



Proposed Development at Hollingworth Road and Rakewood Road, Littleborough

**Environmental Statement
Volume 5: Non-Technical Summary**

On behalf of **Bloor Homes North West**



Project Ref: 332010570 | Date: June 2024

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Document Control Sheet

Project Name: Proposed Development at Hollingworth Road and Rakewood Road, Littleborough

Project Ref: 332010570

Report Title: Environmental Statement – Volume 5: Non-Technical Summary

Doc Ref: 332010570/ES Vol.5

Date: June 2024

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Revision	Date	Description	Prepared	Reviewed	Approved
Rev. A	05.07.24	Updates	BT	BG	BG

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1 Introduction

1.1 Project Background

- 1.1.1 This document is the Non-Technical Summary ('NTS') of an Environmental Statement ('ES') prepared by Stantec on behalf of Bloor Homes North West ('the Applicant') in relation to a hybrid planning application for the construction of 312 residential dwellings, a primary school and the reconfiguration of and extension to the existing car park (the 'Proposed Development') at land to the west of Hollingworth Road and land east of Rakewood Road in Littleborough (hereafter referred to as 'the Site').
- 1.1.2 The Site is located within the administrative boundary of Rochdale Borough Council ('RBC') and the land to the west of Hollingworth Road is allocated for around 300 new homes and a new primary school by 'Policy JP Allocation 20: Land North of Smithy Bridge' within Places for Everyone ('Pfe'), which became part of the statutory development plan for the nine Pfe authorities (including Rochdale) on 21 March 2024.
- 1.1.3 If the proposed development at the Policy JP Allocation 20 site results in the loss of any of the existing visitor parking spaces in the southern part of the allocation, there is a policy requirement to replace those spaces nearby. It has been determined that the optimal solution is to provide alterations and an extension to the existing Hollingworth Lake Country Park car park off Rakewood Road.
- 1.1.4 The description of the development is as follows:
- 'Planning application seeking full permission for residential development including the construction of vehicular/pedestrian accesses, landscaping, open space and associated works at land off Hollingworth Road, alongside reconfiguration of and extension to the existing car park and associated works off Rakewood Road; and outline permission for the development of a primary school (access into the school site to be considered – all other matters reserved for future approval).'*
- 1.1.5 An ES has been prepared to present the findings of an Environmental Impact Assessment ('EIA') undertaken for the Proposed Development. The aim of this NTS is to present the technical information included within the ES in an easily understood, concise format without the reader needing to refer to the main text of the ES.

1.2 The Environmental Impact Assessment

- 1.2.1 This document provides a summary of an EIA undertaken in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended), referred to as 'the EIA Regulations'.
- 1.2.2 To meet the requirements of the EIA Regulations, this document includes the following information:
- A description of the proposed development comprising information on the site, design, size and other relevant features of the development;
 - A description of the likely significant effects of the proposed development on the environment;
 - A description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment; and

- A description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment.
- 1.2.3 Running alongside the design process, the EIA has sought to identify any likely significant environmental effects of the Proposed Development. The EIA process then identifies appropriate design and construction measures and good practice to mitigate likely significant adverse environmental effects and maximise the environmental opportunities that might arise as a consequence of the construction and operation of the Proposed Development.
- 1.2.4 The ES identifies the likely significant environmental effects of the Proposed Development at the construction (including demolition) and operational stages and identifies opportunities for environmental enhancement to maximise the environmental opportunities and further measures required to mitigate potential significant adverse effects that may occur.
- 1.2.5 The ES comprises the following documents:
- **Volume 1** – Overview;
 - **Volume 2** – Hollingworth Road Land Parcel;
 - **Volume 3** – Appendices (Hollingworth Road land parcel);
 - **Volume 4** – Appendices (Rakewood Road land parcel); and
 - **Volume 5** – Non-Technical Summary (this document).
- 1.2.6 The other principal documents submitted with the planning application include the:
- Planning Statement (Stantec);
 - Design and Access Statement (Stantec);
 - Transport Assessment (Curtins);
 - Framework Travel Plan (Curtins);
 - Crime Impact Assessment (Greater Manchester Police);
 - Health Impact Assessment (Stantec);
 - Landscape and Biodiversity Management Plan (Stantec);
 - Agricultural Land Survey (RAC);
 - Minerals Assessment (Wardell Armstrong);
 - Habitat Regulations Assessment (Tyler Grange);
 - Outline Construction Environmental Management Plan (RSK);
 - Statement of Community Involvement (Cavendish);
 - Lighting Assessment (Stantec); and
 - Energy Statement (Briary).

2 EIA Methodology

2.1 Overview

- 2.1.1 EIA is a process used to assess the likely significant effects of a proposed development on the environment. The results are written into an ES which is submitted with the planning application. The ES provides the local planning authority (in this case Rochdale Borough Council) with sufficient information about the potential environmental effects of the Proposed Development before a decision is made about the planning application. Effects may arise during the construction and operational phases of the Proposed Development.
- 2.1.2 The ES assesses what the significance of each environmental effect would be, which is determined by two factors:
- The sensitivity, importance or value of the environment; and
 - The actual magnitude or scale of change taking place to the environment.
- 2.1.3 Specific significance criteria have been prepared for each specialist topic, based on the generic criteria, for adverse and beneficial effects, as set out in **Table 2.1** below. Some disciplines do though use bespoke criteria, based on published and recognised guidance, and where this has been used it is made clear.
- 2.1.4 The ES includes a description of the current environmental conditions, known as the baseline conditions, against which the likely significant environmental effects of the Proposed Development are assessed.

Table 2.1: Significance categories and typical descriptions

	Significance category	Typical description
Significant	Very large	Effects at this level are material in the decision-making process. These effects are generally, but not exclusively, associated with sites and features of national or regional importance. A change at a borough scale site or feature may also enter this category.
	Large	These effects are likely to be important considerations at a local or borough scale and may become key factors in the decision-making process.
	Moderate	Effects at this level can be considered to be material decision-making factors. These effects, while important at a local scale, are not likely to be key decision-making issues. Nevertheless, the cumulative effect of such issues may lead to an increase in the overall effects on a particular area or on a particular resource.
Not Significant	Slight	These effects may be raised as local issues but are unlikely to be of importance in the decision-making process. Nevertheless, they are of relevance in enhancing the subsequent design of the project and consideration of mitigation or compensation measures.
	Neutral	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error. Such effects should not be considered by the decision-maker.

2.2 EIA Scope

- 2.2.1 An EIA should focus on the likely significant effects of the proposals on the environment during both construction and operational phases. To determine what the likely effects may be, and to agree what needs to be assessed and reported in an ES, a developer can submit a request for an EIA Scoping Opinion. This request goes to the authority that will ultimately determine the planning application, in this case RBC.
- 2.2.2 An EIA Scoping Report was submitted to RBC on 16th February 2023 with consideration of the Hollingworth Road land parcel only. A Scoping Opinion was received from RBC on 26th June 2023. As a result, the following subject areas have been assessed and reported in the ES:
- Ecology and Biodiversity.
 - Landscape and Visual.
 - Hydrology and Drainage.
 - Ground Conditions.
 - Historic Environment.
 - Traffic and Transport.
 - Air Quality.
 - Noise and Vibration.
 - Socio-economics.
 - Climate Change.
- 2.2.3 An updated EIA Scoping Request was submitted to RBC in May 2024. The update to the EIA Scoping Request includes the consideration of the Rakewood Road land parcel.

2.3 Consultation

- 2.3.1 In addition to consultation to agree the scope of the EIA, consultation with relevant statutory and non-statutory bodies has been undertaken throughout the EIA and design process.
- 2.3.2 As part of the EIA process, the following bodies have been consulted to agree the detailed scope of the assessment, to provide information, to discuss assessment methods and findings, and/or agree mitigation measures and design responses:
- Rochdale Borough Council
 - Greater Manchester Combined Authority
 - Natural England
 - Historic England
 - Environment Agency
- 2.3.3 Pre-application meetings to discuss the design of the development have been held with Rochdale Borough Council between 2019 and 2024, and two Design Review Panel meetings with Places Matter were conducted in July and September 2022.

2.4 Mitigation

- 2.4.1 The incorporation of mitigation measures (measures to avoid, minimise or compensate for adverse effects) is an integral part of the design and EIA processes. The ES reports the following categories of mitigation:

Primary Mitigation

- 2.4.2 Primary mitigation is defined as *‘modifications to the location or design of the development made during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken’* (IEMA, 2016). An example is to improve existing Public Rights of Way (‘PRoW’) and to provide additional connections to improve the accessibility of the site.

Secondary Mitigation

- 2.4.3 Secondary mitigation has been identified where primary and tertiary (see below) measures have not been adequate to reduce an environmental effect to be ‘not significant’. Secondary measures are described as *‘actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent.’* An example is a Waste Management Strategy.

Tertiary Mitigation

- 2.4.4 Tertiary mitigation is described as *‘actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects.’* An example is the following of best practice measures to control the potential for pollution such as having spill kits on site.

2.5 Residual Effects

- 2.5.1 Environmental effects remaining after mitigation measures have been incorporated are termed residual effects. It is therefore these residual effects which should be considered when assessing the likely significance of the effects of the proposed development.

2.6 Cumulative Effects

- 2.6.1 The EIA Regulations require the assessment to consider the likely significant effects of the Proposed Development in the context of other local developments likely to come forward, as well as the cumulative effects that may result from the Proposed Development and these other developments.

- 2.6.2 A review of partially built out permissions, extant planning permissions and applications awaiting determination (pending) has been undertaken to ensure a robust approach to identifying ‘approved developments’ has taken place. The following list has been identified to be considered in this EIA with regards to likely significant cumulative effects:

- 21/01146/FUL Former Akzo Nobel Site;
- 22/00830/VRCON The Soccer Village;
- 22/01039/FUL Land to the West of New Street;

- 22/01364/FUL Land West of Smithy Bridge Road; and
- 22/00485/FUL Various locations within Littleborough between grid references SD94591799 at Grove Lodge and SD93991632 at Ealees Brook.

3 Site and Environmental Context

3.1 The Site and Surroundings

- 3.1.1 The Site comprises two parcels of land at Hollingworth Road and Rakewood Road, with a combined total of 21.49 hectares (ha) of land. The Hollingworth Road land parcel is located to the immediate west of the B6225 Hollingworth Road, north-east of Smithy Bridge and south-west of Littleborough, in the north-eastern part of Rochdale, Greater Manchester. The Site is centred approximately at National Grid Reference SD 93341 15448.
- 3.1.2 The Rakewood Road land parcel is located approximately 185m to the east of the Hollingworth Road land parcel and is centred approximately at National Grid Reference SD 94042 15228. The Rakewood Road land parcel is bordered by Rakewood Road to the south, the Hollingworth Country Park car park and RSPCA buildings to the west, beyond mature trees and hedgerow bordering the land parcel. Agricultural land borders the Rakewood Road land parcel to the north, and the Peak District moorlands are to the east.
- 3.1.3 The Hollingworth Road land parcel comprises land predominantly used for grazing of cattle with field boundaries enclosed by dry stone walls and hedgerows. There are eight parcels of land in total surrounding Lower Cleggswood Farm, which is central to the land parcel. Heald Lane, which runs south to Lake Bank, is a private road and PRoW which divides the site and provides access to some residential dwellings and Lower Cleggswood Farm.
- 3.1.4 The Hollingworth Road land parcel has been removed from the Green Belt and is now allocated for around 300 new homes and a new primary school by 'Policy JP Allocation 20: Land North of Smithy Bridge' within the recently adopted PfE. The south-eastern part of the Hollingworth Road land parcel comprises an existing public car park for visitors to Hollingworth Lake. The car park is accessed off the B6225 Hollingworth Road via two access junctions, one of which is entry-only and the other is exit-only.
- 3.1.5 The Rakewood Road land parcel is within the designated Green Belt, but paragraph 155 of the National Planning Policy Framework ('NPPF') makes clear, under criterion c), that local transport infrastructure is exempted from the definition of 'inappropriate development', provided that a requirement for a Green Belt location can be demonstrated, the openness of the Green Belt is preserved, and it does not conflict with the Green Belt purposes. We consider that the Proposed Development within the Rakewood Road land parcel falls within the scope of paragraph 155 c).

3.2 Environmental Context

- 3.2.0 The Site is not located within a sensitive area as defined by the EIA Regulations.
- 3.2.1 There are two designated sites within 10km of the site, namely the Rochdale Canal Special Area of Conservation ('SAC') and Site of Special Scientific Interest ('SSSI') situated to the immediate north of the Hollingworth Road land parcel, and the South Pennine Moors SAC/SSSI and South Pennine Moors Phase 2 Special Protection Area ('SPA'), located 1.4km east of the Hollingworth Road land parcel and approximately 650m east of the Rakewood Road land parcel. There are no other statutorily designated sites within 2km of the Site.
- 3.2.2 There are no designated heritage assets within the Site boundary. The closest designated heritage assets are two Grade II* listed buildings and 16 Grade II listed buildings within 1km, the closest being approximately 120m to the south east of the Rakewood Road land parcel (3 Bear Hill). The nearest conservation area, Hollingworth Fold, is located 600m south-east of the Hollingworth Road land parcel and 150m to the south east of the Rakewood Road land parcel.

- 3.2.3 The Hollingworth Road land parcel, although comprising predominantly sheep grazed pasture associated with the farm complex, also contains extensive areas of vegetation both within and along the boundaries. These include defunct hedgerows with occasional scattered trees, marshy grassland within the east and south of the Site and broadleaved plantation woodland blocks surrounding Hollingworth Road car park comprising the south-eastern corner of the land parcel.
- 3.2.4 The open grassland, scattered trees and woodland block provide value for fauna including breeding birds, roosting bats and badgers. Survey work on-site between 2019 and 2022 noted the presence of a bat roost within the farm building, a badger sett marginally off-site to the north and lapwing breeding territories.
- 3.2.5 Most of the trees within the Hollingworth Road land parcel are Category B (deemed to be of moderate quality and value with an estimated remaining life expectancy of at least 20 years) and Category C (trees of low quality, with an estimated remaining life expectancy of at least 10 years or young trees that are less than 150mm in diameter which should be considered for re-planting where they impinge significantly on the Proposed Development). There are also a number of Category A trees identified on the site, primarily associated with the mixed species woodland block south of the existing car park in the south-eastern corner of the Hollingworth Road land parcel. Category A trees are those of high quality and value, capable of making a significant contribution to the area for 40 or more years. The Proposed Development has been designed to avoid the removal of these trees as far as possible, however limited and localised tree removal is proposed. No trees of high arboricultural value will be removed.
- 3.2.6 The Site is not located within an Air Quality Management Area ('AQMA') but is located approximately 1.4km east of an AQMA, which encompasses an area along the A58 and the central road network in Rochdale.
- 3.2.7 While Rochdale Canal borders the north of the Hollingworth Road land parcel and Hollingworth Lake is located only 20m south, the Hollingworth Road land parcel is located within Flood Zone 1 and is at very low risk of flooding from rivers or the sea. According to Environment Agency mapping, the land parcel is also predominantly at very low risk of surface water flooding. There is a flow path running along the eastern boundary of the site linking an outfall from Hollingworth Lake to the pond on the north-eastern boundary and then through the former Akzo Nobel site linking to the Rochdale Canal. As a result, the eastern part of the land parcel is at potential risk from reservoir flooding, which would be in an extreme case i.e. should a failure of Hollingworth Lake reservoir occur. Following enquiries with RBC and a review of available resources, it was concluded that no historic flooding of the site related to reservoir flooding had occurred.
- 3.2.8 Hollingworth Brook is located adjacent to the northern and eastern boundaries of the Rakewood Road land parcel and is a Main River as designated by the Environment Agency. Despite this, the land parcel is located within Flood Zone 1 and is at very low risk of flooding from rivers or the sea. According to the Environment Agency mapping, the land parcel is also predominantly at very low risk of surface water flooding.

4 The Proposed Development

4.1 Description of the Proposed Development

4.1.1 The description of the Proposed Development is as follows:

'Planning application seeking full permission for residential development including the construction of vehicular/pedestrian accesses, landscaping, open space and associated works at land off Hollingworth Road, alongside reconfiguration of and extension to the existing car park and associated works off Rakewood Road; and outline permission for the development of a primary school (access into the school site to be considered – all other matters reserved for future approval).'

Development Mix

Residential

4.1.2 Residential properties will primarily be two storeys in height, although there will also be some two-and-a-half-storey properties to provide focal points and variation to the character of the street scene. Some 85% of residential properties will be for private sale and 15% will be affordable properties (shared ownership). **Table 3.1** shows the number of residential units and the proposed unit mix.

Table 3.2: Residential Unit Mix and Areas

Private (85%)		
Bedrooms	Storeys	Number
3	2	87
3	2.5	44
4	2	122
5	2.5	6
5	2	6
		Total: 265
Social Rent (15%)		
Bedrooms	Storeys	Number
2	2	31
3	2	16
		Total: 47

Non-Residential Uses

- 4.1.3 The primary school will be located within the south-eastern part of the Hollingworth Road land parcel, which currently comprises a public car park for visitors to Hollingworth Lake. The school is anticipated to have a floorspace of circa 2,300 sq.m at a plot of circa 2 hectares, which will include playing fields.
- 4.1.4 The school will be a feature building, the final height of which will be determined at the reserved matters application stage. The number of parking spaces associated with the primary school will be determined during the Reserved Matters application stage.

Reserved Matters: Aspects of a Proposed Development which an Applicant can choose not to submit details of with an outline planning application (i.e. they can be 'reserved' for later determination).

Access – Pedestrians and Vehicles

- 4.1.5 Vehicle access to the Hollingworth Road land parcel will be provided from the B6225 Hollingworth Road on the eastern boundary of the land parcel. Two access junctions are proposed, with the northern access point leading towards some of the housing units to the east of Heald Lane, and the southern access point leading towards the proposed primary school and the remainder of the housing units proposed to the west of Heald Lane.
- 4.1.6 In addition to the proposed access points, the majority of existing Public Rights of Way ('PRoW') which cross the Hollingworth Road land parcel will be retained and integrated into the layout of the Proposed Development with some minor diversions.

Landscaping and Green Infrastructure

- 4.1.7 Improvements of the landscape and green infrastructure will be provided as part of the proposed development including the provision of open space, comprising soft landscaping and improvements to existing PRoW which traverse the Site, thereby helping to link the proposed development with the surrounding area. A Biodiversity Net Gain ('BNG') in excess of 10% will be achieved across the proposed development.

BNG: A way of creating and improving natural habitats. BNG makes sure development has a measurably positive impact ('net gain') on biodiversity, compared to what was there before development. BNG became mandatory on 12 February 2024.

- 4.1.8 There is a network of green infrastructure, providing wildlife corridors and links throughout the Proposed Development, from Rochdale Canal to the north to Hollingworth Lake to the south. These green open spaces will comprise Sustainable Drainage ('SuDs') including swales and attenuation ponds, pathways for pedestrians and cyclists and habitat corridors, attractive public realm spaces including a feature square and a Neighbourhood Equipped Area for Play ('NEAP'). The Site benefits from existing landscape buffers on the south-eastern boundaries which provide mitigation of visual effects, and they will be further enhanced. Existing trees and planting will be retained where possible and enhanced by additional landscape treatment through street trees.

4.2 Consideration of Alternatives

- 4.2.1 The EIA Regulations require an ES to consider reasonable alternatives (such as sites, uses, design). Alternative considerations are shown below.

No Development

Hollingworth Road land parcel

- 4.2.2 The Hollingworth Road land parcel is allocated for around 300 new homes and a new primary school by 'Policy JP Allocation 20: Land North of Smithy Bridge' within Places for Everyone ('PfE'), which became part of the statutory development plan for nine local authorities across Greater Manchester (including Rochdale), on 21 March 2024.
- 4.2.3 At each stage of the PfE plan preparation process, a range of alternative sites were considered as potential allocations. Other sites could have been chosen as allocations in preference to the application site, which could have been removed as a proposed allocation.
- 4.2.4 The applicant is in a position to deliver large scale residential development and so a 'do-nothing' option is not a realistic proposition. If a development scheme is not brought forward at the Policy JP Allocation 20 site in accordance with the allocation, that would jeopardise

Rochdale Borough Council's ability to meet its housing requirements in full and the spatial strategy set out within the adopted PfE Plan would be undermined.

Rakewood Road land parcel

4.2.5 Part 10. of Policy JP Allocation 20 contains the following requirement:

'Development will be required to retain and enhance the existing visitor car parking spaces on the site, or provide replacement visitor car parking spaces in a suitable location nearby for any existing spaces lost.'

4.2.6 Thus, if the Proposed Development results in the loss of any visitor car parking spaces, there is a policy requirement to replace those spaces nearby. The applicant controls land at Rakewood Road, adjacent to the existing car park at Hollingworth Lake Country Park, and proposes to provide a new car park there alongside alterations to and extension of the existing car park.

Alternative Designs

4.2.7 The applicant has considered various alternative design approaches across the site over the past few years, which has been informed by a thorough exploration of the characteristics of the site and the surrounding area, as well as matters such as topography, ground conditions and ecological considerations. The scheme has also been informed by several sessions with the independent design review panel, Places Matter, as well as constructive discussions with planning, urban design and highways officers at Rochdale Borough Council.

4.3 Demolition, Construction and Site Management

4.3.1 All of the demolition and construction operations carry with them a range of issues to be dealt with in their design, preparation and execution. As a result, best practice in construction management will be required to minimise the environmental effects and disruption that could be caused by the construction project. The key document in ensuring that the works comply with best practice is the Outline Construction Environmental Management Plan ('CEMP').

4.3.2 The Outline CEMP will be agreed with Rochdale Borough Council in advance of the commencement of construction and the Principal Contractor will be responsible for implementing it. The CEMP will be a live document throughout the construction period and will be updated to respond to changes to legislation, standards, available techniques, etc. as well as any changes to construction techniques.

Phasing and Programme of Works

4.3.3 The anticipated construction timescales are as follows, but are subject to change:

- Enabling and Demolition works commencement: 2024
- Construction start date: 2025
- First occupation: Summer/Autumn 2025
- Completion: Autumn 2031

4.3.4 Construction works will be limited to the following hours unless otherwise agreed with the Borough Council:

- Monday – Friday - 08:00 – 18:00
- Saturday - 08:00 – 13:00
- Sunday and Bank Holidays – Site Closed

Construction Method and Management

4.3.5 It is anticipated that key demolition and construction activities are likely to include:

- Establishment of construction compound(s) and welfare facilities;
- Site clearance, temporary access, erection of fences & security provision;
- Installation of site welfare;
- Demolition of existing buildings and removal of car park surfacing;
- Tree removal;
- Cut and fill including site remediation with respect to PAHs and asbestos, which could include source removal or capping and inclusion of basic ground gas protection measures. The site cut and fill will be balanced as far as possible so that land excavated will be re-used where applicable;
- Utility diversions, upgrades and connections;
- Installation of drainage including swales and attenuation basins;
- Piling and foundation works;
- Construction of new access and roads;
- Structural works;
- Envelope (façade and roofing);
- External services and soft landscaping; and
- The movement of materials, waste and people to and from the site.

Construction Traffic

4.3.6 Traffic will be generated during the construction of the Proposed Development due to construction personnel accessing the Site, and the transportation of materials to the Site.

4.3.7 Vehicles will access the Proposed Development from Hollingworth Road on the eastern site boundary. It is proposed that there will be two access junctions, with the northern access leading towards some of the new homes to the east of Heald Lane, and the southern access leading towards the proposed primary school and the remainder of the new homes proposed to the west of Heald Lane.

Construction Materials and Waste

- 4.3.8 It is expected that the construction materials required will be those normally associated with a development of this nature, including for example bricks, windows, roof tiles, etc.
- 4.3.9 The demolition and construction process needs to be managed to accommodate the peak periods of waste generation. Where possible waste reduction strategies and practices will be arranged in advance. Additionally, a considerate design practice, will help to minimise construction waste in line with the Waste Hierarchy (prevention, reuse, recovery, disposal).

5 Ecology and Biodiversity

5.1 Introduction

- 5.1.0 The ES assessed the likely significant effects of the Proposed Development on ecology and biodiversity.

5.2 Baseline Conditions

- 5.2.1 The Site was found to contain habitats largely of negligible (not significant) ecological importance, such as heavily grazed farming fields. Ecological protected species surveys were undertaken in 2018, 2019, 2021 and 2022. Surveys found there to be no great crested newt ('GCN') presence within pond P1, a badger sett marginally off-site, a small common pipistrelle bat roost in the farm building, low levels of bat activity across the Site and largely common and widespread breeding birds, most notably, one breeding pair of lapwing.

5.3 Construction Phase Effects

- 5.3.1 Minor adverse (not significant) anticipated effects on the Rochdale Canal Special Area of Conservation ('SAC') and Site of Biological Importance ('SBI'), with embedded primary mitigation including a robust drainage strategy for run-off during the construction phase, with secondary mitigation such as dust and litter prevention, controlled through a Construction Environmental Management Plan. Residual effects being negligible (not significant).
- 5.3.2 Moderate adverse (significant) effects on Hollingworth Lake SBI, through noise (disturbance of birds at the Lake), air and water pollution created during construction could impact the SBI. Residual effects being negligible (not significant).
- 5.3.3 Minor adverse (not significant) effects on some habitats, namely broadleaved woodland, hedgerow, non-native invasive, offsite pond, scattered trees. Residual effects being negligible (not significant) with the exception of a minor beneficial residual effect on scattered broadleaved trees as a result of replacement tree planting of greater quantity plus implementation of tree protection measures.
- 5.3.4 Minor adverse (not significant) effects on species such as badger, bats, breeding birds, amphibians, hedgehog. Residual effects on badger and hedgehog being negligible (not significant). Minor beneficial residual effect on bats as a result of new bat rooting features such as retained trees and artificial boxes; breeding birds as a result of inclusion of nest boxes; amphibians as a result of the additional Sustainable Drainage Systems (SuDs).

5.4 Operational Phase Effects

- 5.4.1 Minor adverse (not significant) effects on the Rochdale Canal SAC and SBI, with the 'primary' mitigation measures embedded (drainage strategy, substantial buffer, SuDS) potential impacts arising from water pollution and overshadowing at the operational phase are anticipated to be of a minor impact magnitude. Residual effects being negligible (not significant) following secondary mitigation.
- 5.4.2 Major adverse (significant) effects on South Penning Moors SAC, Special Protection Area (SPA) and SBI; primary mitigation (green infrastructure) will minimise impacts arising from recreational pressure, and secondary mitigation in the form of home owner packs and contributions to local recovery networks will result in residual effects being negligible (not significant).

- 5.4.3 Moderate adverse (significant) effects on Hollingworth Lake SBI through noise and air pollution created during operation of the Site. Residual effects anticipated to be negligible (not significant) through noise and air quality strategy.
- 5.4.4 Minor adverse (not significant) effects on broadleaved woodland, hedgerows, scattered trees and off-site pond through mis-management and accidental damage. Residual effects likely to be negligible (not significant) through adoption of a Landscape and Biodiversity Management Strategy ('LBMS'). Minor beneficial effects are anticipated for hedgerows and the pond as a result of the adoption of the LBMS.
- 5.4.5 Minor adverse (not significant) effects on badger, bats, breeding birds, hedgehog and amphibians through mis-management of habitats and accidental killing. Residual effects are likely to be negligible (not significant) through adoption of the LBMS. Minor beneficial residual effects are anticipated for bats through the maintenance and management of boxes in public and communal areas.

5.5 Rakewood Road Land Parcel

- 5.5.1 An Ecological Impact Assessment conducted for the Rakewood Road land parcel concludes that no impacts are anticipated on the South Pennine Moors SPA, SAC, and Rochdale Canal SAC.
- 5.5.2 Numerous badger setts were recorded adjacent to the land parcel, and the main sett has been avoided through the design of the scheme. Five trees were found to contain potential bat roosting features, and all trees have been avoided through the design. No recent evidence of otter or water vole were recorded.
- 5.5.3 Habitats of negligible ecological importance will be lost to the development, such as the modified grassland that requires no specific mitigation. Habitats of ecological importance to be lost, such as the small area (0.02 ha) of woodland, will be compensated for through replacement planting in the form of 0.68 ha of woodland mix planting and an additional 83 scattered trees.
- 5.5.4 Species-specific enhancements are recommended and include extensive newly created habitats to benefit badger, bats and bird including the incorporation of bat and bird boxes.

5.6 Cumulative Effects

- 5.6.1 Cumulative effects for Sites 1 (Former Akzo Nobel Site), 5 (Land West of Smithy Bridge Road, Littleborough) and 6 (Land Off New Road, Littleborough) were scoped in for assessment.
- 5.6.2 None of the other Committed Developments would impact the Rochdale Canal SAC during their operation. Through Habitat Regulations Assessments ('HRA'), both individually on a site-by-site basis and the Places for Everyone HRA, conclusions were reached whereby, given appropriate drainage and run-off strategies, pollution resulting from the operational phase will be negligible.
- 5.6.3 The Proposed Development, and all other Committed Developments, will be required to produce and implement a long-term management plan for both on-site and off-site habitat. This will secure the delivery of the habitat mitigation/enhancement measures put forward as part of each scheme (making reference to condition assessment targets where biodiversity net gain is considered). With the successful adoption of each, no cumulative residual impacts are anticipated on any retained or created habitats.
- 5.6.4 The long-term management plans mentioned above will also detail how management will be implemented in a manner sensitive to all of the faunal groups considered. With the adoption of

the mitigation measures proposed as part of each scheme, no cumulative residual impacts are anticipated on faunal groups.

- 5.6.5 There is a risk that the badger sett identified off-site between the Proposed Development and Site 1 could become isolated in the landscape once both schemes are built and operational. However, the green infrastructure associated with Site 1, and the large green infrastructure area at the Proposed Development site, provide one continuous area of suitable habitat across both schemes, to ensure that badgers have sufficient access to the surrounding landscape and the Rochdale Canal corridor.

6 Landscape and Visual

6.1 Introduction

- 6.1.1 The ES assessed the likely significant effects of the Proposed Development on the landscape and views.

6.2 Baseline Conditions

- 6.2.1 The Hollingworth Road land parcel includes a notable group of trees along the land parcel boundary around the existing car park area within the south-eastern corner of the land parcel.
- 6.2.2 There are no designations for landscape quality of value within the Hollingworth Road land parcel or in its immediate vicinity. There are several within the local area to the north and west, these include 'Rochdale Canal Lodge Bridge' Grade II listed, approximately 165m to the south west of the Hollingworth Road land parcel at the closest point, and 'Stubley Old Hall', approximately 505m to the north of the land parcel. However, it is considered that there is a degree of separation between these features and the land parcel as a result of intervening landform, mature vegetation and built form. There are a number of Public Rights of Way ('PRoW') within the land parcel that provide a good level of connectivity with the immediate, local and wider settlement and countryside. Within the local area to the south east there is an extensive PRoW network, which includes a series of long distance routes.
- 6.2.3 The scenic quality is moderate due to the open nature of the land parcel and associated agricultural use with limited boundary features which are characteristic features of this landscape type.
- 6.2.4 Views over the land parcel are possible from the existing PRoW within the land parcel and Hollingworth Road to the east. Views from the existing settlement edge that bounds the western edge of the land parcel are limited due to the orientation of built form, existing topography, and intervening vegetation. Views from the immediate south are heavily restricted by the combination of mature roadside vegetation and the notable drop in the landform, this results in there being little appreciation of the land parcel.

Landscape Character: Landscape Character Assessment is a descriptive approach that seeks to identify and define the distinct character of landscapes that make up the country. This approach recognises the intrinsic value of all landscapes, not just 'special' landscapes, as contributing factors in people's quality of life, in accordance with the European Landscape Convention. It also ensures that account is taken of the different roles and character of different areas

6.3 Construction Phase Effects

Landscape Effects

- 6.3.1 Fields will be subject to the introduction of new built elements that consist of a compound, hardstanding, and plant / equipment. As a result, the pastoral character of the open fields will be affected by construction activities. There will be a variation in intensity of activity as construction progresses across the Hollingworth Road land parcel thus resulting in a gradual change of the landscape feature. A **Moderate-Major Adverse** effect will occur as a result of the noticeable change and loss of its openness and agricultural character.

Stone Walls that currently in part define the fieldscape will be lost as part of the Proposed Development and are not replaced as part of the proposals, therefore resulting in a **Major Adverse** effect due to the total loss of this feature.

The construction activities will introduce movement and noise to the Hollingworth Road land parcel where there will be no access for the duration of the construction stage. As a result, there will be a **Moderate-Major Adverse** effect.

The remainder of landscape receptors, such as hedgerows, trees, ponds, National Character Area 36: Southern Pennines (CA36), Regional Character – Rough Hill to Brun Moor (RLCT/LCA29), and regional Character – Rochdale and Oldham Pennine Foothills (RLCT/LCA28), and will be subject to adverse effects that are of minor or negligible significance, or neutral, including:

Visual Effects

- 6.3.2 A series of PRow pass across the Hollingworth Road land parcel, and users of these public footpaths will experience immediate views of the construction activity such as plant and vehicle movements. As a result, there will be a **Major Adverse** significance of effect.
- 6.3.3 Residential properties in proximity to the land parcel: Smithy Bridge will have direct views of construction activities with plant and vehicle movements across the view, which will cause a pronounced change resulting in a **Moderate Adverse** effect on views.
- 6.3.4 People travelling along Hollingworth Road will have direct partial / oblique views of construction activities, with plant and vehicle movements across the view resulting in a **Major Adverse** significance of effect on views.
- 6.3.5 Residential properties within Littleborough in the local area to the north have views into and over the Hollingworth Road land parcel. Development will gradually progress across the land parcel, which will contrast with the adjacent land uses and view on the skyline. As a result, there will be a **Moderate Adverse** significance of effect.
- 6.3.6 The remainder of visual receptors such as users of the PRow, Rochdale Canal, Lake Bank and Hollingworth Lake will be subject to adverse effects that are not considered to be significant.

6.4 Operational Phase Effects

Landscape Effects

- 6.4.1 Fields will be subject to a **Major Residual Adverse** effect as a result of the noticeable change and loss of its openness and agricultural character. A **Moderate Residual Adverse** effect on the Hollingworth Road land parcel and its immediate context is considered due to the noticeable change.
- 6.4.2 Stone walls which currently in part define the fieldscape will be lost as part of the Development and are not replaced as part of the proposals, therefore resulting in a **Major Residual Adverse** effect due to the total loss of this feature.
- 6.4.3 The remainder of landscape receptors, such as hedgerows, trees, ponds, NCA36, RLCT/LCA28 and RLCT/LCA29, will be subject to either adverse or beneficial effects that are of minor or negligible significance.

Visual Effects

- 6.4.4 People using the PRoW that pass within the land parcel will experience a **Moderate Adverse** residual significance of effect.
- 6.4.5 Residential properties in proximity to the Site: Smithy Bridge will have partial views of the immediate built form adjacent to the site boundary. The Proposed Development will cause a noticeable change in views to those properties in proximity with partial views of residential dwellings in the Site. As a result, there will be a **Moderate Adverse** residual significance of effect.
- 6.4.6 People travelling along Hollingworth Road will experience a **Moderate Adverse** residual significance of effect as they pass adjacent to the Site.
- 6.4.7 The remainder of the visual receptors, such as users of the PRoW, Lake Bank, and Hollingworth Lake will be subject to adverse effects that are not considered to be significant.

6.5 Rakewood Road Land Parcel

- 6.5.1 The Landscape and Visual Appraisal for the Rakewood Road land parcel concludes that development within the land parcel will form a logical extension to the existing car park and facilities in the area, utilising existing infrastructure and maintaining and enhancing the surround land use. Due to the high degree of screening existing adjacent to the land parcel through both topographical variation and vegetation, sensitive planting and conservation of key characteristics, such as the woodland tree belt and mature hedgerows, would allow for the development to complement and enhance the existing character of the surrounding area.

6.6 Cumulative Effects

Construction

- 6.6.1 The Proposed Development alongside the cumulative schemes at Former Akzo Nobel Site (Brownfield), The Soccer Village, Wildhouse Lane, Milnrow (Partially Brownfield), Land To The West Of New Street Littleborough, and Land West Of Smithy Bridge Road, Littleborough will result in direct changes to the northern part of LCA 28 Rochdale and Oldham Pennine Foothills as they will result in the loss of green field land.
- 6.6.2 A minor adverse cumulative effect is assessed on LCT: Pennine Foothills (West/South Pennines) LCA 28 - Rochdale and South Oldham Pennine Foothills during construction with the Former Akzo Nobel Site.
- 6.6.3 A moderate to major adverse cumulative effect is assessed on the site and its immediate setting as a result of the change in character during construction when considered with the Former Akzo Nobel site.
- 6.6.4 A major adverse cumulative visual effect is assessed if the construction activities are ongoing at the same time as the Former Akzo Nobel site.
- 6.6.5 People travelling along Hollingworth Road are anticipated to experience a major adverse visual effect during construction of both the Proposed Development and the Former Akzo Nobel Site.
- 6.6.6 People travelling along the PRoW in the local area to the north-west and the Rochdale Canal are anticipated to experience a major adverse significant effect during construction of the Former Akzo Nobel site and the Proposed Development.

Operation

- 6.6.7 The loss of landscape features for the cumulative schemes such as hedgerows, hedgerow trees and trees will have been mitigated by new planting proposed as part of the landscape strategies relating to each site, thus reducing / mitigating effects on the landscape, resulting in a negligible residual adverse cumulative effect.
- 6.6.8 A moderate adverse residual cumulative effect is assessed in combination with the Former Akzo Nobel Site due to the nature of change at both sites.
- 6.6.9 A moderate adverse cumulative residual effect is assessed on visual amenity as a result of both the Proposed Development and the Former Akzo Nobel site.
- 6.6.10 People travelling along Hollingworth Road are anticipated to experience a moderate adverse residual cumulative effect during operation of the Proposed Development.
- 6.6.11 People travelling along the PRow in the local area to the north-west and the Rochdale Canal are anticipated to experience a moderate adverse residual significant effect during operation of the Former Akzo Nobel site and the Proposed Development.

7 Hydrology and Drainage

7.1 Introduction

- 7.1.0 The ES assessed the likely significant effects of the Proposed Development on the hydrological environment, including flood risk, surface water alterations and local drainage infrastructure during the construction and operational phases.

7.2 Baseline Conditions

- 7.2.1 The Site is located within Flood Zone 1, which means it is at little to no risk from fluvial (and/or tidal) flooding. The proposed development is mostly 'residential' in nature and, as such, it is classified as 'more vulnerable'. The nearest Main River to the Hollingworth Road land parcel is the River Roch located 450 m north of the land parcel's boundary.

Main River: Main Rivers are usually larger rivers and streams. They are designated and other rivers are called 'ordinary watercourses'.

- 7.2.2 In terms of existing ground conditions, the soils are slowly permeable, seasonally wet, acid, loamy and clayey soils. Furthermore, given the site's mining history, there is potential for further infiltration issues, which would be made worse due to the steep gradients currently present on-site. The nearest waterbody to the Site is the Rochdale Canal located to the north. At present most of the run-off generated by the wider Site would naturally flow towards the north and would either directly discharge overland into the Rochdale Canal or utilise the existing adjacent infrastructure.

7.3 Construction Phase Effects

- 7.3.1 There is potential for increased surface water run-off flooding potential to be generated at the Site due to construction activities, such as earth works. Construction activities could also lead to increased mobilisation of sediment with the surface water generated impacting water quality. This is considered to result in a range of moderate to major adverse effect prior to mitigation. Mitigation measures including a detailed CEMP and temporary surface water drainage systems will result in no residual effect.
- 7.3.2 Additionally, there would be the potential for surface water contamination from the Site and, as a consequence, environmental impacts could result from the construction phase of the development. The construction phase activities have the potential to lead to disturbance / mobilisation of dust / muds / sediment entering the surface water receptors and affecting the surface water quality. This is considered to result in a range of moderate to major adverse effect prior to mitigation. Mitigation measures including a detailed CEMP, temporary surface water drainage system to trap pollutants, and implementation of good practice environmental practices, will result in no residual effect.

7.4 Operational Phase Effects

- 7.4.1 Due to the nature of the Proposed Development and the impermeable areas associated with it, surface water run-off generated on site will inherently increase flooding potential resulting in a major adverse effect. Mitigation measures including implementation of an appropriate surface water drainage regime, discharging surface water run-off to the Rochdale Canal via a formal connection at a restricted rate, and sizing of the proposed on-site surface water drainage system to contain run-off from storm events up to and including the 1 in 100 year return period storm event with a 45% allowance for climate change on-site.

- 7.4.2 It is recommended that Finished Floor Levels should be raised above external levels. Typically, a 150mm freeboard above the external ground level is applied to mitigate any residual risk of flooding associated with other sources of overland flow including surface water and groundwater. In the case of the Proposed Development, it has been suggested that a higher freeboard be incorporated in places with a higher residual risk of flooding. Following the implementation of these mitigation measures, no residual effects are anticipated and the risk would be negligible.
- 7.4.3 There will be an increase in traffic associated with the operational phase and may cause an increase in fine particulates. In the event of heavy rainfall, the fine particulates from the heavily trafficked areas could potentially mobilise with the surface water run-off and enter the downstream watercourse / waterbody network. This could lead to the deterioration of the water quality. Mitigation measures include implementation of the appropriate maintenance of surface water infrastructure to ensure a build-up of sediment in attenuation features does not result in increased risk. An appropriate maintenance plan will be prepared as part of the detailed works. Following the implementation of these mitigation measures, no residual effects are anticipated.
- 7.4.4 The Proposed Development, once operational, will result in long-term major beneficial effect to flood risk reduction, water quality and biodiversity improvements, along with recreational and visual aesthetics due to the sustainable drainage management regime proposed.

7.5 Rakewood Road Land Parcel

- 7.5.1 The Flood Risk Assessment and Drainage Management Strategy for the Rakewood Road land parcel concludes that the proposals are at 'low risk' from the flood sources. Any residual surface water flood risk will be suitably managed post-development, following the implementation of a sustainable surface water management regime, any residual risks can be managed by appropriate levels of design.
- 7.5.2 The proposals are to utilise a combination of Sustainable Drainage Systems as part of the drainage strategy. To restrict the rate of discharge from the land parcel a standard flow control device would typically be utilised. This will generate a requirement to provide on-site stormwater storage for the extreme rainfall events. The surface water scheme for the development will be designed to cater for the surface water run-off generated in the events up to and including the 1 in 100 year return period event with a 30% allowance for Climate Change.
- 7.5.3 Hollingworth Brook is located adjacent to the northern and eastern boundaries of the land parcel and this watercourse has been confirmed by the EA as a designated Main River. An 8m offset is to be maintained from the top of the bank. It is advised that levels should fall away from the proposed car parking spaces to minimise the flood risk.

7.6 Cumulative Effects

- 7.6.1 As the site is considered to be at low risk in terms of flooding, the key focus of the assessment was on ensuring the increase in impermeable areas as a result of the Proposed Development does not increase flood risk elsewhere within the catchment. The Proposed Development will both conform with current planning guidance and policy to ensure it does not increase flood risk elsewhere and incorporate a sustainable surface water management regime. Overall, the flood risk to and from the Proposed Development Site with regards to the cumulative developments is negligible (not significant).

8 Ground Conditions

8.1 Introduction

- 8.1.0 The ES assessed the likely significant effects of the Proposed Development on ground conditions.

8.2 Baseline Conditions

- 8.2.1 The Hollingworth Road land parcel predominantly comprises land used for grazing of horses and cattle with field boundaries enclosed by dry stone walls and hedgerows. The south-eastern part of the land parcel comprises a public car park for visitors to Hollingworth Lake. The building at Lower Cleggswood Farm (centre of the land parcel) is in disrepair, with piles of waste (timber and household) surrounding the farm, as well as a plastic heating oil tank and a metal tank labelled “new oil” adjacent to the buildings. To the north of the farm and to the west of the track, a former small earthworks/quarry appeared to have been used to dispose of general farm waste, with plastic sheeting visible at the surface.
- 8.2.2 The Hollingworth Road land parcel has largely been used as agricultural land. The former Akzo Nobel chemical works is located immediately north-east of the land parcel and has been decommissioned, demolished and remediated, and the land is currently in the development stage for the consented residential development.
- 8.2.3 The bedrock and superficial aquifers have been defined by the Environment Agency (‘EA’) as ‘medium vulnerability’ groundwater which are *“medium priority groundwater resources that have some natural protection resulting in a moderate overall groundwater risk. Activities in these areas should as a minimum follow good practices to ensure they do not cause groundwater pollution”* (EA, 2017).
- 8.2.4 Hollingworth Lake is located approximately 20m to the south of the Hollingworth Road land parcel. The Rochdale Canal runs along the northern boundary of the land parcel. The River Roch is located approximately 70m north of the land parcel and flows to the south-west.
- 8.2.5 On-site historical and present-day sources of potential contamination include farmyard/farm buildings and associated tanks with potential for asbestos and for limited Made Ground, former infilled quarries, the operational car park in the south part of the Hollingworth Road land parcel and potential on-site migration of contamination from the former Akzo Nobel chemical works immediately off-site. These land uses have the potential to produce a number of chemical, fibrous and gaseous contaminants, including herbicides and pesticides, hydrocarbons, asbestos, heavy metals, sulphates, ground gas, and mine gas and volatile organic compounds (‘VOCs’).
- 8.2.6 A Phase 1 desk based ground conditions assessment has been undertaken, informed by two site visits carried out in 2022.
- 8.2.7 The Hollingworth Road land parcel is situated within a Coal Mining Reporting Area with a small area identified as a Development High Risk Area adjacent to the northwest corner of the land parcel. Therefore a Coal Mining Risk Assessment (‘CMRA’) has been undertaken to assess the risks to the Proposed Development from legacy coal mining and identifies the appropriate mitigation measures to address coal mining issues. This has concluded that risks to the Proposed Development from coal and non-coal mining are low and that no significant potential mining legacy issues have been identified. No specific mitigation strategy has been proposed and there are no constraints or restrictions regarding the Proposed Development layout, other than in the far north-western corner where a suitable stand-off zone will need to be agreed with the Coal Authority, which is standard practice where mine entries are present.

The Hollingworth Road land parcel, however, sits within a historical mining area and therefore there is a residual risk of unrecorded mine entries to be present on-site.

- 8.2.8 A ground investigation ('GI') has been undertaken (Betts Geo Environmental Ltd, 2019) comprising a desk study and intrusive GI of the Hollingworth Road land parcel. The GI identified elevated concentrations of lead and arsenic in natural Glacial Till soils collected from a depth of 2.5m below ground level ('bgl') in the centre of the Hollingworth Road land parcel.
- 8.2.9 Loose fibres of asbestos were detected in soil samples from made ground in the north eastern part of the land parcel adjacent to the former Akzo Nobel chemical works. The report concluded that the area where asbestos was encountered should be delineated through further GI, and that the elevated lead and arsenic in natural soils was likely a result of a laboratory error or cross contamination in the field, which should be confirmed through additional GI and risk assessment.

Table 8.1: Summary of off-site sources of potential contamination and the associated contaminants of potential concern.

Source of Potential Contamination	Contaminant of Potential Concern
Former Akzo Nobel Complex / Cleggswold Works (Grease & Size) / Clough Field Works (Oil & Tallow) / Cleggswold Oil Distillery (located immediately off-site to the north east)	Polycyclic aromatic hydrocarbons (PAH), Petroleum hydrocarbons, acids, heavy metals, Polychlorinated biphenyls (PCBs), phenols, combustion soots, ash, asbestos.
Landfills (located approximately 70m north east, 90m south west and 170m south east)	Asbestos, heavy metals and hydrocarbons within landfill materials, depending on composition of waste. Potential for hazardous ground gas from biodegradable/ organic inclusions.
Former coal workings including an old coal pit (located approximately 100m north) and the recorded mine entries (approximately 10m north west and 100m north)	Potential for coal-related contaminants including PAH, petroleum hydrocarbons, heavy metals, tars, phenols and the migration of mine gas from off-site shallow coal workings
Former paragon works (Steel) (approximately 200m west)	Metals, acids, PAH, VOCs, phenols, fuel oils, organic solvents.

8.3 Construction Phase Effects

- 8.3.1 Construction and ground workers are considered to have a minor adverse effect to the exposure to contamination in the ground and is therefore not significant. There will be a negligible residual effect as a result of further risk assessment and ground investigation.
- 8.3.2 Given the low contaminative potential of soils across the majority of the Hollingworth Road land parcel, the harmful exposure of contamination to the nearby residential users is considered unlikely during the construction phase and is considered to have a negligible and not significant effect.
- 8.3.3 Several surface water attenuation ponds are proposed across the Hollingworth Road land parcel in the north east, in the north west and through the centre of the land parcel. These attenuation ponds will drain to the Rochdale Canal, which has SSSI and SAC. Off-site, the Proposed Development is adjacent to several surface water features including the Rochdale

Canal (which has an ecological SSSI and SAC designation) and the River Roch to the north, a reservoir to the east and Hollingworth Lake to the south. A minor adverse effect on off-site surface waters has been assessed from contamination at the Hollingworth Road land parcel becoming mobilised during the construction phase and enter the surface water environment. Once mitigation measures (namely the CEMP) are taken into account, the likely effect is considered to be a slight to negligible adverse effect, which is not significant.

- 8.3.4 Where the attenuation pond is proposed in the north-eastern part of the Hollingworth Road land parcel (adjacent to the former Akzo Nobel chemical works), it would be prudent to install basin liners in the construction of the basins to prevent the mixing of contamination that may be present in the soils with surface water in the attenuation basin. The need for basin liners will be informed by the additional ground investigation. This will result in a negligible residual effect.
- 8.3.5 There is potential during the construction phase for contamination from leaks and spills of machinery or chemicals or for existing contamination in the soils to become mobilised during the earthworks. The impact of existing contamination at the land parcel or pollution events (spills/leaks) entering the bedrock groundwaters is considered to be minor adverse. Once migration is taken into account the effect is considered to be slight adverse short-term, which is not significant. Depending on the findings of the additional investigation and groundwater monitoring, a remediation strategy and subsequent validation report may be required. The residual effect will be negligible and not significant.

8.4 Operational Phase Effects

- 8.4.1 Elevated concentrations of methane and carbon dioxide have been detected in the central and north-eastern parts of the land parcel, which requires further assessment. The current understanding is that mitigation will be required in the residential plot areas to mitigate risks to future end users. Therefore, a moderate to negligible adverse effect is assessed, given the gaps in the current ground conditions dataset. Once mitigation is taken into account, the significance of effects is considered to be large to moderate, which is significant. Further mitigation such as additional ground investigation and contamination assessment to remove the spatial gaps in the existing ground conditions dataset will result in a negligible adverse effect.
- 8.4.2 There is a moderate adverse effect from ground gas to future users of the Proposed Development which is significant. The installation of additional ground gas monitoring wells where high concentrations of methane and carbon dioxide have been detected and further risk assessment to inform ground gas mitigation measures will be implemented
- 8.4.3 If gas protection for buildings is considered necessary, the design of gas protection measures and the subsequent implementation of such a system including the verification and reporting of the installation of any gas protection measures, will be undertaken in accordance with the guidance given in BS 8485:2015+A1:2019. This will result in a negligible residual effect.
- 8.4.4 A negligible effect has been assessed on the built environment (structures and services) during operation of the Proposed Development from potential land stability risks once mitigation has been considered.

8.5 Rakewood Road Land Parcel

- 8.5.1 The land parcel lies within the Coal Authority's Coal Mining Reporting Area and is within a 'Development High Risk Area'. There is a possible significant risk on-site of contamination from coal mining.
- 8.5.2 The current and historical land parcel use includes agricultural, pastureland, and the straightening of the brook, a significant risk from contamination from which is considered

unlikely. There is a possible localised significant risk of contamination on the land parcel boundary adjacent to the north-west from landfill.

- 8.5.3 The Hollingworth Brook is a potential receptor for contamination and silt generated during earthworks. A ground investigation will determine whether a historical landfill material exist on site and a bund will be required to prevent material entering the waterway. A construction management plan will be required.
- 8.5.4 It is possible that construction workers will be exposed to contaminating substances, vigilance should be maintained and use of personal protective equipment ('PPE') and standard hygiene practices should mitigate short term acute exposure.
- 8.5.5 The land parcel end use is a car park. There is a low potential for localised contamination onsite as a result of adjacent historical landfills. Hard standing and intermittent site use will reduce the risk. An intrusive ground investigation is recommended.

8.6 Cumulative Effects

- 8.6.1 Residential development has commenced on the former Akzo Nobel chemical works and is considered in the baseline of the assessment.
- 8.6.2 Developments outside of 1km are outside of the ground conditions and contamination 'zone of influence' and are therefore scoped out of the cumulative effects assessment. Beyond 1 km, substantial variability in ground conditions, including hydrogeological conditions, land (and groundwater) contamination and ground instability are considered to result in negligible effects.
- 8.6.3 The construction and operation of the Proposed Development will involve embedded mitigation measures. Furthermore, the Rochdale Canal creates a physical barrier, preventing cumulative effects of the Proposed Development to the north from occurring simultaneously. Based on this, it is anticipated that the cumulative effect of the proposed development and the above cumulative developments occurring simultaneously during the construction phase will be negligible and therefore not significant.

9 Historic Environment

9.1 Introduction

- 9.1.1 The ES assessed the likely significant effects of the Proposed Development on the historic environment, including archaeology, built heritage and the historic landscape.

9.2 Baseline Conditions

Designated Heritage Assets

- 9.2.1 Within the 1km study area, there are 22 designated heritage assets including four conservation areas, two Grade II* listed buildings and 16 Grade II listed buildings. The closest designated heritage asset is the Grade II listed Lodge Bridge (Bridge 53) (NHLE: 1068522) located across Rochdale Canal, approximately 180m west of the site.
- 9.2.2 There are also no apparent historic associations between the site and any of the listed buildings or conservation areas. As such, no designated heritage assets are considered to have the potential to receive effects to their setting from the Proposed Development. Designated heritage assets have therefore been scoped out of this assessment and are not considered further.

Previous Archaeological Investigations

- 9.2.3 No previous archaeological investigations are recorded to have been conducted within the site. Three intrusive archaeological investigations are recorded within the wider study area comprising a trial trench evaluation (HER: EGM5259) at Dearnley Old Hall, approximately 780m north-west of the site, and an evaluation (HER: EGM5187) and watching brief (HER: EGM4954) at Hare Hill Mill approximately 900m north of the site.

9.3 Construction Phase Effects

Archaeology

- 9.3.1 During the construction of the Proposed Development groundworks associated with the new buildings as well as landscaping, access, tree planting and excavation for new services and attenuation ponds will have a direct effect on any archaeological remains within the footprint of these intrusive groundworks. The remains could be significantly damaged or destroyed which represents an impact of major magnitude upon any archaeological remains, the presence and significance of which is currently unknown.
- 9.3.2 It is considered that any remains would most likely be of low value and therefore an impact of major magnitude would result in a minor/moderate adverse effect (significant) before additional (secondary) mitigation. The effect upon any as yet unknown archaeological remains would be permanent and irreversible.
- 9.3.3 As a result of the proposed mitigation, such as building height parameters, the residual effect upon any archaeological remains during construction is likely to be a permanent, irreversible minor adverse effect (depending on the value of the receptors), which is not considered to be significant.

Historic Landscape

- 9.3.4 The construction phase of the Proposed Development will result in a direct impact, and the permanent loss of agricultural use and character. As this class of landscape is well

represented, in greater levels of preservation, elsewhere locally, regionally and nationally, minor adverse effects are anticipated that are not believed to be material to the decision-making process.

Built Heritage

- 9.3.5 During the construction of the Proposed Development, it is currently understood that all extant buildings will be removed. The core of Lower Cleggswood Farm and the cohort of dry stone walls within the development boundary are considered to be non-designated heritage assets, and as such their entire loss will represent an impact of major magnitude.
- 9.3.6 Both Lower Cleggswood Farm and the dry stone walls are of low heritage value and therefore an impact of major magnitude would result in a minor/moderate adverse effect (significant) before additional mitigation. The effect would be permanent and irreversible.

9.4 Operational Phase Effects

- 9.4.1 There will be no direct or indirect effects upon any as yet unknown archaeological remains within the Site during the operational phase. Any such remains within the Proposed Development's footprint will have been lost or removed during the construction phase.
- 9.4.2 The Proposed Development will have no direct or indirect effects upon designated heritage assets during the operational phase. There are no indicators of any intangible connections which would be changed by the Proposed Development during operation.
- 9.4.3 There will be no direct effects upon the Site's historic landscape character during the operational phase. Any impacts will have occurred during the construction phase.

9.5 Rakewood Road Land Parcel

- 9.5.1 The Historic Environment Desk-Based Assessment concludes that the Rakewood Road land parcel does not contain any known significant archaeological remains, but that it does hold potential to contain further, as yet unknown, archaeological remains.
- 9.5.2 Intrusive groundworks associated with the Proposed Development will adversely impact (damage or remove) any shallow archaeological deposits within their footprint.
- 9.5.3 Appropriate evaluative works are to be determined by the Greater Manchester Archaeological Advisory Service ('GMAAS'). The exact scope and timing of any potential evaluation will be subject to agreement with GMAAS. The results of any potential evaluation will inform the requirements and scope of archaeological mitigation.

9.6 Cumulative Effects

- 9.6.1 The Proposed Development in conjunction with the noted schemes would lead to the loss of unknown and known heritage assets during the construction and operation phases. The developments are all presented as policy compliant and will have adopted a suitable programme of mitigation works in each case.
- 9.6.2 The significance of the cumulative impact on heritage assets combined with other developments would thus be negligible.

10 Traffic and Transport

10.1 Introduction

10.1.0 The ES assessed the likely significant effects of the Proposed Development on traffic and transport. For the effects being analysed, the recent publication of updated Institute of Environmental Management and Assessment ('IEMA') Guidelines in July 2023 provides an update to the 'Guidelines for the Environmental Assessment of Road Traffic' published in 1993 and forms the basis for the methodology found within this chapter.

10.1.1 The 2023 IEMA guidance retains the long-established broad assessment thresholds as follows:

"Following the determination of a study area, it is recommended the competent traffic and movement expert applies two broad rules of thumb as criteria to assist in delimiting the scale and extent of the environmental assessment:

Rule 1 – Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%).

Rule 2 – Include highway links of high sensitivity where traffic flows have increased by 10% or more."

10.1.2 The 30% threshold relates to the level at which humans may perceive change and there may therefore be an effect. Impacts above this level therefore do not suggest that there is a significant impact, only that further consideration is required to assess the significance. The IEMA Guidance goes on to state that any increases in traffic flows of less than 10% are generally accepted as having no discernible environmental impact as daily variance in traffic flows can be of equal magnitude.

10.1.3 Using the findings of the assessments outlined above, the links with a predicted increase above 30% have been assessed in accordance with the IEMA Guidance. This includes: Severance of communities, Road vehicle driver and passenger delay, Non-motorised user delay, Non-motorised amenity, Fear and intimidation on and by road users and Road user and pedestrian safety.

10.2 Baseline Conditions

10.2.1 The highway network surrounding the site includes: the B6225 Hollingworth Road / Lake Bank / Smithy Bridge Road, B6225 Milnrow Road / Wildhouse Lane and the A58. Whilst the immediate surroundings are semi-rural in nature, there are many Public Rights of Way around the site. Overall, the site is located such as to benefit from existing walking, cycling, and public transport opportunities.

10.3 Construction Phase Effects

10.3.1 Whilst the Proposed Development is being built, there will be a number of construction vehicles arriving to the site each day. The volume of construction traffic is considered to be less than 10% resulting in a negligible and not significant effect.

10.4 Operational Phase Effects

10.4.1 During operation, none of the links within the study area will experience increases in traffic above 30%. Six links (comprising areas of highway adjacent towards the south of the site access points) were identified to breach the 10% threshold impact threshold, and therefore

should be considered for additional assessment if they are deemed particularly sensitive. However, there is nothing to suggest these highway links should be considered particularly sensitive within the context of the IEMA Guidance.

- 10.4.2 Notwithstanding, mitigation of the effects has been proposed. The internal network of streets will be designed to encourage low vehicle speeds and create a safe and pleasant environment for pedestrians and cyclists. The internal road network will be designed based on the principles of local and national design guidance, maintaining a street hierarchy and connected routes within the site, with routes for pedestrians and cyclists across the site.
- 10.4.3 The internal site layout will be designed to promote active and sustainable travel. The majority of existing Public Rights of Way which traverse the site can be retained and integrated into the layout of the Proposed Development with some minor diversions.
- 10.4.4 Measures to enhance sustainable travel are also proposed and include a Travel Plan ('TP') that will be implemented as part of the Proposed Development. The prime objective of the TP is to reduce the numbers of single occupancy car trips by encouraging the use of more sustainable modes of travel such as journeys on foot, by bike, or by public transport.
- 10.4.5 Following the delivery of the highway improvements described above, the likely traffic impacts are considered to be within acceptable levels (negligible and not significant) and therefore the Proposed Development would not affect other road users.

10.5 Rakewood Road Land Parcel

- 10.5.1 A Transport Assessment conducted for the Rakewood Road land parcel concludes that there are no existing highway safety issues that are likely to be exacerbated by the Proposed Development.
- 10.5.2 The proposed replacement public car park will have a negligible impact on the local highway network.

10.6 Cumulative Effects

- 10.6.1 The construction of the Proposed Development will result in a temporary increase in construction traffic, but this volume is not expected to represent a significant increase, and additional flows on any one link would be below the 10% increase set out in the IEMA Guidelines. As the impact is considered to be less than 10%, no further assessment is necessary. The significance of the effects of the Proposed Development at the construction phase on severance, road vehicle driver and passenger delay, non-motorised user delay and amenity, road user and pedestrian safety, and fear and intimidation are considered to be not significant.
- 10.6.2 As the future baseline scenario takes into account committed developments as agreed with RBC, committed developments are not reconsidered in the cumulative effects assessment to prevent double counting.
- 10.6.3 On this basis, the significance of the effects of the Proposed Development at the operational phase on severance, road vehicle driver and passenger delay, non-motorised user delay and amenity, road user and pedestrian safety, and fear and intimidation, are considered to be not significant.

11 Air Quality

11.1 Introduction

- 11.1.0 The ES assessed the likely significant effects of the Proposed Development on local air quality during both the construction and operational stages. The assessment included identification of potential dust effects during construction.

11.2 Baseline Conditions

- 11.2.1 The Site is within the administrative boundary of Rochdale Borough Council. The Greater Manchester Air Quality Management Area ('AQMA') has been declared by the Greater Manchester Combined Authority due to high nitrogen dioxide concentrations and encompasses parts of the major road network and adjacent properties within Rochdale Borough Council's area. The Greater Manchester AQMA is approximately 1.4 km west of the Site at its closest point, around the A58 Halifax Road.

11.3 Construction Phase Effects

- 11.3.1 The construction works have the potential to create dust which can have effects on sensitive human locations in relation to nuisance through dust deposition, as well as human health through increased particulate matter concentrations. In addition, ecological sites (such as the Rochdale Canal Special Area of Conservation) can be affected by dust deposition. A construction dust risk assessment has been undertaken to determine the risk of dust impacts from construction activities so that appropriate mitigation is identified.

11.4 Operational Phase Effects

- 11.4.1 The Proposed Development is expected to generate additional road traffic on the network that will enter and exit through roads connecting to Hollingworth Road. Dispersion modelling has been undertaken to determine the air quality impacts resulting from vehicle emissions associated with additional road traffic from the Development. A 'slight adverse' impact on nitrogen dioxide concentrations was predicted at three receptors (representing residential properties). At the remaining receptor locations modelled, a 'negligible' impact was predicted. In relation to concentrations of particulate matter (PM10 and PM2.5), 'negligible' impacts were predicted at all receptor locations.
- 11.4.2 Pollutant concentrations were also predicted using dispersion modelling for a number of 'worst-case' (i.e. closest to the road) receptor locations with the Site itself to determine the suitability of the Site for the proposed end-use in relation to air quality. Air pollutant concentrations within the Site are predicted to be well below the National Air Quality Objectives and therefore air quality within the Site will be acceptable.

11.5 Cumulative Effects

Construction

- 11.5.1 There is the potential for the Proposed Development to be in construction at the same time as other consented developments in the local area. However, demolition and construction work would have to be taking place concurrently in proximity to a receptor for cumulative effects to occur, which is considered unlikely. In addition, all consented development will require robust dust management procedures and construction vehicle routing strategies to prevent significant effects and it is considered that these will be adequate to prevent the risk of significant in-combination effects associated with construction dust and construction traffic. As such, no in-

combination construction phase impacts are predicted, and the overall cumulative effect during the construction phase is considered 'not significant'.

Operation

- 11.5.2 Cumulative effects from committed developments in-combination with the Proposed Development have been inherently considered in this assessment via the use of future baseline traffic data which includes committed developments. As a result, the cumulative effects of the Proposed Development are considered 'not significant'.

12 Noise and Vibration

12.1 Introduction

- 12.1.1 The ES assessed the likely significant effects of the Proposed Development on noise and vibration.

12.2 Baseline Conditions

- 12.2.1 Sound surveys were undertaken between 11 and 12 September 2023 in order to determine the existing sound climate across the site. At several locations around the site which are representative of proposed residential parcels of land and of existing dwellings surrounding the proposed development.
- 12.2.2 Additionally, a vibration survey had been undertaken for approximately one hour to understand the potential impacts of vibration from passing trains upon the proposed development.

12.3 Construction Phase Effects

- 12.3.1 Construction noise could potentially increase the ambient noise levels at existing noise-sensitive receptors and proposed noise-sensitive receptors if already inhabited during the construction works. Exact details of the types of construction methods are still to be determined; however typical construction activities are expected to include: site preparation works, demolition, foundations and substructure works, building erection and superstructure works and road works.
- 12.3.2 It is expected that there will be an increase in the volume of construction traffic; however a Construction Environmental Management Plan ('CEMP') and a Construction Traffic Management Plan ('CTMP') will be implemented. It is anticipated that these plans will reduce impacts on the local road network such that noise impacts are no more than minor and therefore not significant.
- 12.3.3 Vibration during the construction phase is primarily associated with piling activity, but in EIA terms the effects will be considered to be negligible and not significant.

12.4 Operational Phase Effects

- 12.4.1 The impact of noise levels on residential use is considered to have a minor effect (not significant). Additionally, the impact along the link roads and from the proposed school is expected to be not significant. A good acoustic design process should be demonstrated within an Acoustic Design statement, as part of the detailed design of the development, to confirm how adverse noise effects are mitigated to reduce the impact to negligible.
- 12.4.2 In terms of vibration, it is deemed that vibration from trains passing on the railway line will have a negligible impact (not significant).

12.5 Cumulative Effects

Construction Phase

- 12.5.1 Potential cumulative construction effects could occur if construction occurs at the same time. However, significant cumulative effects are unlikely to occur as each development is anticipated to have a CEMP in place. Therefore, the cumulative impact is negligible and not significant.

Operational Phase

- 12.5.2 Traffic likely to be generated by relevant cumulative developments was factored into the traffic and acoustic modelling undertaken for the proposed development. Likely cumulative impacts have therefore been taken account of within the analysis and assessments presented in this chapter. It is therefore not necessary to provide a standalone cumulative impact assessment.

13 Socio-Economics

13.1 Introduction

- 13.1.1 The ES assessed the likely significant effects of the Proposed Development on socio-economics.

13.2 Baseline Conditions

- 13.2.1 Areas of interest identified for the purposes of assessing the effects of the Proposed Development on relevant receptors are:
- **Population:** the area covered to consider matters such as demographics and deprivation will include lower super output areas ('LSOAs'), which make up the Littleborough Lakeside ward.
 - **Housing:** Greater Manchester North Eastern Housing Market Area, comprising the boroughs of Tameside, Oldham and Rochdale, whilst taking cognisance of the wider Greater Manchester strategic housing market area.
 - **Labour:** the area covered by the Greater Manchester Combined Authority area comprising the boroughs/districts of Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside and Trafford will be used to define the labour market study area.
 - **Education:** defined as local primary schools within 3.2km (2 miles) and local secondary schools within 4.8km (3 miles) of the site, taking account of catchment areas which will be impacted by the operational phase of the proposed development, including the Pennines North Primary planning area. This takes into account home to school travel guidance from UK Government .
 - **Healthcare:** defined in line with the former NHS Heywood, Middleton and Rochdale Clinical Commissioning Group ('CCG') area. The health care study area will take into account LSOA health indices for the relevant local ward area.

13.3 Construction Phase Effects

- 13.3.1 The Proposed Development will support the employment of construction workers during the construction phase. However, the construction phase sensitivity on jobs is considered to be low due to the availability of skills and labour within the Greater Manchester region. A low beneficial magnitude of change is generated as the change in employment is less than 50 at the local level. This results in a minor to negligible (not significant) change of temporary duration.

13.4 Operational Phase Effects

- 13.4.1 The Proposed Development will have a minor effect on housing provision. There will be a moderate to minor effect to nursery school provision, as the capacity increase from the new primary school exceeds the increase in demand for places. There will be a moderate to minor effect to primary school provision, as the proposed primary school will increase net spare capacity to over 400 places. There will be a major to moderate effect to secondary school provision as the Proposed Development will increase the net oversubscription to nearly 200 places. Existing provision cannot meet the needs of the local population now, and post development, within the Education Study Area. There will be a minor (not significant) effect to local GP provision and minor to negligible effect to local dentistry provision as the Proposed Development will increase the local population without provision of additional practices.

However, post development provision will be sufficient to meet the needs of the local population. The Proposed Development will support employment of teaching / support staff during the operational phase.

13.5 Cumulative Effects

13.5.1 The relevant committed developments considered in relation to socio-economics are:

- Land to the West of New Street, Littleborough
- Land West of Smithy Bridge Road, Littleborough
- Former Akzo Nobel Site
- The Soccer Village (former Birchinley Manor Equestrian Centre), Wildhouse Lane, Milnrow, OL163TW

13.5.2 Cumulatively, the proposals are up to 434 new dwellings that are estimated to generate 1,187 new residents. Combined with the Proposed Development, there will be 746 dwellings, generating an additional 2,020 new residents. Cumulatively, this will require 0.51 Dentists full time equivalent (FTE), 1.12 General Practitioners FTE, 51 nursery school places, 9 forms of entry at primary school level, and 7 forms of entry at secondary school level once all sites are fully delivered and operational.

13.5.3 As the cumulative schemes will exceed the PfE annual average new dwellings for 2022-2039 by 130 dwellings, there will be a high magnitude of change on a low sensitivity receptor; making the effect on provision of homes Moderate – Minor.

13.5.4 The construction impact has not been reassessed to include the addition of a 140-space car park at Rakewood Road due to insufficient information to complete a costing exercise. However, it can be confirmed that this additional component of the Proposed Development would increase the net per year equivalent jobs quoted in 10.7 of Volume 2.

13.5.5 As the cumulative schemes will generate a need for an additional dentist and an additional GP, the scheme will have a medium effect on low sensitivity receptors, making the effect on health facilities Minor.

13.5.6 The cumulative schemes will take net oversubscription of nurseries from 68 in the baseline to 93 once the addition of 26 nursery places in the Proposed Development are considered. Overall, this is expected to have a medium effect on a high sensitivity receptor, making the effect on nursery provision Major – Moderate.

13.5.7 The net undersubscription of primary schools, established in the baseline as 105 spare places, will increase to 240 once the addition of 285 children from the cumulative developments and the proposed 420 place primary school are considered. Overall, this will deliver a high magnitude of change to a low sensitivity receptor, making the effect on primary school provision Moderate – Minor.

13.5.8 The cumulative schemes will take net oversubscription of secondary schools from 112 places to 317. This is a medium change in a high sensitivity receptor, making the effect on secondary school provision Major – Moderate.

14 Climate Change

14.1 Introduction

- 14.1.0 The ES assessed the likely significant effects of the Proposed Development on climate change ('Greenhouse Gas (GHG) Emissions Assessment'), and the likely significant effects of climate change on the Development ('Climate Change Resilience and Adaption Assessment')

14.2 Baseline Conditions

GHG Emission Assessment

- 14.2.1 The Site encompasses agricultural land, which is predominantly used by grazing animals including horses and cattle. Livestock including horses and cattle contribute both directly and indirectly towards climate change through the production of GHG emissions such as CO₂, methane and nitrous oxide. There is also likely to be machinery in use to support livestock, for example, to transport hay. As a result, there is likely to be a small quantity of direct scope 1 emissions associated with vehicle machinery within the site boundary. There are also farm buildings and a residential building within the land parcel boundary associated with Lower Cleggswood Farm.

Climate Change Resilience and Adaption

- 14.2.2 The baseline conditions of the Hollingworth Road land parcel show the UK has been experiencing warming temperatures, and the land parcel is expected to experience warmer, drier summers and milder and wetter winters. The impacts of climate change are likely to increase the likelihood of flooding from most flood sources. The implementation of the proposed drainage strategy as part of the development will be designed to accommodate all surface water flows and mimic as closely as practical the natural flow routes locally.
- 14.2.3 UKCP18 climate projections were used to establish evolving baseline conditions up to 2099. It is anticipated that the Proposed Development may experience warmer, drier summers and milder, wetter winters, along with an increase in the frequency and intensity of extreme weather events such as droughts and heatwaves. This has the potential to adversely affect receptors within the proposed development, including future users of the site, buildings and infrastructure and ecology.

14.3 Construction Phase Effects

GHG Emission Assessment

- 14.3.0 The main sources of GHG emissions during construction relate to the combustion of fossil fuels during transportation of materials and waste by HGV as well as powering construction engines and equipment. The enabling and land clearance activities required for the construction of the proposed development will result in direct GHG emissions released from movement and disturbance of soil on the Hollingworth Road land parcel.
- 14.3.1 The Proposed Development embeds several mitigation measures, such as best practice measures and a Site Waste Management Plan, to reduce GHG emissions during the construction phase. The mitigation measures identified and implemented are in line with local policy requirements but are unlikely to contribute towards the net zero trajectory. There will therefore be a **Moderate Adverse** effect, which is considered significant.

14.4 Operational Phase Effects

GHG Emission Assessment

- 14.4.0 The Proposed Development is expected to generate increased traffic volumes and therefore increased emissions associated with transport. Emissions will arise from electricity and energy demand during operation of the proposed development for heating, powering appliances and lighting. Indirect emissions will result from disposal of waste and the provision and treatment of water supplies.
- 14.4.1 The Proposed Development embeds several mitigation measures to reduce GHG emissions during the operation phase. The mitigation measures identified and implemented are in line with local policy requirements and will contribute towards the net zero trajectory so there will be a **Minor Adverse** effect, which is considered not significant.

Climate Change Risk Assessment

- 14.4.2 The effects of climate change on the Proposed Development are determined to be **Negligible or Minor Adverse** and are considered to be Not Significant. Suitable primary and secondary mitigation measures result in a Minor Adverse and Not Significant effect on human health as a result of the increased likelihood and frequency of heatwaves. The effect of low rainfall and drought on ecology will be reduced to Minor Adverse and Not Significant. The implementation of further mitigation measures are likely to reduce adverse effects of long-term changes in climatic norms on ecology, landscaping and planting to Negligible and Not Significant.

14.5 Cumulative Effects

GHG Emission Assessment

- 14.5.1 IEMA guidance (IEMA, 2022) identifies that all global cumulative GHG sources are relevant to the effect on climate change. This is taken into account in defining the receptor as being of high sensitivity to further emissions. For this reason, the guidance recommends that effects of GHG emissions from specific cumulative projects should not be individually assessed, as there is no basis for selecting particular cumulative projects that have GHG emissions over others. By its nature, the contextualisation of GHG emissions to the national carbon budgets incorporates cumulative contributions of other GHG sources which make up that context. Therefore, a separate cumulative assessment has not been undertaken for the GHG assessment.

Climate Change Risk Assessment

- 14.5.2 There are no cumulative climate vulnerability and resilience effects between the Proposed Development and other approved developments in the surrounding area, as the identified potential impacts and mitigation measures are specific to the Proposed Development.

15 Summary and Residual Impacts

15.1 Introduction

- 15.1.1 The ES has been prepared to support a hybrid planning application for the construction of 312 residential dwellings and a primary school, as described in **Section 4** of this NTS.

15.2 Residual Effects

- 15.2.1 Each of the technical assessments describes the likely significant residual effects of the Proposed Development. Residual effects mean those effects that are predicted to occur once all mitigation measures have been put in place. **Table 15.1** presents:

- A description of what the predicted effect will be;
- Details of any further essential mitigation measures that will be implemented to reduce any predicted effects; and
- The residual effect that is predicted once all mitigation is implemented.

Table 15.1: Summary of residual effects

Chapter	Potential Effect	Further Essential Mitigation	Residual Effect
Ecology and Biodiversity	Construction Minor adverse effects on Rochdale Canal SAC and SBI. Moderate adverse effects on Hollingworth Lake SBI. Minor adverse effects on habitats and species such as badgers, bats, breeding birds, amphibians, broadleaved woodland, hedgerow, non-native invasive, offsite pond, and scattered trees.	Proposed mitigation measures will include: dust and litter prevention, controlled through a Construction Environmental Management Plan (CEMP), the incorporation of a noise and air quality strategy and a Landscape and Biodiversity Management Plan (LBMS).	Negligible (Not Significant)
	Operation Minor adverse effects on Rochdale Canal SAC, SBI. Major adverse effects on South Penning Moors SAC, SPA. Moderate adverse effects on Hollingworth Lake SBI. Minor adverse effects on broadleaved woodland, hedgerows, scattered trees and offsite pond. Minor adverse effects on badger, bats, breeding birds and amphibians.		Minor Beneficial (Not Significant) effect on scattered broadleaved trees, bats, breeding birds, and amphibians.
Landscape and Visual	Construction Major Adverse to Neutral effect on landscape features. Major/Moderate to Negligible effect on landscape character. Major to negligible adverse effect on visual receptors.	Protection of retained planting. Implementation of the CEMP. Landscape planting to provide buffers/ offsets to visually sensitive edges. Maturation and maintenance of the landscape mitigation planting	Major Adverse to Moderate Beneficial effect of landscape features during operation.
	Operation Major Adverse to Negligible Beneficial effect on landscape features. Major/Moderate to Negligible Adverse effect on landscape character. Major to negligible adverse effect on visual receptors.		Major/Moderate to Negligible effect on landscape character during operation. Moderate to neutral effect on visual receptors during operation.
Hydrology and Drainage	Construction Major adverse effect from the potential for increased surface water run-off due to construction activities, such as earth works. Major adverse effect from the potential for surface water contamination from construction activities, such as disturbance / mobilisation of dust / muds / sediment entering the surface water receptors.	Proposed mitigation measures will include: a suitable temporary surface water drainage system during construction and a sustainable drainage management regime during operation. A detailed Construction Environmental Management Plan will be prepared prior to commencement of the construction phase. Contractors undertaking earthworks will develop risk assessments, method	Negligible (Not Significant)
	Operation		Major Beneficial (Significant) – Improvement to Flood Risk Potential / Water Quality / ecology due to use of SuDS

Chapter	Potential Effect	Further Essential Mitigation	Residual Effect
	Surface water run-off generated on site will inherently increase increased flooding potential resulting in a major adverse effect. However the improvement to the flood risk potential due to the use of SuDs is considered to result in a major beneficial effect. An increase in traffic may cause an increase in fine particulates. In the event of heavy rainfall, the fine particulates from the heavily trafficked areas could potentially mobilise with the surface water run-off and enter the downstream watercourse / waterbody network. This could lead to the deterioration of the water quality resulting in major adverse effect.	statements and a full construction management plan in accordance with standard practice to cover all aspects of their work, which have the potential to cause physical damage to structures, mobilise large quantities soil / sediments or block open watercourses. A variety of good environmental practices will be implemented in accordance with the Environment Agency's Pollution Prevention guidelines and CIRIA 532 Control of Pollution from Construction Sites to minimise any effects associated with water quality and ecology The proposals are to use SuDS in the form of attenuation ponds/basins, these will provide significant additional benefits to water quality if design in accordance with best practice. An appropriate drainage/ SuDS maintenance plan will also be in force to cater for the maintenance and management of the on-site drainage systems It is recommended that Finished Floor Levels should be raised above external levels following any regrade to safeguard from residual risks overland flow. Typically, a 150mm freeboard above the external ground level is applied to mitigate against any residual risk of flooding associated with other sources of overland flow including surface water and groundwater. In the case of the proposed development, it has been suggested that a higher freeboard be incorporated in places with a higher residual risk of flooding.	

Chapter	Potential Effect	Further Essential Mitigation	Residual Effect
Ground Conditions	Construction Minor adverse effect on construction and ground workers. Negligible effect on nearby residential users. Minor adverse effect on off-site surface waters. Minor adverse effect on groundwaters.	All site operatives should be made aware of the potential risk of unrecorded mine entries on-site and a watching brief should be maintained during site works.	Negligible (Not Significant)
	Operation Moderate adverse effect on future end users from ground gas. Negligible effect on the built environment.	Additional ground investigation and contamination risk assessment to remove the spatial gaps in the existing ground conditions dataset and to confirm the presence/absence of potential migratory contamination from adjacent former AkzoNobel chemical works. It would be prudent to carry out additional investigation including soil and groundwater sampling in the north eastern part of the Hollingworth Road land parcel adjacent to the chemical works. Delineation and removal of the asbestos containing soils encountered in the north-eastern part of the Hollingworth Road land parcel in the area of the proposed attenuation basin. Further risk assessment of the elevated concentrations of arsenic and lead in the soils in the centre of the land parcel. The installation of additional ground gas monitoring wells where high concentrations of methane and carbon dioxide have been detected and further risk assessment to inform ground gas mitigation measures. If gas protection for buildings is considered necessary, the design of gas protection measures and the subsequent implementation of such a system including the verification and reporting of the installation of any gas protection measures,	

Chapter	Potential Effect	Further Essential Mitigation	Residual Effect
Historic Environment	Construction	will be undertaken in accordance with the guidance given in BS 8485:2015+A1:2019. A risk assessment for water pipes will be undertaken to determine the appropriate type of pipework required for potable water supply. Where the attenuation pond is proposed in the north-eastern part of the Hollingworth Road land parcel (adjacent to the former AkzoNobel chemical works), it would be prudent to install basin liners in the construction of the basins to prevent the mixing of contamination that may be present in the soils with surface water in the attenuation basin. The need for basin liners will be informed by the additional ground investigation. Depending on the findings of the additional investigation and groundwater monitoring, a remediation strategy and subsequent validation report may be required.	
	Groundworks associated with the new buildings will have a direct effect on any archaeological remains within the footprint of the works. The remains could be significantly damaged or destroyed which represents a major magnitude upon any archaeological remains, if present. Loss of the core of Lower Cleggswood Farm and the cohort of dry stone walls during construction would represent an impact of major magnitude. Minor adverse effect on historic landscape from the loss of agricultural use and character. Major adverse effect on built heritage from the removal of the core of Lower Cleggswood Farm.	Proposed mitigation measures will include: a programme of archaeological investigation and a programme of building recording prior to the demolition phase.	Minor adverse (Not Significant) Minor to Moderate Adverse (Not Significant) effect on the built heritage of Lower Cleggswood Farm.

Chapter	Potential Effect	Further Essential Mitigation	Residual Effect
	Operation No direct or indirect effects upon as yet unknown archaeological remains, designated heritage assets or the site's historic landscape character during the operational phase.		
Traffic and Transport	Construction Negligible and not significant effect from construction vehicles. Operation Negligible effect to road users and pedestrians.	Proposed mitigation measures will include: the internal network of streets will be designed to encourage low vehicle speeds, designed based on the principles of local and national design guidance. Additionally, a Travel Plan will be implemented.	Negligible (Not Significant)
Air Quality	Construction Construction works have the potential to create dust which can impact human health and ecological sites. Operation Expected to generate additional road traffic on the network. A 'slight adverse' impact on nitrogen dioxide concentrations is predicted at three residential properties. At other locations, a 'negligible' impact is predicted.	Proposed mitigation measures will include: a Dust Management Plan (DMP), regular site inspections to monitor compliance with DMP and avoiding the burning of waste.	Negligible (Not Significant)
Noise and Vibration	Construction Minor adverse effect from construction noise and negligible and not significant of vibration during construction. Operation Negligible effect of noise levels on residential use, along the link roads and from the proposed school.	Proposed mitigation measures will include: use of quiet working methods, locating noisy plant and equipment as far away from dwellings as possible and closing acoustic covers to engine when they are in use or idling.	Construction Noise – Minor temporary, short-term Vibration – Negligible Operation Noise – Negligible Vibration – Negligible
Socio-Economics	Construction The Proposed Development will support the employment of construction workers during the construction phase resulting in a minor to negligible effect. Operation	N/A	Construction Jobs – Minor to Negligible Operation Homes – Minor

Chapter	Potential Effect	Further Essential Mitigation	Residual Effect
	The Proposed Development will have a Minor effect on housing provision. There will be a moderate to minor effect to nursery school provision. There will be a moderate to minor effect to primary school provision. There will be a major to moderate effect to secondary school provision. There will be a minor adverse effect to local GP provision and minor to negligible effect to local dentistry provision. The Proposed Development will introduce a new primary school, supporting employment for staff members during the operational period, resulting in a minor to negligible effect. Operation - Cumulative The Proposed Development will have a Minor effect on housing provision. There will be a moderate to minor effect to nursery school provision. There will be a moderate to minor effect to primary school provision. There will be a major to moderate effect to secondary school provision. There will be a minor adverse effect to local GP provision and minor to negligible effect to local dentistry provision.		Nursery Provision – Moderate to Minor Primary Provision – Moderate to Minor Secondary Provision – Major to Moderate GPs – Minor Dentists – Minor to Negligible Jobs (new primary school and nursery) – Minor to Negligible Operation – Cumulative Homes – Moderate to Minor Nursery Provision – Major to Moderate Primary Provision – Moderate to Minor Secondary Provision – Major to Moderate GPs – Minor Dentists – Minor
Climate Change	Construction <i>GHG Emission Assessment</i> The main sources of GHG emissions during construction relate to the combustion of fossil fuels during transportation of materials and waste by HGV as well as powering construction engines and equipment which is considered to have a moderate adverse (significant) effect	Proposed mitigation measures will include: best practice measures and implementation of a Site Waste Management Plan.	Construction GHG Emission Assessment – Moderate Adverse Operation GHG Emission Assessment – Minor Adverse Climate Change Risk Assessment – Negligible or Minor Adverse

Chapter	Potential Effect	Further Essential Mitigation	Residual Effect
	Operation <i>GHG Emission Assessment</i> Expected to generate increased traffic volumes and therefore increased emissions associated with transport. Emissions will arise from electricity and energy demand during operation for heating, powering appliances and lighting resulting in a minor adverse effect. <i>Climate Change Risk Assessment</i> Expected to impact ecology, landscaping and planting and future users of the site result in a negligible or minor adverse effect.		



Design with
community
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