15. Assessment of Cumulative Effects

Introduction

15.1 This Chapter reports the assessment of cumulative effects arising from the Proposed Development, in line with Schedule 4, Paragraph 5(e) of the EIA Regulations, which states the need to consider the following:

"the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources".

15.2 To accord with the EIA Regulations, in terms of providing an assessment of cumulative effects, this assessment has considered the following types of cumulative effects:

- **Effect interactions**: the interaction of environmental effects of the Proposed Development affecting the same receptor either within the Site or in the surrounding area[a], for example an adjacent residential receptor experiencing an increase in construction noise and change in visual amenity during construction; and

- **In-combination interactions**: the combination of environmental effects of the Proposed Development with existing or cumulative projects affecting the same receptor, for example multiple new tall buildings in-combination with the Proposed Development changing townscape character.

Legislative Framework and Guidance

15.3 Planning Practice Guidance[1] (PPG) refers to the need for cumulative effects to be assessed as part of an ES, but at present, there is no widely accepted assessment methodology or best practice. As such, the methodology in this Chapter is based on previous experience and knowledge at Turley, the types of receptors being assessed and the nature of the Proposed Development.

Assessment Methodology

15.4 The assessment of cumulative effects, for both effect interactions and in-combination effects, is largely qualitative in nature. The assessment of effect interactions is based on information contained within the ES, whilst the assessment of in-combination effects is based on publicly available information (i.e. the planning applications submitted for the projects considered for in-combination effects). The approach to the assessment of both effect and in-combination interactions is set out in the following sections.

[a] I.e the technical study areas as defined in **Technical Chapters 6 – 14.**

Effect Interactions

15.5 Following the completion of **Technical Chapters 6 – 14**, the residual effects have been collated into a matrix so that effect interactions on common receptors[b] can be identified. The matrix groups the receptors into categories, aligning with Schedule 4, Paragraph 4 of the EIA Regulations (e.g. population and human health, climate, etc). Where a residual effect is reported in **Technical Chapters 6 – 14** to be negligible, then this was excluded from the matrix (**Table 15.2** and **15.3**). This is on the basis that a negligible residual effect is unlikely to cause a noticeable change at a receptor or the receptor is not considered sensitive to a change.

15.6 Where the level of effect ranged across receptors assessed, the worst case level of effect was included in **Tables 15.2** and **15.3**, i.e. the 'least beneficial' or 'most adverse'.

15.7 Where effect interactions have been identified, a qualitative appraisal has been undertaken for the relevant receptor categories. The qualitative evaluation at the receptor level considered the following:

- Clear identification of specific receptor(s) considered for each effect 'contributing' to a potential effect interaction to understand the common receptor (and their attributes, such as location etc.);
- An appraisal where there are specific common receptors, considering;
  - Magnitude of change (or impact) of each residual effect;
  - Sensitivity (or value, importance, etc.) of the receptor / receiving environment to change;
  - Duration (of the effects individually and collectively utilising the short / medium / long-term criteria set out in **Chapter 2: Approach to EIA**) and reversibility of the effect;
  - If the effects are temporary and / or permanent;
  - If the effects are experienced / occur concurrently; and / or
  - The geographical / spatial extent of the individual effects.

15.8 This process has been documented within the 'Assessment of Effect Interactions' section of this Chapter.

In-Combination Effects

15.9 The assessment of potential in-combination effects has followed a two-step approach, as detailed below.

Step 1: Identification and Evaluation of Projects for Further Consideration

15.10 A review of planning applications submitted to MCC was undertaken as part of the EIA Scoping Report (**Appendix 2.1**) to identify an initial list of projects (referred to as

[b] The common sensitive receptors considered within this assessment are those which are assessed within two or more of the technical assessments within the ES.

'Cumulative Projects') that could give rise to in-combination effects with the Proposed Development. The review considered projects that have submitted applications, rather than any projects that are foreseeable or allocated sites. This is due to it being unlikely that there will be sufficient information to inform a robust in-combination assessment for schemes where no application is yet submitted.

15.11 The Cumulative Projects considered in this ES have been identified from the following sources:

- MCC's online register of projects[c];
- Planning Inspectorate online register of projects[d];
- Transport and Works Order Act online register of projects[e]; and
- Parliament Hybrid Bills online register[f].

15.12 In line with the EIA Regulations, this search has focused on projects and therefore is not inclusive of sites allocated within local plans, core strategy documents or supplementary planning documents.

15.13 In line with Planning Inspectorate Advice Note Seventeen, criteria and professional judgment have been used to determine whether to include or exclude projects from further assessment (i.e. apply proportionality), informed by aspects such as temporal scale, nature of development and other factors.

15.14 As such, the search has been focused on projects within 1km of the Site, acknowledging the maximum extent of likely receptors and nature of effects to be reported within the ES.

15.15 The following additional criteria has also been used to define the list of Cumulative Projects:

- Applications dating from January 2015 onwards. It is anticipated that applications prior to this date will already have been built out (and therefore form part of the baseline) and / or where subsequent applications have been submitted these would be captured within the search dates;
- Applications that have been submitted, consented/granted planning permission, or part implemented;
- Applications that have been refused but are subject to an undetermined appeal;

[c] This search has also been informed by using Landstack.
[d] https://infrastructure.planninginspectorate.gov.uk/projects/register-of-applications/.
[e] https://www.gov.uk/government/collections/twa-inspector-reports-and-decision-letters.
[f] https://www.parliament.uk/business/bills-and-legislation/current-bills/hybrid-bills/.

- Projects of a pertinent scale, which has been determined using professional judgment but informed by their scale, perceived impact, or complexity, and are present near the Site[g].

15.16 A further search was undertaken in October 2025 (8 weeks prior to the finalisation of the assessment of cumulative assessment as part of the ES) to ensure there is sufficient time for the Cumulative Projects to be considered and incorporated within any studies / evaluation / modelling that may underpin the assessments within the ES (e.g. visualisations)[h].

15.17 The final list of Cumulative Projects is set out in **Table 15.1** and shown on **Figure 15.1**.

Step 2: Assessment of In-Combination Effects

15.18 A review of available information for each Cumulative Project was undertaken using MCC's online planning portal. Relevant ES's or other relevant environmental reports were downloaded for consideration by the project team. Where no environmental reporting was available, professional judgement was used in order to determine any potential in-combination effect.

15.19 Where available, consideration was also given to whether there is likely to be a concurrent construction or operational stage with the Proposed Development.

15.20 The sensitive receptors identified for the Proposed Development (as set out in **Technical Chapters 6 – 14**[i]) were then cross checked against the receptors identified within the Cumulative Projects. In order for there to be a potential in-combination effect, there needs to be a potential effect on the same receptor for a similar duration within the overall programme (or part of it) for the Proposed Development.

15.21 The qualitative evaluation at the receptor level considered the following:

- Combined magnitude of change of all Cumulative Projects;
- Sensitivity/value/importance of the receptor/receiving environment to change; or/and

[g] Informed by the definition of major development by NPPF; the definition of Schedule 1 and Schedule 2 developments set out within the EIA Regulations; and developments that do not fall into the above but have notable implications due to location or scale.

[h] It is noted that for the adjacent Charles Street application (Cumulative Project 2; 143741/FO/2025) only demolition has been applied for at this stage. It is understood that consultation has launched for the redevelopment of the site for PBSA, however as this was launched after the 8 week final cumulative search, and no application has been submitted. Therefore, for the purpose of the in-combination assessments, demolition / a cleared site is assumed.

[i] It is noted that there are some technical appendices in **Volume 2** which provide assessment of all relevant receptors, however only receptors scoped in for assessment in **Technical Chapter 6 – 15** were considered when identifying common receptors with the Cumulative Projects. This is because these were the receptors identified as having the potential to experience a likely significant effect.

- Duration and reversibility of effect.

15.22 The evaluation is largely qualitative in nature. Through a combination of the evaluation and mitigation presented in the ES, conclusions have been drawn as to the likelihood for significant in-combination environmental effects.

Table 15.1: List of Cumulative Projects for In-Combination Assessment

ID	Planning Reference	Name / Address	Description	Distance and direction from Site	EIA Development?	Status
1	143024/FO/2025	Sister Plot C Former Umist Campus Altrincham Street Manchester M1 7JA	Phased development comprising: Phase A - demolition of existing buildings and structures, erection of a basement (C1 Building and C2 Building) and a podium across lower ground and upper ground floors comprising flexible commercial space (Class E and/or Sui Generis drinking establishment), erection of a building (C1 Building) to form offices (Class E), landscaping works, highways, access, servicing, infrastructure and other associated works; Phase B: erection of a podium across lower ground and upper ground floors and a new building (C2 Building) to form offices (Class E) and flexible commercial and community uses (Class E, F2 and/ or Sui Generis drinking establishment), alterations to the existing Sculptural Wall (Hollaway Wall), relocation of existing art work, landscaping works, highways, access, servicing, infrastructure and other associated works; Phase C - change of use and associated works to railway Viaduct arches to form flexible commercial units (Class E, and/ or Sui Generis - drinking establishment) including highways, access and servicing arrangements, and other associated works.	80m east	Yes	Pending determination
2	143741/FO/2025	Charles Street Multi Storey Car Park (Plot H Sister)	Demolition of existing multi-storey car park and associated commercial units (retail and sui generis bar uses) to prepare site for future development.	10m north	Yes	Pending determination

ID	Planning Reference	Name / Address	Description	Distance and direction from Site	EIA Development?	Status
		Charles Street Manchester M1 7AR				
3	138808/FO/2023	Charles Street Car Park At Junction Of Charles Street And York Street Manchester	Erection of 15-storeys plus plant level building to provide purpose-built student accommodation (PBSA - Sui Generis) along with site preparation works, works over the public highway and other associated works.	157m west	Yes	Approved
4	136874/FO/2023	Echo Street Manchester M1 3QJ	Erection of 3 interlinked towers ranging from 27, 21 and 16 storeys together with intermediary link buildings (15 and 11 storeys) to form Purpose Built Student Accommodation (Sui Generis) with associated amenity space and external landscaping and other associated works	158m east	Yes	Under construction
5	125712/FO/2019	Former London Road Fire Station London Road Manchester M1 2PH	Refurbishment, restoration, reconfiguration and extension of former London Road Fire Station site to create a mixed use development comprising of hotel (Use Class C1), workspace/office (Use Class B1, D1), commercial floorspace for shop and food and drink uses (Use Classes A1, A3 and A4), residential apartments (Use Class C3) and leisure (Use Class D2), together with access and highways works, servicing, rooftop plant and associated works	250m north-east	No	Under construction

ID	Planning Reference	Name / Address	Description	Distance and direction from Site	EIA Development?	Status
6	137401/FO/2023	Upper Brook Street Masterplan Land Between Upper Brook Street, Kincardine Road And Grosvenor Street Manchester	Full planning application for the demolition of existing buildings and erection of three ground floor + 12/14/29 storey buildings to be used for Purpose Built Student Accommodation (Use Sui Generis), comprising 983 bedrooms in total and 506sqm of ground floor ancillary uses (café/commercial and convenience store - Use Classes E (a)/(b)/(c)), three buildings comprising ground floor + 5/7/9 storeys for Science and Innovation uses (Use Class E (g)(i) & (ii)) and 834sqm ground floor community uses (retail/ cafés and medical facility (Use Classes E (a)/(b) and (e)), and the provision of new public realm, two new public squares, new access and parking, and associated works	300m south	Yes	Approved
7	143253/FO/2025	Boulton House 17 - 21 Chorlton Street Manchester M1 3HY	Refurbishment and reuse of Boulton House (including new build extensions up to 6 storeys to Bloom Street and 1 storey to Major Street) to provide 261 serviced apartments and associated amenity space (Class C1) plus flexible ground floor commercial uses (Use Class E and/or Sui Generis (p) and (q) along with associated landscaping and public realm works, external plant, and amended servicing and access arrangements (including new secure cycle parking).	375m north	No	Pending determination
8	127486/FO/2020	Baring Street Manchester M1 2PY	Construction of a 7,11,14 storey building with roof top plant area and basement, comprising office use (Use Class B1) with external terraces above ground floor commercial units (Use Classes A1 and A3); new public realm and	435m east	No	Pending determination

ID	Planning Reference	Name / Address	Description	Distance and direction from Site	EIA Development?	Status
			landscaping, cycle parking; external plant, access, servicing and work to the highway (Baring Street) and other associated works			
9	137263/FO/2023	Land At Baring Street Adjacent To The River Medlock Manchester M1 2PY	Erection of 9 storey office development with mezzanine and plant level (Class E) with ground and basement floor retail, cafe and / or restaurant and / or gym (Use Class E) uses, rooftop amenity spaces and terrace levels, associated public realm and riverside walkway and associated works.	475m east	Yes	Under construction
10	142888/FO/2025	Cambridge Halls Of Residence Cavendish Street Manchester	Demolition of existing halls of residence and erection of two buildings of 30 and 24 storeys above ground, plus basement and rooftop plant levels, comprising: purpose-built student accommodation with internal and external rooftop communal amenity space (Sui Generis); ground floor commercial and community uses (Flexible Use Classes E, F1(a) or F2(b)); hard and soft landscaping; and associated highway works.	500m south-west	Yes	Pending determination
11	124972/FO/2019	Mayfield Park Land Bounded By Mayfield Depot Building, Hoyle Street, Mancunian Way (A635),	Phased creation of circa 2.4 ha (6 acres) of public park, including hard and soft landscaping and new bridges across the River Medlock; erection of 9 storey office development above basement with mezzanine and plant level (Class B1) with ground floor Class A1 (Shop), A2 (Financial and Professional Services), A3 (Café and Restaurant), A4 (Drinking Establishment) B1 (Office) uses, rooftop amenity spaces and terrace levels, associated	255m east	Yes	Part operational / part under-construction

ID	Planning Reference	Name / Address	Description	Distance and direction from Site	EIA Development?	Status
		Baring Street, Buxton Street & Berry Street (inclusive) & McDonald Hotel Along With Associated Roads & Junctions Manchester M1 2AD	public realm and riverside walkway; erection of 11 storey Multi-Storey Car Park to provide 581 car parking spaces with associated landscaping; highways and infrastructure works including the creation of new junction from London Road to provide access to the multi-storey car park (MSCP) (Use Class Sui Generis); works to Baring Street, stopping up of Bond Street and Nether Street (alongside associated Traffic Regulation Orders to manage unrestricted parking to Buxton Street, Berry Street and Travis Street (to be delivered and implemented prior to the MSCP becoming operational)) alongside enabling works comprising phased demolition and site clearance, earthworks including re-profiling and construction of retaining walls for the land bounded by the Mancunian Way to the south, Mayfield Depot to the north, Baring Street to the west and Hoyle Street to the east			
12	125248/FO/2019	Mayfield, Phase 1 Land Adjacent To Mancunian Way (former Mayfield Goods Yard) Baring Street Office 2 Manchester M1 2AD	Erection of 13 storey building (including ground and mezzanine) comprising office space (Use Class B1) above flexible uses at ground and mezzanine levels (Class A1 (Shop), A2 (Financial and Professional Services), A3 (Café and Restaurant), A4 (Drinking Establishment) /D1 (Art Gallery, Museum and Conference & Training Centre)/D2 (Cinema)/ Theatre (Sui Generis)) with rooftop amenity spaces and external terrace levels, internal ancillary storage spaces for waste, cycles, rooftop plant, back of house functions and associated landscaping works.	500m east	Yes	Under construction

ID	Planning Reference	Name / Address	Description	Distance and direction from Site	EIA Development?	Status
13	141788/FO/2024	Mayfield Phase 1B Hoyle Street Manchester	Phased development comprising (a) site remediation and reprofiling; and (b) erection of two residential plots of development comprising 879 no. new homes (Use Class C3) contained within four buildings ranging from 7 storeys to 23 storeys in height (Plot J) and 9 to 28 storeys in height (Plot K), with upper and lower ground floor commercial spaces comprising restaurant and / or retail units (Use Class E(a) and/or E(b) and / or Local Community Uses (Class F2) and Gym (Use Class E(d) (within single unit of Plot K only) together with highways works, associated public realm and other associated works for each relevant phase.	580m east	Yes	Pending determination
14	137399/FO/2023	Land Bounded By Upper Brook Street, Cottenham Street & Kincardine Road	Erection of a 6 to 9-storey building for Sci-Tech use (Use Class E (g)(ii)) and 265sqm of a cafe/bar (Use Class E (b)), and a 9 to 23-storey building for Purpose Built Student Accommodation (PBSA) (Use Sui Generis), comprising 737 bedrooms and 293sqm of community use (Use Class F2 (b)) and 80sqm of commercial floorspace (Use Class E), alongside new public realm, access, parking, and associated works following demolition of existing buildings	615m south-east	Yes	Approved
15	139986/FO/2024	Sparkle Street Manchester M1 2NJ	Demolition of existing part vacant buildings and erection of a part 10 storey,part 27, part 28 storey residential development comprising 359 homes (Use Class C3) with supporting amenity spaces, and associated highways works, landscaping, plant areas, and other associated works	590m north-east	Yes	Pending determination

ID	Planning Reference	Name / Address	Description	Distance and direction from Site	EIA Development?	Status
16	142535/FO/2025	Stocktons 140 Great Ancoats Street Manchester M4 6DU	Demolition of existing buildings and erection of 2no. new buildings providing up to 758 apartments (Use Class C3), Class E floorspace (comprising flexible office accommodation (Use Class Eg(i)) and Class Ea and b) and associated hard and soft landscaping (including works within the public highway), formation of vehicle accesses and servicing access together with associated works.	870m north-east	Yes	Pending determination
17	141786/FO/2024	Plot 9B First Street Manchester	Erection of part 12, part 33 storey purpose-built student accommodation (PBSA) building (Sui Generis), alongside ancillary amenity space, landscaping, secure cycle parking and other associated works; and use of land east of River Street as a construction compound (Plot 9B).	640m west	Yes	Under construction
18	138831/FO/2023	Plot 11 Block C First Street South Manchester M15 6JE	Erection of a ground plus 28-storey building plus plant level, comprising purpose-built student accommodation (PBSA -Sui Generis) and other associated works including public realm, secure cycle parking and servicing arrangements.	685m west	Yes	Pending determination
19	135419/FO/2022	One Medlock Street Manchester M15 5FJ	Demolition of the existing hotel building and structures and redevelopment of the site to comprise two separate buildings: one 13 storey office building with commercial unit (Use Class E) at ground floor; a part 11, part 38 storey building comprising 1,014 purpose built student accommodation units (sui generis) with ground floor office/community uses (Use Class E, F1 or F2); and associated ancillary internal and external amenity space, hard and soft landscaping and associated highway works.	790m west	Yes	Under construction

ID	Planning Reference	Name / Address	Description	Distance and direction from Site	EIA Development?	Status
20	121099/FO/2018	Portugal Street East Land At Portugal Street East Manchester M1 2WX	Construction of two residential buildings (Use Class C3) comprising Block 1 (29 storeys) (224 apartments (4 x 1 bed 1 person, 52 x 1 bed 2 person, 64 x 2 bed 3 person and 104 x 2 bed 4 person) 25% 1 bed and 75 % 2 bed) Block 2 (23 storeys) (264 apartments 44 x1 bed 1 person, 44 x 1 bed 2 person, 92 x 2 bed 3 person and 84 x 2 bed 4 person) (33% 1 bed and 67%% 2 bed) with a linked central podium, to deliver 488 units, shared amenity space, 27 car parking spaces, 492 cycle spaces, landscaping (including new public park) , lighting, highways and associated works following demolition of existing buildings and structures.	700m east / north-east	Yes	Under construction
21	139715/FO/2024	Viadux Phase 2 Land Bounded By Albion Street, Great Bridgewater Street And Trafford Street Manchester M60 2AT	Full Planning Permission for the phased construction of 2 buildings to include: a tall mixed-use building to include residential (Use Class C3) and hotel with associated bars and restaurant (Use Class C1) (Plot 2a), a second tall building with residential accommodation (Use Class C3) with flexible commercial units (Use Class E) (Plot 2b), landscaping and public realm, servicing, drainage and access arrangements, highways alterations, and other associated works.	710m north-west	Yes	Pending determination
22	141773/FO/2024	2-4 Whitworth Street	Demolition of buildings at 2 and 4 Whitworth Street West and the construction of a residential building (Class C3) with associated servicing arrangements, landscaping, and associated works.	850m west	Yes	Pending determination

ID	Planning Reference	Name / Address	Description	Distance and direction from Site	EIA Development?	Status
		West Manchester M1 5WY				
23	132199/FO/2021	Plot F Plot F Great Jackson Street Manchester M15 4AX	Full planning permission for the demolition of existing structures and the erection of two 51-storey residential buildings (Use Class C3) across two phases, including residential amenity facilities, basement car parking, landscaping and public realm, servicing and access arrangements, highways alterations, and associated works.	950m west	Yes	Under construction
24	129273/FO/2021	Plot G 34 Great Jackson Street Manchester M15 4NG	Demolition of existing structures and the construction of two residential buildings of 56 storeys (plus basement and roof plant) (use class C3), with ground floor commercial uses (use class E), car parking, cycle provision, landscaping, access and other associated works	950m west	Yes	Approved
25	137227/FO/2023	Plot D, Great Jackson Street Plot D Great Jackson Street Manchester M15 4NP	Full planning permission for the demolition of existing structures and the erection of one residential building to a height of 71 storeys comprising 642 homes (Use Class C3) with food and drink uses (Use Class E) and / or drinking establishment (Sui Generis); and one office building (Use Class E); with basement car parking, cycle parking, landscaping and public realm, servicing and access arrangements, highways alterations and associated works.	1km west	Yes	Pending determination
26	137226/FO/2023	Part Of Plot C And Plot E	Full planning permission for the demolition of existing structures and the phased construction of four residential	1km west	Yes	Pending determination

ID	Planning Reference	Name / Address	Description	Distance and direction from Site	EIA Development?	Status
		Great Jackson Street Manchester M15 4NP	buildings (two at 47 storeys and two at 51 storeys) to provide 1,746 homes (Use Class C3), flexible commercial, leisure, food and drink uses (all Use Class E) and / or drinking establishment (Sui Generis), basement car parking, cycle parking, landscaping and public realm, servicing and access arrangements, highways alterations and associated works.			
27	143769/FO/2025	Faraday Tower The University Of Manchester Sackville Street Manchester	Demolition of Faraday Tower to ground floor slab level and works to remediate/make safe the retained structure (including the erection of a perimeter hoarding) to prepare site for future development.	12m south	Yes	Pending determination
28	143943/FO/2025	All Saints Campus Oxford Road Manchester M15 6BH	Partial demolition, temporary weatherproofing and associated works to library building.	420m south-east	Yes	Pending determination

Assessment of Effect Interactions

15.23 **Table 15.2** and **15.3** detail those receptor categories where residual effects were identified within **Technical Chapters 6 – 14** for the construction and operational stages of the Proposed Development, respectively. **Technical Chapters 6 – 14** have each identified specific sensitive receptors within their assessments, and these have been grouped into common categories in **Table 15.2** and **15.3** for further consideration.

15.24 Where effects are reported as significant in **Technical Chapters 6 – 14**, these are shown in **Table 15.2** and **15.3** as **bold** and shaded grey. Where topic chapters are not included, this is because no effects above negligible were identified.

Demolition and Construction Stage

Table 15.2: Matrix of Effect Interactions (Demolition and Construction Stage)

Effect	Population and Human Health	Material Assets	Climate	Cultural Heritage
Chapter 6: Socio-economics and Human Health				
Employment generated during construction	Minor beneficial			
Chapter 7: Built Heritage				
Impact on the heritage significance (character and appearance) of conservation areas				Minor adverse
Impact on the heritage significance of listed buildings, as a result of change within their setting				Minor adverse
Chapter 10: Daylight and Sunlight[j]				
Change in daylight amenity	Minor adverse			
Change in sunlight amenity	Minor adverse[k]			
Chapter 11: Solar Glare[l]				

[j] **Chapter 10: Daylight and Sunlight** did not model and report on the effects of the demolition / construction stage as the completion of the Proposed Development at operation was considered to represent the worst-case effect assessment scenario. To ensure a worst-case effect interactions assessment, the operational stage effects are used as a worst case construction stage effect in **Table 15.2**.

[k] At Granby House, Orient House and Salisbury House only. Negligible effects were concluded at Montana House and Princess House.

[l] **Chapter 11: Solar Glare** did not model and report on the effects of the demolition / construction stage as the completion of the Proposed Development at operation was considered to represent the worst-case effect assessment scenario. To ensure a worst-case effect interactions assessment, the operational stage effects are used as a worst case construction stage effect in **Table 15.2**.

Effect	Population and Human Health	Material Assets	Climate	Cultural Heritage
Solar glare	Minor adverse[m]			
Chapter 12: Climate Change				
Greenhouse gas emissions			Minor adverse	
Chapter 14: Noise and Vibration				
Nuisance and disturbance as a result of demolition and construction noise (excluding traffic)	Minor adverse[n]			
Nuisance and disturbance as a result of demolition and construction vibration	Minor adverse[o]	Minor adverse[p]		
Potential Effect Interaction:	**YES**		**NO**	**NO**

[m] At Brook St (Northbound) junction with Sackville St; Railway line from Oxford Rd station to Piccadilly station (Eastbound); and Railway line from Piccadilly station to Oxford Rd station (Westbound) only.
[n] At all noise and vibration sensitive receptors (NVSRs) (NVSR1 – 8, see **Chapter 14: Noise and Vibration**).
[o] At all noise and vibration sensitive receptors (NVSRs) (NVSR1 – 8, see **Chapter 14: Noise and Vibration**).
[p] At the existing Weston Halls Student Accommodation (NVSR 2) and Ibis Hotel (NVSR 3) only.

15.25 No effects above negligible were reported for **Chapter 9: Wind Microclimate** and **Chapter 13: Air Quality** during the construction stage. No construction stage effects were scoped in for assessment in **Chapter 8: Townscape and Visual.** Therefore, effects relating to these topics are excluded from **Table 15.2**.

15.26 As shown in **Table 15.2**, there were residual effects reported to the population and human health; climate; material assets; and cultural heritage receptor groups during the construction stage. There are no effect interactions reported for the climate, material assets and cultural heritage receptor groups as there is only one effect reported in these groups or the effects are to different receptors. Therefore, only potential effect interactions to the population and human health receptor group have been considered further.

15.27 The following residual effects were reported in the population and human health group during the construction stage:

- Employment generated during construction;
- Change in daylight amenity;
- Change in sunlight amenity;
- Solar glare;
- Nuisance and disturbance as a result of demolition and construction noise (excluding traffic); and
- Nuisance and disturbance as a result of demolition and construction vibration.

15.28 All effects reported during the construction stage are adverse, with the exception of employment generation which is beneficial.

15.29 Given the urban context of the Site, the concentration of receptors within a small geographical area, the environmental effects considered within **Technical Chapters 6 – 14**, and the breadth of receptors within the population and human health receptor category, the potential for effect interactions is not uncommon or unexpected.

15.30 The adverse effects from reduced daylight and sunlight amenity and solar glare are the operational stage effects when the full massing is in place, and therefore a worst case proxy used for the construction stage. In reality, the effects will evolve and not reach these worst case effects until the massing is fully in place. Therefore, there is only likely to be a short term period within the overall construction period where these effects could interact with other construction stage effects.

15.31 The beneficial effect of employment generated during construction is considered on a wider scale (Manchester and Greater Manchester) than the other effects which are more relevant to receptors in close proximity to the Site. Therefore, this is unlikely to interact with the more local scale effects and there is no perceived effect interaction with respect to these effects and the adverse ones identified.

15.32 The existing Weston Halls Student Accommodation and Ibis Hotel are the only receptors that will experience vibration effects above negligible, which will also be experienced at the same time as the construction noise effects at these receptors. The effects are temporary and will be controlled through the CEMP.

15.33 Overall, there is not likely to be an effect interaction during the construction stage.

Operational Stage

Table 15.3: Matrix of Effect Interactions (Operation Stage)

Effect	Population and Human Health	Climate	Cultural Heritage	Landscape
Chapter 6: Socio-economics and Human Health				
Provision of PBSA	**Major beneficial**			
Chapter 7: Built Heritage				
Impact on the heritage significance (character and appearance) of conservation areas			Minor adverse	
Chapter 8: Townscape and Visual				
Changes to local townscape character				Moderate beneficial
Changes to visual amenity	**Moderate beneficial**			
Chapter 10: Daylight and Sunlight				
Change in daylight amenity	Minor adverse			
Change in sunlight amenity	Minor adverse[q]			
Chapter 11: Solar Glare				
Solar glare	Minor adverse[r]			

[q] At Granby House, Orient House and Salisbury House only. Negligible effects were concluded at Montana House and Princess House.
[r] At Brook St (Northbound) junction with Sackville St; the railway line from Oxford Rd station to Piccadilly station (Eastbound); and the railway line from Piccadilly station to Oxford Rd station (Westbound) only.

Effect	Population and Human Health	Climate	Cultural Heritage	Landscape
Chapter 12: Climate Change				
Greenhouse gas emissions		Minor adverse		
Potential Effect Interaction:	**YES**	**NO**	**NO**	**NO**

15.34 No effects above negligible were reported for **Chapter 9: Wind Microclimate**. No operational stage effects were scoped in for assessment in **Chapter 13: Air Quality** and **Chapter 14: Noise and Vibration.**

15.35 As shown on **Table 15.3**, there were residual effects reported to the landscape; cultural heritage; population and human health; and climate receptor groups during the operational stage. There are no effect interactions reported for the landscape, cultural heritage, and climate receptor groups as there is only one effect reported in these groups or the effects are to different receptors. Therefore, only potential effect interactions to the population and human health receptor group have been considered further.

15.36 The following residual effects were reported in the population and human health group during the operational stage:

- Provision of PBSA;
- Changes to visual amenity;
- Change in daylight amenity;
- Change in sunlight amenity; and
- Solar glare.

15.37 The provision of PBSA was considered a beneficial effect, as was changes to visual amenity (only for users of the pedestrian route and roads immediately adjacent to the Site (Sackville Street, Charles Street and the pedestrian link and open space along the southern Site boundary)). The changes in daylight and sunlight amenity and solar glare were considered to be adverse.

15.38 As noted for the construction stage above, given the urban context of the Site, the concentration of receptors within a small geographical area, the environmental effects considered, and the and the breadth of receptors within the population and human health receptor category, the potential for effect interactions is not uncommon or unexpected.

15.39 The provision of PBSA is considered in the context of students requiring accommodation. Given the nature of this receptor, there will not be an interaction with the other population and human health effects, which are to existing receptors surrounding the Site.

15.40 For the remaining effects, the following specific common receptors that will experience an effect of minor and above have been identified:

- Sackville Street (pedestrians/users of roads) – beneficial change in visual amenity interacting with an adverse increase in solar glare (at Brook Street (northbound) junction with Sackville Street only). This is unlikely to experience a significant effect interaction as the solar glare effect is not significant in isolation, and an

increased solar glare interacting with the change in view would only be fleeting as drivers pass the Brook Street junction; and

- Granby House, Orient House, and Salisbury House – adverse reduction in daylight and sunlight. This is unlikely to be a significant interaction as the daylight and sunlight effects have each been modelled in **Chapter 10: Daylight and Sunlight** and have not been reported as significant. The most adverse individual effect is likely to drive the perceived effect interaction.

15.41 Overall, no significant effect interactions are anticipated during operation.

Assessment of In-Combination Effects

15.42 Cumulative Projects identified for the assessment of in-combination effects are detailed in **Table 15.1** and shown on **Figure 15.1**. The assessment of in-combination effects is set out below on a topic-by-topic basis.

Socio-Economics and Human Health

Construction Stage

15.43 The construction stage of all Cumulative Projects may overlap with the Proposed Development in terms of timescales. In-combination effects with the relevant construction stage receptor (labour force) are therefore likely, as outlined below:

- **Employment generated (high sensitivity):** All Cumulative Projects will generate employment in the construction sector. In-combination effects with the relevant construction stage receptor (labour force) are therefore likely as a result of employment generated. The combined magnitude of change is anticipated to be large. This cumulative beneficial effect is considered to be temporary, medium-term and major. This will exceed the level of effect (Minor) considered at the project level. The cumulative effect is **Significant**, exceeding the level of effect at the project level.

Operational Stage

15.44 The operational stage of all Cumulative Projects will overlap with the Proposed Development in terms of timescales. In-combination effects with the relevant operational stage receptors (students requiring accommodation) are therefore likely, as outlined below:

- **Provision of PBSA (high sensitivity):** Cumulative Projects 3, 4, 6, 10, 14, 17 and 18 will provide PBSA. In total, it is understood that Cumulative Projects will deliver a combined c. 6,769 PBSA bedspaces. In-combination effects with the relevant operational stage receptor (students requiring accommodation) are therefore likely as a result of the provision of PBSA. The combined magnitude of change is anticipated to be large. This cumulative beneficial effect is considered to be permanent, long-term and Major. This will be in line with the level of effect (Major) considered at the project level (albeit will be quantitatively higher). This effect is **Significant**, as it is at the project level.

Built Heritage

15.45 Common receptors have been identified between the Proposed Development and Cumulative Projects 1, 4, 6 and 27.

15.46 In-combination effects will occur on the Manchester South Junction and Altrincham Railway Viaduct, the Institute of Science and Technology, the Whitworth Street Conservation Area and the Renold Building during the demolition and construction stages from the Proposed Development and Cumulative Project 1. For both the Proposed Development and Cumulative Project 1, no identified effects exceed minor to moderate adverse significance and in-combination effects would not be significant. During the operational stage of the Proposed Development, only the Whitworth Street Conservation Area will experience a minor adverse effect. The effect of Cumulative Project 1 on the conservation area was identified as neutral; therefore, no in-combination effects are likely during operation. The Proposed Development will have negligible adverse effects on the Wright Robinson Hall and Barnes Wallis Building and the Morton Laboratory during the construction and operational stages. These buildings would be demolished during the demolition and construction stage of Cumulative Project 1.

15.47 Regarding Cumulative Project 4, the common receptor is Whitworth Street Conservation Area. Both the Proposed Development and Cumulative Project 4 will have a minor adverse effect on Whitworth Street Conservation Area during the construction stage. However, Cumulative Project 4 is expected to be operational during the construction stage of the Proposed Development and no adverse effect was identified for Cumulative Project 4 during the operational stage.

15.48 Only negligible effects were reported for Cumulative Project 6; therefore, no in-combination effects are likely.

15.49 For Cumulative Project 27, in-combination effects occur, with some heritage assets experiencing minor beneficial, minor adverse, or negligible effects. However, all identified effects are not significant, either individually or in-combination.

15.50 Overall, none of the effects for the projects in isolation exceed minor to moderate adverse significance and, in-combination, do not give rise to a significant environmental effect.

Townscape and Visual

15.51 For the majority of Cumulative Projects, no significant cumulative townscape or visual effects would occur due to a lack of common receptors.

15.52 Common receptors exist between those assessed in **Chapter 8: Townscape and Visual** and Cumulative Projects 1, 2, 3, and 27. The common receptors are LTCA1 – University Buildings, Living and Ancillary Uses; and users of the pedestrian route and roads immediately adjacent to the Site (Sackville Street, Charles Street and the pedestrian link and open space along the southern Site boundary).

15.53 There would be a direct change to the character of LTCA1 as a result of Cumulative Projects 1, 2, 3 and 27. However, due to intervening features within the townscape, there would be limited locations where the Cumulative Projects would be experienced

in combination with the Proposed Development from within this study area. Overall, the regeneration associated with the Proposed Development and Cumulative Projects is likely to be beneficial to the future character and regeneration of the area.

15.54 Cumulative Project 1 would be seen in combination by users of Charles Street when heading east towards the Site, and by pedestrians on the station approach to Piccadilly Station. Cumulative Project 1 would be seen in the backdrop of these views. Whilst there is an in-combination effect, it would not be greater than the effect considered for the Proposed Development.

15.55 At this stage, the proposals for Cumulative Projects 2 and 27 comprise the demolition to prepare the sites for future development. The visual effects of any future built development are currently unknown; however, the demolition works are likely to result in noticeable effects for receptors using the roads immediately adjacent to the Site, particularly Sackville Street and Charles Street. It is not yet known whether the level of effect would be comparable to that identified for the Proposed Development.

15.56 There is potential for Cumulative Project 3 to be experienced in combination by users of Charles Street. In these views, Cumulative Project 3 would be the more dominant element in the foreground, with the Proposed Development forming part of the backdrop and being partially obscured by intervening built form. Although there would be an in-combination effect, the Proposed Development would occupy only a small portion of the view, and the overall effect would be no greater than those already identified for this receptor.

15.57 Overall, the cumulative assessment demonstrates that significant effects arise only in a small number of cases and are associated with receptors already subject to a significant effect as a result of the Proposed Development, such that any additional change associated with the Cumulative Projects would give rise to overall significant cumulative effects.

Wind Microclimate

15.58 The majority of the Cumulative Projects have been discounted from the in-combination assessment as there is no common receptor and therefore there can be no in-combination effect.

15.59 The exceptions to this are Cumulative Projects 1, 2, 3, 6, 13, 27 and 28. An additional scenario, including Cumulative Projects 1, 2, 3, 6, 27 and 28 with identified common receptors, was tested in CFD. The common receptors were thoroughfares, entrances, waiting areas and recreational spaces within and around the Site.

15.60 This is reported in **Appendix 15.1** which considers the inclusion of Cumulative Projects 1, 2, 3, 6, 27 and 28. The results demonstrate that the effects levels are the same as reported at the project level (Baseline + Proposed Development), as reported in **Chapter 9: Wind Microclimate**, which are not significant.

Daylight and Sunlight

15.61 Cumulative Projects which are already under construction and in sufficient proximity to the Site have been included in the existing baseline and, where appropriate, the effect

of the Proposed Development upon their daylight and sunlight amenity has been assessed in **Chapter 10: Daylight and Sunlight**.

15.62 The locations, heights and massing levels of all other Cumulative Projects are, based on professional judgement, considered unlikely to create any in-combination effect with the Proposed Development in terms of daylight and sunlight as they are not big enough or, if they are, close enough to the Site to do so.

Solar Glare

15.63 The Proposed Development in isolation represents the worst-case assessment in terms of likely solar glare effects. This is because neighbouring Cumulative Projects have the potential to block sunlight reaching the façades of the Proposed Development and/or obscure the Proposed Development from the viewpoints assessed. Where Cumulative Projects are under construction and may be visible within a driver's field of view, their completed form has been included within the 3D model as massing only (assessed in **Chapter 11: Solar Glare**), reflections from these Cumulative Projects are not considered.

Climate Change

15.64 ISEP's GHG Assessment Guidance[2] recognises the cumulative contributions of all GHG emissions sources to global climate change and the climatic system as a high sensitivity receptor. For this reason, the approach to the cumulative effects assessment of GHGs differs from many other EIA topics where projects within a geographically bounded study area are considered.

15.65 For GHGs, unlike air pollution for example, there is no greater climate change effect from a local GHG emissions source than from one on the other side of the world. Indeed, all global cumulative GHG sources are relevant to the effect on climate change, which is taken into account when defining the global climatic system receptor as being of high sensitivity to further emissions.

15.66 Effects of GHG emissions from specific cumulative projects therefore in general should not be individually assessed, as there is no basis for selecting any particular (or more than one) cumulative project that has GHG emissions for assessment over any other.

15.67 Instead, the contextualisation of GHG emissions incorporates by its very nature the cumulative contributions of other GHG sources which make up that context, whether geographical (in the case of UK carbon budgets) or sector-bounded. Therefore, a form of cumulative assessment of GHG emissions / savings has already been undertaken in **Chapter 12: Climate Change**, which does not report significant effects.

Air Quality

15.68 There are common receptors between the Proposed Development and Cumulative Projects 1 – 4 and 27. All other Cumulative Projects are more than 250m from the Site. Each Cumulative Project will mitigate the effects of construction dust through the implementation of a CEMP to ensure effects are negligible. Therefore, there will be no significant cumulative effect.

Noise and Vibration

15.69 There are common receptors between the Proposed Development and Cumulative Projects 2 and 27. There are no common receptors with the remaining Cumulative Projects largely due to the Cumulative Projects being outside of the 300m study area for the Proposed Development; no overlap in construction programme; screening from surrounding receptors; and limited construction works.

15.70 The demolition of the Faraday Tower (Cumulative Project 27) and Charles Street car park (Cumulative Project 2) will serve to extend the period of construction noise and vibration disruption for NVSRs 1 – 8 (see **Chapter 14: Noise and Vibration**). There may also be small increases in construction noise levels experienced if works are simultaneous. Effects will be no more than medium term, so the in-combination effect is considered to be Not Significant. Since vibration generating activities are usually transient or of relatively short duration, cumulative vibration effects are also unlikely.

Summary

15.71 The assessment of cumulative effects considered effect interactions (where more than one effect is experienced by a single receptor) and in-combination effects (where effects on a receptor may combine with those of other projects in the locale).

Effect Interactions

15.72 The assessment of effect interactions, which considers multiple effects generated by the Proposed Development impacting upon the same receptor, identified that effect interactions would be experienced by the 'population and human health' factors / receptor groups for the construction and operational stages.

15.73 At the construction stage, the potential effect interactions are in relation to the adverse effect of reduced daylight and sunlight amenity and increased solar glare (albeit this is most likely when the full massing is implemented towards the end of the construction period), noise and vibration effects from construction activities, and the beneficial effect of employment generated (in Manchester and Greater Manchester). Overall, there is not likely to be an effect interaction during the construction stage due to the different temporal and spatial scales the effects will be experienced.

15.74 During the operational stage of the Proposed Development, there is also a possible effect interaction in relation to the adverse effects of reduced daylight and sunlight amenity and increased solar glare; and the beneficial effects from the change in visual amenity and provision of PBSA. The provision of PBSA is not likely to interact with other effects as it benefits students requiring accommodation, which are not common receptors for the other residual effects. The common receptors assessed in the daylight, sunlight, solar glare and visual assessments were appraised, and no significant interactions are anticipated. The most adverse individual effect is likely to drive the perceived effect interaction.

In-Combination Effects

15.75 The assessment of in-combination effects considered 28 Cumulative Projects on a technical topic by topic basis (i.e. **Technical Chapters 6 – 14**).

15.76 A summary of the evaluation of in-combination effects is provided within **Table 15.4.**

15.77 Where a greater in-combination effect is identified and is considered to be Significant, this has been highlighted in grey**.**

Table 15.4: Summary of In-Combination Effects

Technical Topic	Summary of In-Combination Effects with Relevant Projects
Socio-Economics and Human Health	All Cumulative Projects will generate employment in the construction sector. This will exceed the level of effect considered at the project level and result in a significant cumulative effect. Cumulative Projects 3, 4, 6, 10, 14, 17 and 18 will provide PBSA. This will result in a cumulative effect quantitatively greater than at the project level (albeit the level of effect remains the same), which is significant.
Built Heritage	Cumulative Projects 1, 4, 6 and 27 have common receptors with the Proposed Development. None of the effects for the Proposed Development or Cumulative Projects in isolation exceed minor to moderate adverse significance and in-combination do not give rise to significant effects.
Townscape and Visual	Cumulative Projects 1, 2, 3, and 27 have common receptors with the Proposed Development. Significant effects arise only in a small number of cases and are associated with receptors already subject to a significant effect as a result of the Proposed Development. This means that any additional change associated with the Cumulative Projects would give rise to overall significant cumulative effects.
Wind Microclimate	Cumulative Projects 1, 2, 3, 6, 13, 27 and 28 have the potential to result in in-combination wind effects. These were modelled in CFD which demonstrated the effects would not be greater than at the project level. These effects are not significant.
Daylight and Sunlight	There are no in-combination effects as the Cumulative Projects are either not big enough or close enough to the Site to result in cumulative effects with the Proposed Development.
Solar Glare	The Proposed Development in isolation represents the worst-case assessment in terms of likely solar glare effects, as Cumulative Projects could block reflections. Effects of the Proposed Development in isolation are not significant.
Climate Change	All global cumulative GHG sources are relevant to the effect on climate change, which is taken into account when defining the global climatic system receptor as being of high sensitivity to further emissions in **Chapter 12: Climate Change**. Therefore, the cumulative effect remains as reported in **Chapter 12: Climate Change**, which is not significant.

Technical Topic	Summary of In-Combination Effects with Relevant Projects
Air Quality	There are common receptors between the Proposed Development and Cumulative Projects 1 – 4 and 27. Each Cumulative Project will mitigate the effects of construction dust through the implementation of a CEMP to ensure effects are negligible. Therefore, there will be no significant cumulative effect.
Noise and Vibration	There are only common receptors with Cumulative Projects 2 and 27. While demolition activities from Cumulative Projects 2 and 27 may extend construction noise and vibration impacts and slightly increase noise if works coincide, these effects are medium-term and transient, so the cumulative impact is not considered significant.

References

[1] Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities and Local Government (2020). Planning Practice Guidance – Environmental Impact Assessment. Available at: Environmental Impact Assessment - GOV.UK (www.gov.uk) [Accessed: 18/11/2025].

[2] 2022_iema_greenhouse_gas_guidance_eia.pdf