Scoped Out of the EIA

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

Acoustics and Vibration

- 3.9 Any urban development project has the capacity to cause impacts in relation to noise and vibration on identified nearby sensitive receptors, either during the construction phase of development, or during the operational stages due to active late night uses or external plant. To quantify the potential impact in this regard, a Noise and Vibration Assessment has been prepared by Sandy Brown and is appended to this report.
- 3.10 The initial assessment concludes that, whilst construction activity will have an impact on nearby sensitive receptors, it is considered that these will be both temporary in nature and can be mitigated through adhering to the mitigation set out in a Construction Management Plan. This would result in a reduction to any significant effects and this will be set out in the Construction Methodology chapter of the ES.
- 3.11 An environmental noise survey has been carried out at the Site of the Proposed Development between 21 March 2022 and 23 March 2022.
- 3.12 The purpose of the environmental noise survey was to establish the existing noise climate and baseline conditions at the Site, and to inform appropriate limitations for noise egress associated with the Proposed Development.
- 3.13 A copy of the Sandy Brown Planning noise report document reference 22125-R02-A dated 5 March 2022 is provided in Appendix 2 for reference and this document details the survey methodology, details of the nearby noise sensitive receptors, the survey results and sets out appropriate limits for noise egress associated with the operational phase of the Proposed Development.
- 3.14 The nearest noise sensitive receptors to the Site have been established to be Vita Students (residential use) to the North, Princess House (residential use) to the North and Premier Inn (Hotel use) to the south. Commercial office premises near the site include Manchester Institute of Biotechnology and Manchester Technology Centre.
- 3.15 Potential sources of noise impact to the noise sensitive receptors, associated with the operational phase of the Proposed Development have been established to include; plant noise egress, amplified sound breakout associated with the retail/amenity uses proposed, terrace activity noise egress and noise associated with deliveries/collections.
- 3.16 Limits for plant noise egress associated with the operational phase of the Proposed Development have been set based on the survey results and the requirements of MCC. On this basis, the plant noise egress limits have been set to be no higher than 5 dB below the representative background noise levels measured at the Site and are applicable outside the nearby noise sensitive receptors. The limitations are cumulative and apply for all plant associated with the operational phase of the Proposed Development.
- 3.17 All plant will need to be carefully selected and appropriately mitigated to ensure that the proposed limits are not exceeded outside the nearby noise sensitive receptors. Detailed assessments will be required as the design progresses to ensure this. On this basis, no significant adverse effects associated with this potential source of noise are expected.

- 3.18 The survey results have been used to determine limits for any amplified sound associated with the operational phase of the Proposed Development. These have been set outside the nearby noise sensitive receptors to be at least 10 dB below the representative background noise levels measured during the survey, in octave bands in line with the requirements of MCC.
- 3.19 The building envelope to retail/amenity areas will need to be carefully designed to ensure that the amplified sound limits are met. Internal amplified sound limits for tenants/building operators may also be required. On this basis, no significant adverse effects associated with this potential source of operational noise are expected.
- 3.20 It is recommended that any deliveries/collections associated with the operational phase of the Proposed Development be limited to be during the daytime only to minimise the likelihood any significant adverse effects occurring.
- 3.21 An initial assessment of construction noise and vibration has been carried out for the Proposed Development to establish the likely impact on the nearby noise sensitive receptors. This assessment is detailed in Sandy Brown document 22125-R01-A Construction noise and vibration assessment which is included in Appendix 3 for reference.
- 3.22 This assessment concludes that, whilst construction activity will likely have an impact on nearby sensitive receptors, it is considered that these will be both temporary in nature and can be mitigated through adhering to the best practical means of mitigation set out in a construction management plan. This will be set out in the Construction Methodology chapter of the Environmental Statement.
- 3.23 The cumulative noise impact of the Proposed Development with other committed schemes has been considered.
- 3.24 The nearest committed development is over 300 metres away from the Proposed Development at John Dalton Tower (125799/FO/2019). This development is currently under construction and due to complete imminently.
- 3.25 The construction programme for John Dalton Tower (125799/FO/2019) is not expected to overlap with the Proposed Development and as it is located a considerable distance from the Proposed Development, no cumulative impact relating to construction is expected.
- 3.26 Mitigation strategies for operational noise egress associated with the Proposed Development will be driven by the noise sensitive receptors within close proximity of the Site. As such, cumulative noise impact during the operational phase of the Proposed Development is not expected with the currently committed developments.
- 3.27 On this basis, other than Construction noise which will be covered in the Construction Methodology chapter of the Environmental Statement, noise and vibration as a result of the Proposed Development is not considered to have a significant impact and therefore will be scoped out of the EIA. A noise assessment will be submitted in support of the application.

Agricultural Circumstances

- 3.28 The Site is entirely on brownfield land so there would be no likely significant effects with respect to agriculture. This discipline can therefore be scoped out of the EIA.

Air Quality

- 3.29 Hoare Lea advise Air Quality is scoped out of the ES as the Proposed Development is not anticipated to cause significant impacts to the local air quality during the construction or operational phases.

- 3.30 The works being undertaken during the construction phase include demolition, earthworks, construction and trackout. It is anticipated that dust and particulate matter emissions produced during construction phase activities would be inherently controlled through the implementation of a Construction Environmental Management Plan (CEMP). Therefore, the effects of dust and particulate matter emissions released during the construction phase of the Proposed Development from on-site activities are unlikely to be considered significant.
- 3.31 Road traffic generated by the Proposed Development during its construction phase is currently unknown. However it is considered unlikely that the change in traffic flow as a result of the construction of the Proposed Development will exceed the criteria in the EPUK and IAQM guidance, i.e. will be greater than 100 Light Duty Vehicles and/or 25 Heavy Duty Vehicles as an annual average daily traffic (AADT), then the impact of this traffic on existing receptors is unlikely to be significant. The implementation of a CEMP including a strategy for traffic management to define local routes to be used by HGVs generated by construction activities can also be implemented to reduce possible impacts as required.
- 3.32 During the operational phase based on initial information to date it is envisaged that the Proposed Development will result in a negligible increase in trip generation and thus road traffic compared to the existing site use; therefore negligible air quality impact from operational road traffic is anticipated. Further to this the car parking spaces that will be offered on site will include provision for Electric Vehicle charging infrastructure, and a sustainable travel plan will be included further reducing the air quality impacts of the Proposed Development.
- 3.33 The proposed energy strategy is expected to be zero emission technology such as Air Source Heat Pumps which result in no combustion emission and therefore result in no significant impact to local air quality.
- 3.34 However, an Air Quality Assessment (AQA) will be submitted as a stand-alone report to fully assess the above and accompany the Environmental Impact Assessment. Additionally within this, a baseline assessment will be undertaken to identify any existing air quality issues and a modelling exercise will be completed to allow for a site suitability assessment. Appropriate mitigation will be included within the design following the Site Suitability assessment to ensure Air Quality Objectives are met for the proposed end use.

Archaeology (Cultural Heritage)

- 3.35 The Circle Square Masterplan area was subject to archaeological work between 2015 and 2016 as part of an enabling works development under application reference 109647/FO/2015/C1. The area included the Plot 12 No.3 Site. During that phase of work an archaeological evaluation was implemented which included investigations within the area of No.3.
- 3.36 The investigations identified no remains of archaeological significance within the area of No.3. Elsewhere remains within the wider site were identified, and mitigation works were undertaken in agreement with the Greater Manchester Archaeological Advisory Service (GMAAS).
- 3.37 Subsequent reports documented the archaeological work across the site, and the results have been consolidated by Pre Construct Archeology (PCA) and published within a peer-reviewed journal, approved by GMAAS, in 2021. This represents the last requirement for work under archaeological planning conditions attached to the enabling works consent. These reports will be submitted in support of the planning application.
- 3.38 As No.3 is within a wider site which has now been sterilized of archaeology under a previous planning consent, archaeology can be scoped out of the EIA. An agreement to this is being sought currently with GMAAS.

Ecology

- 3.39 An update Phase 1 habitat survey of No.3 Circle Square was carried out by Penny Anderson Associates (PAA) Ltd on 14th April 2022. The survey was completed by Senior Ecologist Rob Lamb using standard methodologies. The site largely comprised hardstanding tarmac/concrete and recently cleared land.
- 3.40 Two compartments of amenity grassland were present within the site. These were dominated by perennial ryegrass with abundant white clover. Other species present within grassland were occasional to rare broadleaved dock, Bryum moss species, meadowgrass species, common ragwort, colt's foot, dandelion and creeping buttercup.
- 3.41 Two small compartments of introduced shrub were present. The dominant species was cherry laurel, with barberry species, Mexican orange, cedar species and butterfly-bush also present.
- 3.42 A number of small stands of butterfly-bush were noted around the site. Other ephemeral/short-perennial species present between gaps in concrete and at the foot of pavements were common ragwort, willowherb species, dandelion, colt's foot and smooth sowthistle.
- 3.43 There were no structures within the site footprint which had suitability to support roosting bats. Suitability for any nesting birds was also very limited.
- 3.44 Overall, the site supports common species typical of urban and brownfield habitats. The site is currently of very low ecological value and there are no opportunities for bat roosting within the site at the time of survey. On this basis ecology is scoped out of the ES.

Electronic Interference

- 3.45 Tall buildings and structures could disrupt wireless services by physically blocking the signal or reflecting signals from the sides of the structure. However, in the United Kingdom TV signals switched over to digital during 2012 and are less susceptible to interference. The Proposed Development is not considered to significantly disrupt telecommunications infrastructure. Therefore, significant effects are not considered likely.
- 3.46 A TV Reception Survey will be conducted in order to assess baseline reception and identify and mitigate potential impacts on telecommunications infrastructure. It is therefore considered that an assessment of electronic interference can be scoped out of the ES.

Human Health

- 3.47 The proposal is located in a city centre urban environment. The site is now cleared, but most recently, was occupied by the site offices for Sisk who were the contractors for the now complete buildings on Circle Square. The immediate environs are characterised by residential, commercial and university buildings. There are residential dwellings to the north and west of the site across the A56 (Chester Road) and Deansgate Interchange Roundabout. In addition, residential dwellings are under construction as part of Circle Square.
- 3.48 There will be some short term impacts to human health during the construction phase with the potential for accidental spillages, dust and noise and vibration. These will be considered, and mitigation will be proposed as part of a Construction Management Plan submitted with the Planning Application. During the operational phase, the proposal could potentially have impacts on health, as a result of traffic movements and associated air quality impact, noise and daylight / sunlight impacts. These will be fully considered, and mitigation will be proposed as part of the relevant ES chapters and supporting planning documents.

- 3.49 Opportunities for enhancing health benefits and the opportunity for people to consider healthy lifestyles will be considered throughout the design development.

Ground Conditions

- 3.50 The following reports have been prepared to date by Curtins for the Site in support of the Proposed Development which establish the baseline conditions for the Site and are provided in Appendices 6 and 7 respectively.

No. 3 Circle Square, Phase 1 Preliminary Risk Assessment Ref. 080355-CUR-00-XX-DR-GE-001-V01 dated April 2022.

Plot 12 Circle Square, Phase 2 Ground Investigation Ref. CS12-CUR-12-XX-RP-GE-8001 dated September 2019.

- 3.51 The Site has undergone periods of development and redevelopment since earliest historical mapping (1840s). The Site was initially occupied by terraced properties and a timber yard. By 1948, Medlock Works (rubber footwear) and clothing factories were established on site. The site was further redeveloped in 1990, with the new commercial building remaining until 2016 when demolition took place as a part of the wider Circle Square Enabling Works. The site has since been used as a compound by a construction contractor and surrounding access roads.
- 3.52 The BGS 1:100,000 Sheet 085 for Manchester indicates that the site is underlain by Unproductive and Secondary A Aquifers in the superficial deposits (Glacial Till) and a Principal Aquifer in the bedrock (Chester Formation).
- 3.53 The site is not located within a Source Protection Zone (SPZ). The nearest surface water feature is the River Medlock approximately 10m north of the site, flowing in a westerly direction.
- 3.54 An Unexploded Ordnance Risk Assessment report for the whole Circle Square development identified a high risk with WWII German High Explosive bombs posing the most probable threat.
- 3.55 The Phase 2 Ground Investigation recorded Made Ground to between 1.60m and 7.00m depth below ground level (bgl), underlain by predominantly stiff clay and weathered bedrock at 7.80m bgl in one location. Competent sandstone bedrock was recorded from 9.00m bgl.
- 3.56 The Phase 2 Ground Investigation did not record any exceedances of contaminants in soils with respect to 'Commercial' Generic Assessment Criteria. Asbestos fibres (amosite) were identified in soils in one location at <0.001%w/w.
- 3.57 Ground gas monitoring has been undertaken across the site with low concentrations of hazardous gases encountered and low flow rates, resulting in Gas Screening Values indicative of a Characteristic Situation 1 Classification, not requiring protection measures.
- 3.58 Limited evidence of visual or olfactory evidence of contamination was found in soils likely to pose a risk to Controlled Waters (Principal Aquifer within bedrock and nearby River Medlock). Controlled Waters are likely to be of a reduced quality and sensitivity due to the urban setting. An aquitard of stiff clay was encountered beneath made ground soils likely to limit migration of contamination to the bedrock aquifer. A Low risk was therefore identified.
- 3.59 Additional ground investigation has been undertaken on the Site in support of recent changes to the proposed development (previously known as Plot 12 now No.3 with changes

to building footprint). This stage of ground investigation is yet to be reported on, but conditions were found to be in line with previous assessments. No exceedances of 'Commercial' Generic Assessment Criteria were identified but amosite asbestos fibres/insulation were identified in two locations in made ground soils.

- 3.60 Potential adverse conditions associated with ground conditions in the construction phase, such as low concentrations of asbestos in soils and UXO risk, are expected to be mitigated by the contractor under Health and Safety law, specifically the Construction Design Management Regulations. It's expected that associated risks would therefore be reduced to Negligible.
- 3.61 Similarly, adverse conditions associated with ground conditions in the operational phase (such as low concentrations of asbestos in soils) are anticipated to be mitigated by further site assessment and recommendations for mitigation/remedial measures in accordance with current best practice. This process is a planning requirement. It's expected that following this process associated risks would be reduced to Negligible.
- 3.62 On this basis a specific chapter prepared in relation to ground conditions can be justifiably scoped out of the EIA as identified to date relating to ground conditions as it's unlikely to give rise to significant effects to the environment. Where minimal adverse conditions have been identified these are anticipated to be sufficiently covered and mitigated within other elements of the planning submission.

Historic Built Environment

- 3.63 The Site does not contain any listed buildings or sit within a conservation area therefore there will not be any direct impacts caused any heritage assets on the Site itself.
- 3.64 The Whitworth Street Conservation Area is located to the north of the Masterplan and there are a number of listed buildings in the vicinity, including Grade II listed Lass O'Gowrie pub on Charles Street and Grade II* Palace Hotel on Oxford Road. The Grade II listed Dancehall Theatre located on Oxford Road overlooks the broader Masterplan Site from the West.
- 3.65 Due to the relative distances between these heritage assets and No.3 Circle Square Site, and the nature of the proposed development in the context of the wider Masterplan, KMHeritage does not consider that this proposal will have any significant impacts on their value. As such, it is considered that an ES Chapter is not required.

Socio-economics

- 3.66 The Proposed Development is for a commercial office building with flexible commercial space at the ground floor. Any socio-economic effects will be considered in detail as part of the supporting Planning Statement for the proposal.
- 3.67 The Proposed Development may create some short-term employment during the construction phase; however, the effect is not considered to be significant. The proposed office building will also provide long term employment in the building. It is not expected that either the office or commercial element of the scheme will have any significant impact on the socio-economics of the area in the operational phase.
- 3.68 Therefore, likely significant effects on the environment with respect to socio-economic issues are not anticipated and it is considered that an ES chapter is not required.

Solar Glare

- 3.69 The BRE guidelines provide that 'glare or solar dazzle can occur when sunlight is reflected from a façade or area of metal cladding'. This is considered an issue in relation to road

users and train drivers whereby an instance of reflection can obscure the view of traffic/rail signals and thus have the potential to cause an accident.

- 3.70 As the elevations of the Proposed Development are not proposed to be predominantly glazed, but rather consist of punched windows within a solid façade, any instances of solar glare would be broken up and occur for a short period of time. In addition to this, from an initial review of surrounding roads and train lines, there are no relevant viewpoints where the proposed development is likely to be visible or affect car or train drivers, and pedestrians. Therefore, it is not considered necessary to undertake a full detailed assessment of solar glare and is scoped out of the ES.

Transport and Highways

- 3.71 The proposed development comprises part of the wider Circle Square Masterplan. Phase 1B of the Masterplan included a multi storey car park with approximately 1,100 spaces which is intended to serve the whole masterplan, including the proposed office development on Plot 12. The planning application and associated EIA for Phase 1B considered the traffic impact of the multi storey car park. As such, Curtins consider that the office will not generate any vehicular trips that were not already accounted for in the Phase 1B EIA.
- 3.72 Therefore, likely significant effects on the environment with respect to Transport and Highways issues are not anticipated and it is considered that an ES chapter is not required.

Scoping Summary

- 3.73 Table 3.1 provides a summary of the scoping exercise undertaken and the technical disciplines that will be considered within the ES. It also identifies what supplementary technical reports will be prepared and submitted as standalone documents in support of the application.

Table 3.1: Environmental Statement Scoping Summary

	ES Chapter	Non EIA Assessment	Consultant
Acoustics and Vibration	x	✓	Sandy Brown
Agricultural Circumstances	x	x	n/a
Air Quality	x	✓	Hilson Moran
Archaeology (Cultural Heritage)	x	✓	Pre-Construct Archaeology
Climate Change	x	✓	Element Sustainability
Ecology	x	✓	Penny Anderson Associates
Electronic Interference	x	✓	Pager power
Ground Conditions	x	✓	Curtins
Human Health	x	x	n/a

Socio-economics	x	x	Included within Planning Statement
Historic Built Environment	x	✓	KM Heritage
Solar Glare	x	x	n/a
Transport and Highways	x	✓	Curtins
ES Chapters			
Flood Risk and Drainage	✓	x	Curtins
Sunlight, Daylight & Overshadowing	✓	x	GIA
Town and Visual Impact Assessment	✓	x	Planit
Wind	✓	x	Nova

Cumulative Effects Assessment

- 3.74 An assessment of the cumulative effect of the Proposed Development will be included within the ES. An assessment of committed developments including those with recent planning permissions and those expected to come forward in the near future has been undertaken. There is no agreed / standard threshold for how far the assessment should go, therefore a professional judgement has been taken regarding which schemes to highlight, taking into consideration the Site's location. Taking into consideration to high density city centre location – a radius of 500m has been used.
- 3.75 The Applicant seeks the agreement from the Local Authority to the scope of committed developments and invites guidance on any additional schemes not listed.

Consultation

- 3.76 A process of stakeholder consultation has already commenced with regard to the Proposed Development. Members of the project team have met with senior officers from the Local Planning Authority and Councillors.
- 3.77 In addition, the project team will consult the following stakeholders prior to submitting the planning application:
- Manchester City Council (Technical Officers and Councillors);
 - Greater Manchester Police;
 - Transport for Greater Manchester (TfGM);
 - Environment Agency (EA);
 - Highways Agency;
 - Natural England;
 - Manchester Airport Safeguarding Team; and
 - United Utilities.

4 EIA Methodology

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

Introduction

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

Legislation and Policy Context

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

Assessment Methodology and Significance Criteria

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

Baseline Conditions

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

- 4.10 Baseline conditions will include implemented planning permissions that are under construction.

Identification and Evaluation of Likely Significant Effects

- 4.11 This section will identify the likely significant effects on the environment resulting from the Proposed Development.
- 4.12 The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the effects can be positive or negative. The criteria to be used in carrying out this process are detailed below.

Prediction of Impact Magnitude

- 4.13 The methodology for determining the scale or magnitude of change caused by the impact is set out below.

Table 4.1: Methodology for Assessing Magnitude of Change

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

Prediction of Receptor Sensitivity

- 4.14 The sensitivity of a receptor is based on the relative importance of the receptor using the scale set out below.

Table 4.2: Methodology for Determining Sensitivity

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

Assessment of Effect Significance

4.15 Effect significance will be calculated using the matrix in Table 4.3. This illustrates the interaction between impact magnitude and receptor sensitivity.

Table 4.3: Effect Significance Matrix

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

Mitigation Measures

4.16 Adverse effects will be considered for mitigation and specific mitigation measures put forward, where practicable. Mitigation measures considered may include modification of the project, compensation and the provision of alternative solutions as well as pollution control. The extent of the mitigation measures and how these will be effective will be discussed. Where the effectiveness is uncertain or depends upon assumptions about operating procedures, data will be introduced to justify the acceptance of these assumptions.

4.17 The approach to mitigation will follow best practice guidance, which suggests a hierarchical approach. The UNEP EIA Training Resource Manual (2002) advises that impacts should ideally be:

- Avoided; if not
- Minimised; and or
- Compensated.

4.18 Three 'types' of mitigation are characterised in IEMA's Special Report – The State of Environmental Impact Assessment Practice in the UK (2011):

- EIA influence at design stage;
- Standard construction practices for minimising effects; and
- Follow-up actions for implementation post-consent.

4.19 Clear details of when and how the mitigation measures were carried out, or will be carried out, are to be given within the Environmental Statement. When certainty of impact magnitude and/or effectiveness of mitigation over time exists, monitoring programmes will be proposed to enable subsequent adjustment of mitigation measures, as necessary.

4.20 The opportunity for enhancement measures will also be considered where appropriate.

Cumulative Effects

- 4.21 Two types of cumulative effect will be assessed:
- Type 1 - Cumulative effects are the interactions between effects of the demolition and redevelopment works on a single receptor.
 - Type 2 - Cumulative effects are those that arise from incremental changes caused by other past, present or reasonably foreseeable actions together with the demolition and redevelopment works.
- 4.22 The cumulative effects of the Proposed Development and the identified committed developments will be assessed.
- 4.23 There are no cumulative schemes as all the relevant nearby planning permissions have been implemented. They therefore form the baseline.
- 4.24 Given the phasing of the Proposed Development cumulative developments will be considered as part of each phase. Therefore, the following scenarios will be assessed:
- Scenario 1: Baseline (cleared site, and completed schemes)
 - Scenario 2: Future Baseline (including extant planning permission)
 - Scenario 3: Proposed Development (proposed No.3)

Residual Effects

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

5 Environmental Statement Chapters

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

Flood Risk & Drainage

Introduction

- 5.2 This Chapter of the ES will be prepared by Curtins and assesses the likely Flood Risk and Drainage impacts of the proposals upon the site and surrounding area.

Legislative and Policy Context

- 5.3 The following legislation, policy and guidance documents are relevant to this chapter.

Legislation

- 5.4 Water Resources Act, 1991. Sets out the regulatory controls and restrictions that provide protection to the water environment through controls on abstraction, impounding and discharges as well as identifying water quality and drought provisions.
- 5.5 Land Drainage Act, 1991. Places responsibility for maintaining flows in watercourses on landowners.
- 5.6 Environmental Act, 1995. Establishes basic terms of reference for the Environment Agency.
- 5.7 Water Act, 2003. Formalises the Government's commitment to the sustainable management and use of water resources.
- 5.8 The Water Environment (Water Framework Directive (2000/60/EC) WFD) (England & Wales) Regulations, 2003. These Regulations establish a framework for protecting the water environment, with the aim of achieving chemical and ecological water quality targets.
- 5.9 Floods Directive (2007/60/EC), 2007. Its aim is to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity.
- 5.10 Building Regulations Part H (Drainage and Waste Disposal), 2010. Statutory guidance for building drainage and sewerage.

National Planning Policy

- 5.11 National Planning Policy Framework, 2021 sets out the national framework for delivering sustainable development, Chapter 14 "Meeting the challenge of climate change, flooding and coastal change" para 152 to 173.
- 5.12 National Planning Policy Framework Technical Guidance to the National Planning Policy Framework (2021), provides additional guidance to ensure the effective implementation of the planning policy for development in areas at risk of flooding.

- 5.13 Flood Risk and Coastal Change Planning Practice Guidance (PPG), 2014 provides guidance on how the suitability of incorporating SuDS into a new development should be assessed within a planning application's site-specific Flood Risk Assessment. Para 051, 079 & 080.
- 5.14 House of Commons: Written Statement (HCWS161) – Sustainable Drainage (2014), strengthens existing planning policy relating to the use of SuDS within 'major' planning applications. From the 6th April 2015, all 'major' planning applications (as defined by Town and Country Planning (Development Management Procedure) (England) Order 2010) will be required to consider using SuDS as part of the development's management of surface water run-off, unless it can be demonstrated to be inappropriate.
- 5.15 Non-Statutory Sustainable Drainage Technical Standards (2015) provides a set of technical standards for which all future SuDS are recommended to be designed to in order to achieve the aims (in relation to surface water management and flood risk) of current National planning policy.

Local Planning Policy

- 5.16 Manchester Core Strategy – relevant policies (EN14, EN17, DM1).
- 5.17 Manchester City Council Strategic Flood Risk Assessment (SFRA) 2011 provides guidance on local flood risk and surface water management issues as well as local policy requirements for managing surface water run-off from proposed development sites.

Guidance Documents

- 5.18 CIRIA C753: The SuDS Manual, 2015. Statutory guidance for Sustainable Urban Drainage.
- 5.19 Environment Agency Online Flood Mapping tool – Delineates areas on the basis of High, medium and low risk areas and includes risk from both fluvial and surface water sources.
- 5.20 The North West River Basin District, within which the Proposed Development Site sits, has a River Basin Management Plan (RBMP) prepared under the WFD, which focuses on the protection, improvement and sustainable use of the water environment and Environment Agency Report SC030219 Rainfall Runoff Management for Developments (2013) provides advice on the management of stormwater drainage for developments and in particular to assist in sizing of storage elements for the control and treatment of stormwater runoff.
- 5.21 British Geological Survey (BGS) mapping – online mapping tool indicating predominant underlying geology of Britain, and at a site/area specific level.

Baseline Conditions

- 5.22 The Proposed Development is approximately 0.2 hectare in size and the site has been identified as within Flood Zones 1 and 2 from Environment Agency mapping, indicating that the risk of flooding from rivers and sea is low and medium risk.
- 5.23 The flood zone extents are derived from modelled flood level data taken from the Manchester Ship Canal 2018 Study provided by the Environment Agency and compared with the site topography, this confirms that the site is located within Flood Zones 1 and 2, as shown on the mapping.
- 5.24 The Proposed Development site is bound by the River Medlock along the northern boundary.
- 5.25 The Proposed Development site is within Flood Zone 1 and 2, and within the Conurbation Core Critical Drainage Area, therefore a Flood Risk Assessment will be required to be undertaken. The Flood Risk Assessment will assess all potential sources of flooding including tidal, fluvial, surface water, groundwater, sewers and infrastructure failure. The

Flood Risk Assessment will also include the predicted impact of climate change on flood risk.

- 5.26 As the Proposed Development is considered to be 'major' development by the Town and Country Planning Order 2015, a Drainage Strategy will also be required as part of the Planning Application for the development. The Drainage Strategy will assess the predicted impact of climate change on rainfall depth and volumes.
- 5.27 As the Proposed Development forms part of the wider Circle Square Masterplan, drainage infrastructure has been installed under previous phases to accommodate for this phase, therefore drainage outfalls for this phase have previously been agreed within the wider masterplan strategy. The detailed strategy for this phase will be based around connecting into the existing infrastructure bound by the discharge consents previously agreed.

Potential Significant Effects

- 5.28 This Chapter will identify the flood risk and drainage characteristics of the existing site and any potential issues and risks associated with the former use of the site.
- 5.29 At this stage, all sources of flood risk will be considered until the Flood Risk Assessment has been completed.
- 5.30 As the Proposed Development forms part of the wider Circle Square Masterplan, drainage infrastructure has been installed under previous phases to accommodate for this phase, therefore drainage outfalls for this phase have previously been agreed within the wider masterplan strategy. The detailed strategy for this phase will be based around connecting into the existing infrastructure bound by the discharge consents previously agreed.

Assessment Methodology

Technical Scope

- 5.31 The ES chapter will be based on the Flood Risk Assessment and Drainage Strategy.
- 5.32 The Flood Risk Assessment scope will be undertaken in accordance with National Planning Policy Framework document (NPPF) which provides technical guidance on how flood risk should be assessed during the planning and development process. The intention is to ensure that development-planning decisions are made in a manner that delivers sustainable development in terms of current and future flood-risk.
- 5.33 The scope of the Flood Risk Assessment and mitigation measures will be agreed with the Environment Agency and the Lead Local Flood Authority. Mitigation measures with suitable construction techniques and environmental best practice will be incorporated.
- 5.34 The detailed strategy for this phase will be based around connecting into the existing infrastructure bound by the discharge consents previously agreed for the Circle Square Masterplan. Current climate change impacts will also be assessed for this phase to ensure that the network for this phase can accommodate increased rainfall volumes.

Baseline Assessment

- 5.35 The Flood Risk Assessment and Drainage Strategy will incorporate a thorough review of baseline information collected from a range of sources including Environment Agency data, Strategic Flood Risk Assessment, Phase 1 Detailed Desk Study report and Site-Specific Ground Investigations.

Construction Assessment

5.36 As a result of the proposed development, the following effects have been identified and will be assessed in the ES:

- Flood Risk to construction workers during construction.
- Direct and indirect contamination of local watercourses/surface water due to mobilisation of soils, existing contamination and spillage of oils from construction plant.

Operational Assessment

5.37 As a result of the proposed development, and making allowance for climate change, the following effects have been identified and will be assessed in the ES:

- Direct flooding of the Proposed Development and end users due to inadequate flooding resilience and management of residual flood risk.
- Direct and indirect flooding of surrounding watercourses, the wider catchment area, adjacent land and property due to increases in surface water runoff from positively drained hard areas.
- Direct and indirect pollution of local watercourses, surface water with discharge of untreated run-off.
- Direct and indirect pollution of groundwater with discharge of untreated run-off.
- All potential impacts can be reduced by suitable mitigation and management and will be considered within the assessment and presented within the Flood Risk and Drainage ES Chapter.

Scenarios to be assessed

5.38 The following scenario's will be assessed within the ES Chapter based on the Flood Risk Assessment and Drainage Strategy principles set out for this phase:

- Baseline (as existing i.e. cleared site and all implemented developments)
- Future baseline (with approved Plot 12 application)
- Proposed Development (No.3 building)
- Proposed Development + Cumulative (No.3 building plus cumulative schemes)

Summary of Assessment of Scope

5.39 The following table summarises the Flood Risk and Drainage impacts and whether they have been scoped in to be assessed in the ES.

Table 5.1 Summary of Assessment of Scope

Receptor	Impact	Potential Effect	Scoped In / Out
Construction Workers	Flooding from the River Medlock during construction	Risk to Construction Workers	✓
Proposed development site	Flooding from the River Medlock during operation	Damage to site	✓

Receptor	Impact	Potential Effect	Scoped In / Out
Site end user	Flooding from the River Medlock during operation	Risk to Site end user	✓
Wider Catchment area	Pollution during construction and operation	Damage and risk to wider catchment area and occupants	✓
Local Watercourses	Pollution during construction and operation	Damage to water quality and wildlife	✓
Water Supply and Sewer Infrastructure	Pollution during construction and operation	Damage to Water Quality	✓
Groundwater Quality	Pollution during construction and operation	Damage to Groundwater Quality	✓

5.40 For completeness, the following Committed Developments are considered relevant and included in the assessment:

Table 5.2 Assessment of Committed Developments

Application Reference	Map No.	Distance from Site	Scoped in / Out
125799/FO/2019	1		
125573/FO/2019	2		
125654/FO/2019	3		
118267/FO/2017	4		

Daylight and Sunlight

Introduction

5.41 This Chapter of the ES will be prepared by GIA and assesses the likely daylight, sunlight and overshadowing impacts of the proposals upon the site and surrounding area.

Legislative and Policy Context

National Planning Policy

Revised National Planning Policy Framework 2019

5.42 The National Planning Policy Framework stipulates that *"...Planning policies and decisions should ensure that developments... create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users."*

5.43 The National Planning Policy Framework (NPPF) adopted on the 27 March 2012 and updated most recently on 20 July 2021 stipulates that *"...planning policies and decisions should always seek to secure a good standard of amenity for existing and future occupants of land and buildings."*

5.44 Paragraph 123 further states:

"Where there is an existing or anticipated shortage of land for meeting identified housing needs, it is especially important that planning policies and decisions avoid homes being built at low densities and ensure that developments make optimal use of the potential of each site. In these circumstances:

[...]

c) In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)."

The National Planning Policy Guidance (NPPG) 2019

5.45 The National Planning Practice Guidance (NPPG) – Making Efficient Use of Land, Paragraph: 006 Reference ID: 66-006-20190722 states that:

"Where a planning application is submitted, local planning authorities will need to consider whether the proposed development would have an unreasonable impact on the daylight and sunlight levels enjoyed by neighbouring occupiers, as well as assessing whether daylight and sunlight within the development itself will provide satisfactory living conditions for future occupants."

5.46 Paragraph 007 Reference ID: 66-007-20190722 also states:

"All developments should maintain acceptable living standards. What this means in practice, in relation to assessing appropriate levels of sunlight and daylight, will depend to some extent on the context for the development as well as its detailed design. For example, in areas of high-density historic buildings, or city centre locations where tall modern"

Local Planning Policy

Manchester Core Strategy (2012 – 2027)

5.47 Policy DM1 – Development Management – States that all developments should have regard to the effects on amenity including privacy, light, noise, vibration, air quality and odours.

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

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

5.49 The SPD sets out a series of design principles which should be considered and implemented where necessary, those measures relevant to this assessment are:

- Minimise reliance on energy-using equipment for heating, cooling, lighting and natural ventilation.
- Site layout and building design principles should maximise the capture and use of daylight and passive solar energy, whilst avoiding excessive solar gain in the summer.
- Consider the impacts of overshadowing.

Guidance Documents and Standards

Building Research Establishment (BRE) 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice', Second Edition, 2011

- 5.50 The Building Research Establishment (BRE) Guidelines 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice 2011, 2nd edition' (released October 2011) provides advice on site layout planning to achieve good sun lighting and daylighting within buildings, and in the open spaces between them. It is intended for use by building designers, developers, consultants and Local Planning Authorities (LPAs). The advice it gives is not mandatory and should not be used as an instrument of planning policy, it states:

"This guide is a comprehensive revision of the 1991 edition of Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice. It is purely advisory and the numerical target values within it may be varied to meet the needs of the development and its location."

- 5.51 It also states:

"The advice is given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. In special circumstances the developer or planning authority may wish to use different target values... in an area with modern high rise buildings, a higher degree of obstruction maybe unavoidable if new developments are to match the height and proportions of existing building" (para.1.6).

- 5.52 In addition, the BRE Guidelines state (para. 1.3) that, *"it is intended to be read in conjunction with the interior daylighting recommendations in the British Standard 8206-2 Code of practice for daylighting, and in the CIBSE publication Lighting guide: daylighting and window design"*.

British Standard (BS) 8206-2:2008: 'Lighting for Buildings – Part 2: Code of Practice for Daylighting'

- 5.53 The British Standard 8206 part 2 provides recommendations regarding the design for daylight in buildings and sets out various methods for assessing daylight. The document states:

"Daylighting gives to a building a unique variety and interest. An interior which looks gloomy, or which does not have a view to the outside when this could reasonably be expected, will be considered unsatisfactory by its users."

EN17037:2019 Daylight in Buildings (December 2018)

- 5.54 The new European Standard for Daylighting, or EN17037 was published in December 2018. Most local authorities continue to refer to the [BRE guidelines](#). The BRE hope to secure funding and re-write the BRE guidelines in the financial year beginning April 2019, with the view of a revised publication in 2020. These timescales leave a fair degree of ambiguity as to when the new European Standard will become part of planning policy and what the transition between standards will be. In the meantime, The BRE guidelines and BS8206 remain the relevant tests.

Daylighting and window design: Lighting Guide LG10 (CIBSE) (1999)

- 5.55 This guide replaces the CIBSE Applications Manual Window Design (1987) and provides a daylight design guide. It states:

"when daylighting decisions are made, however, they will have implications for other,

interrelated aspects of window performance such as solar heat gain, winter heat loss, provision of view, acoustic performance, privacy, security and protection from fire.”

Baseline Conditions

- 5.56 Baseline studies are currently being undertaken by GIA. The baseline assessment will review the daylight and sunlight conditions within each of the surrounding residential properties in the Proposed Development area’s present form.

Potential Significant Effects

- 5.57 In order to predict the significance of any potential impacts, it will be necessary to understand the context of the area, and sensitivity of the existing surrounding buildings, and how this should affect the application of the guidance set out in the BRE Guide.

- 5.58 The BRE Guide does not provide explicit targets on what constitutes minor, moderate or major adverse impacts. For daylight and sunlight, the BRE Guidelines outline the approach within the accompanying Appendix I, in terms of assigning criteria to assess the effects (para I3-I8):

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

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

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

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

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

“Factors tending towards a major adverse impact include:

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

e.g. a living room in a dwelling”.

- 5.60 Beneficial impacts occur when there is a significant increase in the amount of skylight and sunlight reaching an existing building. Beneficial impacts should be worked out on the same principals as adverse impacts.”
- 5.61 There is no guidance on what constitutes a moderate adverse impact.
- 5.62 Therefore, best practice guidance and professional judgment will be used to determine any impacts based on the guidance set out in Appendix I of the BRE Guidelines, the NPPF and the NPPG. Potential effects will be identified as beneficial, adverse or negligible, and their magnitude of effects will be set out as Minor, Moderate and Major.

Assessment Methodology

Technical Scope

- 5.63 The BRE Guidelines suggest that residential properties have the highest requirement for daylight and sunlight and states that:
- “the guidelines are intended for use for rooms in adjoining dwellings where light is required, including living rooms, kitchens and bedrooms.”*
- 5.64 The technical analyses carried out to inform the daylight, sunlight, and overshadowing, assessment will be undertaken by creating a digital three-dimensional (3D) model of the existing Site and Proposed Development.
- 5.65 The 3D model uses Waldrum Diagrams to establish the VSC and 3D geometric calculations for daylight distribution. This model (which is orientated to north by the use of Ordnance Survey (OS) information) enables the path of the sun to be tracked throughout the year to establish the shadow cast by the existing and proposed buildings and thus calculate the sun hours on ground in each scenario.
- 5.66 Only those surrounding residential properties which have windows facing towards the Site were included in the assessment. If a nearby residential property has no windows facing the Site, these properties would not be affected by the Proposed Development in terms of light.

Baseline Assessment

- 5.67 The baseline assessment will review the daylight and sunlight conditions within each of the surrounding residential properties in the Proposed Development area’s present form.

Construction Assessment

- 5.68 Owing to the evolving and changing nature of demolition and construction activities, the assessment of potential effects during demolition and construction of the Proposed Development on daylight and sunlight to surrounding properties will not be modelled. Instead, a qualitative assessment will be undertaken using professional judgement and experience.
- 5.69 Since the potential daylight and sunlight effects relating to demolition and construction works will vary throughout the construction programme and gradually increase to the potential effects identified for the completed Proposed Development, the interim construction effects are not assessed quantitatively as it is considered that the completed Proposed Development represents the worst-case assessment in terms of likely daylight, sunlight and overshadowing.

Operational Assessment

5.70 The following approaches are undertaken to assess the effect on the sensitive receptors of surrounding properties when the Proposed Development is completed and operational:

1. Daylight:
 - Vertical Sky Component (VSC); and
 - No Sky Line (NSL) Method.
2. Sunlight:
 - Annual Probable Sunlight Hours (APSH).

Scenarios to be assessed

5.71 The properties set out below will be considered due to their proximity to the Site, and their use.

5.72 The assessment has considered other adjacent residential properties and due to the distance and orientation from the proposed development, they are unlikely to be affected, so they will not be assessed in detail.

5.73 The following scenarios will be assessed and considered, and are reported within this Chapter of the ES:

- Scenario 1: Baseline configuration (pre-development);
- Scenario 2: Baseline including extant permission; and
- Scenario 3: Proposed Development

5.74 Schemes under construction and with planning consent but not under construction have been included in the baseline scenario, in line with the BRE Guide, and so no separate technical assessment of the cumulative impact is required.

5.75 There are no amenity areas located in close proximity to the site. As such, no overshadowing assessment is required.

Summary of Assessment of Scope

Table 5.3 Summary of Assessment of Scope

Receptor	Impact	Potential Effect	Scoped In / Out
Plot 11 Circle Square	Daylight/sunlight	Negligible to Moderate Adverse	In
Montana House	Daylight/sunlight	Negligible to Moderate Adverse	In
Princess House	Daylight/sunlight	Negligible to Moderate Adverse	In

Town and Visual Impact Assessment

Introduction

5.76 This Chapter of the ES will be prepared by Planit-IE and assesses the likely townscape and visual impacts of the proposals upon the site and surrounding area.

Legislative and Policy Context

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

National Planning Policy

- 5.79 The National Planning Policy Framework was updated in July 2021 and sets out the government's planning policies for England and how these are expected to be applied.
- 5.80 The purpose of the planning system is to contribute to the achievement of sustainable development.
- 5.81 The environmental objective is of particular relevance to the purpose of townscape and visual impact assessment.
- 5.82 Section 12 of the NPPF deals with the requirements of good design. The overarching principle is set out in paragraph 126, which states, "the creation of high quality buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities."
- 5.83 Paragraph 130 of the NPPF sets out a number of principles of good design. In order to accord with these principles, it should be ensured that new developments:
- will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;
 - are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;
 - are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);
 - establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;
 - optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and,
 - create places that are safe, inclusive and accessible and which promote health and

well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.

- 5.84 Section 16 of the NPPF concerns conserving and enhancing the historic environment. Paragraph 189 states that heritage assets are, “an irreplaceable resource, and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations”.
- 5.85 Whilst the site is not located in a Conservation Area and does not contain listed buildings, heritage is an intrinsic part of townscape assessment and potential views from Conservation Areas listed buildings have been considered as part of the assessment. There is also an overarching desirability set out within the NPPF for new development to contribute positively to local character and distinctiveness.

Local Planning Policy

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

Policy EN1 Design Principles and Strategic Character Areas

- 5.87 All development in Manchester will be expected to follow the seven principles of urban design, as identified in national planning guidance and listed above and have regard to the strategic character area in which the development is located. Opportunities for good design to enhance the overall image of the City should be fully realised, particularly on major radial and orbital road and rail routes.
- 5.88 The City Centre contains a rich legacy, which reflects its urban evolution to the current day and includes listed buildings, conservation areas, archaeological remains and an historic street pattern. Its core area presents a particularly dense environment that accommodates a wide and closely integrated range of uses including commercial, civic and residential activities.
- Historic England Advice Note 4 Tall Buildings.
 - Developers will be expected to consider the City's heritage and continue the rich pattern of activity in the core area.
 - While there will be opportunities to create landmark buildings, developments should also contribute positively to the experience of all at street level.
 - Wherever possible the opportunity should be realised to enhance existing and provide new areas of meaningful open space, and the maintenance and improvement of the City's permeability should be considered in all proposals.

Policy EN3 Heritage

- 5.89 The City Centre Throughout the City, the Council will encourage development that complements and takes advantage of the distinct historic and heritage features of its districts and neighbourhoods, including those of the City Centre.
- 5.90 New developments must be designed so as to support the Council in preserving or, where possible, enhancing the historic environment, the character, setting and accessibility of areas and buildings of acknowledged importance, including scheduled ancient monuments, listed buildings, registered parks and gardens, conservation areas and archaeological remains.

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

Policy CC9 Design and Heritage

- 5.92 Development in Manchester City Centre should preserve or enhance the heritage assets that have been identified, including listed buildings, conservation areas and scheduled ancient monuments.

Policy EN9 Green Infrastructure

- 5.93 New development will be expected to maintain existing green infrastructure in terms of its quantity, quality and multiple function. Where the opportunity arises and in accordance with current Green Infrastructure Strategies the Council will encourage developers to enhance the quality and quantity of green infrastructure, improve the performance of its functions and create and improve linkages to and between areas of green infrastructure. Where the benefits of a proposed development are considered to outweigh the loss of an existing element of green infrastructure, the developer will be required to demonstrate how this loss will be mitigated in terms of quantity, quality, function and future management.
- 5.94 The Council will seek to protect existing street trees and promote new planting, particularly where this can enhance green links in the urban area.
- 5.95 The provision of new, and improvements to the quality and accessibility of existing green infrastructure assets, to mitigate for any loss of green infrastructure.

Place Making and Design

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

Design Principles and Strategic Character Areas

- 5.98 All development in Manchester will be expected to follow the seven principles of urban design, as identified in national planning guidance and listed above, and have regard to the

specific strategic character area in which the development is located. Opportunities for good design to enhance the overall image of the City should be fully realised, particularly on major radial and orbital road and rail routes. Design and Access Statements submitted with proposals for new development must clearly detail how the proposed development addresses the design principles, reinforces and enhances the local character of that part of the City and supports the achievement of the Core Strategy Strategic Objectives.

- 5.99 The most significant Strategic Character Area affected by the Proposed Development is the Oxford Road Corridor Character Area. This is a significant area of proposed growth and economic focus for Manchester City Council and covers a wide and diverse part of the city and approach to it. The extent and nature of the impact of the Proposed Development on this zone is described in more detail later in this chapter.

Heritage

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

Guidance

- 5.103 The following guidance has been used to produce this assessment:
- Guidelines for Landscape & Visual Impact Assessment, 3rd Edition, 2013 ;
 - Visual Representation of Development Proposals Landscape Institute Technical Guidance Note
 - Planning Practice Guidance ;
 - IEMA Environmental Impact Assessment Guide to Shaping Quality Development, 2015 ;and
 - Historic England Advice Note 4 Tall Buildings 2nd Ed.

Baseline Conditions

- 5.104 The Site forms part of the Circle Square Masterplan. The Circle Square Masterplan and Delivery Strategy was endorsed by Manchester City Council's Executive Committee in April and July 2015. The first phase comprised Plots 2, 3, 4, 5, 7, 7, 8 and 14 of the Circle Square Masterplan. These developments are now either complete or under construction and form part of the baseline for this assessment.
- 5.105 The Site is currently surrounded by hoarding and is mostly hardstanding, and has been used as a construction compound for building works around the masterplan area. There is limited vegetation on Site. The Site in its current form detracts from the high quality character of the Circle Square development, and from the wider Oxford Road Corridor townscape character area.

- 5.106 The site is visually poor, however the density and height of surrounding development visually contains the site, and allows only limited viewpoints.
- 5.107 There is currently no development within the Site and it forms a 'gap' in the urban grain in a key city centre location.
- 5.108 The Site is bound by Newman Street (formerly Brancaster Road) to the north, Princess Street to the east, Premier Inn and MSCP, and Mancunian Way to the south and Manchester Technology Centre to the West. There is currently no permeability through the Site.
- 5.109 The Site is not within a Conservation Area but the border of the Whitworth Street Conservation Area lies to the north of the Circle Square Masterplan on Whitworth Street.
- 5.110 The red line boundary includes a patch of amenity 'left-over' green space which lacks a clear function and is visually poor.

Potential Significant Effects

- 5.111 The following identified effects are not considered to be significant. They will not be considered further with the EIA or reported in the ES. A factual evidence base has been provided below to support this.

Townscape Effects on Environmental Designations during Construction and Operational Phases.

- 5.112 There are no environmental designations covering the Site or immediate context, therefore effects on environmental designations are unlikely to be considered significant and will not be considered within the EIA or reported in the ES.

Townscape Effects on Heritage Designations during Construction and Operational Phases.

- 5.113 There are no heritage designations, including conservation areas and listed buildings, within the site, therefore effects on heritage designations are unlikely to be considered significant and will not be considered within the EIA or reported in the ES.

Visual Effects on Whitworth Street Conservation Area

- 5.114 There are not predicted to be any visual connections between Whitworth Street Conservation Area to the north of the Site due to the proposed height of the Proposed Development, and the density and height of intervening built form.

Townscape Receptors

- 5.115 Potentially significant effects are predicted for the following townscape receptors:

- Townscape character
- Building Heights
- Topography and Flood Risk
- Movement and Linkages
- Public Open Space
- Site Character

- 5.116 Potentially significant effects are predicted for the following visual receptors:

- View 1 – View from Junction of Princess Street/Whitworth Street;
- View 2 – View from junction of A34/Charles Street;
- View 3 – View from Sackville Street;
- View 4 – View from Mancunian Way pedestrian island;
- View 5 – View from junction of Upper Brook Street/Grosvenor Street;
- View 6 – View from Oxford Road down Newman Street (formerly Brancaster Road), and;
- View 7 – View south from River Medlock riverside walkway.

Assessment Methodology

Technical Scope

- 5.117 This assessment has been carried out with reference to the Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, 2013 (referred to hereafter as “the Guidelines”) by Planit-IE Ltd, a registered practice of the Landscape Institute with considerable experience in landscape and visual assessment. The assessment will consider the impacts in the construction and operational phases, and assess ‘worst-case scenario’ in accordance with the Guidelines.
- 5.118 A three-stage assessment process has been adopted. Firstly, the nature of receptors (sensitivity) has been assessed, and secondly, the nature of effects (magnitude) likely to result from the proposed development has been assessment. From this, the overall significance of the identified effects on receptors have been assessed.
- 5.119 The assessment of impacts is supplemented by a cumulative assessment of committed developments, in order to understand if any further potential significant environmental effects are likely to arise. Cumulative effects are defined as impacts that result from additional changes to the townscape or visual amenity caused by the Proposed Development in conjunction with other developments (associated with or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future.
- 5.120 A total of 4 cumulative developments will be considered, including:
- 125799/FO/2019 - John Dalton West / John Dalton Tower, Chester Street, Manchester;
 - 125573/FO/2019 - Plot 11 First Street;
 - 125654/FO/2019 - Former Church Inn, 84 Cambridge Street, and;
 - 118267/FO/2017 - Land At Chandos Hall.

Scenarios to be assessed

- 5.121 The following scenarios are to be considered;
- Baseline (as existing ie cleared site and all implemented developments)
 - Future baseline (with approved Plot 12 application)
 - Proposed Development (No.3 building)

Limitations and Assumptions

5.122 To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

- The assessment relies on available data, and best endeavours have been made to ensure that the data are accurate and up to date. It is assumed that OS mapping information, topographic and 3D data and Historic England heritage mapping information are all up to date.
- The GLVIA methodology provides a robust and transparent process for assessment of townscape and visual effects, and is used alongside visually verified photomontages which provide a high level of detail and technical accuracy. Significant effects will be determined through professional judgment, carried out by a team of assessors to provide scrutiny where this is relied upon.

Summary of Assessment of Scope

5.123 The following effects shown in Table 5.4 have been identified and will be assessed within the EIA and reported in the ES.

Table 5.4 Summary of Assessment of Scope

Receptor	Potential Effect	Scoped In / Out
Townscape Character	Changes to Oxford Road Corridor and Circle Square character during construction and operational phases.	In
Urban Grain	Changes to urban grain within Oxford Road Corridor and Circle Square character during construction and operational phases.	In
Land Use	Changes to land use within Oxford Road Corridor and Circle Square character during construction and operational phases.	In
Building Heights	Changes to building heights within Oxford Road Corridor and Circle Square character during construction and operational phases.	In
Topography and Flood Risk	Changes to topography and flood risk within Oxford Road Corridor and Circle Square character during construction and operational phases.	In
Movement and Linkages	Changes to movement and linkages within Oxford Road Corridor and Circle Square character during construction and operational phases.	In
Public Open Space	Changes to public open space within Oxford Road Corridor and Circle Square character during construction and operational phases.	In
Site Character	Changes to site character during construction and operation	In
Changes to the character and amenity of views	View 1 – View from Junction of Princess Street/Whitworth Street View 2 – View from junction of A34/Charles Street View 3 – View from Sackville Street View 4 – View from Mancunian Way pedestrian island View 5 – View from junction of Upper Brook Street/Grosvenor Street View 6 – View from Oxford Road down Newman Street (formerly Brancaster Road) View 7 – View south from River Medlock riverside walkway.	In

5.124 For completeness, the following Committed Developments are considered relevant and included in the assessment:

Table 5.5 Assessment of Committed Developments

Application Reference	Distance from Site	Scoped in / Out
125799/FO/2019 John Dalton West / John Dalton Tower, Chester Street, Manchester	approx. 385m	In
125573/FO/2019 Plot 11 First Street	approx. 585m	In
125654/FO/2019 Former Church Inn, 84 Cambridge Street,	approx. 515m	In
118267/FO/2017 Land At Chandos Hall	approx. 400m	In

Wind Microclimate

Introduction

- 5.125 This Chapter of the ES will be prepared by NOVA Fluid Mechanics Ltd and assesses the likely wind microclimate impacts of the proposals upon the site and surrounding area.

Legislative and Policy Context National Planning Policy

- 5.126 The UK wide National Planning Policy Framework (NPPF) was revised in July 2021. There are no national planning policies directly relating to wind microclimate issues. However, the benefits of a high-quality built environment are emphasised in the NPPF. An example of this is presented at paragraph-130.f:

"create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users;".

- 5.127 The Planning Practice Guidance provides a web-based resource in support of the NPPF. There is no specific guidance directly relating to wind microclimate issues.

Local Planning Policy

- 5.128 The Manchester Core Strategy Development Plan was adopted in July 2012. Policy EN2 states:

"By their very size tall buildings can have a significant impact on the local environment and its micro-climate. It is therefore expected that this impact be modelled and that submissions for tall buildings also include appropriate measures to create an attractive, pedestrian friendly local environment."

- 5.129 Section 12.14 states:

"Tall buildings by their very nature can dominate the street scene and be highly visible over long distances. They can also have an impact on the micro-climatic conditions, for example, by creating wind tunnels. It is for these reasons that it is considered particularly important that they are designed to the highest quality, both in terms of appearance and their impact on the functioning of surrounding space."

- 5.130 The Guide to Development in Manchester Supplementary Planning Document and Planning Guidance was adopted in April 2007. Section 2.4 states:

"Where the public realm includes hard landscaped areas, its design should reflect the level and nature of their use, and should consider issues such as overshadowing, prevailing winds and rain, and the potential to contribute to sustainable urban drainage. The opportunity will be taken to improve the quality of existing areas of public realm and to ensure that areas of public realm in new developments, are designed so that they can be enjoyed by residents and users, rather than being simply functional"

- 5.131 Section 12.8 states:

"Schemes will be considered on an individual basis, by reference to their appearance, their impact on the immediate area and the effect on the City's skyline. Key questions will be the quality and interest of the roofline; the design of the lower floors; the relationship to the surrounding streets; the impact of servicing and parking requirements; the microclimate, including overshadowing and air turbulence effects, created by the relationship of the building to those adjacent; and the quality and usability of the spaces surrounding the building"

Baseline Conditions

- 5.132 The existing site is empty, currently being occupied by a construction compound for the contractors developing the other plots of the Circle Square Masterplan, which surround the Site.

Potential Significant Effects

Assessment Methodology Technical Scope

- 5.133 The assessment of environmental wind flows in the built environment lies outside the scope of internationally recognised wind codes, which focus on wind loading issues. In addition, there are no handbooks or engineering guidelines from which reliable assessments of the complex environmental wind flows that shape the pedestrian level wind conditions can be derived.
- 5.134 A detailed quantification of the local wind microclimate requires a purposely designed boundary layer wind tunnel study, which combines wind speed-up factors at key areas in and around the Site with long-term wind frequency statistics to determine the probability of local wind speeds exceeding comfort and safety thresholds for a range of common pedestrian activities, based on the industry standard Lawson criteria, and wind mitigation measures developed and validated as required.
- 5.135 The methodology for quantifying the pedestrian level wind microclimate of the Proposed Development is outlined below:
1. Measure the building-induced wind speeds at pedestrian level in the wind tunnel;
 2. Adjust standard meteorological data to account for conditions at the Site;
 3. Combine these to obtain the expected frequency and magnitude of wind speeds at pedestrian level; and
 4. Compare the results with the widely accepted Lawson criteria to 'grade' conditions around the Site by reference to the planned/desired pedestrian activities.
- 5.136 Wind microclimate studies require that wind speed data obtained from a measurement station be transposed to the site of interest. The wind speed history, provided by weather centres such as Manchester International Airport, is reformatted into the number of

observations of mean hourly wind speeds within each of several wind speed ranges, for each wind direction and for each month of the year.

- 5.137 A mathematical model (the Weibull cumulative distribution) is then used to determine the probability that, for a given wind direction, a particular wind speed, will be exceeded.
- 5.138 Wind speed measurements at assessment locations will be made using probes capable of measuring fluctuating pressure differences that are calibrated against wind speed at a height corresponding to 1.5m at full scale. Measurements will be taken for a full range of wind directions in increments of 22.5° (0° coinciding with OS grid north). Recordings will be taken for a sufficient length of time to determine the mean and gust wind speeds.
- 5.139 For each location, the measured wind speeds will be combined with long-term wind frequency statistics to assess the potential effects of the Proposed Development on the local wind conditions in terms of the probability of local wind speeds exceeding comfort and safety thresholds considered suitable for a range of common pedestrian activities, based on the industry standard Lawson criteria.

Lawson Safety Criteria

- 5.140 At each area investigated, both within the Site and surrounding area, the suitability of the pedestrian level wind microclimate in terms of safety will be assessed based on the Lawson criteria for pedestrian safety. Safety is determined for the 'able-bodied' and for the 'general public'.
- 5.141 For the general public, a wind speed of 15 metres-per-second (m/s) occurring once per year is rated as unsafe with the potential to de-stabilise the less able members of the public, including the elderly, cyclists and children.
- 5.142 Able-bodied users are more likely to be capable of defending themselves against extreme pedestrian level winds and thus experience distress at a higher threshold wind speed of 20 m/s, once per year.
- 5.143 Details of the safety criteria are presented in the table below and are based on the exceedance of the threshold wind speeds, based on the worst case of the mean hourly value and on the gust equivalent mean value, occurring once per annum.

Table 5.6 Lawson Safety Criteria

Threshold Speed	Wind	Safety Rating	Description
> 15 m/s	S2	Unsuitable for general public	Less able and cyclists find conditions physically difficult
> 20 m/s	S1	Unsuitable for able-bodied	Able-bodied persons find conditions difficult. Physically impossible to remain standing during gusts.

Lawson Comfort Criteria

- 5.144 Lawson devised a scale for assessing the suitability of wind conditions in the built environment. The Lawson comfort criteria define a range of pedestrian activities from sitting through to more transient activities such as crossing the road, and for each activity define a threshold wind speed and frequency of occurrence beyond which the wind microclimate would be unsuitable for the stated activity. A frequency of occurrence of 5% has been established as giving a reasonable allowance for extreme and relatively infrequent winds that are acceptable within each category. The wind speeds and activities are described in the table below.

Table 5.7 Lawson Comfort Criteria

Threshold Speed	Wind	Comfort Rating	Description
4 m/s		C4 Long-term sitting	Reading a newspaper and eating and drinking.
6 m/s		C3 Short-term standing / sitting	Appropriate for bus stops, window shopping and building entrances.
8 m/s		C2 Leisure thoroughfare / strolling	General areas of walking and sightseeing.
10 m/s		C1 Pedestrian transit (A-B)	Local areas around tall buildings where people are not likely to linger.
> 10 m/s		C0 Uncomfortable for all users	Uncomfortable for all pedestrian activities.

5.145 The criteria reflect the fact that sedentary activity, such as sitting, requires a low wind speed for a reasonable level of comfort whereas for more transient activity (such as walking) pedestrians would tolerate stronger winds.

5.146 If the wind conditions exceed the threshold then the conditions are unacceptable for the stated activity. If the wind conditions are below the threshold then they are described as suitable for the stated activity.

5.147 The assessment takes full account of seasonal variations in wind conditions and pedestrian activities. For example, conditions for recreational activities focus on summer, but also consider spring and autumn, whilst conditions for pedestrian thoroughfare, access or waiting (e.g. bus stops) consider all seasons, with winter usually being the critical season. The pedestrian level wind environment assessment is summarised in terms of suitability for various activities.

5.148 The activities considered, and their relation to the Lawson comfort criteria, are summarised in the table below.

Table 5.8 Suitability Assessment

Activity	Description	Lawson Comfort Criteria
Outdoor seating	For long periods of sitting such as for an outdoor café / bar, a private balcony.	'Long-term sitting' (C4) in Summer
Entrances, areas, shop fronts waiting	For pedestrian ingress / egress at a building entrance / shop front, window shopping, or short periods of sitting or standing such as at a bus stop, taxi rank, meeting point, etc.	'Short-term standing / sitting' (C3) in all seasons
Recreational spaces	For outdoor leisure uses such as a park, children's play area, etc.	'Short-term standing / sitting' (C3) from Spring to Autumn
Leisure Thoroughfare	For access to and passage through the development and surrounding area.	'Strolling' (C2) in all seasons
Pedestrian Transit	For access to and passage through the development and surrounding area.	'Pedestrian transit (A-B)' (C1) in all seasons

Significance Criteria

5.149 In summary, the following criteria will be used to assess likely wind conditions as a result of the Proposed Development:

- Major Beneficial: Any effect on wind conditions which improves pedestrian safety (such as an improvement in conditions from being considered unsafe to being considered safe);
- Moderate Beneficial: Any effect on wind conditions that improves pedestrian comfort from unsuitable to suitable for planned activities;
- Minor Beneficial: Any effect on wind conditions which improves pedestrian comfort from unsuitable to marginal/tolerable for planned activities, or from marginal/tolerable to suitable for planned activities;
- Negligible: Any effect that does not alter the suitability of existing wind conditions with respect to planned activities;
- Minor Adverse: Any effect on wind conditions which worsens pedestrian comfort from suitable to marginal/tolerable for planned activities, or from marginal/tolerable to unsuitable for planned activities;
- Moderate Adverse: Any effect on wind conditions that worsens pedestrian comfort from suitable to unsuitable for planned activities;
- Major Adverse: Any effect adversely affecting pedestrian safety.

Baseline Assessment

5.150 The assessment will provide a quantitative review of the wind environment at key pedestrian level locations around the existing site (without hoardings) in terms of suitability for pedestrian activities related to industry standard pedestrian comfort and safety criteria via boundary layer wind tunnel studies.

Construction Assessment

5.151 The conditions for the Site during construction will not be directly assessed during the wind tunnel studies. Instead, professional judgement will be used to assess conditions during construction as pedestrian perception of conditions, both within the Site and in the surrounding area, are likely to be as much affected by expectations of conditions around a building site as by the actual wind speeds.

Operational Assessment

5.152 The assessment will provide a quantitative review of the wind environment at key pedestrian level locations around the Proposed Development in terms of suitability for pedestrian activities related to industry standard pedestrian comfort and safety criteria via boundary layer wind tunnel studies.

5.153 A 1:300 scale model of the Proposed Development and surrounding buildings within a 300 m radius of the centre of the Site will be constructed, in order to provide a reasonable balance between resolution and coverage of the study area.

5.154 The key pedestrian level locations to be investigated will include:

- Pedestrian access routes in and around the Site;
- Designated entrances to the Proposed Development & surrounding buildings;
- Shop fronts and/or waiting areas within the immediate vicinity;
- Recreational spaces around the Site and on the rooftop terrace.

- 5.155 Where appropriate, relevant mitigation measures will be developed and their effectiveness in providing suitable wind conditions for planned pedestrian activities validated through boundary layer wind studies.
- 5.156 Any soft landscaping included on the wind tunnel model will be represented as deciduous trees in winter, or bare, format in order to obtain conservative results, but it is presumed that trees planted as part of the development will be a species which is robust, and offers a worthwhile degree of alleviation of accelerated winds, i.e. the trees retain a substantial level of solidity during winter (lots of twigs and branches).

Scenarios to be assessed

- 5.157 The assessment will consider the following scenarios:
- Existing Site
 - Existing Site plus previous Plot 12 application
 - Proposed Development in Existing Surrounds
- 5.158 There are no Committed Developments within the radius of the wind tunnel model that are considered relevant to the assessment and thus a Cumulative scenario will not be considered.

Summary of Assessment of Scope

Table 5.9 Summary of Assessment of Scope

Receptor	Impact	Potential Effect	Scoped In / Out
Pedestrian Safety	Negligible / Major	Adverse / Beneficial	Scoped In
Pedestrian Comfort – Thoroughfares	Negligible / Minor / Moderate	Adverse / Beneficial	Scoped In
Pedestrian Comfort – Entrances	Negligible / Minor / Moderate	Adverse / Beneficial	Scoped In
Pedestrian Comfort – Retail	Negligible / Minor / Moderate	Adverse / Beneficial	Scoped In
Pedestrian Comfort – Recreational Spaces	Negligible / Minor / Moderate	Adverse / Beneficial	Scoped In
Pedestrian Comfort – Terraces	Negligible / Minor / Moderate	Adverse / Beneficial	Scoped In

Reference List

- 5.159 This ES Chapter will be prepared by reference to the following:
- Ministry of Housing, Communities & Local Government (2021), 'National Planning Policy Framework', London UK.
 - Ministry of Housing, Communities & Local Government (2021), 'Planning practice guidance' Available at: <https://www.gov.uk/government/collections/planning-practice-guidance> (Accessed 4th April 2022), London UK.
 - Manchester City Council (2012), 'Core Strategy Development Plan Document', Manchester, UK.
 - Manchester City Council (2007), 'Guide to Development in Manchester Supplementary Planning Document and Planning Guidance', Manchester, UK.

- Lawson, T.V. (1990), 'The Determination of The Wind Environment of A Building Complex Before Construction'. University of Bristol, Department of Aeronautical Engineering, TVL/9025.

Climate Change

Introduction

- 5.160 This scoping chapter of the ES has been prepared by Element Sustainability to provide an assessment of the likely climate change effects arising from the construction, operation and end of life phases of the proposed Circle Square 3 development in Manchester.
- 5.161 The purpose of the scoping exercise is to determine the anticipated extent of issues to be considered in the assessment and reported in the Environmental Statement. The relevant local and national policies have been reviewed, to ensure all practicable measures have been taken in order to deliver a sustainable development at this site.

Legislative and Policy Context

Climate Change Act (2008)

- 5.162 The Climate Change Act 2008 establishes a legally binding target to reduce the UK's greenhouse gas emissions by at least 80% in 2050 from 1990 levels. To drive progress and set the UK on a pathway towards this target, the Act introduced a system of carbon budgets.

The Town and Country Planning (EIA) Regulations 2017

- 5.163 "(2) The EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors-"
- 5.164 "(c)land, soil, water, air and climate"

National Planning Policy Framework (2021)

- 5.165 The National Planning Policy Framework states that the purpose of the planning system is to contribute to the achievement of sustainable development and to support a low carbon future. It should help to reduce the greenhouse gas emissions, minimise vulnerability and improve resilience.

The Carbon Plan (2011)

- 5.166 The Carbon Plan sets out the government's plans for achieving the emissions reductions it committed to in the first 4 carbon budgets.

Manchester Core Strategy

- 5.167 Manchester's Core Strategy (CS) was adopted on 11th July 2012 and is the key Development Plan Document in the Local Development Framework (LDF).
- 5.168 CS Policy EN 4 - Reducing CO2 Emissions by Enabling Low and Zero Carbon Development requires all development to follow the principle of the Energy Hierarchy
- 5.169 CS Policy EN 8 – Adaption to Climate Change requires all new development to be adaptable to climate change in terms of the design, layout, siting and function of both buildings and associated external spaces

Places for Everyone

- 5.170 Places for Everyone is a long-term plan of nine Greater Manchester districts (Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan) for jobs, new homes, and sustainable growth. It has been prepared by the GMCA on behalf of the nine districts and will determine the kind of development that takes place across the city-region
- 5.171 The Great Manchester Combined Authority (GMCA) has also declared a Climate Emergency in July 2019, aiming to achieve carbon neutrality by 2038.

Baseline Conditions

- 5.172 The current baseline conditions are represented by the existing sources of GHG emissions arising from the project boundary site, within Manchester City Centre prior to construction and operation. This will be impacted by previous phases of the Circle Square Masterplan, as the site will be affected by the current infrastructure related emissions
- 5.173 The GHG emissions generated following the construction and during operation of the Proposed Development will then be assessed, from which the significance, mitigation measures and residual effects are determined.

Future Baseline Design

- 5.174 The future baseline design conditions represent the schemes operational GHG emissions and how these will change over time. This is based on occupancy changes, adoption of renewables and the decarbonisation of the of the UK grid. Therefore, the following environmental impacts will be assessed:

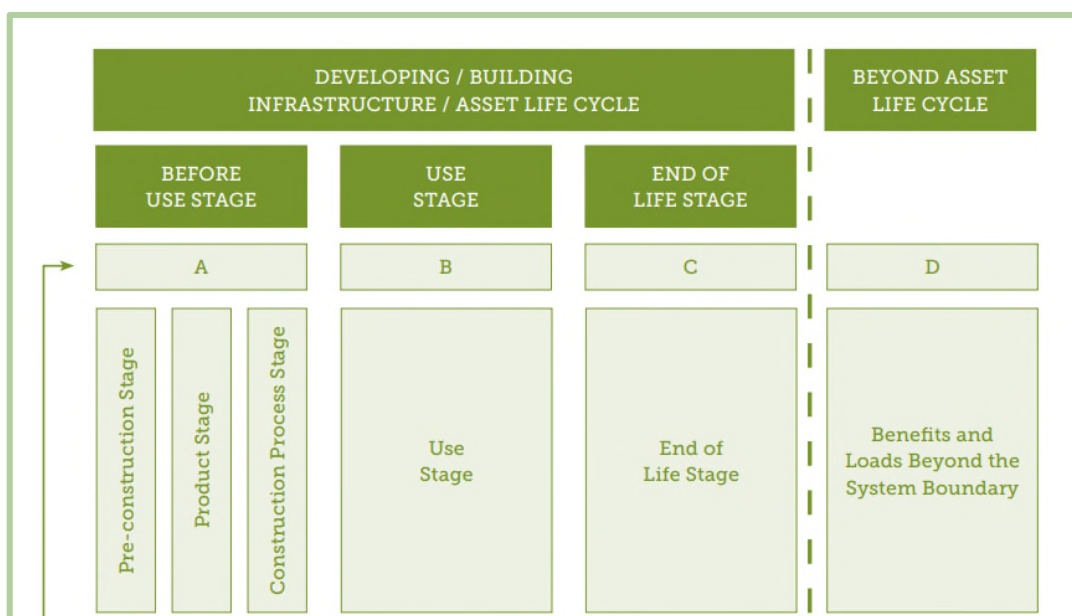
- Operational emissions: Lighting associated within the site boundary will need to be considered.
- Whole Life Embodied emissions: This includes embodied carbon emissions related to materials and construction process throughout the lifespan of the building, including upfront emissions during constructions, construction transport emissions, emissions from replacements/repairs during the operational phase and end-of-life emissions.
- Construction emissions: This includes the manufacturing and transportation of materials to and from the site.
- In use emissions: It is anticipated that the occupancy levels will increase overtime, in line with when new tenants begin to occupy floor levels. Consequently, emission relating to energy consumption will increase throughout its operational phase.
- Conversely, SAP 10 revised carbon factors for grid-mix electricity demonstrate an improved status of the UK grid, which has significantly decarbonised since the last update of Building Regs Part L in April 2014. Therefore, operational emissions will be significantly lower.
- Further emission reductions will be made through the implementation of PV panels at roof level.
- Operational Transport emissions: This includes emission related to the transportation caused directly by the developments operational needs and increased traffic rates, throughout its operational phase.

Assessment Methodology

- 5.175 Good practice approach to EIA will see GHG emissions scoped into the assessment and estimated, reported and mitigated as part of the project's undertakings.

Technical Scope

- 5.176 The study area for the GHG assessment includes the emissions arising within the red line boundary from the proposed development over its entire project lifecycle.
- 5.177 This assessment will consist of the GHG emissions generated across each life cycle module (A to D) as displayed below:



Element	Phase	Justification
Manufacturing and transport of raw materials	A1-A3	One of the most significant emitters of GHG emissions, due to the high levels of embodied carbon, will be those associated with the production of materials and their delivery to site.
Plant and equipment use	A4	The fuel associated with these machines and appliances have the potential to generate significant levels of GHG emissions
Waste	A5	Emissions from the generation and disposal of waste will need to be accounted.
Replacement / Refurbishment	B2-B5	Replacing materials associated with the development will create GHG emissions. The more often this occurs the greater the magnitude of the impact will be.
Operational energy	B6	In-use electricity emissions will be released on an annual basis due to the building use.
End of Use Emissions	B9/D	Associated impact on travel as a result of an increase on HGV to the area
Decommission	C1-C4	Deconstruction/demolition activities will create emissions. Plus those generated as a direct result of the transportation and disposal of waste materials

GHG Emissions Assessment Steps

5.178 In developing the approach, the aim is to deliver a robust, proportionate, appropriate and consistent assessment. The following six steps outline the suggested IEMA framework a GHG emissions assessment:

1. Set the scope and boundaries of the GHG assessment
2. Develop the baseline
3. Decide upon the emissions calculation methodologies
4. Data collection
5. Calculate/determine the GHG emissions inventory
6. Consider mitigation opportunities and repeat steps 4 & 5 (*if required*)

Sensitive Receptors

5.179 The sensitive receptor relevant to this assessment is the global climate, which is impacted by the creation of GHG emissions as a result of the proposed development.

Potential Significant Effects

5.180 In accordance with the IEMA Environmental Impact Assessment Guide to: Assessing Greenhouse Gas (GHG) Emissions and Evaluating their Significance, the following criteria should be considered when assessing potential significant effects:

- "When evaluating significance, all new GHG emissions contribute to a significant negative environmental effect; however, some projects will replace existing development that have higher GHG profiles. The significance of a project's emissions should therefore be based on its net impact, which may be positive or negative."
- Where GHG emissions cannot be avoided, the EIA should aim to reduce the residual significance of a project's emissions at all stages."
- "Where GHG emissions remain significant but cannot be further reduced... approaches to compensate the project's remaining emissions should be considered."

5.181 Therefore, the following significant effects have been identified for the Circle Square 3 development during specific phases of the development lifecycle, as follows:

- 1) Construction;
- 2) Operation; and,
- 3) End of Life

Construction Phase

5.182 Activities related to the manufacturing of construction materials and their transportation to and from the development site have been assessed. These are likely to have the greatest impact in terms of GHG emissions due to the high levels of embodied carbon of the substructure and superstructure elements.

5.183 Construction waste will be generated during this phase of the scheme, which will then need to be transported off site to be disposed of correctly. Generating further emissions as a result of the unnecessary creation of new materials and their transportation. Plus, the GHG emissions linked to the transportation methods for removing them. Therefore, a Waste Management Plan will need to be addressed to cover both the construction and demolition aspects of the build.

5.184 Air Quality assessments will be required to monitor the emissions generated locally to the site during the construction phase. This will take into account the impact of HGVs and the

increased levels of traffic associated with the build. This is likely to be significant due to its city centre location and that most vehicles are powered by petrol or diesel, which emit high levels of GHGs. It is proven that transport is the largest single emitter of GHG emissions in the UK and therefore needs to be scoped into the assessment. Transport and air quality assessments will be conducted to assess these effects in due course.

- 5.185 This phase of the scheme will also create significant levels of noise and vibrations, during work hours. This will be addressed in the accompanying acoustic report and emissions from the machines and vehicles has been scoped in.

Operation Phase

- 5.186 Activities associated with the replacement and/or refurbishment of the building elements would generate further greenhouse gas emissions.
- 5.187 The use of non-renewable energy sources would contribute significantly to the production of GHG emissions across the whole lifespan of the project.
- 5.188 Travel to and from the building, in terms of deliveries and servicing will contribute to the generation of GHG emissions during the operation of the development. Coupled with the increase in visitors and working professionals attending the site daily. However, the emissions related to transportation may be limited due to its city centre and accessible location to nearby sustainable transport methods.
- 5.189 External and internal air quality assessments will also be carried out to monitor the emissions related to this phase of the scheme. The most significant external effects identified are related to the transportation to and from the site. In regard to internal air quality, due to the highly energy efficient nature of the development, internal air quality should be of a high standard and therefore operational emissions will remain low.

End of Life Phase

- 5.190 The life cycle assessment for Circle Square 3 was modelled over a 60-year lifespan. Therefore, when the scheme reaches its end-of-life phase the development may be demolished, which will generate significant GHG emissions which need to be accounted for. As a result, this will lead to further emissions being generated with activities associated with the waste and disposal of building elements.

Baseline Assessment

- 5.191 The site is currently a vacant plot of land which has been cleared ready for development. It holds materials and machinery for the surrounding phases of the Circle Square masterplan. These materials have embodied emissions associated with them, and so does the transport emissions associated with the movement to and from the Site. The associated energy and embodied baseline emissions are anticipated to be small, and as such will not be quantified. As a result, there are zero transport, demolition and building GHG emissions associated with the Site's baseline condition.

Construction Assessment

- 5.192 The construction Phase is assumed to be between 2022 and 2024.
- 5.193 The activities which have been identified to create significant GHG emissions relate to the manufacturing, transportation of materials to and from the site and increased traffic levels.
- 5.194 The design of the proposed scheme is still developing and calculations for the embodied carbon emissions generated during the construction phase of the Proposed Development will be calculated in due course.

Operational Assessment

- 5.195 The expected lifespan of this development for this assessment has been assumed to be 60 years, then the operational part of the assessment covers the period 2024 – 2084
- 5.196 The activities which have been identified to create significant GHG emissions during the operation phase relate to the replacement of building elements, energy consumption and annual transport emissions.
- 5.197 The calculations for the carbon emissions generated during the operation phase of the Proposed Development will be calculated in due course.

Mitigating GHG Emissions

- 5.198 For EIA greenhouse gas (GHG) emissions mitigation, the Institute of Environmental Management & Assessment (IEMA) have produced a GHG Hierarchy which provides the following structure;
1. Avoid
 2. Reduce
 3. Substitute
 4. Compensate
- 5.199 In order to mitigate the GHG emissions arising from the construction phase of the CS3 development, the following actions should be considered:
- Re-using and/ or refurbishing existing assets to reduce the extent of new construction required
 - Apply low carbon solutions (including technologies, materials and products) to minimise resource consumption during the construction
 - To complement the above strategies, offsetting and sequestration practices should be implemented on site to compensate for GHG emissions arising from the project.

Summary of Assessment Scope

- 5.200 A significant proportion of the emissions are related to the product stage, the raw material supply, transport and manufacturing selection is an important element of mitigation.

Element	Receptor	Impact	Potential Effect	Scoped In / Out
Product manufacturing and construction	Global Climate	High (TBC)	High levels of embodied carbon are anticipated to be contained inherently within materials required to build the scheme. High level of emissions generated with the transportation of materials to the site	In

Element	Receptor	Impact	Potential Effect	Scoped In / Out
Plant and equipment use	Global Climate	Moderate (TBC)	Fuel and energy used to operate equipment can have a significant adverse impact	In
Disposal of waste	Global Climate	Moderate (TBC)	Emissions associated with the excess materials from construction or the removal of waste from the site	In
Replacement/Refurbishment	Global Climate	Moderate (TBC)	Some materials will need to be replaced regularly throughout the lifetime of the scheme. Therefore generating further emissions	In
End of Use	Global Climate	High (TBC)	Deconstruction and removal of waste from the site will create high levels of emissions	In
In use emissions	Global Climate	Low (TBC)	The scheme energy strategy demonstrates that the scheme will be highly efficient (targeting net carbon operation) and the emissions associated with this will be kept to a minimum	In

- 5.201 To conclude, the proposed development complies with applicable legislation and national and local planning policy to reduce the vulnerability of the scheme and limit the climate change impacts upon the identified receptor.
- 5.202 Appropriate mitigation measures have been identified in order to align with these and to reduce the impacts of the scoped in elements.
- 5.203 A concluding chapter will be produced which will consist of a summary table detailing the impacts of the proposed development and proposed mitigation measures. The chapter will

detail how environmental issues will be managed during construction and operation and form part of the wider Environmental Statement to provide an **assessment of the overall environmental impact of this development.**

Appendix 1: Site Location Plan

Appendix 2: Acoustic Assessment

Appendix 3: Construction Noise Assessment

Appendix 4: Phase 1 Risk Assessment

Appendix 5: Ground Investigation Report



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