



Yeagate Limited

LAND NORTH OF BIRCH BUSINESS PARK

Environmental Statement Volume I

Chapter 17 – Summary of Effects, Mitigation and
Cumulative Effects

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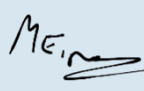
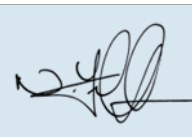
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17 SUMMARY OF CUMULATIVE EFFECTS, IMPACT AND MITIGATION

17.1 INTRODUCTION

- 17.1.1. This chapter reports the likely significant cumulative environmental effects (both effect interactions and in-combination effects) associated with the Proposed Development. Cumulative effects comprise the combined effects of reasonably foreseeable human induced changes within a specific geographical area over a certain period of time, which can be both direct and indirect.
- 17.1.2. For the purposes of this Environmental Statement (ES), the following types of cumulative effects have been considered in accordance with the EIA Regulations 2017 and best practice guidance:
- **Intra-project combined effects (effect interactions)** – the interaction and combination of different environmental effects from within the Proposed Development affecting a receptor; and
 - **Inter-project cumulative effects (in-combination effects)** – the combined effects of the Proposed Development and other projects on a receptor.

17.2 SCOPE AND METHODOLOGY FOR ASSESSMENT

- 17.2.1. This section should be read in conjunction with the cumulative effects section of **Chapter 5: Approach to EIA**.
- 17.2.2. At present, there is no widely accepted methodology or best practice for the assessment of cumulative effects although there are a number of guidance documents available. The following approach is based on previous experience and professional judgement, the types of receptors being assessed, the nature of the Proposed Development and the environmental information available to inform the assessment.
- 17.2.3. Part 1, Paragraph 2 (e) of the EIA Regulations 2017 (**Ref 15.1**) refers to the need to assess '*the interaction between factors referred to in sub-paragraphs (a) to (d)*' which includes: population and human health, biodiversity, land, soil, water, air and climate, material assets, cultural heritage and the landscape.
- 17.2.4. Schedule 4, Paragraph 5(e) of the EIA Regulations 2017 (**Ref 15.1**) states that an ES should include a description of the likely significant effects of the Proposed Development on the environment resulting from '*the cumulation of effects on 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*'.

17.3 DEVELOPMENTS INCLUDED IN THE ASSESSMENT

- 17.3.1. The approach to the assessment of in-combination effects considers the deviation from the baseline conditions at common sensitive receptors as a result of changes brought about as a result of the Proposed Development in combination with one or more other committed developments.
- 17.3.2. A search of committed developments (as defined by the criteria below) was performed through a review of the Rochdale Borough Council Planning Register (**Ref. 15.2**) and other sources, with consultation from RBC on these committed developments. As part of this search, the committed developments identified were reviewed against the following criteria. The criteria is based on

professional judgement relating to whether they are likely to cause significant effects due to their location or other characteristics (such as size or operational activities).

- 17.3.3. Committed developments considered in the assessment comprise developments that have planning permission and which meet one or more of the following relevance criteria:
- Has a concurrent construction and/or operational phase; and
 - The committed development is within a relevant geographical boundary (2km from the site boundary) with common sensitive receptors;
 - Is a residential development that comprises 50+ dwellings; and
 - Is an employment, industrial and/or commercial development that comprise a minimum of 1000m² of commercial space.
- 17.3.4. The identified committed developments that have been considered within the in-combination assessment are shown below within **Table 17-1**.
- 17.3.5. The consideration of in-combination effects has been approached on a topic by topic basis, dependent upon the availability of relevant information. Where environmental information is not presented within the available documents relating to the committed development, a high-level appraisal using publicly available sources has been undertaken to supplement the available information to enable a qualitative assessment of in-combination effects. If insufficient information is available in the public domain, this is clearly outlined.

17.4 STATUS OF COMMITTED AND REASONABLY FORESEEABLE DEVELOPMENTS

- 17.4.1. The cumulative effects assessment has primarily been undertaken with reference to committed developments identified within the study area and presented in Table 17-1. For the purposes of this assessment, committed developments comprise schemes that have obtained planning permission and are considered sufficiently certain to be included within the cumulative assessment baseline.
- 17.4.2. In addition to committed developments, consideration has also been given, where relevant to individual environmental topics, to developments that were not formally committed at the time of assessment but which were considered reasonably foreseeable due to their stage within the planning process, scale, location or potential to give rise to cumulative effects with the Proposed Development.
- 17.4.3. One such development is the wider Northern Gateway employment scheme (planning application reference 25/00418/OUT). At the time of preparing this Environmental Statement, the application remained undetermined and therefore did not meet the definition of a committed development. Consequently, it has not been included within the committed developments schedule presented in Table 17-1 however the wider Northern Gateway employment scheme has been considered as a reasonably foreseeable development in order to understand the potential worst-case cumulative effects that could arise should both developments proceed.
- 17.4.4. In accordance with the methodology set out in Chapter 5, a detailed cumulative assessment was only required where a technical assessment identified likely significant effects, or where a realistic mechanism existed for non-significant effects to combine with other developments and give rise to significant cumulative effects. For the majority of environmental topics assessed within Chapters 6 to 16, residual effects were either not significant or there was no credible pathway for significant cumulative interaction.

- 17.4.5. Only environmental topics identified as having potential for cumulative interactions have been taken forward for consideration.
- 17.4.6. Notwithstanding this, certain technical assessments, most notably the Landscape and Visual Impact Assessment (LVIA), have considered the Northern Gateway scheme as a reasonably foreseeable development in order to understand the potential worst-case cumulative effects that could arise should both developments proceed. The findings of these assessments are reported separately from those relating solely to committed developments and are presented as a sensitivity test of future development scenarios rather than a formal committed-development assessment.
- 17.4.7. The distinction between committed developments and reasonably foreseeable developments has been maintained throughout the Environmental Statement to ensure that the assessment remains proportionate, transparent and consistent with the available planning information at the time of assessment.

Table 17-1 – List of committed schemes

Reference	Local Planning Authority Reference	Description of Development	Site address	Status	Distance from Site Boundary (m)
1	70697	Erection of café/shop (Use Class E), rebuilding of existing boathouse and associated access road, parking & landscaping	Pilsworth Lake/Fisheries , Moss Hall Road, Bury OL10 2RF	Approved 18/09/2024	40m north
2	22/01051/FUL	Conversion and extension to existing barn and outbuilding to form 4 no. dwellinghouses; proposed link extension, and alterations proposed to all elevations of buildings; hardstanding to front yard with parking; creation of proposed passing places	Barns And Outbuildings At Stock Nock House Farm, Doctor Fold Lane, Heywood	Approved 05/06/2024	490m south
3	22/01148/FUL	Demolition of Units B and G and erection of a warehouse unit (Class B2/B8) with ancillary office	Birch Industrial Estate Whittle Lane Heywood	Approved 19/12/2022	1.5km north

Reference	Local Planning Authority Reference	Description of Development	Site address	Status	Distance from Site Boundary (m)
		space (Class E) including parking, servicing areas, associated works and infrastructure - Resubmission of 21/01489/FUL	OL10 2SX		
4	25/00566/REM	Approval of Reserved Matters (access, appearance, landscape, layout, and scale) on outline permission ref 24/00805/OUT for an employment unit with parking and service yard, open storage area, access, landscaping and associated infrastructure	M-N-400 Heywood Distribution Park Pilsworth Road Heywood . OL10 2TS	Approved 30/10/2025	1.5km north
5	24/00795/FUL	Alterations to the existing warehouse comprising the installation of a new 12m canopy on the north eastern access door and the construction of a new sprinkler tank and pump house, a new perimeter fence, new car park entrance gates and a new	Units PN8 And PN9 Heywood Distribution Park Pilsworth Road Heywood . OL10 2TS	Approved 31/10/2024	1.7km north

Reference	Local Planning Authority Reference	Description of Development	Site address	Status	Distance from Site Boundary (m)
		office and amenity block building			
6	25/00045/REM	Submission of reserved matters (including Appearance, Landscaping, Layout and Scale) for the construction of a Class B8 (storage or distribution) distribution centre with ancillary office accommodation, gatehouse and access arrangements, car parking, HGV bays, sprinkler tanks and pump house, landscaping, spur road and other associated works, pursuant to 22/01569/OUT.	Plot 3, Land At South Heywood, Rochdale	Approved 12/05/2025	1.7km south
7	16/01399/HYB R	Part full/part outline planning application for the development of land at South Heywood, including the demolition of a number of existing on-site buildings and structures.	Land Bound By Manchester Road, Hareshill Road And Pilsworth Road West Of Junction 19 Of	Approved 31/03/2020	1.7km south

Reference	Local Planning Authority Reference	Description of Development	Site address	Status	Distance from Site Boundary (m)
		Full consent sought for the construction of a new link road between Junction 19 of the M62 and Pilsworth Road, the widening of part of Pilsworth Road, together with associated junction improvements, landscaping, lighting and other works including the importation of material and engineering works in order to construct the link road. Outline consent (with all matters reserved for future approval except access) sought for a major mixed-use development comprising supporting residential uses comprising up to 1000 dwellings (Class C3); employment uses (Classes B2/B8) comprising up to 135,460m2 Gross Internal Area(GIA); a new primary school (Class D1); Class A1/A2/A3/A5 uses	The M62 Rochdale		

Reference	Local Planning Authority Reference	Description of Development	Site address	Status	Distance from Site Boundary (m)
		comprising up to 2500m2 GIA which includes no more than 499m2 of A1 uses; together with associated landscaping, open space and sports pitches, drainage, ecological enhancements, cycleway and footpath linkages, infrastructure and other works ancillary thereto. (Application accompanied by an Environmental Statement)			
8	20/00955/FUL	Retrospective demolition of Unit D and erection of a B2/B8 warehouse unit with ancillary B1(a) office space at Birch Business Park including ancillary office, parking and servicing areas, associated works and infrastructure	Birch Business Park, Unit D Whittle Lane Heywood . OL10 2SX	Approved 07/12/2020	250m south

17.5 DETERMINING SIGNIFICANT EFFECTS

- 17.5.1. There is no formal guidance on the criteria for determining significance of cumulative effects. The following principles have been considered when assessing the significance of cumulative effects in relation to both effect interactions and in-combination effects:
- The nature of the receptors/resources affected;
 - How the impacts identified combine to affect the condition of the receptor/resource;
 - The probabilities of the impacts occurring in relation to each other in such as way so as to produce a cumulative effect; and
 - The ability of the receptor/resource to absorb further effects.
- 17.5.2. The determination of significance for the purposes of this assessment is therefore made on a receptor basis, taking account of the assessments in technical chapters 6 to 16, available environmental information, industry best practice, professional judgement and experience. Levels of significance were made in accordance with the definitions set out in **Chapter 5: Approach to EIA**. It is noted that for a cumulative effect to be significant (moderate or large) the effect must be determined to increase the magnitude of overall effect beyond that of the Proposed Development in isolation or environmental topic receptor with the largest residual effect.

17.6 ASSESSMENT OF EFFECTS INTERACTION

STEP A

- 17.6.1. The Step A assessment identifies receptors that may be affected by more than one environmental topic and therefore may experience multiple residual effects. Such receptors are referred to as *Common Receptors*.
- 17.6.2. A review of the technical assessments reported within this Environmental Statement (ES) has been undertaken to identify receptors subject to more than one residual effect. Receptors experiencing two or more residual effects of Minor Adverse significance or greater have been identified as having the potential for residual effect interactions.
- 17.6.3. Residual effect interactions may occur where multiple environmental disciplines affect the same receptor during the construction and/or operational phases of the Proposed Development. The assessment considers whether the combined influence of these residual effects could give rise to a materially different outcome from that identified within the individual topic assessments.
- 17.6.4. Table below identifies the common receptors and environmental topics taken forward for the assessment of residual effect interactions. These receptors have been identified through a review of the findings presented within the relevant technical chapters of this ES.

Table 17-2 – Common Receptors Identified for the Effects Interaction Assessment

Common Receptor	Environmental Factors
Local Population, including demolition and construction workers, existing future Site users	▪ Air Quality (construction), Landscape & Visual, Climate Change

Common Receptor	Environmental Factors
Existing employees, visitors and businesses within Birch Business Park	Transport, Landscape & Visual, Climate Change

STEP B

17.7 CONSTRUCTION PHASE

- 17.7.1. The review of the technical assessments demonstrates that the majority of construction phase residual effects are Negligible Adverse or lower following the implementation of mitigation measures and therefore do not meet the threshold for inclusion within the effects interaction assessment. In particular, the Ecology, Noise and Vibration, Air Quality, Ground Conditions and Contamination, Cultural Heritage and Socio-Economic assessments identify no significant residual adverse effects that are capable of contributing materially to effect interactions.
- 17.7.2. The assessment identified the following receptors as having the potential to experience multiple residual adverse effects during construction:

Local Population

- 17.7.3. Local population receptors, including nearby residents, construction workers and other site users, may experience residual adverse effects associated with construction phase landscape and visual change together with the residual contribution of construction-related greenhouse gas emissions to climate change. Construction activities may also give rise to temporary disturbance associated with works on site; however, these effects are generally reduced to negligible levels following mitigation.
- 17.7.4. When considered together, the interaction of these residual effects is not considered likely to materially increase the magnitude, duration, geographic extent or significance of effects beyond those identified within the individual technical assessments. Accordingly, **no additional significant residual** effect interaction is identified for local population receptors during the construction phase.

Users of the Local Highway Network

- 17.7.5. Users of the local highway network may experience residual effects associated with temporary increases in construction traffic together with visual effects experienced along the Birch Business Park access road and immediate surroundings of the Site. These effects are temporary and limited to the construction period.
- 17.7.6. The interaction of these effects is not considered likely to materially increase the significance of effects beyond those identified within the Transport Assessment and Landscape and Visual Impact Assessment. Accordingly, **no additional significant residual** effect interaction is identified for users of the local highway network during the construction phase

Existing Employees, Visitors and Businesses within Birch Business Park

- 17.7.7. Existing employees, visitors and businesses within Birch Business Park may experience residual effects associated with temporary construction traffic movements, construction phase landscape and visual effects, and the residual contribution of construction activities to greenhouse gas emissions. Construction-related activity may result in temporary changes to views from within Birch Business Park and limited disruption associated with vehicle movements along the business park access road

and surrounding network. However, these effects would be temporary in nature and confined to the construction period.

- 17.7.8. When considered together, the interaction of these residual effects is not considered likely to materially increase the magnitude, duration, geographic extent or significance of effects beyond those identified within the individual technical assessments. Accordingly, no additional significant residual effect interaction is identified for existing employees, visitors and businesses within Birch Business Park during the construction phase.

Controlled Water Receptors

- 17.7.9. Controlled water receptors, including the unnamed Ordinary Watercourse and downstream watercourses, may experience residual effects associated with construction surface water runoff and pollution risks. However, following implementation of the Construction Surface Water Management Plan and associated mitigation measures, only a single residual adverse effect remains. Consequently, no material residual effect interaction is anticipated for controlled water receptors during the construction phase.

Ecological Receptors

- 17.7.10. The Biodiversity and Ecology assessment concludes that no significant residual adverse effects are anticipated following mitigation. Consequently, ecological receptors are not expected to experience multiple residual adverse effects and no material residual effect interaction is anticipated.

17.8 CONSTRUCTION PHASE CONCLUSION

- 17.8.1. Overall, the construction phase assessment identifies limited potential for residual effect interactions. The majority of environmental effects are reduced through the implementation of embedded and additional mitigation measures and are assessed as Negligible Adverse or Not Significant following mitigation. Residual effect interactions are therefore principally limited to local population receptors and users of the local highway network.
- 17.8.2. The combined influence of these residual effects is not considered likely to result in a materially different outcome from that identified within the individual technical assessments.
- 17.8.3. Accordingly, no additional significant residual effect interactions are identified during the construction phase and the findings reported within Chapters 6 to 16 remain unchanged.

17.9 OPERATIONAL PHASE

- 17.9.1. The operational phase effects interaction assessment has been undertaken using the same methodology as described for the construction phase. The assessment considers common receptors that may experience two or more residual adverse effects of Minor Adverse significance or greater following implementation of the mitigation measures identified within the technical assessments.
- 17.9.2. A review of the Environmental Statement demonstrates that the majority of operational phase effects are either Negligible Adverse, Minor Beneficial or No Change following mitigation. Consequently, only a limited number of receptors have the potential to experience residual effect interactions during operation of the Proposed Development.
- 17.9.3. The operational phase assessment identifies potential residual adverse effects on local population receptors arising from landscape and visual effects and climate change.

- 17.9.4. The Landscape and Visual Impact Assessment identifies Moderate Adverse visual effects at Year 1 for certain receptors within the immediate setting of the Proposed Development, reducing as mitigation planting matures over time. The Proposed Development would become increasingly integrated within the established commercial context of Birch Business Park and the wider urban fringe landscape. Wider Northern Gateway proposals would result in the application area being completely encompassed by built environment.
- 17.9.5. The Climate Change assessment identifies a residual Minor Adverse effect associated with operational greenhouse gas emissions. However, the assessment concludes that the development's contribution to greenhouse gas emissions would be low in the context of national carbon budgets and would not be significant following implementation of mitigation measures.
- 17.9.6. When considered together, the combination of these residual effects is not considered likely to result in a materially different outcome from that identified within the individual assessments. Accordingly, no additional significant residual effect interaction is identified for local population receptors during the operational phase.

Users of the Local Highway Network

- 17.9.7. Users of the local highway network may experience residual effects associated with operational traffic movements and visual effects experienced along routes within and adjacent to Birch Business Park.
- 17.9.8. The Transport Assessment concludes that operational traffic generated by the Proposed Development would result in a Negligible to Minor Adverse residual effect on users of the local highway network following implementation of embedded mitigation measures.
- 17.9.9. The Landscape and Visual Impact Assessment identifies continuing visual effects for users of the access road within Birch Business Park, although these effects reduce over time as the mitigation planting establishes and matures. The Proposed Development would ultimately be perceived as a logical extension of the existing business park.
- 17.9.10. The combined influence of these effects is considered unlikely to increase the significance of effects beyond those identified by the individual assessments. Accordingly, no additional significant residual effect interaction is identified for users of the local highway network during the operational phase.

Existing Employees, Visitors and Businesses within Birch Business Park

- 17.9.11. Existing employees, visitors and businesses within Birch Business Park may experience residual effects associated with operational traffic movements, landscape and visual effects arising from the completed development, and the residual contribution of operational greenhouse gas emissions to climate change. The Proposed Development would introduce an additional employment building within the existing commercial context of Birch Business Park and would result in changes to local traffic patterns and visual conditions experienced within the business park.
- 17.9.12. The Transport Assessment identifies residual effects associated with operational traffic movements on routes serving Birch Business Park. In addition, the Landscape and Visual Impact Assessment identifies continuing visual effects for users of the Birch Business Park access road and immediate surroundings of the Site, although these effects would reduce over time as mitigation planting establishes and matures. The Climate Change Assessment identifies a residual Minor Adverse effect associated with operational greenhouse gas emissions; however, the contribution of the

Proposed Development is assessed as not significant in EIA terms following implementation of mitigation measures.

When considered together, the interaction of these residual effects is not considered likely to materially increase the magnitude, duration, geographic extent or significance of effects beyond those identified within the individual technical assessments. Accordingly, no additional significant residual effect interaction is identified for existing employees, visitors and businesses within Birch Business Park during the operational phase.

Controlled Water Receptors

- 17.9.13. The Water Environment assessment identifies a Minor Beneficial residual effect associated with reduced post-development runoff rates to the unnamed Ordinary Watercourse and downstream Main River as a consequence of the proposed drainage strategy. Operational surface water quality effects are assessed as Negligible Adverse following implementation of the proposed SuDS treatment train.
- 17.9.14. Ground Conditions and Contamination identifies either Negligible Adverse residual effects or potential Minor Beneficial effects where remediation measures are implemented. As no residual adverse effects of Minor Adverse significance or greater are identified, there is no potential for material residual effect interaction.
- 17.9.15. Accordingly, no material operational phase residual effect interaction is identified for controlled water receptors.

Ecological Receptors

- 17.9.16. The Ecology assessment concludes that no significant residual ecological effects would remain following implementation of mitigation and enhancement measures. Furthermore, the Air Quality assessment identifies that operational air quality effects on ecological receptors would be negligible and not significant.
- 17.9.17. Although the Climate Change assessment identifies a Minor Adverse residual effect on biodiversity and landscaping associated with future climate conditions, no other qualifying residual adverse effects have been identified for ecological receptors. Consequently, there is insufficient potential for cumulative interaction between residual effects.
- 17.9.18. Therefore, no material operational phase residual effect interaction is identified for ecological receptors.

17.10 OPERATIONAL PHASE CONCLUSION

- 17.10.1. The operational phase effects interaction assessment demonstrates that relatively few receptors are subject to multiple residual adverse effects of Minor Adverse significance or greater.
- 17.10.2. Local population receptors, including nearby residents, employees, visitors and other site users, may experience residual effects associated with landscape and visual change together with the residual contribution of the Proposed Development to greenhouse gas emissions and climate change.
- 17.10.3. The Landscape and Visual Impact Assessment identifies Moderate Adverse residual visual effects for a limited number of receptors within the immediate setting of the Site during the early operational period, reducing for some receptors as mitigation planting establishes and matures. These effects are reported separately within Chapter 10: Landscape and Visual Impact Assessment.

- 17.10.4. The Climate Change Assessment identifies a residual Minor Adverse effect associated with operational greenhouse gas emissions. However, the assessment concludes that the contribution of the Proposed Development would represent a small proportion of wider sectoral and national greenhouse gas emissions and would not be significant in EIA terms following implementation of mitigation measures.
- 17.10.5. When considered together, the interaction of these residual effects is not considered likely to materially increase the magnitude, geographic extent, duration or significance of effects beyond those identified within the individual technical assessments. In particular, the contribution from climate change effects is not considered sufficient to alter the significance of the residual landscape and visual effects identified for local population receptors.
- 17.10.6. Accordingly, whilst local population receptors may experience multiple residual effects during operation of the Proposed Development, the interaction of those effects is not considered likely to result in a materially different outcome from that reported within the individual assessments and no additional significant residual effect interaction is identified.
- 17.10.7. Controlled Water Receptors and Ecological Receptors are not anticipated to experience material residual effect interactions during operation of the Proposed Development due to the absence of multiple qualifying adverse residual effects.
- 17.10.8. The operational phase effects interaction assessment demonstrates that a limited number of receptors may experience residual effects arising from more than one environmental topic. However, in all cases the interaction of residual effects would not materially increase the significance of effect beyond that identified within the individual technical assessments.
- 17.10.9. Accordingly, no additional significant residual effect interactions are identified during the operational phase and the findings reported within Chapters 6 to 16 remain unchanged.

Table 17-3 - Construction Phase Effect Interactions Screening

Common Receptor	Residual Effects of Minor Adverse or Greater	Taken forward?
Local Population (construction workers, nearby residents and site users)	Landscape & Visual; Climate Change	Yes
Users of the Local Highway Network	Traffic & Transport; Landscape & Visual	Yes
Existing Employees, Visitors and Businesses within Birch Business Park	Traffic & Transport; Landscape & Visual; Climate Change	Yes
Ecological Receptors	No qualifying residual effects	No
Controlled Water Receptors	Fewer than two qualifying residual effects	No

Table 17-4 - Operational Phase Effect Interactions Screening

Common Receptor	Residual Effects of Minor Adverse or Greater	Taken forward?
Local Population (employees, visitors and nearby residents)	Landscape & Visual; Climate Change	Yes
Users of the Local Highway Network	Traffic & Transport; Landscape & Visual	Yes
Existing Employees, Visitors and Businesses within Birch Business Park	Traffic & Transport; Landscape & Visual; Climate Change	Yes
Ecological Receptors	Climate Change only	No
Controlled Water Receptors	No qualifying adverse residual effects (effects are Negligible Adverse or Minor Beneficial following mitigation)	No

17.11 ASSESSMENT OF INTER PROJECT CUMULATIVE EFFECTS

- 17.11.1. The cumulative effects assessment primarily considers the interaction between the residual effects of the Proposed Development and other committed developments identified in Table 17-1. Where relevant, individual technical assessments have also considered reasonably foreseeable developments as a sensitivity exercise, with the results reported separately from the committed development assessment.
- 17.11.2. In accordance with the methodology set out in Chapter 5, a detailed cumulative assessment was only required where a technical assessment identified likely significant effects, or where a realistic mechanism existed for non-significant effects to combine with other developments and give rise to significant cumulative effects. For the majority of environmental topics assessed within Chapters 6 to 16, residual effects were either not significant or there was no credible pathway for significant cumulative interaction.
- 17.11.3. Consequently, these topics were not taken forward for detailed cumulative assessment and are reported below for completeness only. The principal exception is the Landscape and Visual Impact Assessment, which identified significant residual effects and a realistic potential for cumulative interaction with committed and reasonably foreseeable developments
- 17.11.4. The assessment has been undertaken in accordance with the methodology presented in Chapter 5 and focuses on developments identified through the cumulative developments schedule presented in Table 17-1.
- 17.11.5. The purpose of the assessment is to determine whether the combined effects of the Proposed Development and other committed developments could result in significant cumulative environmental effects that would not otherwise arise from the Proposed Development in isolation. Only environmental topics identified as having potential for cumulative interactions have been taken forward for consideration.

Table 17-5 - Summary of Inter-Project Cumulative Effects

Topic	Potential for Cumulative Effects	Significance
Highways and Transport	Committed development traffic incorporated within assessment baseline	Negligible to Minor Adverse (Not Significant)
Noise and Vibration	Limited overlap of operational activities	Not Significant
Air Quality	Minor contribution alongside committed developments	Not Significant
Ground Conditions and	No shared pathways identified	Not Significant

Topic	Potential for Cumulative Effects	Significance
Contamination		
Water Environment	Reduced runoff rates and SuDS mitigation	Minor Beneficial / Not Significant
Ecology	No significant residual ecological effects following mitigation	Not Significant
Cultural Heritage and Archaeology	No material cumulative impacts identified	Not Significant
Socio-Economics	Cumulative employment benefits within Northern Gateway area	Beneficial
Climate Change	Contribution to cumulative emissions at national/global scale	Minor Adverse (Not Significant)
Landscape and Visual	Cumulative change resulting from multiple employment developments within the wider Northern Gateway area	Moderate Adverse to Major-Moderate Adverse (Significant for certain localised receptors)

- 17.11.6. During the construction phase, there is potential for cumulative interactions associated with concurrent construction activities occurring within the wider Northern Gateway and Birch Business Park area. Potential cumulative effects could arise from temporary increases in construction traffic, temporary visual disturbance and construction-related emissions.
- 17.11.7. The Transport Assessment concludes that construction traffic associated with the Proposed Development would be limited in scale and duration and would not exceed operational traffic levels. Construction traffic management measures secured through the Construction Environmental Management Plan (CEMP) would minimise potential cumulative transport effects on the surrounding highway network. Consequently, significant cumulative transport effects are not anticipated.
- 17.11.8. The Landscape and Visual Impact Assessment identifies localised visual effects within the immediate setting of the Site during construction. Whilst other committed developments may result in temporary construction activity within the wider area, these effects would generally be transient and geographically dispersed. As such, no significant cumulative construction landscape or visual effects are anticipated beyond those identified within the individual assessments.
- 17.11.9. The Air Quality, Noise and Vibration, Ground Conditions and Contamination, Water Environment, Ecology and Cultural Heritage assessments conclude that residual effects following mitigation are generally negligible or not significant. Accordingly, no significant cumulative construction effects are anticipated in relation to these topics

- 17.11.10. Overall, the cumulative effects arising during the construction phase are considered to be temporary and localised and would not result in significant cumulative environmental effects.

17.12 OPERATIONAL PHASE CUMULATIVE EFFECTS

- 17.12.1. Following completion of the Proposed Development, the principal potential for cumulative effects relates to traffic and transport, landscape and visual effects and climate change.
- 17.12.2. The Transport Assessment has incorporated committed development traffic within the assessment baseline and therefore inherently considers cumulative traffic effects. The assessment concludes that residual effects on users of the local highway network would remain Negligible to Minor Adverse following mitigation and would not be significant. No additional significant cumulative transport effects are therefore anticipated.
- 17.12.3. The Landscape and Visual Impact Assessment (LVIA) identifies that cumulative visual effects may arise where the Proposed Development is experienced in conjunction with other nearby employment and mixed-use developments. These cumulative effects are principally associated with receptors located within the immediate setting of the Site and include users of Public Rights of Way, users of Moss Hall Road, users of the Birch Business Park access road and certain nearby residential receptors.
- 17.12.4. For a limited number of viewpoints and receptor groups, cumulative landscape and visual effects are assessed as Moderate Adverse to Major-Moderate Adverse and Significant in EIA terms. These effects are generally localised in geographic extent and reflect the ongoing expansion of employment development within the wider Northern Gateway and Birch Business Park area. Whilst mitigation planting would reduce visual prominence over time, some significant cumulative visual effects would remain for certain receptors during the operational phase.
- 17.12.5. The Water Environment Assessment concludes that the Proposed Development would provide a reduction in post-development runoff rates compared with existing conditions and would not materially contribute to cumulative adverse effects on the local water environment.
- 17.12.6. The Ecology Assessment identifies no significant residual ecological effects following mitigation and enhancement measures. Accordingly, no significant cumulative ecological effects are anticipated.
- 17.12.7. The Climate Change Assessment acknowledges that greenhouse gas emissions act cumulatively at a national and global scale. However, the contribution arising from the Proposed Development is assessed as Minor Adverse and not significant following implementation of mitigation measures and therefore does not give rise to a significant cumulative climate change effect.

17.13 CUMULATIVE EFFECTS CONCLUSION

- 17.13.1. The assessment has considered the potential for cumulative effects arising from the interaction of the Proposed Development with other committed developments within the surrounding area.
- 17.13.2. The assessment demonstrates that the majority of environmental topics would not experience significant cumulative effects following implementation of embedded and secondary mitigation measures. In particular, no significant cumulative effects are identified in relation to transport, noise and vibration, air quality, ground conditions and contamination, water environment, ecology, cultural heritage, socio-economics or climate change.
- 17.13.3. Significant cumulative effects are identified within the Landscape and Visual Impact Assessment for a limited number of localised landscape and visual receptors where the Proposed Development is

experienced in combination with other nearby employment developments. These effects are generally restricted to receptors within the immediate setting of the Site, including users of Public Rights of Way, Moss Hall Road and the Birch Business Park access road.

- 17.13.4. The identified cumulative landscape and visual effects are localised in nature and do not alter the overall conclusions reached for the wider environmental topics assessed within this Environmental Statement.
- 17.13.5. Overall, with the exception of the localised cumulative landscape and visual effects identified by the LVIA, no significant cumulative environmental effects are anticipated to arise from the Proposed Development in combination with other committed developments.

17.14 RESIDUAL CUMULATIVE EFFECTS

- 17.14.1. This section presents a summary of the outcome of the assessment of likely significant environmental effects arising from the Proposed Development identified in technical chapters 6-16.
- 17.14.2. Tables 17-6 to 17-16 below present a summary of the residual effects, together with any proposed secondary mitigation, for each technical discipline assessed within the ES (technical chapters 6 – 16).
- 17.14.3. Specifically, the summary presents:
- Likely significant environmental effects considered;
 - Sensitive receptors considered;
 - Significance and nature of effects prior to mitigation / enhancement (pre-secondary mitigation / enhancement effects);
 - Any proposed secondary mitigation / enhancement measures;
 - Significance and nature of effects following mitigation enhancement (residual effects); and
 - Any monitoring obligations.
- 17.14.4. It is likely that all proposed secondary mitigation will be secured through planning conditions.
- 17.14.5. Following implementation of mitigation and enhancement measures, the majority of environmental effects identified within Chapters 6 to 16 are reduced to levels that are not significant in EIA terms.
- 17.14.6. Residual significant effects remain in relation to landscape and visual receptors, as set out within Chapter 10, where significant visual effects are predicted for a limited number of receptors within the immediate setting of the Site.
- 17.14.7. In addition, a residual significant effect remains in relation to archaeological remains due to the unavoidable loss of archaeological resource, notwithstanding the implementation of archaeological recording and investigation measures.
- 17.14.8. No other significant residual effects are identified following mitigation.
- 17.14.9. Key to Tables 17-6 to 17-16:
- P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable

Table 17-6 - Summary of Impacts of the Proposed Development on Highways

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Construction Phase					
Users of the local highway network (including Birch Business Park access and Moss Hall Road)	Temporary increases in construction traffic movements associated with site preparation and construction activities. Effects are limited in scale and duration and confined to the construction period.	Minor Adverse (not significant) T / D / ST	Construction good practice measures	Minor Adverse (not significant) T / D / ST	Monitoring of construction traffic management measures by the appointed contractor.
Operational Phase					
Users of the local highway network within the Study Area	Increased traffic flows associated with operational staff and HGV movements. Increases remain below 30% across the Study Area, with localised redistribution effects on Moss Hall Road North under the 'bus gate' scenario.	Minor Adverse (not significant) P / D / LT	No additional mitigation required beyond embedded design measures, including highway improvements, traffic distribution assumptions and wider Northern Gateway infrastructure enhancements.	Negligible to Minor Adverse (not significant) P / D / LT	Monitoring of traffic and mode share targets through the Framework Travel Plan secured by planning condition or obligation.

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Existing businesses located within Birch Business Park	Changes in traffic patterns on access routes serving Birch Business Park arising from operational development traffic. No material impact on access arrangements or capacity is anticipated	Negligible to Minor Adverse (not significant) P / D / LT	No additional mitigation required beyond embedded scheme design measures and committed highway improvements within the surrounding network	Negligible Adverse (not significant) P / D / LT	Monitoring through Travel Plan measures where applicable
Residential and agricultural receptors (including Broom Hill Farm and Higher Barn Farm)	Localised changes in traffic flows on rural and semi-rural highway links, particularly under the 'bus gate' scenario where redistribution effects occur on Moss Hall Road North	Minor Adverse (not significant) P / D / LT	No additional mitigation required beyond embedded highway and network improvement measures and committed infrastructure upgrades	Negligible to Minor Adverse (not significant) P / D / LT	General traffic monitoring may be undertaken through Travel Plan or post-occupation review mechanisms if secured
Users of sustainable transport networks (pedestrian, cyclists and public transport users)	Improved accessibility and connectivity through enhanced pedestrian/cycle infrastructure, EV charging provision, and Travel Plan-led sustainable transport measures.	Minor Beneficial (not significant) P / D / LT	Provision of enhanced walking and cycling infrastructure, EV charging facilities, improved connectivity to local networks, and implementation of Travel Plan measures.	Minor Beneficial (not significant) P / D / LT	Monitoring of Travel Plan targets, modal shift performance and sustainable travel uptake.

Table 17-7 - Summary of Impacts of the Proposed Development on Noise

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Construction Phase					
Residential and commercial receptors	The potential effects arise from noise and vibration generation by equipment and processes as part of the earthworks and/or construction works.	Negligible Adverse (Not significant) T / D / MT	No additional mitigation is required.	Negligible Adverse (Not significant) T / D / MT	No monitoring is required.
Operational Phase					
Receptors along local road network.	The potential effects arise from increases in road traffic flows due to operational traffic dispersing across the local road network.	Negligible Adverse (not significant) P / D / LT	No additional mitigation is required.	Negligible Adverse (Not significant) P / D / LT	No monitoring is required.
Residential	The potential effects arise from operation of the site and potential commercial noise sources impacting upon existing residential receptors.	Negligible Adverse (not significant) P / D / LT	No additional mitigation is required.	Negligible Adverse (Not significant) P / D / LT	No monitoring is required.

Table 17-8 - Summary of Impacts of the Proposed Development on Air Quality

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Construction Phase - Fugitive Dust and PM₁₀					
Dust soiling and human health receptors	Dust soiling and increases in PM ₁₀ concentrations a result of fugitive dust emissions	Medium risk of dust soiling for earthworks, construction and trackout Low risk of human health impacts from earthworks, construction and trackout (not significant) T / D / ST	CEMP	Not significant T / D / ST	No requirement
Construction Phase – Road Vehicle Exhaust Emissions					
Local residents	Increases in NO ₂ , PM ₁₀ and PM _{2.5} concentrations associated with vehicle exhaust emissions	Negligible (not significant) T / D / ST	None	Negligible (not significant) T / D / ST	No requirement
Operational Phase– Road Vehicle Exhaust Emissions – Human Receptors					
Local residents	Increases in NO ₂ , PM ₁₀ and PM _{2.5} concentrations associated with	Negligible (not significant) P / D / LT	Additional mitigation was not considered necessary. However, a number of	Negligible (not significant) P / D / LT	No requirement

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
	vehicle exhaust emissions		measures have been included. These can be secured through a planning condition by RBC		
Operational Phase – Road Vehicle Exhaust Emissions – Ecological Receptors					
Rochdale Canal SAC	Changes in pollutant levels as a result of vehicle exhaust emissions	Not Significant	None	Not Significant	No requirement

Table 17-9 - Summary of Impacts of the Proposed Development on Ground Conditions

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Construction Phase					
Construction workers	Exposure to potential contaminants in Made Ground soils or groundwater through dermal contact, inhalation and ingestion during excavation and earthworks.	Moderate Adverse (significant) T / D / ST	Phase 2 ground investigation to confirm CSM /identify potential contaminant linkages. Supervision, H&S risk assessment, environmental controls implemented in accordance with CEMP. Appropriate PPE. Appropriate site hygiene facilities. Water spray to damp down any potentially contaminated dust.	Negligible (not significant) T / D / ST	Routine construction-phase inspection and supervision by the Principal Contractor.
Controlled waters	Mobilisation or leaching of contaminants into groundwater or surface water during piling or ground improvement and	Moderate Adverse (significant) T / D / ST	Phase 2 ground investigation to confirm CSM /identify potential contaminant linkages. Piling Risk Assessment may	Negligible (not significant) T / D / ST	No monitoring anticipated beyond standard construction environmental controls.

	during the use of other machinery and plant associated with construction activities.		be necessary to outline measures to protect underlying aquifers during Construction. Fuel storage and plant refuelling on-site to be carried out under best practice.		
Operational Phase					
Future site users	Exposure to contamination in Made Ground soils hazardous or ground/mine gases during occupation.	Major Adverse (significant) P / I / LT	Embedded design measures including buildings and hardstanding; engineered capping and ground gas protection where required.	Negligible (not significant) P / I / LT	No monitoring required.
Controlled waters	Secondary Aquifers underlying the site and adjacent Surface Water features may be exposed to existing contamination in the Made Ground soils via leaching and/or migration through permeable soils.	Moderate Adverse (significant) P / I / LT	Phase 2 ground investigation to confirm CSM /identify potential contaminant linkages. Where remediation is considered necessary, works shall be undertaken and validated in accordance with the remediation	Negligible (not significant) P / I / LT	No monitoring required.

			strategy and verification plan.		
Buried concrete foundations	Buried concrete (Building Fabric) may be exposed to elevated sulphates in Made Ground or natural soils via direct contact.	Moderate Adverse (significant) P / D / LT	Concrete design based on the Design Sulphate Class and Aggressive Chemical Environment for Concrete Class as defined by the BRE Special Digest 1, Concrete Aggressive Ground, 2005 following pre-construction Phase 2 investigation	Negligible (not significant) P / D / LT	No monitoring required.
Buried Water Supply services	Buried water supply services may be exposed to elevated concentrations of hydrocarbons in the Made Ground via direct contact	Moderate Adverse (significant) P / D / LT	Water supply services materials selected based on the results of pre-construction Phase 2 investigation and following completion of a United Utilities Pipeline Risk Assessment.	Negligible (not significant) P / D / LT	No monitoring required.
Site Surface	The site surface (Building Fabric) is considered to be at potential risk of crown hole development in the	Moderate Adverse (significant) P / I / LT	Phase 2 ground investigation to confirm investigate deeper stratigraphy beneath the site to	Negligible (not significant) P / I / LT	No monitoring required.

	event that localised unrecorded coal workings have taken place beneath the site.		depths of up to 35m bgl. Where evidence of shallow unrecorded coal workings beneath the site are identified, a specification for drilling and grouting would be prepared. The works would be undertaken in accordance with the specification and validated prior to the Operational Phase.		
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Table 17-10 - Summary of Impacts of the Proposed Development on Landscape Visual effects

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Pedestrians of PRow footpath (HeyFp142)	Construction Phase					
	VP 1	Sensitivity: Medium Magnitude of visual effects in construction: High-Medium	Major-Moderate Adverse ('Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					
	VP 1	Sensitivity: Medium Magnitude of visual effects in operation year 1: High-Medium Magnitude of visual effects in operation year 15: Medium	Year 1 Major-Moderate Adverse ('Significant') P / I / LT	Propose scrub, woodland, trees and hedgerow within the north-eastern part of the development to provide additional screening. Retain and enhance existing trees and hedgerow.	Year 15 Moderate Adverse ('Significant') P / I / LT	Management Team to maintain the landscape scheme including the mitigation planting for 30 years. Any planting fatalities would be replaced.

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
				Use locally appropriate species. Appropriate materials.		
Residents of Stock Nook.	Construction Phase					
	VP 1	Sensitivity: Medium Magnitude of visual effects in construction: High-Medium	Major-Moderate Adverse ('Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					
	VP 1	Sensitivity: Medium Magnitude of visual effects in operation year 1: High-Medium Magnitude of visual effects	Year 1 Major-Moderate Adverse ('Significant') P / I / LT	Propose scrub, woodland, trees and hedgerow within the north-eastern part of the development to provide additional screening. Retain and enhance existing	Year 15 Moderate Adverse ('Significant') P / I / LT	Management Team to maintain the landscape scheme including the mitigation planting for 30 years. Any planting fatalities

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
		in operation year 15: Medium		trees and hedgerow. Use locally appropriate species. Appropriate materials.		would be replaced.
Pedestrians of Moss Hall Road.	Construction Phase					
	VP 2A and 2B	Sensitivity: Medium-Low Magnitude of visual effects in construction: Medium-Low	Moderate-Minor Adverse ('Not Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					
	VP 2A and 2B	Sensitivity: Medium-Low Magnitude of visual effects in operation	Year 1 Moderate-Minor Adverse ('Not Significant') P / I / LT	Additional tree planting along the northern, western and southern boundaries to help soften views from	Year 15 Moderate-Minor Adverse ('Not Significant') P / I / LT	Management Team to maintain the landscape scheme including the mitigation

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
		year 1: Medium-Low Magnitude of visual effects in operation year 15: Medium-Low		along Moss Hall Road. Retain and enhance existing trees and hedgerow. Use locally appropriate species. Appropriate materials.		planting for 30 years. Any planting fatalities would be replaced.
Vehicle users of Moss Hall Road	Construction Phase					
	VP 2A and 2B	Sensitivity: Medium-Low Magnitude of visual effects in construction: Medium-Low	Moderate-Minor Adverse ('Not Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					
	VP 2A and 2B	Sensitivity: Medium-Low	<u>Year 1</u>	Additional tree planting along the northern, western	<u>Year 15</u>	Management Team to maintain the

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
		Magnitude of visual effects in operation year 1: Medium-Low Magnitude of visual effects in operation year 15: Medium-Low	Moderate-Minor Adverse ('Not Significant') P / I / LT	and southern boundaries to help soften views from along Moss Hall Road. Retain and enhance existing trees and hedgerow. Use locally appropriate species. Appropriate materials.	Moderate-Minor Adverse ('Not Significant') P / I / LT	landscape scheme including the mitigation planting for 30 years. Any planting fatalities would be replaced.
Pedestrians of access road within Birch Business Park.	Construction Phase					
	VP 3	Sensitivity: Medium-Low Magnitude of visual effects in construction: High-Medium	Moderate Adverse ('Significant') T / D / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
	VP 3	Sensitivity: Medium-Low Magnitude of visual effects in operation year 1 and 15: High-Medium	Year 1 Moderate Adverse ('Significant') P / D / LT	Propose scrub, and trees along west and southern boundaries to provide additional screening. Retain and enhance existing trees and hedgerow. Use locally appropriate species. Appropriate materials.	Year 15 Moderate Adverse ('Significant') P / D / LT	Management Team to maintain the landscape scheme including the mitigation planting for 30 years. Any planting fatalities would be replaced.
Vehicle users of access road within Birch Business Park.	Construction Phase					
	VP 3	Sensitivity: Low Magnitude of visual effects in construction: High-Med	Moderate Adverse ('Significant') T / D / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
	VP 3	Sensitivity: Low Magnitude of visual effects in operation year 1: High-Medium Magnitude of visual effects in operation year 15: High-Medium	Year 1 Moderate Adverse ('Significant') P / D / LT	Propose scrub, and trees along west and southern boundaries to provide additional screening. Retain and enhance existing trees and hedgerow. Use locally appropriate species. Appropriate materials.	Year 15 Moderate Adverse ('Significant') P / D / LT	Management Team to maintain the landscape scheme including the mitigation planting for 30 years. Any planting fatalities would be replaced.
Pedestrians of PRow footpath (HeyFp74)	Construction Phase					
	VP 4	Sensitivity: Medium Magnitude of visual effects in construction: High-Medium	Major-Moderate Adverse ('Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
	Operational Phase					
	VP 4	Sensitivity: Medium Magnitude of visual effects in operation year 1: High-Medium Magnitude of visual effects in operation year 15: Medium	Year 1 Major-Moderate Adverse ('Significant') P / I / LT	Propose scrub, woodland, trees and hedgerow within the north-eastern part of the development to provide additional screening. Retain and enhance existing trees and hedgerow. Use locally appropriate species. Appropriate materials.	Year 15 Moderate Adverse ('Significant') P / I / LT	Management Team to maintain the landscape scheme including the mitigation planting for 30 years. Any planting fatalities would be replaced.
Pedestrians of Hareshill Road (A6184)	Construction Phase					
	VP 5	Sensitivity: Medium-Low Magnitude of visual effects in construction: Medium-Low	Moderate-Minor Adverse ('Not Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term,	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
			Medium Term or Long Term, N/A = Not Applicable			
	Operational Phase					
	VP5	Sensitivity: Medium-Low Magnitude of visual effects in operation year 1: Medium-Low Magnitude of visual effects in operation year 15: Low	<u>Year 1</u> Moderate-Minor Adverse ('Not Significant') P / I / LT	Propose scrub, woodland, trees and hedgerow within the north-eastern part of the development to provide additional screening. Retain and enhance existing trees and hedgerow. Use locally appropriate species. Appropriate materials.	<u>Year 15</u> Moderate-Minor Adverse ('Not Significant') P / I / LT	Management Team to maintain the landscape scheme including the mitigation planting for 30 years. Any planting fatalities would be replaced.
Pedestrians of PRow footpath (HeyFp72)	Construction Phase					
	VP 5	Sensitivity: Medium Magnitude of visual effects	Major-Moderate Adverse ('Significant') T / I / ST	Standard construction management to	No residual effects due to the temporary nature of the	N/A

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
		in construction: High-Medium	P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	minimise disturbance. Time deliveries outside of peak hours.	Construction Phase	
	Operational Phase					
	VP5	Sensitivity: Medium Magnitude of visual effects in operation year 1: High-Medium Magnitude of visual effects in operation year 15: Medium	Year 1 Major-Moderate Adverse ('Significant') P / I / LT	Propose scrub, woodland, trees and hedgerow within the north-eastern part of the development to provide additional screening. Retain mature Retain and enhance existing trees and hedgerow. Use locally appropriate species. Appropriate materials.	Year 15 Moderate Adverse ('Significant') P / I / LT	Management Team to maintain the landscape scheme including the mitigation planting for 30 years. Any planting fatalities would be replaced.
	Construction Phase					

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Vehicle users of Hareshill Road (A6184).	VP 5	Sensitivity: Low Magnitude of visual effects in construction: Medium-Low	Minor Adverse ('Not Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					
	VP5	Sensitivity: Low Magnitude of visual effects in operation year 1: Medium-Low Magnitude of visual effects in operation year 15: Low	Year 1 Minor Adverse ('Not Significant') P / I / LT	Propose scrub, woodland, trees and hedgerow within the north-eastern part of the development to provide additional screening. Retain and enhance existing trees and hedgerow. Use locally appropriate species.	Year 15 Minor Adverse ('Not Significant') P / I / LT	Management Team to maintain the landscape scheme including the mitigation planting for 30 years. Any planting fatalities would be replaced.

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
				Appropriate materials.		
Pedestrians of Pilsworth Road.	Construction Phase					
	VP 6	Sensitivity: Medium-Low Magnitude of visual effects: Medium	Moderate-Minor Adverse ('Not Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					
	VP6	Sensitivity: Medium-Low Magnitude of visual effects in operation year 1: Medium Magnitude of visual effects in operation year 15: Medium	<u>Year 1</u> Moderate-Minor Adverse ('Not Significant') P / I / LT	Propose trees and gap up hedgerows along the northern boundary to soften views Retain and enhance existing trees and hedgerow. Use locally appropriate species.	<u>Year 15</u> Moderate-Minor Adverse ('Not Significant') P / I / LT	Management Team to maintain the landscape scheme including the mitigation planting for 30 years. Any planting fatalities would be replaced.

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
				Appropriate materials.		
Vehicle users of Pilsworth Road.	Construction Phase					
	VP 6	Sensitivity: Medium-Low Magnitude of visual effects: Medium	Moderate-Minor Adverse ('Not Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					
	VP6	Sensitivity: Medium-Low Magnitude of visual effects in operation year 1: Medium Magnitude of visual effects in operation year 15: Medium	<u>Year 1</u> Moderate-Minor Adverse ('Not Significant') P / I / LT	Propose trees and gap up hedgerows along the northern boundary to soften views. Retain and enhance existing trees and hedgerow. Use locally appropriate species.	<u>Year 15</u> Moderate-Minor Adverse ('Not Significant') P / I / LT	Management Team to maintain the landscape scheme including the mitigation planting for 30 years. Any planting fatalities would be replaced.

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
				Appropriate materials.		
Pedestrians of PRow footpath (HeyFP75)	Construction Phase					
	VP 6	Sensitivity: Medium Magnitude of visual effects: Medium-Low	Moderate-Minor Adverse ('Not Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					
	VP6	Sensitivity: Medium Magnitude of visual effects in operation year 1 and year 15: Medium-Low	Year 1 Moderate-Minor Adverse ('Not Significant') P / I / LT	Propose trees and gap up hedgerows along the northern boundary to soften views. Retain and enhance existing trees and hedgerow. Use locally appropriate species.	Year 15 Moderate-Minor Adverse ('Not Significant') P / I / LT	Management Team to maintain the landscape scheme including the mitigation planting for 30 years. Any planting fatalities would be replaced.

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
				Appropriate materials.		
Pedestrians of PRow footpath (MidFp114)	Construction Phase					
	VP 7	Sensitivity: Medium Magnitude of visual effects: Medium-Low	Moderate-Minor Adverse ('Not Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					
	VP7	Sensitivity: Medium Magnitude of visual effects in operation year 1: Medium-Low Magnitude of visual effects in operation year 15: Medium-Low	Year 1 Moderate-Minor Adverse ('Not Significant') P / I / LT	Propose scrub, woodland, trees and hedgerow within the north-eastern part of the development to provide additional screening. Retain and enhance existing trees and hedgerow.	Year 15 Moderate-Minor Adverse ('Not Significant') P / I / LT	Management Team to maintain the landscape scheme including the mitigation planting for 30 years. Any planting fatalities would be replaced.

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
				Use locally appropriate species. Appropriate materials.		
Pedestrians of (79BUR South West Under Motorway South West Castle Road)	Construction Phase					
	VP8	Sensitivity: Medium Magnitude of visual effects: Low	Moderate-Minor Adverse ('Not Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					
	VP8	Sensitivity: Medium Magnitude of visual effects in operation year 1: Low Magnitude of visual effects	Year 1 Moderate-Minor Adverse ('Not Significant') P / I / LT	Not applicable	Year 15 Moderate-Minor Adverse ('Not Significant') P / I / LT	Not applicable

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
		in operation year 15: Low				
Recreational users of playing fields	Construction Phase					
	VP8	Sensitivity: Medium-Low Magnitude of visual effects: Low	Minor Adverse ('Not Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					
	VP8	Sensitivity: Medium-Low Magnitude of visual effects in operation year 1: Low Magnitude of visual effects in operation year 15: Low	<u>Year 1</u> Minor Adverse ('Not Significant') P / I / LT	Not applicable	<u>Year 15</u> Minor Adverse ('Not Significant') P / I / LT	Not applicable
	Construction Phase					

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Pedestrians of PRow footpath (MidFp96)	VP9	Sensitivity: Medium Magnitude of visual effects: Negligible	Negligible ('Not Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Not applicable	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					
	VP9	Sensitivity: Medium Magnitude of visual effects in operation year 1: Negligible Magnitude of visual effects in operation year 15: Negligible	Year 1 Negligible ('Not Significant') P / I / LT	Not applicable	Year 15 Negligible ('Not Significant') P / I / LT	Not applicable
Construction Phase						

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Pedestrians of Hareshill Road	VP10	Sensitivity: Medium-Low Magnitude of visual effects: Medium	Moderate-Minor Adverse ('Not Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					
	VP10	Sensitivity: Medium-Low Magnitude of visual effects in operation year 1: Medium Magnitude of visual effects in operation year 15: Low	Year 1 Moderate-Minor Adverse ('Not Significant') P / I / LT	Propose scrub, tree and woodland planting in the north-eastern part of the site to provide additional screening. Retain and enhance existing trees and hedgerow. Use locally appropriate species. Appropriate materials.	Year 15 Minor Adverse ('Not Significant') P / I / LT	Management Team to maintain the landscape scheme including the mitigation planting for 30 years. Any planting fatalities would be replaced.

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Vehicle users Hareshill Road	Construction Phase					
	VP10	Sensitivity: Low Magnitude of visual effects: Medium	Moderate-Minor Adverse ('Not Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					
	VP10	Sensitivity: Low Magnitude of visual effects in operation year 1: Medium Magnitude of visual effects in operation year 15: Low	<u>Year 1</u> Moderate-Minor Adverse ('Not Significant') P / I / LT	Propose scrub, tree and woodland planting in the north-eastern part of the site to provide additional screening. Retain and enhance existing trees and hedgerow. Use locally appropriate species.	<u>Year 15</u> Minor Adverse ('Not Significant') P / I / LT	Management Team to maintain the landscape scheme including the mitigation planting for 30 years. Any planting fatalities would be replaced.

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
				Appropriate materials.		
Pedestrians of PRow footpath (HeyFp143)	Construction Phase					
	VP11	Sensitivity: Medium-Low Magnitude of visual effects: Low	Minor Adverse ('Not Significant') T / I / ST P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable	Standard construction management to minimise disturbance. Time deliveries outside of peak hours.	No residual effects due to the temporary nature of the Construction Phase	N/A
	Operational Phase					
	VP11	Sensitivity: Medium-Low Magnitude of visual effects in operation year 1: Low Magnitude of visual effects in operation year 15: Low	<u>Year 1</u> Minor Adverse ('Not Significant') P / I / LT	Propose landscaping along the south-eastern boundary to provide additional screening. Retain and enhance existing trees and hedgerow. Use locally appropriate species.	<u>Year 15</u> Minor Adverse ('Not Significant') P / I / LT	Management Team to maintain the landscape scheme including the mitigation planting for 30 years. Any planting fatalities would be replaced.

Receptor	Representative Viewpoints	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
				Appropriate materials.		

Table 17-11 - Summary of Impacts of the Proposed Development on Ecology Effects

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Construction Phase					
Habitats					
Reedbeds	Loss of reedbed habitat located within the Site.	Moderate Adverse (significant) P / D / LT	Offsite compensation for the reedbed lost on site will be secured prior to commencement of construction in line with BNG commitments.	Minor Adverse (not significant) T/ D / MT	BNG obligations
Non-Priority habitat	Direct loss of non-priority habitat on site Works within the root zone of the individual trees and hedgerows could damage the retained trees. Indirect effects on retained habitats as a result of pollution events	Moderate Adverse (Significant) P / D / LT	Fencing to protect retained habitat and protect root protection areas. Pollution and dust pollution measures.	Minor Adverse (not significant) T/ D / MT	Secured through a Construction Environmental Management Plan (CEMP) which will be conditioned
Protected and Notable Species					
Great Crested Newts	Direct harm to GCN could occur if encountered on site. Loss of terrestrial habitat such as grassland,	Moderate Adverse (Significant) P / D / MT	The Proposed Development will be covered by a GCN DLL Scheme in advance of the construction on-site. The payment to the scheme will be used to maintain or	Negligible (Not significant)	Secured through Natural England District Level

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
	understory of individual trees and scrub during clearance.		improve the conservation status of GCN in Greater Manchester.		Licence Scheme.
Common Amphibians	Vegetation clearance could result in the injuring or killing of common and widespread species of amphibians.	Moderate Adverse (Significant) P / D/ ST	Any common amphibians encountered will be moved away from construction activities.	Negligible (Not Significant)	Secured through a Construction Environmental Management Plan (CEMP) which will be conditioned
Bats – Commuting and Foraging	Light disturbance and temporary disturbance of foraging areas or severance of commuting routes.	Moderate adverse (Significant) T / I / ST	Lighting should follow the protocols outlined in The Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and The Institution of Lighting Professionals (ILP) (2023). “Bats and Artificial Lighting at Night. Guidance Note GN08/23”.	Negligible (Not Significant)	Secured through a Construction Environmental Management Plan (CEMP) which will be conditioned
Badger	Loss and disturbance to commuting and foraging habitat Disturbance to badgers in local area	Minor Adverse (Not Significant) T / I / ST	Precautionary Working Method	Negligible (Not Significant)	Secured through a Construction Environmental Management Plan (CEMP) which will be conditioned

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Hedgehog	Disturbance or direct harm and clearance of suitable habitat during construction.	Moderate Adverse (Significant) P / D / ST	Toolbox talk and checks will be undertaken prior to the removal of vegetation.	Negligible (Not Significant)	Secured through a Construction Environmental Management Plan (CEMP) which will be conditioned
Brown Hare	Clearance of suitable habitat for brown hare.	Moderate Adverse (Significant) P / D / ST	Pre-commencement check of grassland habitats for leverets.	Negligible (Not Significant)	Secured through a Construction Environmental Management Plan (CEMP) which will be conditioned
Breeding Birds	Removal of suitable nesting habitat	Moderate Adverse (Significant) P / D / MT	Nesting bird checks will be undertaken prior to vegetation removal, if these works are carried out during the nesting bird season.	Minor Adverse (Not Significant) T / D / MT	Secured through a Construction Environmental Management Plan (CEMP) which will be conditioned
Notable Invertebrates	Removal of host plant for cinnabar moth.	Moderate Adverse (Significant) P / D / MT	Care should be taken during construction to ensure any retained ragwort is not trampled or strimmed.	Minor Adverse (Not Significant) T / D / MT	Secured through a Construction Environmental Management Plan (CEMP)

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
					which will be conditioned
Other Receptors					
INNS	Disturbance and spread of Himalayan balsam across the Site	N/A	Himalayan balsam will be eradicated following the most current guidance set out by the Environment Agency by a qualified contractor.	N/A	Secured through a Construction Environmental Management Plan (CEMP) which will be conditioned
Operational Phase					
Habitats					
Reedbeds	No impacts are anticipated during the operational phase.	Negligible (Not Significant)	No mitigation is recommended.	Negligible (Not Significant)	-
Non-Priority Habitat	Degradation of retained habitats. Disturbance from increased dust and air pollution.	Minor Adverse (Not Significant) P / I / LT	A HMMP will be implemented over 30 years of the operational Development to ensure that the retained habitats are managed to maintain condition and created habitats are managed to reach their target condition. Compensation of habitats lost during the construction phase	Negligible (Not Significant)	Secured via the HMMP and BNG obligations

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
			through the BNG, which will result in habitat creation on-site and off-site.		
Protected and Notable Species					
Great Crested Newts	Disturbance from operational activities to retained/created terrestrial habitats within the Site	Moderate to Minor Adverse (Significant) P / D / LT	The DLL Scheme will ensure off-Site compensation ponds are created within the wider area to maintain the conservation status of GCN in Greater Manchester. Precautionary Working Methods for great crested newts will be followed during habitat management in accordance with the HMMP.	Negligible (Not Significant)	Secured through Natural England District Level Licence Scheme.
Common Amphibians	Common amphibians could be impacted by vegetation management and moving vehicles.	Minor Adverse (Not Significant) P / D / LT	Any common amphibians encountered during habitat maintenance will be moved away.	Negligible (Not Significant)	Secured via the HMMP
Bats – Commuting and Foraging	Light disturbance and disturbance of foraging areas or severance of commuting routes.	Moderate Adverse (Significant) P / I / LT	Lighting should follow the protocols outlined in The Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and The Institution of Lighting Professionals (ILP) (2023). “Bats and Artificial Lighting at	Negligible (Not Significant)	Secured via the HMMP and BNG obligations

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
			Night. Guidance Note GN08/23".		
Badger	Disturbance to badgers in local area.	Minor Adverse (Not Significant) P / I / LT	Precautionary Working Methods should be followed during habitat management. Lighting should ensure the retained boundary features such as the hedgerows are retained as dark corridors.	Negligible (Not Significant)	Secured via the HMMP and BNG obligations
Hedgehog	Hedgehogs may be subject to disturbance or injury during habitat maintenance.	Minor Adverse (Not Significant) P / D / LT	Precautionary working methods should be followed during habitat management.	Negligible (Not Significant)	Secured via the HMMP and BNG obligations
Breeding Birds	Nest loss during habitat maintenance	Minor Adverse (Not Significant) P / D / LT	Nesting bird checks will be undertaken prior to vegetation removal, if these works are carried out during the nesting bird season.	Negligible (Not Significant)	Secured via the HMMP and BNG obligations
Invertebrates	Removal of host plant for cinnabar moth.	Minor Adverse (Not Significant) P / D / LT	Habitat management will ensure that any ragwort encountered on site is not removed as detailed within the HMMP. Planting will be introduced into the Development to include pollinator-friendly	Negligible (Not Significant)	Secured via the HMMP and BNG obligations

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
			flora by including wildflower plants and shrubs, as well as flowering trees.		

Table 17-12 - Summary of Impacts of the Proposed Development on Hydrology, Flood Risk, Drainage and Water Quality Effects

Receptor	Potential Effects	Significance Prior to Mitigation	Additional Mitigation	Residual Effects	Monitoring
CONSTRUCTION PHASE					
Proposed buildings – flood risk during construction	Temporary runoff increase from disturbed ground.	Minor Adverse (not significant) T / D / ST	CSWMP secured by planning condition.	Negligible Adverse (not significant) T / D / ST	Weekly CEMP inspections.
Ordinary Watercourse – water quality during construction	Risk of sediment and pollutant runoff from construction activities.	Moderate Adverse (significant) T / D / ST	CEMP pollution prevention: buffer zone, bunded storage, silt traps, spill response – secured by planning condition.	Negligible Adverse (not significant) T / D / ST	CEMP compliance & watercourse spot-checks.
OPERATIONAL PHASE					
Proposed buildings – flood risk from all sources	Flood Zone 1. All other sources low/scoped out. Drainage designed to 1:100yr + 45% CC.	Negligible Adverse (not significant) P / D / LT	None required (embedded primary mitigation sufficient).	Negligible Adverse (not significant) P / D / LT	Routine drainage maintenance by Yeagate Ltd.
Ordinary Watercourse & Main River – hydrology/runoff rates	Post-development runoff restricted to 26.4 l/s < QBAR 30.3 l/s – net reduction.	Minor Beneficial (not significant) P / D / LT	None required.	Minor Beneficial (not significant) P / D / LT	Annual flow control inspection.
Ordinary Watercourse – surface water quality	Diffuse runoff from hardstanding. Pollution hazard Very Low (CIRIA C753).	Minor Adverse (not significant) P / D / LT	SuDS treatment train: trapped gullies, silt traps, catchpit manholes, polishing swale – secured by planning condition.	Negligible Adverse (not significant) P / D / LT	Annual SuDS inspection and desludging.

Receptor	Potential Effects	Significance Prior to Mitigation	Additional Mitigation	Residual Effects	Monitoring
Ordinary Watercourse – foul water quality	Package treatment works required due to site levels. Untreated discharge would cause WFD deterioration.	Major Adverse (significant) P / D / LT	EA Environmental Permit for package treatment works; secured by planning condition prior to commencement.	Negligible Adverse (not significant) P / D / LT	EA permit compliance; effluent quality sampling.
External hardstanding – exceedance flooding	Exceedance flows above 1:30yr directed to hardstanding; contained on site.	Minor Adverse (not significant) P / D / LT	Embedded: exceedance flow management through site levels.	Negligible Adverse (not significant) P / D / LT	No additional monitoring required.

Table 17-13 - Summary of Socio-Economic and Human Health effects

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/ Enhancement	Additional Mitigation	Residual Effects	Monitoring
Construction Phase					
Employment generation	Minor beneficial	Minor beneficial (Temporary, short-term)	None	Minor beneficial (Temporary, short-term)	None
Economic output generation	Minor beneficial	Minor beneficial (Temporary, short-term)	None	Minor beneficial (Temporary, short-term)	None
Access to skills training	Negligible	Negligible (Temporary, short-term)	None	Negligible (Temporary, short-term)	None
Health of vulnerable groups	Negligible	Negligible (Temporary, short-term)	Industry best practice mitigation measures to reduce adverse impacts during construction phase.	Negligible (Temporary, short-term)	None
Operational phase					
Employment generation	Minor beneficial	Minor beneficial (Permanent, long-term)	None	Minor beneficial (Permanent, long-term)	None

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/ Enhancement	Additional Mitigation	Residual Effects	Monitoring
Economic output generation	Minor beneficial	Minor beneficial (Permanent, long-term)	None	Minor beneficial (Permanent, long-term)	None
Access to skills training	Negligible	Negligible (Permanent, long-term)	None	Minor beneficial (Permanent, long-term)	None
Health of vulnerable groups	Negligible	Negligible (Permanent, long-term)	Industry best practice mitigation measures to reduce adverse impacts during operational phase.	Negligible (Permanent, long-term)	None

Table 17-14 - Summary of Heritage effects

Sensitive Receptor	Potential Effects/Additional Mitigation/Residual Effects and Monitoring	
Lower Whittle Farmhouse (Grade II listed building, NHLE: 1068502)	Potential Effects	There is the potential for indirect impact through noise, vibration and dust. However, this is unlikely given the distance of the heritage asset from the Site and the intervening development (outbuildings relating to the farm) and landscape features. Construction activity would not be visible from the farmhouse, nor its immediate setting due to physical distance and intervening development (particularly the outbuildings that 'wrap around' the farmhouse to the north, east and west) and landscape features.
	Additional Mitigation	Appropriate mitigation will be included within the CEMP to be agreed with the LPA.
	Residual Effects and Monitoring	There would be No Change to a receptor of Moderate sensitivity, which equates to a Neutral significance of effect.
Birch Village Conservation Area	Potential Effects	There would be no indirect impact through noise, vibration and dust due to the distance of the heritage asset from the Site and intervening development, including the M62 Motorway that is a significant source of noise. There would be no views of construction activity from the conservation area due to physical distance and intervening landscape features/development.
	Additional Mitigation	Appropriate mitigation will be included within the CEMP to be agreed with the LPA.
	Residual Effects and Monitoring	There would be No Change to a receptor of Moderate sensitivity, which equates to a Neutral significance of effect.
Broom Hill Farm	Potential Effects	There is the potential for indirect impact through noise, vibration and dust. However, this is unlikely given the distance of the heritage asset from the Site and intervening development in the form of the existing extent of Birch Business Park. There may be some very limited views of construction activity from the non-designated heritage asset if cranes are used in the construction process. Any limited impact on views would be temporary.

Sensitive Receptor	Potential Effects/Additional Mitigation/Residual Effects and Monitoring	
	Additional Mitigation	Appropriate mitigation will be included within the CEMP to be agreed with the LPA.
	Residual Effects and Monitoring	There would be a Negligible level of change to a receptor of Low sensitivity which equates to a Negligible Adverse significance of effect. These impacts would be short term and temporary in nature.
Higher Fields Farm	Potential Effects	There is the potential for indirect impact through noise, vibration and dust. There is also the potential for indirect impact from the location of construction machinery within the wider setting of the receptor that would be visible from the non-designated heritage assets. However, indirect impact through noise, vibration, dust and views of construction activity from the listed buildings would be limited in nature and temporary.
	Additional Mitigation	Appropriate mitigation will be included within the CEMP to be agreed with the LPA.
	Residual Effects and Monitoring	There would be a Minor level of change to a receptor of Low sensitivity which equates to a Minor Adverse significance of effect. These impacts would be short term and temporary in nature.
Stock Nook	Potential Effects	There is the potential for indirect impact through noise, vibration and dust. There is also the potential for indirect impact from the location of construction machinery within the wider setting of the receptor that would be visible from the non-designated heritage assets. However, indirect impact through noise, vibration, dust and views of construction activity from the listed buildings would be limited in nature and temporary.
	Additional Mitigation	Appropriate mitigation will be included within the CEMP to be agreed with the LPA.
	Residual Effects and Monitoring	There would be a Negligible level of change to a receptor of Low sensitivity which equates to a Negligible Adverse significance of effect. These impacts would be short term and temporary in nature.

Table 17-15 - Summary of Archaeology Residual Effects

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Construction Phase					
Potential archaeological remains of Post-Medieval cottages within the south west extent of the site, the potential remains of Post-Medieval former field boundaries and as yet unknown potential archaeological remains from all periods within the site.	Truncation and/or destruction from groundworks, removal from finite archaeological record.	Moderate Adverse (significant)	Programme of archaeological monitoring and recording.	Moderate Adverse (significant)	N/A
Operational Phase					
N/A	N/A	No Change	N/A	No Change	N/A

Table 17-16 – Summary of climate change effects

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Construction Phase					
Global climate	GHG emissions to the atmosphere as a result of embodied carbon in construction materials	Moderate adverse (Significant) P / D / LT	BREEAM Mat 01 Credits, Life Cycle Assessment	Minor Adverse (not significant) P / D / LT	No requirement
Global climate	GHG emissions to the atmosphere as a result of construction traffic	Moderate adverse (Significant) P / D / LT	CTMP to be secured via Planning Condition	Minor Adverse (not significant) T / D / LT	No requirement
Operational Phase					
Global climate	GHG emissions to the atmosphere as a result of operational traffic	Moderate adverse (Significant) P / D / LT	Travel Plans, Passive EV provision, Servicing and Delivery Strategy to be secured via planning condition	Minor Adverse (not significant) P / D / LT	No requirement
Global climate	GHG emissions to the atmosphere as a result of operational energy consumption	Minor Adverse (not significant) P / D / LT	Confirmation of BREEAM 'Excellent' energy credits	Minor Adverse (not significant) P / D / LT	No requirement
Buildings and Infrastructure	Effects on the Proposed Development as a	Minor Adverse (significant) P / D / LT	Detailed design measures	Minor Adverse (not significant)	No requirement

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
	result of Climate Change			P / D / LT	
Future Occupiers	Effects on the Proposed Development as a result of Climate Change	Minor Adverse P / D / LT	Detailed design measures	Minor Adverse (not significant) P / D / LT	No requirement
Landscaping, Planting and Biodiversity	Effects on the Proposed Development as a result of Climate Change	Moderate Adverse (significant) P / D / LT	Detailed design measures, Landscape Strategy and Management Plan	Minor Adverse (not significant) P / D / LT	No requirement

17.15 DIFFICULTIES AND UNCERTAINTIES

- 17.15.1. The assessment of effect interactions and in-combination effects resulting from the Proposed Development have focused on the residual effects from the construction and operational phase following the implementation of mitigation measures.
- 17.15.2. There is an assumption that mitigation measures identified in the respective technical chapters 6 to 16 have been incorporated or adopted to mitigate any adverse effects resulting from the Proposed Development.
- 17.15.3. An assessment of in-combination effects has been limited to publicly available information obtained from the Rochdale Borough Council planning portal. Any assumptions due to missing information have been made using professional judgement. This document contains committed developments on the planning portal at the time of writing.

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