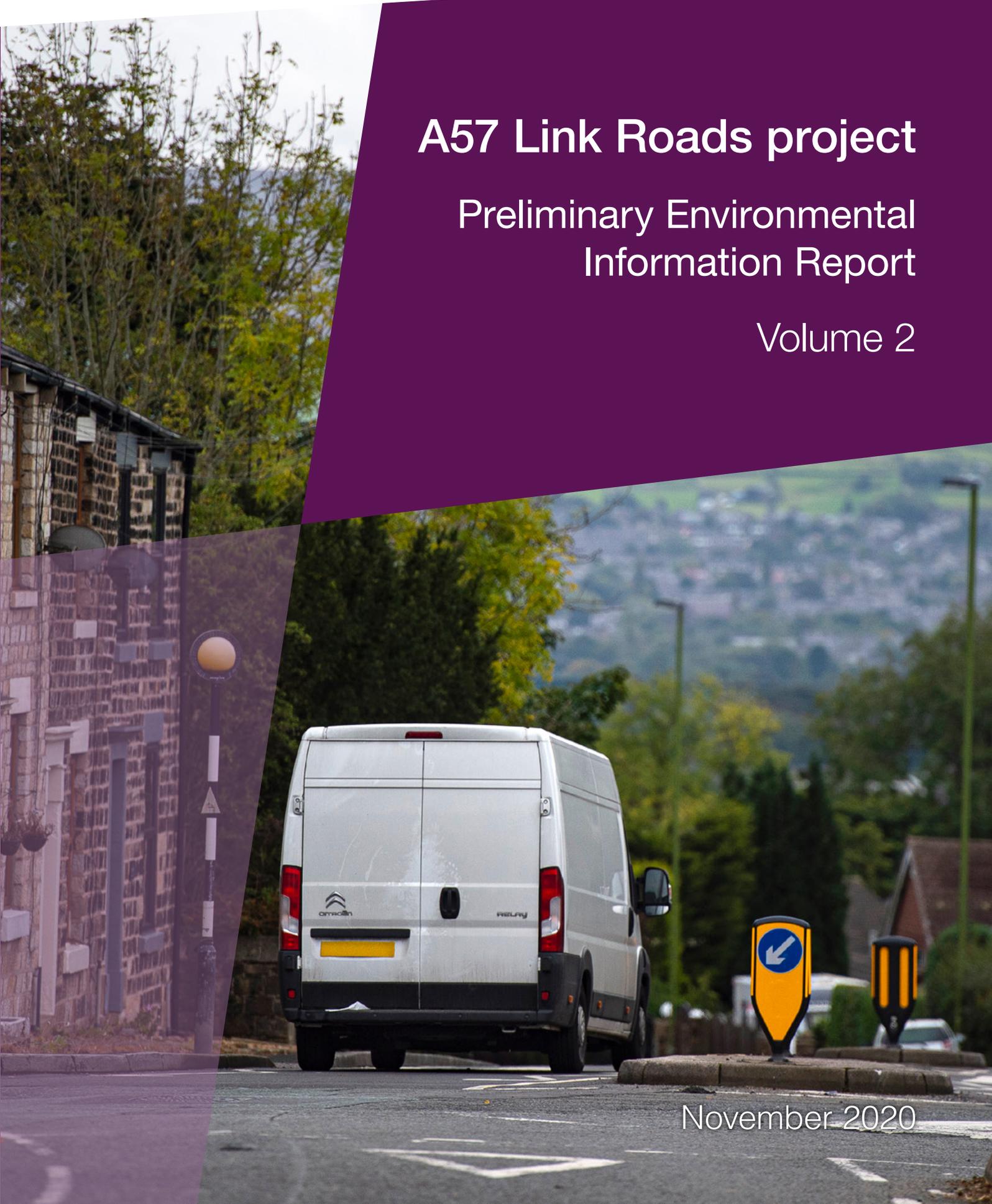


A57 Link Roads project

Preliminary Environmental Information Report

Volume 2



November 2020

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Document control

The Project Manager is responsible for production of this document, based on the contributions made by his/her team existing at each Stage

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Appendix A. Scheme legislation and policy

A.1 General Scheme legislation and policy framework

National planning policy

Planning Act 2008 and The Infrastructure Planning (Environment Impact Assessment) Regulations 2017

The Planning Act 2008 introduced a new approval route for Nationally Significant Infrastructure Projects (NSIPs). When promoting new schemes, the first step is to determine if a scheme meets the definition of a highways NSIP, that would then require Secretary of State consent through the Planning Inspectorate (PINS)

The definition of a highways NSIP is set out in Section 22 of the Planning Act 2008, as amended by the Highway and Railway (Nationally Significant Infrastructure Project) Order 2013, and 'construction of a highway wholly in England' (paragraph 22 (1) (a) and (2) a)). the Secretary of State will be the highway authority for the highway' (paragraph 22 (2) (b)) and 'the area of development of each scheme (the land on which the highway is to be constructed and any adjoining land expected to be used in connection with its construction) is greater than 7.5ha' (paragraph 22 (2) (c) and (4) (c)).

The Trans Pennine Upgrade – A57 Link Roads Scheme fulfils these criteria and is therefore considered to be a NSIP.

In March 2014, the European Parliament voted to adopt substantive amendments to the EIA Directive 2011/92/EU. These amendments made by EIA Directive 2014/52/EU were transposed into UK legislation in May 2017 as the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and are relevant to this Scheme and the environmental topic assessments. This is irrespective of the vote to leave the EU following the referendum on the UK's membership, as EU legislation will be incorporated into UK legislation in the short to medium term.

As the Scheme is likely to have significant environmental effects, an EIA will be undertaken and reported in a statutory ES to be submitted to the Planning Inspectorate with the DCO application for Scheme.

Under the Planning Act 2008 it is a mandatory requirement to seek a screening opinion from the Secretary of State or to notify the Secretary of State of the intent to undertake an Environmental Impact Assessment (EIA). Highways England submitted a Regulation 8(1) (b) notice on 8 November 2017, notifying the Secretary of State that it proposed to provide an ES in respect of the Scheme

Schedule 3 of the EIA Regulations provides screening criteria which include the characteristics of the development, the location of the development with regard to environmentally sensitive receptors and characteristics of the potential impact. The Scheme is not a project where a mandatory EIA is required, as defined in Annex 1 of the EIA Directive or Schedule 1 of the EIA Regulations. However, it is considered to be an Annex II (or Schedule 2) scheme where the need for a Statutory EIA and the publication of an ES is identified through an assessment of the significance of the likely environmental effects of a project.

At a national level, the National Networks National Policy Statement (NN NPS) is the basis for decision making on nationally significant transport schemes. The National Planning Policy Framework (NPPF) is also an important and relevant consideration in decision making

Local and regional planning policy is also relevant as it will form the basis for local impact reports. At the local level of policy making the Scheme lies on the boundary between two local planning authorities and thus some of the planning policies in both administrative areas are therefore applicable. Key regional and local policy relevant to the Scheme includes the following:

National Policy Statement for National Networks (NN NPS)

The purpose of the NN NPS is set to set out government policies for nationally significant infrastructure rail and road projects. Therefore, the NN NPS is relevant to NPR because it provides transport policy which guides individual development brought under it. The NN NPS acknowledges the role that rail transport has to play in its positive impact on the environment for example, through the reduction of CO₂ from rail freight, in comparison to road freight.

The Secretary of State will use this NN NPS as the primary basis for making decisions on DCO applications for national networks NSIPs in England

The EIA Regulations

The EIA Regulations 2017 apply to NSIPs and require an assessment of the effects of certain public and private projects on the environment if they meet certain thresholds.

EIA is the process of compiling, evaluating and presenting environmental information about the likely significant effects, both adverse and beneficial of a scheme. The purpose of the assessment is to identify and mitigate likely environmental impacts and to provide decision-makers (in this case the Planning Inspectorate/Secretary of State) and statutory consultees with the environmental information they require to determine an application for consent.

Additionally, during the EIA process, opportunities to deliver enhancements are explored in consultation with appropriate stakeholders. The Highways England licence (April 2015) states within paragraph 4.2g that when exercising its functions and complying with its legal duties and other obligations, it should *“Minimise the environmental impacts of operating, maintaining and improving its network and seek to protect and enhance the quality of the surrounding environment”*.

To determine whether a scheme requires an assessment and therefore constitutes EIA development, 'screening' is required against thresholds outlined in the EIA Regulations 2017. Although a 'screening opinion' was not sought, Highways England submitted a Regulation 8(1) (b) notice on 08 November 2017, notifying the Secretary of State that it proposed to provide an ES in respect of the Scheme

A request for a Scoping Opinion (in the form of an Environmental Impact Assessment Scoping Report) was issued to the Planning Inspectorate on 8 November 2017. The Planning Inspectorate's Scoping Opinion was received in December 2017 which will be taken into account when undertaking the EIA.

A.2 Air quality legislation and policy framework

National planning policy

National Policy Statement for National Networks (NN NPS)

The NN NPS, prepared by DfT, provides policy and guidance relating to the development of NSIPs. It recognises (paragraph 5.3) that increased emissions of pollutants during construction or operation of projects on national networks can contribute to adverse impacts on human health, on protected species and habitats. An ES is required for projects that may have significant air quality effects and this should describe (paragraph 5.7) legislation and policy framework.

- Existing air quality levels;
- Forecasts of air quality at the time of opening, assuming that the scheme is not built (the future baseline) and taking account of the impact of the scheme; and
- Any significant effects, their mitigation and any residual effects, distinguishing between the construction and operation stages and taking account of the impact of road traffic generated by the project.

NN NPS requires a judgement to be made as to the risk of a project affecting the UK's ability to comply with the Air Quality Directive; paragraph 5.11 states: "*Air quality considerations are likely to be particularly relevant where schemes are proposed: within or adjacent to AQMAs; roads identified as being above Limit Values or nature conservation sites; and where changes are sufficient to bring about the need for a new AQMA or change the size of an existing AQMA; or bring about changes to exceedances of the Limit Values, or where they may have the potential to impact on nature conservation sites.*"

In addition, paragraph 5.12 states: "*The Secretary of State must give air quality considerations substantial weight where, after taking into account mitigation, a project would lead to a significant air quality impact in relation to EIA and/or where they lead to a deterioration in air quality in a zone/agglomeration.*"

Furthermore, paragraph 5.13 of the NN NPS, states: "*The Secretary of State should refuse consent where, after taking into account mitigation, the air quality impacts of the scheme will: result in a zone/agglomeration which is currently reported as being compliant; or affect the ability of a non-compliant area to achieve compliance with the most recent timescales reported to the European Commission at the time of the decision.*"

National Planning Policy Framework (NPPF)

Paragraph 181 of the NPPF requires local planning authorities (LPAs) to take account of air quality in plan making.

Paragraph 181: *“Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan.”*

National Air Quality Plan

The Government produced a UK plan in July 2017 for tackling roadside nitrogen dioxide concentrations which sets out the approach for meeting the statutory EU limit values for nitrogen dioxide in the shortest possible time.

Road Investment Strategy (RIS) and Delivery Plan

The latest DfT RIS document is DfT RIS2 2020-2025¹ published in 2020 and states that based on the measures outlined in the document it is expected that *“all locations within Highways England’s control will meet air quality targets before the end of RIS2”*. This supersedes the previous DfT RIS published in 2015² which set out the DfT’s aspirations for the Strategic Road Network (SRN) over the period 2015 - 2040, stating that by 2040 DfT aspires to a network that will be sustainable with *“zero breaches of air quality regulations and major reductions in carbon emissions across the network”*.

The Highways England Delivery Plan 2020-2025³ (Highways England, 2020) identifies Highways England’s commitment *“to help deliver clean air, we will deliver projects to reduce concentrations of harmful pollutants in the air. We will focus on areas of our network that the Department for Environment, Food and Rural Affairs (DEFRA) report exceed NO₂ limits, and on projects that will help us meet the government’s Ambient air quality directive in the shortest time”*. This follows on from the previous Highways England Delivery Plan 2015-2020 (Highways England, 2015) which identifies Highways England’s commitment to investing £75m *“in a range of projects to reduce pollution and ensure the air around the network is clean and healthy”*.

¹ DfT and Highways England (2020) Road Investment Strategy 2: 2020-2025, March 2020. Accessed 2020, from <https://www.gov.uk/government/publications/road-investment-strategy-2-ris2-2020-to-2025>

² DfT and Highways Agency (2015) Road Investment Strategy: for the 2015/16 - 2019/20 Road Period, March 2015. Accessed 2020, from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/408514/ris-for-2015-16-road-period-web-version.pdf

³ Highways England (2020) Delivery Plan 2020-2025, August 2020. Accessed 2020, from <https://highwaysengland.co.uk/strategic-business-plan/>

Clean Air Strategy

The Clean Air Strategy 2019⁴ is a national strategy setting out the actions required across all parts of government and society to improve air quality. It includes new goals to reduce public exposure to PM_{2.5} as recommended by the World Health Organisation.

Highways England Air Quality Strategy 2017

This document sets out Highways England's approach to improving air quality. As part of the strategy, Highways England has identified four priority action areas; policy, planning, monitoring and operational management, and has committed to "*where appropriate, design out or mitigate poor air quality for our schemes*".

Regional planning policy

Greater Manchester Combined Authority (GMCA, encompassing Stockport and Tameside) has produced a Transport Strategy 2040⁵ (2017) detailing their vision for 2040 including policy 8 – Environmental responsibility which states they "*will work with partners to reduce, as far as possible, the emissions from transport, particularly CO₂, NO₂, particulates and noise.*" This document in combination with the Greater Manchester Low Emission Strategy⁶ (2016), and 5-year Environment Plan for Greater Manchester 2019-2024⁷ (2019) detail strategies and measures related to air quality.

The Derbyshire County Council (encompassing High Peak and Derbyshire Dales) Local Transport Plan 2011-2026⁸ highlights "*a considered approach to new infrastructure and packages for improvement where there are air quality issues due to local traffic*" as one of the key transport priorities and investment priorities for 2011-2026 underlining the county councils commitment to air quality.

The Sheffield City Region (encompassing Barnsley and Sheffield City) has adopted the Sheffield City Region Transport Strategy⁹ which includes mayoral commitments to "*work with partners to deliver a zero emissions public transport network and eliminate the need for AQMAs*"; and transport strategy policies to "*improve air quality across the City Region to meet legal thresholds, supporting improved health and activity for all, especially in designated AQMAs and CAZs*", which are relevant to air quality.

⁴ DEFRA (2019) Clean Air Strategy, January 2019. Accessed 2020, from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770715/clean-air-strategy-2019.pdf

⁵ Transport for Greater Manchester (2017) Greater Manchester Transport Strategy 2040. Accessed 2020, from https://downloads.ctfassets.net/nv7y93idf4jq/7FiejTsJ68eaa8wQw8MiVWw/bc4f3a45f6685148eba2acb618c2424f/03_GM_2040_TS_Full.pdf

⁶ Transport for Greater Manchester (2016) Greater Manchester Low-Emission Strategy. Accessed 2020, from <https://www.greatermanchester-ca.gov.uk/media/1276/low-emission-strategy-dec-2016.pdf>

⁷ Greater Manchester Combined Authority (2019) 5-year Environment Plan for Greater Manchester 2019-2024. Accessed 2020, from https://www.greatermanchester-ca.gov.uk/media/1986/5-year-plan-branded_3.pdf

⁸ Derbyshire County Council (2011) Local Transport Plan 2011-2026. Accessed 2020, from <https://www.derbyshire.gov.uk/site-elements/documents/pdf/transport-roads/transport-plans/ltp3/derbyshire-local-transport-plan-three-ltp3-2011-to-2026-full-document.pdf>

⁹ Sheffield City Region (2019) Sheffield City Region Transport Strategy, March 2019. Accessed 2020, from https://d2xif5riab8wu0.cloudfront.net/wp-content/uploads/2019/03/SCR_Transport_Strategy_11.04.2019.pdf

Local planning policy

Tameside adopted the Tameside Unitary Development Plan¹⁰ in 2004 which details policy MW14 Air Quality with reference to considering air quality impacts associated with developments.

The Stockport Core Strategy provides the overall spatial strategy for the Local Development Framework (LDF). The Core Strategy¹¹ covers the period from its adoption in 2011 to 2026 and references air quality in Objective 5 Safeguard and Improve the Borough's Environment and Objective 6 Transport where the strategy commits to Assisting improvements in air quality through spatial planning and transport infrastructure planning; and improving Air Quality, particularly within Air Quality Management Areas, respectively.

Both Stockport and Tameside councils have been involved in the preparation of the Greater Manchester Spatial Framework (GMSF) and will adopt this regional planning policy once approved.

The High Peak Local Plan¹² was adopted in April 2016 and sets out the council's vision and strategy for the borough until 2031 and supports air quality through Policy EQ 10 - Pollution Control and Unstable Land and Policy CF 6 - Accessibility and Transport.

Following public consultation and examination by an Independent Planning Inspector, Barnsley's Local Plan¹³ was adopted in January 2019. This details the support for improving air quality in Policy T5 Reducing the Impact of Road Travel which includes reducing the impact of road travel by developing and implementing robust, evidence-based air quality action plans to improve air quality amongst other measures.

Sheffield Local Plan comprises the Sheffield Core Strategy¹⁴ (adopted March 2009) and 'saved' policies from the Sheffield Unitary Development Plan (1998). The Core Strategy document policies relevant to air quality include Policy CS 51 - Transport Priorities and Policy CS 66 - Air Quality. In addition to this Sheffield City Council have also produced a Transport Strategy¹⁵ (2019) and Clean Air Strategy¹⁶ (2017) with reference to air quality issues,

The Derbyshire Dales Local Plan¹⁷ was formally adopted in December 2017. This plan commits to considering the impact on air quality under Policy PD9: Pollution Control and Unstable Land.

¹⁰ Tameside Metropolitan Borough (2004) The Tameside Unitary Development Plan, November 2004. Accessed 2020, from <https://www.tameside.gov.uk/udp/writtenstatement.pdf>

¹¹ Stockport Metropolitan Borough Council (2011) Cores Strategy DPD, March 2011. Accessed 2020, from <https://s3-eu-west-1.amazonaws.com/live-iag-static-assets/pdf/LDF/AdoptedPlans/Core+Strategy+DPD.pdf>

¹² High Peak Borough Council (2016) High Peak Local Plan, April 2016. Accessed 2020, from https://www.highpeak.gov.uk/media/160/The-High-Peak-Local-Plan-Adopted-April-2016/pdf/The_High_Peak_Local_Plan_Adopted_April_2016.pdf?m=1514473710280

¹³ Barnsley Metropolitan Borough Council (2019) Local Plan, January 2019. Accessed 2020, from <https://www.barnsley.gov.uk/media/9924/local-plan-adopted.pdf>

¹⁴ Sheffield City Council (2009) Sheffield Development Framework Core Strategy, March 2009. Accessed 2020, from <https://www.sheffield.gov.uk/content/dam/sheffield/docs/planning-and-development/core-strategy/Core-Strategy---adopted-March-2009-.pdf--6-55-MB-.pdf>

¹⁵ Sheffield City Council (2019) Transport Strategy, March 2019. Accessed 2020, from [https://www.sheffield.gov.uk/content/dam/sheffield/docs/travel-and-transport/transport-strategy/Sheffield%20Transport%20Strategy%20\(March%202019\)%20web%20version.pdf](https://www.sheffield.gov.uk/content/dam/sheffield/docs/travel-and-transport/transport-strategy/Sheffield%20Transport%20Strategy%20(March%202019)%20web%20version.pdf)

¹⁶ Sheffield City Council (2017) Sheffield's Clean Air Strategy, December 2016. Accessed 2020, from <http://democracy.sheffield.gov.uk/documents/s29124/Clean%20Air%20Strategy%20Dec%20Cabinet%2020.pdf>

¹⁷ Derbyshire Dales District Council (2017) Derbyshire Dales Local Plan, December 2017. Accessed 2020, from https://www.derbyshiredales.gov.uk/images/L/DDDC_Planning_Doc_2018_vweb2.pdf

Local Air Quality Action Plans

Following assessment of air quality in their area, local authorities are required to prepare Air Quality Action Plans (AQAPs) where the authority has declared an Air Quality Management Area (AQMA), describing the pollution reduction measures it will put in place. Further information on AQMAs near the Scheme is provided in the Baseline Conditions section.

The Greater Manchester Air Quality Action Plan¹⁸ covers the Greater Manchester AQMA which extends into Stockport and Tameside council areas. Key initiatives outlined in the AQAP include increasing travel by sustainable modes, better integration of transport and new development and improving network efficiency.

High Peak Borough Council Annual Status Report (ASR)⁴ states that an AQAP for the Tintwistle AQMA is currently under development and recognises that the development and implementation of an AQAP is a priority to improve air quality within the AQMA.

Barnsley Air Quality Action Plan¹⁹ was updated in 2019 and details how Barnsley are developing actions under five key themes including reducing traffic; behavioural change; increasing efficiency; fleet improvements and regulation.

Sheffield City Council AQAP²⁰ published in 2015 which focuses on 7 commitments to improving air quality comprising assessing feasibility for a Low Emission Zone (LEZ), promoting smarter travel choices and developing policies to support better air quality, amongst others.

There are currently no AQMA designations within the Derbyshire Dales council area and so there is no requirement for an AQAP.

A.3 Cultural heritage legislation and policy framework

Legislation and Guidance

This assessment has been prepared with reference to the following legislation:

- Ancient Monuments and Archaeological Areas Act (1979); and
- Planning (Listed Building and Conservation Areas) Act (1990)

In addition, the chapter has considered the following guidance:

¹⁸ Greater Manchester Combined Authority (2016) Air Quality Action Plan. Accessed 2020, from <https://www.greatermanchester-ca.gov.uk/media/1272/air-quality-action-plan-2016-21.pdf>

¹⁹ Barnsley Metropolitan Borough Council (2019) Air Quality Action Plan. Accessed 2020, from <https://www.barnsley.gov.uk/media/11982/barnsley-abc-air-quality-action-plan-2019.pdf>

²⁰ Sheffield City Council (2015) Air Quality Action Plan. Accessed 2020, from <https://www.sheffield.gov.uk/content/dam/sheffield/docs/pollution-and-nuisance/air-pollution/air-quality-management/Air%20Quality%20Action%20Plan%202015.pdf>

- Standards and guidance for historic environment desk-based assessment: Chartered Institute for Archaeologists (CIfA, 2014);
- The Setting of Heritage Assets Historic Environment Good Practice Advice in Planning Note 3 (Historic England, 2015); and
- Design Manual for Roads and Bridges (DMRB) LA 106 Cultural heritage assessment

National planning policy

National Policy Statement for National Networks (NN NPS)

Historic Environment Policy is set out in paragraphs 5.120 to 5.142 of the NPSNN. The key aspects which should be addressed are as follows: • The significance, setting and viability of the heritage assets likely to be affected by the proposed development should be considered.

- When considering the impact of a proposed development on the significance of a designated heritage asset great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be.
- Harm or loss affecting any designated heritage asset should require clear and convincing justification - substantial harm to or loss of a grade II Listed building or grade II Registered Park or Garden should be exceptional; substantial harm to or loss of designated assets of the highest significance should be wholly exceptional.

There is no definition of what constitutes 'substantial harm' in the NN NPS or other published policy documents. However, guidance in National Planning Policy Guidance (NPPG), supporting policy advice and case law indicates that whilst clearly a step down from total loss, substantial harm still represents a considerable degree of change to the significance of an asset. This could, for example, be as the result of removal of significant elements of fabric or the degradation / removal of key aspects of an asset's setting that notably contribute to its significance.

When considering the consequences of substantial harm there is a strong presumption against development.

NN NPS embodies an underlying principle of balancing harm and benefit which places greater weight on the conservation of more important assets. Where less than substantial harm would occur, there is a need to ensure that harm is justified and minimised and that the wider public benefits of the proposed are appropriately articulated.

Para 5.129 of the NPS requires the Secretary of State to take into account the significance of the asset and Para. 5.132 of the NPS outlines that any harm should be weighed against the public benefit.

Paragraph 5.131 of the NN NPS outlines that when considering a development, the more important the asset, the greater the weight that should be attached to it. In the case of Grade II listed buildings and Registered Parks and Gardens, it is expected that any substantial harm or loss to them or their settings should be exceptional and would be subject to a clear and convincing justification. Harm would be weighed against the public benefits of the proposal.

Paragraph 5.134 goes on to state that a balance between potential harm to a designated heritage asset and the potential public benefits should be recognised, particularly where the ‘harm’ is seen to be ‘less than substantial’.

In National Parks, the Broads and Areas of Outstanding Natural Beauty development consent would be refused except in exceptional circumstances and a public interest case can be demonstrated.

National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) (DCLG 2018) sets out 12 Core Planning Principles of which the conservation of historic environment is one. One of the NPPF’s core principles is that “planning should conserve heritage assets in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of this and future generations” (DCLG, 2018, Para 185).

The DCLG published Planning Practice Guidance (PPG) online in 2014, to expand upon the NPPF. Section ‘18a: Conserving and Enhancing the Historic Environment’ was published in April 2014. The Guidance notes that “conservation is an active process of maintenance and managing change. It requires a flexible and thoughtful approach to get the best out of assets as diverse as listed buildings to as yet undiscovered, undesigned buried remains of archaeological interest”.

The NPPF and the PPG identifies two categories of non-designated sites of archaeological interest:

- Those that are demonstrably of equivalent significance to scheduled monuments and are therefore considered subject to the same policies as those for designated heritage assets” (PPG citing National Planning Policy ‘Framework Paragraph 139); and
- “Other non-designated heritage assets of archaeological interest. By comparison this is a much larger category of lesser heritage significance, although still subject to the conservation objective. On occasion, the understanding of a site may change following assessment and evaluation prior to a planning decision and move it from this category to the first” (PPG).

Paragraph 189 of the NPPF requires applicants to describe the significance of any heritage assets affected, with the level of detail being ‘proportionate to the assets’ importance and no more than is sufficient to understand the potential impact of the proposal on their significance’. The paragraph goes on to state that if the site includes heritage assets with archaeological interest, ‘local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation’.

Paragraph 193 concurs with the aforementioned policies, whereby ‘great weight should be given to the asset’s conservation. The more important the asset, the greater the weight should be’. Furthermore, ‘any harm or loss should require clear and convincing justification. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, Grade I and II listed buildings, Grade I and II registered parks and gardens, and World Heritage Sites, should be wholly exceptional’. Para. 133 outlines that there could be a case where substantial harm is outweighed by substantial public benefit.

Building on the NPPF, planning practice guidance published in April 2014 provides more detail planning guidance on conserving and enhancing the historic environment

A.4 Landscape and visual legislation and policy framework

European policy

European Landscape Convention

The European Landscape Convention (Florence, 2000) sets out an internationally agreed definition of landscape: “The landscape is part of the land, as perceived by local people or visitors, which evolves through time as a result of being acted upon by natural forces and human beings”. It also sets out the key actions that countries should follow and provides an integrated, holistic approach and international context for landscape, under the headline banner that “All Landscapes Matter”. The convention is a treaty between states (not an EU Directive) and seeks to influence governments’ decisions rather than direct them. Signed by the UK government in 2006, it came into effect in March 2007

National policy

National Planning Policy Framework (NPPF)

The NPPF sets out the Government planning policies for England and how these are expected to be applied. The NPPF sets out a clear presumption in favour of sustainable development, which should be seen as a ‘golden thread’ running through plan making and decision taking.

The NPPF sets out 13 aspects relating to the delivery of sustainable development, including “Conserving and enhancing the natural environment” which is of particular importance to the Scheme. These core aims are designed to guide and influence local authorities in developing their local plans, demonstrating the government’s commitment to ensure the planning system does everything it can to support sustainable economic growth.

Paragraph 109 states that the planning system should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes. As with biodiversity, protection should be commensurate with their status.

Paragraph 110 states that, in preparing plans to meet development needs, the aim should be to minimise pollution and other adverse effects on the local and natural environment. Plans should allocate land with the least environmental or amenity value, where consistent with other policies in this Framework.

Paragraph 125 encourages good design to limit impact of light pollution from artificial light on local amenity and local environment.

Building on the NPPF, planning practice guidance published in March 2014 provides more guidance on the importance of design. Further planning practice guidance also published in March 2014 provides more guidance on addressing light pollution through the planning system.

National Policy Statement for National Networks (NN NPS)

considering the design of new infrastructure, as well as functionality, fitness for purpose, sustainability and cost. Applying 'good design' to national network projects should therefore produce sustainable infrastructure sensitive to place, efficient in the use of natural resources and energy used in their construction, matched by an appearance that demonstrates good aesthetics as far as possible'.

Paragraph 5.144 states that 'where the development is subject to EIA the applicant should undertake an assessment of any likely significant landscape and visual impacts in the environmental impact assessment and describe these in the environmental assessment'. This should include reference to any landscape character assessment and any relevant policies based on these assessments in local development documents in England.

The assessment should include visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include any noise and light pollution effects, including on local amenity, tranquillity and nature conservation.

Paragraph 5.156 outlines that local landscape designations should not be used in themselves as reasons to refuse consent, as this may unduly restrict acceptable development. However, developments should be carefully designed and seek to avoid or minimise harm to the landscape.

The Secretary of State will want to judge whether visual effects on a sensitive receptor outweighs the benefits of development.

The NPS requires schemes to mitigate adverse landscape and visual effects through appropriate siting, design and landscape scheme. The NPS also states that where necessary schemes should include appropriate mitigation measures to address adverse effects on national trails, other rights of way and open access land.

Paragraph 5.85 sets out that the quantity and type of emissions should be identified along with the nearest receptors and any mitigation measures. The NPS recognises that major infrastructure may create artificial light emissions and advises these should be kept to a minimum and to an acceptable level.

Further national legalisation

Key relevant national legislation for the Scheme includes:

- The Town and Country Planning Act 1990;
- The Countryside and Rights of Way Act 2000; and
- The Planning Act 2008, specifically:
 - Part 7 - Orders granting development consent (including "Public Rights of Way" and "Development of Green Belt land"); and
 - Schedule 8 - Tree Preservation Orders: further amendments.

These pieces of legislation are particularly relevant to landscape as they provide legislative control relating to managing the landscape resource, access to the countryside, and conservation.

A.5 Biodiversity legislation and policy framework

National policy

National Policy Statement for National Networks (NN NPS)

Paragraphs 5.22 and 5.23 outline the need for a project to 'ensure that the environmental statement clearly sets out any likely significant effects on internationally, nationally and locally designated sites of ecological or geological conservation importance'. Furthermore, the applicant should show the extent to which the project has 'taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests'. G.1.2

Paragraph 5.25 concerns the stance that, whilst development should avoid significant harm to biodiversity and geological conservation interests, 'where significant harm cannot be avoided or mitigated, as a last resort, appropriate compensation measures should be sought'. G.1.3

Paragraph 5.31 of the NN NP outlines that whilst due consideration should be given to biodiversity and ecology designations, they would not constitute a reason to refuse development consent. G.1.4

Para 4.23 sets out that any application should be accompanied by sufficient information to enable examining authority to undertake an appropriate assessment under the Habitats Regulations.

National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) 2018 Section 15 requires the planning system to contribute to and enhance the natural and local environment by protecting and enhancing sites of biodiversity value, recognising the wider benefits from natural capital and ecosystem services and minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

Summary of relevant ecological legislation

Table A.1 provides further details on biodiversity legislation.

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 sets out the duty for public authorities to conserve biodiversity in England. Habitats and species of principal importance for the conservation of biodiversity as identified by the Secretary of State for England, in consultation with Natural England, are referred to in Section 41 of the NERC Act 2006 for England. The list of Habitats of Principal Importance (HPI) and Species of Principal Importance (SPI) was based on UK BAP priority habitats and species and was updated in 2008. It is known as the 'England Biodiversity List' Table A 1: Relevant ecological legislation.

Table A-1 - Relevant Ecological Legislation

Ecological asset	Legislation	Offence	Licensing procedures and guidance
Designated site			
Local Nature Reserve (LNR)	National Parks and Access to the Countryside Act 1949 S.21	LNRs are given protection through policies in the Local Development Plan.	LNRs are generally owned and managed by local authorities. Development proposals that would potentially affect a LNR would need to provide a detailed justification for the work, an assessment of likely impacts, together with proposals for mitigation and restoration of habitats lost or damaged. Guidance documents: The National Planning Policy Framework (Department for Communities and Local Government, March 2012), with particular reference to Policy 11, and the joint Circular.
Local Sites (eg Local Wildlife Sites, Sites of Importance for Nature Conservation)	There is no statutory designation for local sites.	Local sites are given protection through policies in the Local Development Plan.	Development proposals that would potentially affect a local site would need to provide a detailed justification for the work, an assessment of likely impacts, together with proposals for mitigation and restoration of habitats lost or damaged. Guidance documents: The National Planning Policy Framework (Department for Communities and Local Government, March 2012), with particular reference to Policy 11, and the joint Circular
Species			
Bats European protected species	Conservation of Habitats and Species Regulations 2010 (as amended) Reg 41	Deliberately capture, injure or kill a bat; deliberate disturbance of bats; or damage or destroy a breeding site or resting place used by a bat. [The protection of bat roosts is considered to apply regardless of whether bats are present.]	A Natural England (NE) licence in respect of development is required. Guidance documents: NE Standing Advice for protected species 2013 European Protected Species: Mitigation Licensing- How to get a licence (NE 2013) Bat Mitigation Guidelines (English Nature 2004) Bat Workers Manual (JNCC 2004)
	Wildlife and Countryside Act 1981 (as amended) S.9	Intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb a bat in such a place	Licence from NE is required for surveys (scientific purposes) that would involve disturbance of bats or entering a known or suspected roost site.
Badger	Protection of Badgers Act 1992 (as amended)	Wilfully kill, injure or take a badger; or intentionally or recklessly damage, destroy or obstruct access to a badger sett or disturb a badger in its sett. [It is not illegal to carry out disturbance activities in the vicinity of setts that are not occupied.]	Where required, licences for development activities involving disturbance or sett interference or closure are issued by Natural England (NE). Licences for activities involving watercourse maintenance, drainage works or flood defences are issued under a separate process. Licences are normally not granted from December to June inclusive because cubs may be present within setts.

			<p>Guidance documents: NE Standing Advice for protected species 2013 Badgers & Development (NE 2007)</p>
Otter European protected species	Conservation of Habitats and Species Regulations 2010 (as amended) Reg 41	Deliberately capture, injure or kill an otter; deliberate disturbance of otters; or damage or destroy a breeding site or resting place used by an otter.	<p>Licences issued for development by Natural England. Guidance documents: NE Standing Advice for protected species 2013 European Protected Species: Mitigation Licensing- How to get a licence (NE 2013)</p>
	Wildlife and Countryside Act 1981 (as amended) S.9	Intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb an otter in such a place.	No licence is required for survey in England. However, a licence would be required if the survey methodology involved disturbance.
Hazel dormouse European protected specie	Conservation of Habitats and Species Regulations 2010 (as amended) Reg 41	Deliberately capture, injure or kill a hazel dormouse; deliberate disturbance of a hazel dormouse; or damage or destroy a breeding site or resting place used by a hazel dormouse.	A Natural England licence in respect of development is required. Guidance documents: NE Standing Advice for protected species 2013 European Protected Species: Mitigation Licensing- How to get a licence (NE 2013) Dormouse Conservation Handbook (English Nature 2006)
	Wildlife and Countryside Act 1981 (as amended) S.9	Intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb a hazel dormouse in such a place.	Licence issued for survey and conservation by Natural England.
Water vole	Wildlife and Countryside Act 1981 (as amended) S.9	Intentionally kill, injure or take water voles; intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection or disturb a water vole in such a place	<p>Conservation licences issued for trapping and translocation operations by Natural England. Certain displacement operations can be carried out under a class licence.</p> <p>Guidance documents: The Water Vole Conservation Handbook (R. Strachan & T. Moorhouse, Wildlife Conservation Research Unit, 3rd Edition 2011) Water voles and development licensing policy – NE Technical Information Note TIN042 2008 NE Standing Advice for protected species 2013 The Water Vole Mitigation Handbook (M. Dean, R. Strachan, D. Gow & R. Andrews 2016)</p>
Birds	Wildlife and Countryside Act 1981 (as amended) S.1	Intentionally kill, injure or take any wild bird; intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built; intentionally take or destroy the nest or eggs of any wild bird. Intentionally or recklessly disturb a Schedule 1 species while it is building	<p>No licences are available to disturb any birds in regard to development. Licences are available in certain circumstances to damage or destroy nests, but these only apply to the list of licensable activities in the Act and do not cover development.</p>

		a nest or is in, on or near a nest containing eggs or young; intentionally or recklessly disturb dependent young of such a species [e.g. most birds of prey, kingfisher, barn owl, black redstart, little ringed plover]. dependent young of such a species [e.g. most birds of prey, kingfisher, barn owl, black redstart, little ringed plover].	General licences are available in respect of 'pest species' but only for certain very specific purposes e.g. public health, public safety, air safety. Guidance documents: NE Standing Advice for protected species 2013
Great crested newt European protected species	Conservation of Habitats and Species Regulations 2010 (as amended) Reg 41	Deliberately capture, injure or kill a great crested newt; deliberate disturbance ² of a great crested newt; deliberately take or destroy its eggs; or damage or destroy a breeding site or resting place used by a great crested newt	Licences issued for science (survey), education and conservation by Natural England.
	Wildlife and Countryside Act 1981 (as amended) S.9	Intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb ³ a great crested newt in such a place.	
Adder Common lizard Grass snake Slow worm	Wildlife and Countryside Act 1981 S.9(1) and S.9(5)	Intentionally kill or injure any common reptile species.	No licence is required. However, an assessment for the potential of a site to support reptiles should be undertaken prior to any development works which have potential to affect these animals. Guidance documents: NE Standing Advice for protected species 2013
Habitats and species			
Species and Habitats of Principal Importance for the Conservation of Biodiversity	Natural Environment & Rural Communities Act 2006 S.40	N/A	<p>S.40 of the NERC Act 2006 sets out the duty for public authorities to conserve biodiversity in England.</p> <p>Habitats and species of principal importance for the conservation of biodiversity are identified by the Secretary of State for England, in consultation with Natural England, are referred to in S.41 of the NERC Act for England. The list, known as the 'England Biodiversity List', of habitats and species can be found on the Natural England web site.</p> <p>The 'England Biodiversity List' is used as a guide for decision makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act 2006 to have regard to the conservation of biodiversity in England when carrying out their normal</p>

functions. Ecological impact assessments should include an assessment of the likely impacts to these habitats and species

A.6 Geology and soils legislation and policy framework

National policy

National Policy Statement for National Networks (NN NPS)

Para. 5.117 and 5.118 of the NN NPS (Department for Transport, 2014) states if land stability could be an issue with regards to a proposed development, an assessment (i.e. land stability or slope stability risk assessment) should be carried out at the earliest possible stage to consider the likely consequences where subsidence, landslides, ground compression and other geological hazards are known or suspected. Applicants should ensure that their sites are and will remain stable or can be made so as part of a development.

Para. 5.176 advises that the economic and other benefits of BMV land should be considered. Little weight will be attached to the loss of agricultural land in grades 3b, 4 and 5 (except in areas (such as uplands) where agricultural practices may themselves contribute to the quality and character of the environment or the local economy).

Water quality guidance and policy are set out in paragraphs 5.219 to 5.231. The objective is that new and existing development should be prevented from contributing to, or being put at unacceptable risk from, or being adversely affected by, water pollution. Key requirements are that the existing status of water quality, water resources and physical characteristics in the water environment must be ascertained and that the impacts of the proposed project, including those associated with any cumulative effects, are assessed.

National Planning Policy Framework (NPPF)

The NPPF (Ministry of Housing, Communities and Local Government, 2018) states:

- A site should be suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination (para. 178);
- Proposals should include mitigation methods for land remediation (as well as potential impacts on the natural environment arising from that remediation);
- After remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990 (EPA);
- Adequate site investigation information, prepared by a competent person, is available to inform these assessments;
- Where a site is affected by contamination or land stability, the responsibility for ensuring a safe development rests with the developer and/or land owner (para. 179); and
- Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality (para. 171).

Environmental Protection Act 1990

Part 2A of the EPA (UK Government, 1990) introduced a statutory regime for the identification and remediation of 'Contaminated Land'. It introduced, for the first time in the UK, a statutory definition of 'Contaminated Land' based on significant harm or the likelihood of significant harm or the pollution or likely pollution of controlled waters (all groundwater, inland waters and estuaries, excluding water perched above the zone of saturation).

Local authorities are the primary regulators under the Part 2A regime, with a duty to identify whether the land in their area is 'Contaminated Land', although provision is made for consultation and co-ordination with the Environment Agency in situations when pollution of controlled waters is an issue.

Environment Agency Report R&D66

Report R&D66 (NHBC & Environment Agency, 2008) provides guidance on the development and application of the consequence and probability matrix and guidance on conducting a risk assessment. R&D66 sets out land quality estimation of the Level of Risk by Comparison of Consequence and Probability

Contaminated Land Statutory Guidance

The Contaminated Land Statutory Guidance (Defra, 2012) document provides the principal objectives of Part 2A, which are to:

- Identify and remove unacceptable risks to human health and the environment;
- Seek to ensure that contaminated land is made suitable for its current use; and
- Ensure that the burdens faced by individuals, companies and society as a whole are proportionate, manageable and compatible with the principles of sustainable development.

These three objectives underlie the 'suitable for use' approach to the assessment and remediation of 'land contamination'. This approach recognises that the risks presented by any given level of land contamination will vary greatly according to the use of the land and a wide range of other factors, such as the sensitivity of the underlying geology and the receptors which may be affected. The 'suitable for use' approach consists of three elements:

- Ensuring that land is suitable for its current use;
- Ensuring that land is made suitable for any new use; and
- Limiting requirements for remediation to the work necessary to prevent unacceptable risks to human health or the environment in relation to the current use or future use of the land.

Contaminated Land Report 11 (CLR11) and Guiding Principles for Land Contamination (GPLC)

Primary guidance for assessing and managing land contamination is presented in CLR11 (Environment Agency & Defra, 2004) and the Guiding Principles for Land Contamination (GPLC) (Environment Agency, 2010). These documents provide a technical framework for the identification and remediation of contamination through the application of a risk management process.

The Water Resources Act 1991 (as amended) (WRA)

The WRA (UK Government, 1991) sets controls of pollution of water sources in Section III. It contains information about water quality objectives, powers to prevent and control pollution and pollution offences.

Environment Agency's approach to groundwater protection

The Environment Agency's approach to groundwater protection (Environment Agency, 2018) contains position statements on SPZs areas identified as drinking water protected areas and aquifer designations. It states that:

- The development of infrastructure should be directed to less sensitive groundwater locations;
- The Environment Agency will use a risk based tiered approach to regulate activities that may impact groundwater resources; and
- The Environment Agency expects developers and operators to take into account all current and future groundwater uses and their dependent ecosystems.

Water Framework Directive (WFD)

The purpose of the WFD (European Commission, 2000) is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater. It requires that:

- Environmental objectives should be set to ensure that good status of groundwater is achieved and that its deterioration is avoided. This includes that any upward sustaining trend in the concentration of a pollutant must be identified and reversed;
- A good status of groundwater requires early action and stable long-term planning of protective measures, owing to the natural time lag in its formation and renewal; and
- Monitoring programmes should cover monitoring of the chemical and quantitative status of groundwater.

A.7 Material assets and waste legislation and policy framework

National planning policy

Many of the relevant UK acts and regulations relating to waste, incorporate European Union (EU) directives into UK Law, these include:

- EU Revised Waste Framework Directive (2008/98/EC);
- EU Landfill Directive (1993/31/EC), as amended by the EU Directive (2003/33/EC);
- EU Regulation 1272/2008 on classification, labelling and packaging of substances and mixtures (including revisions);
- EU Directive 91/689/EEC on hazardous waste

National Planning Policy Framework (NPPF)

As part of the 2018 revision, the National Planning Policy Frameworks (NPPF) goal of supporting sustainable development identifies the importance of using natural resources prudently and minimising waste.

It identifies that strategic policies should make provision for minerals and waste management.

Section 17 focuses on “Facilitating the sustainable use of minerals”, and states planning policies should include consideration of the following points:

- Provide for the extraction of mineral resources of local and national importance, except for peat;
- Take account of the contribution that recycled materials and minerals waste have on supply; and
- Safeguard mineral resources by defining Mineral Safeguarding Areas.

The NPPF does not contain any specific waste policies, since national waste planning policy is published as part of the Waste Management Plan for England 2013 (paragraph 5 of the introduction to the NPPF).

The Environmental Protection Act 1990 (c.43) as amended in 1996 and 1999

The Environmental Protection Act 1990 (c. 43) as amended in 1996 and 1999 implements integrated pollution control for the disposal of waste to air, land and water, including solid waste disposal.

As part of this, under Section 34, the Act imposes Duty of Care on anyone who produces, imports, keeps, stores, transports, treats or disposes of waste.

This will mean that Highways England and all contractors must take all reasonably practical steps to ensure that:

- Waste is consigned only to a registered waste carrier, licensed waste contractor, local authority waste collector or person dealing with waste in ways that are exempt from licensing;
- Waste that is disposed of is accompanied by a detailed written description of the waste to ensure its safe handling, treatment and disposal (waste transfer notes are to be kept for a minimum of two years and hazardous waste consignment notes are to be kept for a minimum of three years);
- Waste is securely contained to prevent it escaping to the environment;
- Appropriate measures are taken to ensure that others involved in the handling and disposal of waste do so in accordance with the all applicable Regulations;
- Copies of registration certificates should be obtained for all waste contractors and waste carriers used as part of the Scheme and it should be ensured that they are on the Environment Agency’s ‘Public Register of Waste Carriers, Brokers and Dealers’; and
- Checks should be made on the final destination of each waste, ensuring that each waste disposal facility is licensed to accept the waste. Duty of Care audits of carriers and waste disposal facilities are advisable.

The generation of waste from the Scheme shall be managed in accordance with all applicable legislation and policy and in accordance with good practice.

Clean Neighbourhoods and Environment Act 200 (c. 16)

Chapter 16 of the Clean Neighbourhoods and Environment Act 2005 (c. 16) prescribes the correct transportation, collection, disposal and management of waste and prohibits fly tipping.

Waste (England and Wales) Regulations 2011 (SI 2011/988)

The Regulations 2011 (SI 2011/988), as amended in 2012 (SI 2012/1889) and in 2014 (SI 2014/656), transpose the Revised EU Waste Framework Directive (2008/98/EC) into English law and require organisations to manage waste in alignment with the waste hierarchy to prevent waste going to landfill.

Waste management contractors working on the Scheme will be required to provide evidence that the waste hierarchy has been applied. This evidence can be in the form of waste transfer notes and hazardous waste consignment notes, which themselves must be kept for two and three years, respectively.

The Hazardous Waste (England and Wales) Regulations 2005 (SI 2005/894)

The Regulations, as amended in 2009 (SI 2009/507), 2015 (SI 2015/1360) and 2016 (SI 2016/336) applies to all wastes listed as hazardous in the European Waste Catalogue (2000/532/EC) and the CLP (Classification, Labelling and Packaging) Regulation (EC 1272/2008). Hazardous waste will be produced throughout all lifecycle stages of the Scheme. Hazardous waste should be disposed of in accordance with the Regulations. including a hazardous waste consignment note.

Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 (SI 2013/3113)

The Regulations revoke the previous WEEE Regulations (2006 (SI 2006/3289), 2007 (SI 2007/3454), 2009 (SI 2009/2957) and 2010 (SI 2010/1155)) and have a key objective to reduce the amount of WEEE that goes to landfill. This is to be achieved by making producers responsible for the collection, treatment and recovery of WEEE, including the associated costs.

For the Scheme being considered, all WEEE produced in the CD&E and operational phases must be segregated and managed separately from other wastes, with relevant paperwork provided as described above.

The Waste Batteries and Accumulators Regulations 2009 (SI 2009/890)

The Regulations, as amended in 2015 (SI 2015/1935), main requirements are that producers of batteries and accumulators must either take back waste batteries and accumulators or fund the collection and recycling of them. The 2015 amendment removed several additional requirements, inclusive of the provision of operational plans and independent audit reports.

For the Scheme being considered, all batteries produced in the CD&E and operational phases must be segregated and managed separately from other wastes.

The CLP (Classification, Labelling and Packaging) Regulation (EC 1272/2008)

The CLP Regulation (within the UK and EU) was introduced in a staggered manner between 1999 and 2015. It should be noted that within the UK and EU, the CLP Regulation, has replaced the Dangerous Substances Directive (67/548/EEC) and the Dangerous Preparations Directive (1999/45/EC). To summarise, the Regulation provides guidance on the application of the CLP criteria for hazards (physical, health and environmental). With specific reference to the Scheme, the Regulation should be used to support the classification of both waste and materials. All waste should be classified by a six-digit code, which must be recorded on all waste transfer notes and hazardous waste consignment notes for the movement of waste from the CD&E and operational phases of the Scheme

Environmental Protection (Disposal of Polychlorinated Biphenyls and other Dangerous Substances) (England and Wales) Regulations 2000 (SI 2000/1043)

The Regulations, as amended in 2000 (SI 2000/3359), require the safe disposal or decontamination of all equipment that contains polychlorinated biphenyls (PCBs). Contaminated equipment containing over 5 litres or more of PCB substance or mixture is also covered by the Regulations. PCBs are often present in areas of historical industrial use.

The Environmental Permitting (England and Wales) Regulations 2016 (SI 2016/1154)

The Environmental Permitting Regulations 2016 (SI 2016/1154) replace the 2010 Regulations (SI 2010/675) (as amended in 2011 (SI 2011/2043), 2012 (SI 2012/630) and 2014 (SI 2014/255)).

The Regulations put in place requirements to ensure that sites that produce certain materials and undertake certain activities (such as the storage, use or treatment of waste) have a permit or exemption from the regulator (i.e. the Environment Agency).

Permit or exemption details of all sites that manage waste from the Scheme will be checked to ensure waste is being managed legally.

National Networks National Policy Statement (NN NPS)

The National Policy Statement outlines of the importance of managing resources and wastes to prevent and minimise environmental impacts. The resource and waste management measures outlined in the 'Waste Management' chapter should be adhered to and considered throughout all stages of the Scheme. Management measures are inclusive of but not limited to, the implementation of the waste hierarchy (see Figure 13- 1), the correct management of waste both on-site and offsite and ensuring the appropriate waste infrastructure for waste treatment and disposal.

Environmental Damage (Prevention and Remediation) Regulations 2009 (SI 2009/153)

The Regulations, as amended in 2010 (SI 2010/587), introduce obligations to ensure the polluter pays for any environmental damage caused. The Regulations are applicable to all economic activities and therefore cover businesses. The Regulations require caution to be taken when managing sites to prevent damage to water, land and biodiversity. Such damage could be caused by poor waste management practices and as such the generation of waste from the Scheme must be managed in accordance with all applicable legislation and policies and in accordance with good practice.

The Control of Asbestos Regulations 2012 (SI 2012/632)

The Regulations require notification to the appropriate authority of all notifiable asbestos works (as specified in the Regulations), the medical surveillance (from April 2015) and health records for employers dealing with asbestos, the provision of the correct equipment and training for working with asbestos; and the documentation of the method, storage and disposal of asbestos waste. Any waste containing asbestos (e.g. insulation or lagging) must be stored and disposed of, in suitable packaging to prevent fibre release, in line with the Regulations.

All asbestos must be removed by a licensed contractor who has undergone the appropriate training for the removal of asbestos and must wear the appropriate PPE. Written records must be kept of the workers and the likely level of exposure. The asbestos must only be disposed of at an appropriately permitted disposal site. These regulations will be adhered to during the construction of the Scheme to minimise harm to human health due to asbestos exposure.

Waste Management Plan for England 2013

This plan provides an overview of waste management in England and fulfils the revised WFD Article 28 mandatory requirements, and other required content as set out in Schedule 1 to the Waste (England and Wales) Regulations 2011.

Defra drew on issues from the previous Waste Strategy for England (WS2000), the Waste Strategy for England (WS2007), European Directives and Legislation to create the Waste Management Plan for England 2013. The Plan continues to focus on the importance of driving waste management up the waste hierarchy and states the importance of considering the Government's ambition of achieving a zero-waste economy. The Plan puts a strong emphasis on waste prevention through making products using fewer natural resources. The targets outlined in WS2007 remain relevant, including the target to recover 70% of construction and demolition waste by 2020. This target shall be considered a minimum requirement for the Scheme.

National Planning Policy for Waste 2014

The National Planning Policy for Waste is the formal replacement for Planning Policy Statement 10 (PPS10). It follows the principles set out in PPS10, which states that waste should be managed in line with the principles of the waste hierarchy. It is important to ensure that, where possible, waste production is minimised to reduce environmental impacts and to ensure an assessment is made of the local waste infrastructure type and capacities, to include, but not be limited to, an assessment of the local policies

Waste Planning Practice Guidance 2015

The Planning Practice Guidance website details how to adhere to the National Planning Policy for Waste 2014. The guidance should be followed to satisfy the local planning authority that impacts introduced by a proposed development on the existing waste management facilities are acceptable and do not prejudice the implementation of the waste hierarchy

A.8 Noise and Vibration legislation and policy framework

National planning policy

National Policy Statement for National Networks (NN NPS)

Paragraph 5.193 states that 'developments must be undertaken in accordance with statutory requirements for noise'. Due regard must be given to relevant sections of the Noise Policy Statement for England National Planning Policy Framework and the Government's associated planning guidance on noise.

The National Policy Statement for National Networks (NN NPS) (paragraph 5.195) aligns with the main aims of the Noise Policy Statement for England (NPSE) and NPPF (paragraph 180) (see appropriate sections below). Furthermore, a project should not be consented unless it meets the aim to "contribute to improvements to health and quality of life through the effective management and control of noise, where possible." Other key parts include paragraph 5.186 - Excessive noise can have wide-ranging impacts on the quality of human life and health (e.g. owing to annoyance or sleep disturbance), use and enjoyment of areas of value (such as quiet places) and areas with high landscape quality; and paragraph 5.187 - Noise resulting from a proposed development can also have adverse impacts on wildlife and biodiversity. Noise effects of the proposed development on ecological receptors should be assessed in accordance with the Biodiversity and Geological Conservation section of this NPS. Paragraph 5.188 identifies factors that will determine the likely noise impact including:

- Construction noise and the inherent operational noise from the proposed development and its characteristics;
- The proximity of the proposed development to noise sensitive premises (including residential properties, schools and hospitals) and noise sensitive areas (including certain parks and open spaces);
- The proximity of the proposed development to quiet places and other areas that are particularly valued for their tranquillity, acoustic environment or landscape quality such as National Parks, the Broads or Areas of Outstanding Natural Beauty; and
- The proximity of the proposed development to designated sites where noise may have an adverse impact on the special features of interest, protected species or other wildlife.

The assessment of a project (paragraph 5.146) should "include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include any noise and light pollution effects, including on local amenity, tranquillity and nature conservation"

National Planning Policy Framework (NPPF)

Section 170 of the NPPF includes the statement that planning policies and decisions should contribute to and enhance the natural and local environment by “preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans”

Section 180 of the NPPF notes that “planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should

- a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;
- b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and
- c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.”

National Policy Statement for England (NPSE) 2010

Current noise policy in England is based on the Noise Policy Statement for England (NPSE), which through the effective management and control of environmental, neighbour, and neighbourhood noise within the context of Government policy on sustainable development, aims to:

- Avoid significant adverse impacts on health and quality of life;
- Mitigate and minimise other adverse impacts on health and quality of life; and
- Contribute to improvements to health and quality of life, where possible.

The Explanatory Note to the NPSE assists in the definition of significant adverse and adverse with the following concepts:

- NOEL - no observed effect level. This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise;
- LOAEL - lowest observed adverse effect level. This is the level above which adverse effects on health and quality of life can be detected; and
- SOAEL - significant observed adverse effect level. This is the level above which significant adverse effects on health and quality of life occur.

The Government policy and guidance do not state values for the NOEL, LOAEL and SOAEL, rather, it considers that they are different for different noise sources, for different receptors and at different times and should be defined on a strategic or project basis taking into account the specific features of that area, source or project.

Control of Pollution Act 1974 (as amended)

The following sections of the Control of Pollution Act are related to noise:

- Section 60 - Control of noise on construction sites;
- Section 61 - Prior consent for work on construction sites;
- Section 71 - Codes of practice for minimising noise; and
- Section 72 - Best practicable means

Environmental Protection Act 1990 (as amended)

Section 79 (1) (ga) in the Environmental Protection Act states that noise that is prejudicial to health or a nuisance and is emitted from or caused by a vehicle, machinery or equipment in a street, is a statutory nuisance; (NB if so should be inspected by the local authority) and section (9) refers to the interpretation of “best practicable means”.

Land Compensation Act 1973

Part I of the Land Compensation Act includes compensation for depreciation caused by the use of public works.

The Control of Noise (Code of Practice for Construction and Open Sites) (England) Order 2015

The Control of Noise Order approves BS 5228:2009+A1:2014 Part 1 Noise and Part 2 Vibration for the purpose of giving guidance on appropriate methods for minimising noise and vibration

Noise Insulation Regulations 1975 (as amended)

With regard to operational noise arising from highways, Regulation 3 imposes a duty on authorities to undertake or make a grant in respect of the cost of undertaking noise insulation work in or to eligible buildings, Regulation 4 provides authorities with discretionary powers to undertake or make a grant in respect of the cost of undertaking noise insulation work in or to eligible buildings.

Regulation 5 of the Noise Insulation Regulations provides relevant authorities with discretionary powers to undertake or make a grant in respect of the cost of undertaking noise insulation work in or to eligible buildings with respect to construction noise.

All three regulations are subject to meeting certain criteria detailed-within the given Regulation.

The Highways Noise Payments and Movable Homes (England) Regulations 2000

These Regulations provide highway authorities with a discretionary power to provide a noise payment where new roads are to be constructed or existing ones altered. The relevant Regulations set out the criteria which should be applied in assessing eligibility for making such payments.

Environmental Noise (England) Regulations 2006

These regulations take into account Noise Action Plans.

A.9 Population and human health legislation and policy framework

National planning policy

National Policy Statement for National Networks (NN NPS)

Population and Human Health is not a topic identified specifically in the NPS NN. However, there is reference to topics of relevance to Population and Human Health assessments in the following sections of the NPS NN:

- Section 5, para. 5.83, recognises that for nationally significant infrastructure projects of the type covered by this NPS, some impact on the amenity of local communities is likely to be unavoidable.
- Section 5, para.165, notes that the applicant should *“identify existing and proposed land uses near The Scheme, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing”*.
- Section 5, para.166, outlines that *“existing open spaces, sports and recreational buildings and land should not be developed unless the land is surplus to requirements or the loss would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location”*.
- Section 5, para.184, emphasises that *“public rights of way, National trails, and other rights of access to land (e.g. open access land) are important recreational facilities for walkers, cyclists and equestrians. Applicants are expected to take appropriate mitigation measures to address adverse impacts on public rights of way and open access land, and, where appropriate, to consider what opportunities there may be to improve access. In considering revisions to an existing right of way consideration needs to be given to the use, character, attractiveness and convenience of the right of way. The Secretary of State should consider whether the mitigation measures put forward by the application are acceptable and whether requirements in respect of these measures might be attached to any grant of development consent”*.
- Section 5, para.185 states that *“public rights of way can be extinguished under Section 136 of the Act if the Secretary of State is satisfied that an alternative base has been or will be provided or is not required”*.
- Impacts relating to health are covered within the assessment principles of the NPS NN (paragraphs 4.79 to 4.82). This is due to national road networks having the potential to affect the health, well-being and the quality of life of the population. Direct impacts on human health can arise as a result of noise, vibration, air quality, community severance, and the water environment.

National Planning Policy Framework (NPPF)

- The Population and Human Health Chapter covers land use (the potential impact on farm viability); impacts on physical assets; walking, cycling and horse riding; community severance and community amenity; impacts on public transport users; vehicle travellers; and the economy and employment. This is consistent with the NPPF as this chapter contributes to assessing the impact of a development which aims to deliver health, social and cultural wellbeing
- Paragraph 8 sets out the core planning principles of the NPPF, which relate to sustainable economic development, active management of growth to make use of sustainable modes of travel, and local strategies to deliver health, social and cultural wellbeing.
- Paragraph 18 of Section 6: (Building a strong, competitive economy), outlines the Government's commitment to delivering economic growth to create jobs and prosperity, while meeting the challenges of global competition and a low carbon future.
- Paragraphs 83-84 of Section 6 (Building a strong, competitive economy) cover economic growth and prosperity in rural areas and local community services in villages. They outline the importance of assessing the effects of developments on the local economy and employment, and opportunities for job creation, in line with the Government's desire to create a competitive economy.
- Paragraph 70 of Section 8: 'Promoting Healthy and Safe Communities', requires planning policies and decisions to "*deliver the social, recreational and cultural facilities and services the community needs*". The NPPF also recognises that access to a network of high quality open spaces and opportunities for sport and physical activity is important for the health and well-being of communities.
- Paragraph 98 states that planning policies and decisions should protect and enhance PRow and access, including taking opportunities to provide better facilities for users, for example by adding links to existing rights of way networks including National Trails

Planning Practice Guidance (PPG)

The National Planning Practice Guidance (PPG) (Ref. 12.7) has been published alongside the NPPF and is regularly updated, to provide guidance on the implementation of planning policies. The PPG has not yet been updated to reflect the changes to the NPPF in relation to open space, sports and recreation, facilities, PRow and local green space and will be updated accordingly in due course. Of relevance to Population and Health and a scheme are the following elements from the PPG:

- Open space is described as incorporating all open space of 'public value' and can take many forms including formal sports pitches, informal open areas within a development, linear corridors, and country parks (Paragraph 001, Reference ID: 37-001-20140306). –
- PRow are described as forming an important component of sustainable transport links and should be protected or enhanced where relevant and possible (Paragraph 004, Reference ID: 37- 004-20140306).

A.10 Road Drainage and the Water Environment Legislation and policy framework

European planning policy

Water Framework Directive (WFD) (2000/60/EC)

The WFD requires that all inland waters within defined river basin districts must reach at least good status by 2015 and defines how this should be achieved through the establishment of environmental objectives and ecological targets for surface waters. Any new scheme must not cause deterioration of the water environment or prevent the future attainment of good status

Environmental Quality Standards Directive (2008/105/EC)

Lists environmental quality standards (EQS) for priority substances and certain other pollutants as provided for in Article 16 of the Water Framework Directive 2000/60/EC (WFD), with the aim of achieving good surface water chemical status. It includes certain metals that are associated with runoff from highways

Groundwater Directive (2006/118/EC)

Complements the WFD. It requires measures to prevent or limit inputs of pollutants into groundwater to be operational so that WFD environmental objectives can be achieved

Habitats Directive (92/43/EEC)

To promote the maintenance of biodiversity by taking measures to maintain or restore natural habitats and wild species at a favourable conservation status, introducing robust protection for those habitats and species of European importance. Sites or species that come under this Directive will heighten the importance of water features that sustain them.

Floods Directive (2007/60/EC)

The aim of this Directive is to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity. It sets the strategic level for flood risk that any development will need to comply with.

National planning policy

National Policy Statement for National Networks (NN NPS)

Paragraph 5.99 of the NN NPS states that the Secretary of State:

'should be satisfied that flood risk will not be increased elsewhere and only consider development appropriate in areas at risk of flooding where (informed by a flood risk assessment, following the Sequential Test and, if required, the Exception Test), it can be demonstrated that

- Within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location; and

- Development is appropriately flood resilient, including safe access and escape routes where required, and that any residual risk can be safely managed including by emergency planning; and priority is given to the use of sustainable drainage systems'.

Paragraph 5.222 concerns projects that seek to improve existing infrastructure, such as road widening, with emphasis on taking opportunities to 'improve upon the quality of existing discharges where these are identified and shown to contribute towards Water Framework Directive commitments'.

Para. 5.225 outlines that the Secretary of State will generally need to give impacts on the water environment more weight where a project would have adverse effects on the achievement of environmental objectives established under the Water Framework Directive.

Paragraph 5.226 sets out that a proposal should have regard to the River Basin Management Plans and the requirements of the Water Framework Directive (including Article 4.7) and its daughter directives, including those on priority substances and groundwater. Mitigation measures in respect of the adverse effects are likely to be the subject of requirements attached to the development consent and/or planning obligations.

National Planning Policy Framework (NPPF)

Paragraph 100 in the section on 'Meeting the challenge of climate change, flooding and coastal change' requires that 'Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere'.

Para. 109 states that new development should not contribute to unacceptable levels of water pollution

Building on the NPPF, planning practice guidance (published March 2014) advises on how to take account of and address the risks associated with flooding in the planning process. Planning practice guidance published in March 2015 provides further guidance on protecting water quality.

National Planning Practice Guidance (NPPG) 2014

Policy 10: Meeting the challenge of Climate Change, Flooding and Coastal Change

Policy 11: Conserving and Enhancing the Natural Environment

In 2014, accompanying the NPPF, the National Planning Practice Guidance (NPPG) (DCLG, 2014) was published. This advises on how Local Planning Authorities can ensure water quality and the delivery of adequate water infrastructure and take account of the risks associated with flooding in the plan making and the planning application process

Antipollution Works Regulations (1999)

Where pollution occurs or is likely to occur the Environment Agency can serve a works notice under Section 161A of the Water Resources Act on any person who has caused or knowingly permitted the pollution (or risk of pollution) to a water course, requiring them to carry out anti-pollution / preventative works and operations. The Environment Agency can also recover the costs of any investigation and anti-pollution works carried out. The Anti-Pollution Works Regulations prescribe the content of anti-pollution works notices. They also prescribe the particulars of such matters as are required to be placed on the pollution control registers maintained by the Environment Agency

Environment Act (1995)

The Act provides for the establishment of a body corporate to be known as the Environment Agency, the key regulator for the water environment

Environmental Damage (Prevention and Remediation) Regulations (2015)

The emphasis of these Regulations is proactively putting in place appropriate pollution prevention measures to reduce risks to the environment

Environmental Protection Act (1990)

This act brings in a system of integrated pollution control for the disposal of wastes to land, water and air

Flood Risk Regulations (2009) Amended SI2011/2880 transpose directive 2007/60/EC

These regulations aim to provide a consistent approach to managing flood risk. The Environment Agency are responsible for managing flood risk from main rivers, the sea and reservoirs. LLFAs are responsible for local sources of flood risk, in particular surface water, groundwater and ordinary watercourses

Flood and Water Management Act 2010 and Commencement Orders.

The key areas covered by this Act are: the roles and responsibilities for flood and coastal erosion risk management; improving reservoir safety

Groundwater (England and Wales) Regulations (2009)

These transpose the Groundwater Directive (2006/118/EC) into law in England & Wales. These powers are implemented in though the Environmental Permitting Regulations (2016)

Highways Act 1980 (HA 1980)

The act deals with the management and operation of the road network in England and Wales including the drainage of highways into environmental waters and sewers.

The Environmental Permitting (England and Wales) Regulations 2016

Provide a consolidated system of environmental permitting in England and Wales and transpose provisions of fifteen EU Directives which impose obligations requiring delivery through permits or which are capable of being delivered through permits. Covers Environment Agency permits for flood risk (on Main River) and certain discharges to watercourses.

The Water Resources (Environmental Impact Assessment) (England and Wales) Regulations 2003

Impose procedural requirements in relation to the consideration of applications or proposals for an abstraction or impounding licence under Chapter II of Part II of the Water Resources Act 1991 and require consent in other cases.

Water Act 2003 and Water Act 2014

Aims to improve water conservation, protect public health and the environment, and improve the service offered to consumers. The Act is in three parts relating to water resources, regulation of the water industry and other provisions.

Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015

These Directions set out the environmental standards to be used for the second cycle of river basin plans. They transpose Directive 2013/39/EC on environmental quality standards for priority substances.

Water Industry Act (1991) (Amendment) (England and Wales) Regulations (2009)

Sets out the responsibilities of the Environment Agency of England and Wales in relation to water pollution, resource management, flood defence, fisheries, and in some areas, navigation. The Act regulates discharges to controlled waters, namely rivers, estuaries, coastal waters, lakes and groundwaters

Water Resources Act 1991

Act to regulate water resources, water quality and pollution, and flood defence. Sets out standards for Controlled Waters.

Water Environment (Water Framework Directive) (England and Wales) Regulations 2003

Outline the duties of regulators (Environment Agency in England) in relation to environmental permitting, abstraction and impoundment of water.

The Land Drainage Act 1991

Requires that a watercourse be maintained by its owner in such a condition that the free flow of water is not impeded. The 1994 Act amends it in relation to the functions of internal drainage boards and local authorities.

The Control of Pollution (Oil Storage) (England) Regulations 2001

Applicable for the storage of more than 200 litres of oil above ground at an industrial, commercial or institutional site. The Regulations apply only in England only

A.11 Climate legislation and policy framework

International planning policy

Kyoto Protocol 1997

The first international agreement to mandate greenhouse gas emission reductions was the Kyoto Protocol in 1997. Under the United Nations Framework Convention on Climate Change (UNFCCC) treaty, industrialised nations pledged to cut their annual emissions by 5% on a 1990 baseline by 2012. Although the target was met successfully, it was insufficient to offset the increase in emissions from industrialising countries. Total global emissions continued to grow over the period, by 40% between 1990 and 2009.

Paris Agreement 2015

Strengthened negotiations at COP 21 led to the 2015 Paris Agreement, the aim of which is to maintain the increase in global average temperature at 'well below' 2°C and 'pursue efforts' to limit the temperature increase even further to 1.5°C. By April 2016, 190 parties, including the UK, had made voluntary pledges to reduce emissions, however the cumulative effect of these would still lead to an estimated 3°C of warming or greater.

In 2018, the International Panel on Climate Change (IPCC) published a special report in response to the Paris Agreement, to present the impacts of the targeted 1.5°C temperature rise. The report highlighted that to achieve this, global emissions must decrease by 45% by 2030 (against a 1990 baseline), and that net zero global emissions (where emissions and removals from the atmosphere are balanced) must be achieved by 2050. This is noted to require rapid and far-reaching transitions of every sector on an unprecedented scale.

National planning policy

Climate Change Act 2008

To support international efforts, the UK Climate Change Act (2008) set a legal reduction target of 80% against 1990 levels by 2050. It also introduced a series of carbon 'budgets' for five-year periods, to act as stepping-stones to the overall reduction. There are budgets currently set up to 2032.

In response to the ambitions of the Paris Agreement, in June 2019 the Climate Change Act was amended to set the overall reduction target by 2050 to at least a 100% reduction in net emissions against 1990 levels, i.e. 'net zero carbon'.

The UK has so far outperformed its budgets, but progress is slowing, and the country is not on track to meet its future budgets or the overall reduction target, according to the most Recent Progress to Parliament by the Committee on Climate Change.

National Policy Statement for National Networks (NPS NN)

The NN NPS paragraph 5.17 states that 'it is very unlikely that the impact of a road project will, in isolation, affect the ability of Government to meet the targets of its carbon reduction target plan. However, the paragraph goes on to say that applicants should provide evidence of the carbon impact of the project and an assessment against the Government's carbon budgets. Paragraph 5.18 states that development consent should be refused if it would have a material impact on the Government reaching its reduction targets.

Paragraph 5.19 outlines the need for appropriate mitigation measures to be implemented in both design and construction. The effectiveness of such mitigation will be considered by the Secretary of State in order to ensure the carbon footprint is not 'unnecessarily high', with the adequacy of the measures constituting a material factor in the decision-making process.

National Planning Policy Framework (NPPF)

Paragraph 148 outlines its support for transitioning to a low carbon future, by way of reducing greenhouse gas emissions and supporting renewable and low carbon energy and associated infrastructure.

Building on the NPPF, planning practice guidance published in June 2014 advises on how to identify suitable measures in the planning process to mitigate for and adapt to climate change.

Construction 2025

Construction 2025 sets out how efficiency improvements will be created in construction covering sustainability and carbon and including a target to reduce emissions by 50%.

The emissions reduction target of 50% is not scheme specific, and the efficiency improvements are broad. In terms of the Scheme and emissions reduction, the reduction target should be taken into account when developing Scheme specific mitigation measures, where relevant.

Infrastructure Carbon Review 2013

HM Treasury produced the Infrastructure Carbon Review (2013) to set out carbon reduction actions required by infrastructure organisations.

In terms of the Scheme and emissions reduction, the reduction actions should be taken into account when developing Scheme specific mitigation measures, where relevant.

Local planning policy

5 Year Environment Management Plan for Greater Manchester (2019-2024)²¹

The plan identifies “the threat of climate change – reducing carbon dioxide (CO₂) emissions” as the most significant of environmental challenges. It highlights the need to make fair contribution to global commitments aimed at limiting global temperature rise. The vision statement includes neutral, climate resilient city region with a thriving natural environment and circular, zero-waste economy requirements with the aim for ‘mitigating climate change: For our city region to be carbon neutral by 2038 and meet carbon budgets that comply with international commitments’.

The plan contains priorities around increasing the use of public transport and active travel modes, and phasing out fossil-fuelled private vehicles.

High Peak Local Plan Adopted (April 2016)²²

The Local Plan identifies ‘Addressing the Challenges of Climate Change’ as one of the key issues for the council. The Section 4 of the Plan outlines the commitments towards Sustainable Development Principles. The Borough Council will expect that all new development makes a positive contribution towards the sustainability of communities and to protecting, and where possible enhancing, the environment; and mitigating the process of climate change, within the Plan Area. Section 5 of the Plan includes the Climate Change Policy and outlines that the Council will adopt strategies to mitigate and adapt to climate change. In addressing the move to a low carbon future for High Peak, the Council will plan for new development in locations and ways that reduce greenhouse gas emissions and adopt the principles set out in the energy hierarchy.

Climate change is at the heart of High Peak Council's plans (Article of 2019)²³

The article sets out the Council’s commitment to climate change through the Corporate Plan and pledged to work towards a carbon neutral High Peak by 2030 as they declared a climate emergency. The Corporate Plan sets out that the Council will deliver its vision - ‘Working together to protect and invest in the High Peak with the Council on your side’. It outlines Protecting and improving the environment including responding to the climate emergency as one of the key themes. a clean, carbon

²¹ 5 Year Environmental Management Plan for Greater Manchester (2019-2024)

²² High Peak Local Plan Adopted (April 2016)

²³ <https://www.highpeak.gov.uk/article/4589/Climate-change-at-heart-of-Councils-plans-for-High-Peak>

Appendix B. Air Quality Assessment

Methodology

B.1 Pollutants

Nitrogen dioxide

NO₂ is a secondary pollutant produced by the oxidation of nitric oxide (NO). NO and NO₂ are collectively termed NO_x. About a quarter of the UK NO_x emissions are from road transport. The majority of NO_x emitted from vehicles is in the form of NO, which oxidises rapidly in the presence of Ozone (O₃) to form NO₂. In high concentrations, NO₂ can affect the respiratory system and can also enhance the response to allergens in sensitive individuals. Additionally, there is an increasing awareness of an association between long-term average concentrations (chronic exposure) of NO₂ and mortality. NO does not have any observable effect on human health at the range of concentrations found in ambient air.

Particulate matter

The principal sources of 'primary' polluting particles are combustion processes, which include traffic and industry. Road transport produces 11% of primary PM₁₀ emissions in the UK, of which the majority of emissions are from diesel engines. Finer fractions of particulate matter appear to be associated with a range of symptoms of ill health including effects on the respiratory and cardiovascular systems, on asthma and on mortality. PM₁₀ has not been assessed at this stage but will be included in the assessment for the ES.

Other pollutants

National assessments have demonstrated that there is no risk of exceedance of the air quality objectives set for 1,3-butadiene, benzene, carbon monoxide, lead or sulphur dioxide due to emissions from traffic anywhere in the UK. These pollutants are therefore not considered further as there is not considered to be a potential for significant effects associated with these pollutants.

In addition to these air pollutants, dust may be generated during the construction phase in areas adjacent to the Scheme. Dust is not considered as a local air pollutant but may cause a perceived loss of amenity and can give rise to soiling (dust deposition).

B.2 Assessment methodology further details

Effects on air quality during construction

Qualitative assessment of the effects on air quality from construction dust is undertaken in line with DMRB LA 105, taking into account the nature of any proposed construction activities that have the potential to generate dust and the location of sensitive receptors within 200 metres of the construction works for the Scheme. The boundary of the construction footprint was not available at the time of this assessment. The potential effects of construction dust will be considered further in the ES assessment.

The effect of any additional construction traffic or disruption to traffic during construction has not been assessed as detailed information is not yet available. The effects of construction traffic are temporary, and the effects of any changes are unlikely to significantly affect air quality. The potential effects of construction traffic will be considered further in the ES if required.

Effects on Air Quality During Operation

The air quality assessment has been undertaken following the relevant guidance given in the DMRB LA 105 and Major Project instructions (MPI) (Internal Highways England document – August 2014) and LAQM.TG(16)²⁴. Relevant guidance documents are listed below:

- Highways England Design Manual for Roads and Bridges (DMRB) 'LA 105 Air Quality', November 2019;
- MPI-28-082014: Highways Agency Major Projects' Instructions – Determining the correct base year traffic model to support air quality assessments (August 2014); and
- Defra's Local Air Quality Management Technical Guidance (LAQM.TG(16)), where appropriate.

The assessment follows the 'detailed' assessment methodology outlined in DMRB guidance, and a dispersion model has been used to estimate NO₂ concentration at selected human health receptors and resultant nitrogen deposition at selected ecological receptors in the Scheme opening year (2025). The assessment is undertaken for the opening year, rather than the design year (2040), as pollutant concentrations are likely to be higher in earlier years, due to continued expected improvements in emissions in future years.

Available PM₁₀ monitoring within the study area indicates that concentrations within the air quality study area currently meet relevant AQS objectives. As per the DMRB LA 105, PM₁₀ concentrations will be estimated at discrete sensitive receptors in the model base year only (2018) as part of the ES assessment (assessment of the opening year is not required).

²⁴ DEFRA (2018) Local Air Quality Management Technical Guidance (TG16) February 2018. [Online]. Available from: <https://lagm.DEFRA.gov.uk/technical-guidance/>. [Assessed July 2020]

As per the DMRB LA 105 (paragraph 2.21.4), there is no requirement to include PM_{2.5} in the air quality assessment as the UK currently meets its legal requirements for the achievement of the PM_{2.5} air quality threshold. Guidance is that PM₁₀ concentrations should be used to demonstrate that the project does not have an impact on the PM_{2.5} air quality threshold. Hence, PM_{2.5} has not been included in the assessment as it is not considered to be at risk of exceeding relevant air quality thresholds either with or without the Scheme.

The key scenarios included in the PEIR assessment were:

- Base year (2018) - for model verification;
- Projected base year (2025) - for long term trends assessment;
- Opening year (2025) for both the without (Do-Minimum) and with Scheme (Do-Something)

Air Quality Modelling

The air quality assessment was undertaken using the Atmospheric Dispersion Modelling System (ADMS) Roads dispersion modelling software (version 5.0.0.1).

The hourly emissions data input to the dispersion model have been estimated using Highways England speed band emission factors (based on EFT v9), hourly flows of Light Duty Vehicles (LDV) and HDV, during am (0700-1000), inter peak (1000-1600), pm (1600-1900) and off-peak (1900-0700), and speeds input as a speed category, as determined in accordance with DMRB LA 105 (paragraph 2.29 – 2.38 and Appendix A) on speed banding.

In addition, information on road alignment, road width and local meteorological data (taken from Manchester for the base year 2018) have been input into the dispersion model. Further details on modelling setup are in Appendix B.4 - Further Details on Dispersion Modelling.

Representative receptors have been selected for the air quality assessment and included those closest to the roads that trigger the traffic change criteria (and therefore likely to be most affected by changes), as well as those likely to experience the highest total concentrations.

Sensitive human health and ecological receptors for the purposes of air quality assessment have been defined in DMRB LA 105 (paragraph 2.18 and 2.25) and include:

- residential properties, locations of susceptible populations e.g. schools, hospitals and care homes for the elderly, or any other location where a member of the public may be exposed to an air pollutant for the relevant regulated time period; and
- designated ecological sites (special protection areas (SPA), special areas of conservation (SAC), sites of special scientific interest (SSSI), Ramsar sites, local nature reserves (LNR), local wildlife sites (LWS), nature improvement areas (NIA), ancient woodland and veteran trees) containing habitats sensitive to nitrogen deposition.

Ecological receptors representing designated sites containing habitats sensitive to nitrogen deposition included in the air quality assessment include the following national and international designated ecological sites:

- South Pennine Moors (SAC);
- Peak District Moors (SPA);
- Dark Peak (SSSI);
- Eastern Peak District Moors (SSSI); and
- Huddersfield Narrow Canal (SSSI).

Transect receptor points at 10m intervals up to 200 m from the road have been included for nationally and internationally designated sites (SPA, SAC, and SSSI) whereas a single receptor point at the closest location to the road has been included for the locally designated sites (LNR, LWS, Site of Biological Importance (SBI), NIA and ancient woodland).

Background Concentrations

The output from the dispersion model has been used to provide estimates of the contribution from road traffic emissions to annual mean concentrations of NO_x at discrete receptors. These concentrations must then be combined with estimates of background concentrations, to account for other sources of air pollution, to derive total annual mean concentrations for comparison with air quality thresholds.

Background concentrations has been derived from Defra's background maps (for 2018 from a 2017 reference year) and compared with monitored data at background sites in the area where available, to ensure the mapped estimates are appropriate. The comparison shows that at the majority of relevant sites, mapped estimates of annual mean NO₂ were within 30% of the monitored concentrations with no systematic bias exhibited in the comparisons. On that basis DEFRA annual mean NO₂ background concentrations have been taken as suitable to use in the assessment without further adjustment.

The background sector removal process within LAQM.TG(16) has been followed to prevent "double counting" of road contributions. Motorway, Trunk road and A road in square sources were removed from the total background NO₂ concentration, using the NO₂ Adjustment for NO_x sector removal tool v7.0, May 2019.

NO_x to NO₂ Conversion

Annual mean concentrations of NO₂ were derived from NO_x concentrations using the Defra's NO_x to NO₂ calculator (version 7.1, April 2019). The traffic mix and local authority data used for the conversion have been selected according to the locations of the receptors.

Verification

The annual mean NO₂ concentrations for the base year have been verified by means of comparison against available ratified monitoring data. The modelled road NO_x concentrations were adjusted where appropriate, with reference to the methodology set out in Defra's LAQM. Once adjusted, the total NO₂ concentrations have been considered to have acceptable model performance in accordance with Defra's LAQM. The model adjustment factors have been presented in Appendix 0 - Air Quality Model Verification.

Trends

An assessment has been undertaken in accordance with DMRB LA 105 (paragraph 2.47 – 2.55) on the assessment of future NO_x and NO₂ projections on Long Term Trends (LTT), to account for future year uncertainties in emissions.

Highways England Long Term Trend projection factors (referred to as LTTE6) have been applied to annual mean total NO₂ results at human health receptors and annual mean total NO_x and road NO₂ at ecological receptors.

Compliance with EU Limit Values

Evaluation of compliance with EU limit values has been undertaken in accordance with DMRB LA 105 (paragraphs 2.64 – 2.87), using the latest baseline scenario from Defra's PCM model (2018 reference year).

Where roads within the extent of the ARN are identified, DEFRA PCM model receptors were included at the following locations to inform the compliance risk assessment:

the nearest qualifying feature along each PCM link where concentrations are highest;

a point 4m from the running lane in the same general location as the qualifying feature for comparison against the national PCM modelled point.

Qualifying features represent locations which meet Defra's interpretation of the EU Air Quality Directive and include all areas of public access (footpaths, parks, pavements, etc) and sensitive receptors (residential properties, schools, etc).

Ecological Assessment

Assessment of potential effects of changes in road NO_x concentrations on nitrogen deposition rates has been undertaken at identified sensitive ecological designations, in accordance with DMRB LA 105 (paragraph 2.43 – 2.46). The background nitrogen deposition rate at each designated site has been obtained from the APIS website. Relevant habitat types and critical loads have been obtained from APIS where available or in consultation with a competent expert for biodiversity.

Magnitude of Impact Classification

Descriptors for magnitude of change in ambient concentrations of NO₂ and PM₁₀ are provided in DMRB LA 105 (Table 2.91). Only those receptors predicted to exceed relevant air quality thresholds have been considered when determining significance for human health. The changes in magnitude descriptors depend on the change in concentration relative to the air quality criteria shown in Table B-1. Where the change in concentrations is 1% or less of the objective ($\leq 0.4 \mu\text{g}/\text{m}^3$) this is considered an imperceptible change.

Table B-1 - Magnitude of Change Criteria for Air Quality Human Health Receptors

Magnitude of change in concentration	Value of change in annual mean NO ₂ and PM ₁₀
Large (>4 µg/m ³)	Greater than 10% of the air quality objective (4 µg/m ³)
Medium (>2 µg/m ³)	Greater than 5% of the air quality objective (2 µg/m ³)
Small (>0.4 µg/m ³)	Greater than 1% of the objective (0.4 µg/m ³)

Table source :DMRB LA 105 (Table 2.91).

Significance

Evaluation of the significance of the effect of the route options on human health has been undertaken in accordance with DMRB LA 105 (paragraph 2.89 to 2.96). The number of receptors that exceed relevant air quality thresholds and fall within the ‘small’, ‘medium’ and ‘large’ magnitude of change categories has been calculated and compared to the guidelines presented in Table B-2.

Significant air quality effects are only identified for receptors where AQS objectives are exceeded with or without the route options. Where the changes in concentrations are less than 1% of the AQ strategy objective (i.e. equal to or less than 0.4 µg/m³) then the change at these receptors is considered to be ‘imperceptible’ and can be scoped out of the judgement on significance.

Table B-2 - Number of Receptors Constituting a Significant Effect for Air Quality

Magnitude of change in concentration	Number of receptors with	
	Worsening of air quality objective already above objective or creation of a new exceedance	Improvement of an air quality objective already above objective or the removal of an existing exceedance
Large (>4 µg/m ³)	1 to 10	1 to 10
Medium (>2 µg/m ³)	10 to 30	10 to 30
Small (>0.4 µg/m ³)	30 to 60	30 to 60

Table Source: DMRB LA105 (Table 2.92)

The impact of the Scheme on nitrogen deposition (including the sensitivity to nitrogen of the selected designated habitats) has been calculated in line with DMRB LA 105 (paragraph 2.43 – 2.46).

Evaluation of the significance of the effect of the Scheme on designated habitats has been undertaken in accordance with DMRB LA 105 (paragraph 2.97 to 2.102). Where the nitrogen deposition critical load for the relevant habitat is both exceeded and the change in nitrogen deposition expected to be greater than 0.4kg N/ha/yr and greater than 1% of the critical load, then the significance of air quality effects on designated habitats has been assessed by a competent expert for biodiversity.

The overall evaluation of the significance of the effect has been undertaken in accordance with DMRB LA 105 (paragraph 2.103 to 2.106).

B.3 Air Quality Receptors

Human Health

There are over 600 human health receptors in the air quality study area. Full details of receptors assessed will be reported in the ES assessment.

Designated Habitats/ Ecological Receptors

There are over 1000 ecological receptors points included in the air quality study area. Full details of receptors assessed will be reported in the ES assessment.

B.4 Further Details on Dispersion Modelling

The dispersion model was set up based on the following key inputs and assumptions:

- Road sources were modelled using the ADMS-Roads source representation tool;
- Ordnance Survey Master Map base mapping was used to define the road geometry;
- A single centreline was entered in the model for modelled roads with the exception of dual carriageways and motorway links which have a centreline included for both carriageway directions; and
- Road widths have been measured in GIS from Ordnance Survey Master Map data.

Hourly sequential meteorological data for 2018 Manchester Airport meteorological station was used. The parameters required by the model included: date, time, wind direction (angle wind blowing from), wind speed (at 10 metres above ground level), surface air temperature (degrees Celsius), and cloud cover (oktas – or eighths of sky covered).

A latitude of 53 degrees was selected. This determines times of sunrise and sunset for each day throughout the year, which in turn affects stability calculations.

Surface roughness coefficients have been defined as 1.0 metres (representative of cities, woodlands) for the air quality study area and 0.3 metres (representative of agricultural area max) for the meteorological station. The surface roughness is important in the approximation of turbulent conditions within the atmospheric boundary layer and thus in the estimation of pollutant concentrations at receptors.

Minimum Monin-Obukhov length (to reasonably limit the occurrence of very stable atmospheric conditions) has been defined as 30 metres and 10 metres at the meteorological site and dispersion site respectively (representative of a small towns with a population of less than 10,000, and cities and large towns). This parameter limits the occurrence of very stable boundary layer conditions (i.e. when the air is still) to a degree that is appropriate to the general land-use. In general, the potential for very stable conditions is lowest in large urban areas where the 'heat island' effect promoting turbulent motion in the boundary layer is strongest.

A wind rose for the Manchester 2018 met station is shown below in Figure B-1.

The effects of road gradient are important in some locations within the air quality model area. Following recommendations in previous work in 2019, the gradient effect on vehicle emissions has been calculated using the latest available tools at the time of the assessment (EFT v9.0) and applied to Highways England speed-band emission factors. Gradients have been applied at the following locations in the air quality model area with a gradient of 6% or more:

- Glossop Road at the Dinting Vale junction;
- Mottram Moor and A6018 Back Moor between Carrhouse Lane and A6018 Roe Cross Road; and
- A6018 Roe Cross Road either side of the junction with Edge Lane.

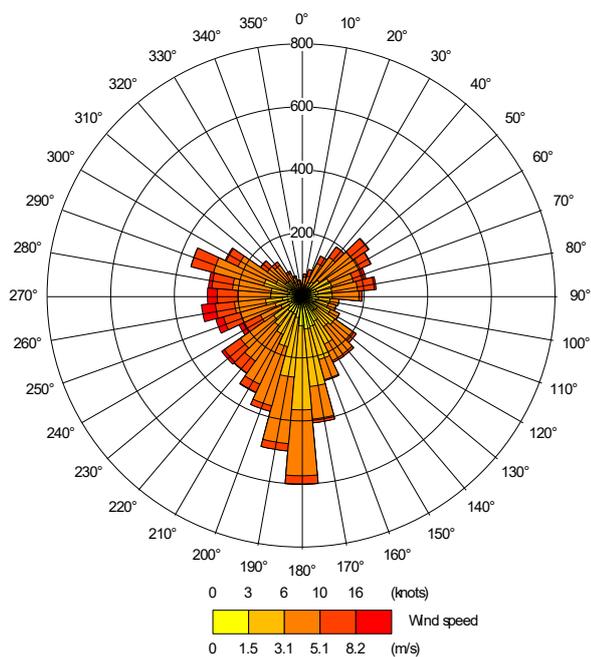


Figure B-1 - Wind rose for the Manchester 2018 met station

B.5 Air Quality Model Verification

The annual mean NO₂ concentrations for the 2018 base year were verified by means of comparison against available ratified monitoring data. The modelled road NO_x concentrations were adjusted where appropriate, with reference to the methodology set out in DEFRA's LAQM.TG(16).

The model was split into 9 verification zones. The factors used to adjust the model results in these areas are shown below in Table B-3. Full details of the verification will be presented in the ES.

Table B-3 - Model Verification Factors

Zone	Description	Number of Monitoring Sites	Adjustment Factor
1	A57	9	2.37
2	A628	12	2.07
3	Dinting Vale Junction	4	3.27
4	M67	14	1.37
5	Mottram North of A57	10	1.92
6	Mottram South of A57	7	4.04
7	Mottram Rise	6	1.80
8	Non-A road / Suburban	10	2.36
9*	M60	4	0.75 (1.00)

* An adjustment factor of 1.00 was applied to the M60 zone as a worst case

B.6 Results

Human Health

Dispersion modelling results for human health receptors which were exceeding in both the DM and DS scenarios are shown below in Table B-4.

Table B-4 - Annual Mean NO₂ Results at Receptors Exceeding the AQS Objective with the Scheme (µg/m³)

Receptor	Verification Zone	X	Y	DM	DS	Change	Magnitude of increase
R54	A628	400476	396120	40.5	40.7	0.2	Imperceptible
R514	Dinting Vale Junction	401760	394526	45.4	44.8	-0.6	Small decrease
R36	Mottram - N A57	400377	396032	51.6	48.1	-3.5	Medium decrease
R111	Mottram - N A57	400381	396034	50.2	46.9	-3.3	Medium decrease
R714	Mottram - N A57	400388	396039	47.6	44.8	-2.8	Medium decrease
R167	Mottram - N A57	400388	396039	47.3	44.5	-2.8	Medium decrease
R38	Mottram - N A57	400409	396057	46.3	44.3	-2.0	Small decrease
R42	Mottram - N A57	400397	396047	46.7	44.3	-2.4	Medium decrease

R562	Mottram - N A57	400394	396044	46.8	44.3	-2.5	Medium decrease
R39	Mottram - N A57	400402	396051	46.4	44.2	-2.2	Medium decrease
R835	Mottram - N A57	400406	396054	46.3	44.2	-2.1	Medium decrease
R868	Mottram - N A57	400398	396048	46.5	44.2	-2.3	Medium decrease
R33	Mottram - S A57	400399	396031	64.3	59.1	-5.2	Large decrease
R599	Mottram - S A57	400397	396029	64.3	58.9	-5.4	Large decrease
R841	Mottram - S A57	400403	396034	63.5	58.7	-4.8	Large decrease
R34	Mottram - S A57	400406	396036	62.6	58	-4.6	Large decrease
R35	Mottram - S A57	400410	396039	62.0	57.8	-4.2	Large decrease
R32	Mottram - S A57	400392	396025	62.3	56.2	-6.1	Large decrease
R37	Mottram - S A57	400424	396050	58.6	55.1	-3.5	Medium decrease
R31	Mottram - S A57	400388	396022	60.5	53.8	-6.7	Large decrease
R749	Mottram - S A57	400443	396067	56.4	53.7	-2.7	Medium decrease
R30	Mottram - S A57	400384	396019	59.5	52.1	-7.4	Large decrease
R608	Mottram - S A57	400420	396046	55.7	52.1	-3.6	Medium Decrease
R45	Mottram - S A57	400440	396063	54.6	51.9	-2.7	Medium decrease
R29	Mottram - S A57	400380	396016	58.8	50.1	-8.7	Large decrease
R25	Mottram - S A57	400377	396013	58.6	48.8	-9.8	Large decrease
R24	Mottram - S A57	400373	396010	59.3	47.8	-11.5	Large decrease
R22	Mottram - S A57	400367	396005	63.7	47.4	-16.3	Large decrease
R144	Mottram - S A57	400370	396008	60.9	47.3	-13.6	Large decrease
R137	Mottram - S A57	399316	395639	67.3	45.9	-21.4	Large decrease
R442	Mottram - S A57	400144	395940	52.0	41.1	-10.9	Large decrease
R443	Mottram - S A57	400148	395941	51.4	40.7	-10.7	Large decrease
R444	Mottram - S A57	400152	395943	50.9	40.4	-10.5	Large decrease
Exceedances of annual mean NO ₂ UK objective highlighted in bold							

Designated Habitats/ Ecological Receptors

The ecological receptors which exceeded the LA 105 designated site impact criteria are shown below in Table B-5. The critical loads and habitat type are described in Table B-6. Changes in critical loads for ecological receptors which exceeded the LA 105 designated site impact criteria are shown in Table B-7.

Table B-5 - Ecological Receptors Exceeding DMRB LA 105 Designated Site Impact Criteria

Receptor ID	Name	Transect Location	X	Y	Local Authority
Locally designated ecological site (exceeding the screening criteria)*					
R144	Grimbocarandrough Woods Ancient Woodland	R144_4m	418890	386497	HPBC
R216	Shire Hill Ancient Woodland	R216_0m	405182	394177	HPBC
R676	Westwood Clough & Longlands Hall SBI	R676_18m	397184	395441	TMBC
R677	Westwood Clough & Longlands Hall SBI	R677_20m	397184	395436	TMBC
R706	Westwood Clough & Longlands Hall SBI	R706_32m	397594	395428	TMBC
R728	Westwood Clough Ancient Woodland, Westwood Clough & Longlands Hall SBI	R728_33m	397593	395428	TMBC
R729	Westwood Clough Ancient Woodland, Westwood Clough & Longlands Hall SBI	R729_40m	397593	395435	TMBC
R730	Westwood Clough Ancient Woodland, Westwood Clough & Longlands Hall SBI	R730_50m	397595	395445	TMBC
R1053	Peak Forest Canal (North) SBI	R1053	394249	395322	TMBC
R1064	Westwood Clough & Longlands Hall SBI	R1064	397225	395433	TMBC
R1065	Westwood Clough & Longlands Hall SBI	R1065	397596	395428	TMBC
R1074	Grimbocarandrough Woods Ancient Woodland	R1074	418939	386499	HPBC
R1079	Dark Peak NIA	R1079	412366	389716	HPBC
R1080	Dark Peak NIA	R1080	416747	387289	HPBC
R293	Dark Peak NIA	R293_0m	416549	388017	HPBC

R1085	Peak Forest Canal (North) SBI	R1085	394237	395368	TMBC
R1096	Dinting Junction Pond LWS	R1096	402209	394728	HPBC
R1106	Melandra Castle and Railway LWS	R1106	401395	394914	HPBC
R1111	Ashes Farm Meadows (potential LWS)	R1111	402749	394585	HPBC
*Habitat type was assumed to be 'woodland' as woodland has the most stringent N-Dep criteria.					

Table B-6 - Background Nitrogen Deposition Rates, Habitat Type and Critical Loads for Nitrogen Sensitive Designated Sites

Site Name	Designation	Habitat Type	Lower Limit of Critical Load (kg N/ha/yr)	APIS 2016-18 background N-dep rate (max) (kg N/ha/yr)
Grimbocarandrough Woods Ancient Woodland	LWS	Broadleaved deciduous woodland	10	34.16
Shire Hill Ancient Woodland	LWS	Broadleaved deciduous woodland	10	35.70
Westwood Clough & Longlands Hall SBI	LWS	Broadleaved deciduous woodland	10	34.58
Westwood Clough Ancient Woodland	LWS	Broadleaved deciduous woodland	10	34.58
Peak Forest Canal North SBI	LWS	Broadleaved deciduous woodland	10	37.66
Dark Peak NIA	LNR	Broadleaved deciduous woodland	10	37.80
Dinting Junction Pond LWS	LWS	Broadleaved deciduous woodland	10	33.46
Melandra Castle and Railway LWS	LWS	Broadleaved deciduous woodland	10	33.46
Ashes Farm Meadows (potential LWS)	LWS	Broadleaved deciduous woodland	10	33.46

Table B-7 - Nitrogen Deposition for Ecological Receptors Exceeding DMRB LA 105 Designated Site Impact Criteria

Receptor ID	Transect Location	2018 Base N Dep	2025 DM N Dep	2025 DS N Dep	2025 N Dep Change	Change as % of Critical Load
R144	R144_4m	37.4	37.0	37.5	0.5	5.2%
R216	R216_0m	38.0	37.8	38.5	0.7	7.0%
R676	R676_18m	36.7	36.0	36.5	0.4	4.4%
R677	R677_20m	36.6	36.0	36.4	0.4	4.1%
R706	R706_32m	37.1	36.3	36.9	0.6	5.8%
R728	R728_33m	37.1	36.3	36.9	0.6	5.8%
R729	R729_40m	36.9	36.1	36.6	0.5	5.2%
R730	R730_50m	36.6	35.9	36.4	0.4	4.4%
R1053	R1053	45.4	43.5	44.2	0.7	6.7%
R1064	R1064	37.0	36.3	36.7	0.5	4.9%
R1065	R1065	37.1	36.3	36.9	0.6	5.8%
R1074	R1074	37.6	37.2	37.7	0.6	5.5%
R1079	R1079	39.2	39.1	39.6	0.5	4.9%
R1080	R1080	37.3	36.9	37.4	0.5	5.2%
R293	R293_0m	37.7	37.4	38.0	0.6	6.4%
R1085	R1085	49.3	46.6	47.9	1.2	12.2%
R1096	R1096	35.6	35.1	35.6	0.5	4.9%
R1106	R1106	36.6	35.8	36.3	0.5	4.9%
R1111	R1111	35.8	35.2	35.8	0.6	6.1%

*Habitat type was assumed to be 'woodland' as woodland has the most stringent N-Dep criteria.

Appendix C. Cultural Heritage Designated Assets

Table C-1 and Table C-2 outline the designated and non-designated assets within the study area.

Table C-1 - Designated assets within the study area

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA1	1004595	Melandra Castle Roman fort	Melandra Castle Roman Fort, also known as Ardotalia, was constructed by Cohors Primae Frisiavonum—The First Cohort of Frisiavones. The fort occupies a promontory overlooking the River Etherow and was constructed c. AD 75, originally in timber and later rebuilt in stone. The fort is configured in a 'playing card' formation, with the fort's headquarters situated in the center surrounded by barracks. The scheduled area also includes an area outside of the fortifications where excavations in the 1960s identified a large rectangular structure interpreted as a mansion or bath house.	Roman	Scheduled Monument	N/A	N	High	400935	395048	188m
HA2	N/A	Mottram-in-Longdendale Conservation Area	Conservation area situated within Tameside Metropolitan Borough	N/A	Conservation Area	N/A	N/A	High	399427	395375	0m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA3	N/A	Hadfield Conservation Area	Conservation area situated within the High Peak Borough	N/A	Conservation Area	N/A	N/A	High	402090	396109	948m
HA4	1356436	Church of St Michael and All Angels	Late 15th century church retaining 15th century tower. Interior, vestry and clerestory 19th in date, however, interior also includes early C15 recumbent stone effigies in Staveleigh chapel (south), Reginald Bretland (1703) a semi-reclining figure on supporting plinth with latin text, as well as an inscribed slab to John Pycton, rector (1517) - defaced and no longer visible. Church demonstrates a complex architectural history with prominent location within landscape.	Post-Medieval	Listed Building	II*	Mottram Conservation Area	High	399431	395293	308m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA5	1068028	Cross	Cross. Medieval in origin but heavily restored in 1760 and 1897. Ashlar. Stepped circular ashlar plinth inscribed "Restored in commemoration of the sixtieth year of the reign of Queen Victoria 1897". Octagonal shaft on moulded base has foliated capital and supports a cubical sundial with 3 copper faces. The front face is inscribed "hora pars vitae", the rear "and watch and pray time hastes away when time is done eternity comes on".	Medieval	Listed Building	II*	Mottram Conservation Area	High	399409	395236	357m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA6	1068024	Dial House	Two storey hammer-dressed stone property with graduated stone slate roof, and a single-storey extension to rear. 20th century bow windows on ground floor and 2 casement windows to first floor with square-cut surrounds, though transom stair window does retain the original leaded panes. "JG 1747" (John Gee) visible on lead rainwater head, "JG 1738" visible on door lintel. Interior retains some timber-framed partition walls.	Post-Medieval	Listed Building	II	N	Medium	399276	396224	34m
HA7	1068025	Number 49 and Adjoining Building	House and adjoining cottage and barn. Mid-18th century with later additions. Squared rubble (the barn is watershot stone) with slate and graduated stone slate roof.	Post-Medieval	Listed Building	II	N	Medium	398692	396510	469m
HA8	1068026	1, Roe Cross Farm	Three late 18th century cottages. Late 18th century with later addition. Dressed stone with graduated stone slate roof.	Post-Medieval	Listed Building	II	N	Medium	398697	396528	480m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA9	1068027	Mottram Congregational Church	Chapel built in 1791, altered 1836 and 1852. Stone plinth, rendered walls, slate roof and hammer-dressed stone wing of 1852. Interior much altered. Principal interest is historical as it was built as a Methodist meeting house, changed to the New Connexion in 1803 and to a Congregational church in c.1850. It is said to be the oldest surviving Methodist chapel in the Manchester area which is still in use as a place of worship.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399276	395674.36	12m
HA10	1068029	Gatepiers, Railings, Steps and Walls to Graveyard Of St Michael And All Angels	Gatepiers, railings, steps and graveyard walls. Multiple phases of construction from the 18th and 19th centuries.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399422	395257	340m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA11	1068030	The Old Mortuary	Mortuary. "1775 James Ridgeway Aaron Heaward Church Wardens, Rebuilt 1895 Joseph Schofield Edward Thompson Church Wardens". Squared rubble and hammer-dressed stone with ashlar dressings and graduated stone slate roof. One room on 2 floors with access at 2 levels.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399404	395304	290m
HA12	1068050	Crown Pole House Crowning Glory Hair Dressers	Late 18th century two storey house, now incorporating a shop with 19th century alterations.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399323	395421	162m
HA13	1068053	Mottram Community Centre	A 19th century Sunday school, now community centre. Two storey Hammer-dressed watershot stone building, with a graduated stone slate roof, and 1832 listed on gable.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399381	395351	239m
HA14	1068059	Manor House	A 19th century house. c.1855. Two storey dressed stone with graduated stone slate roof and rendered rear and stacks.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399298	395449	134m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA15	1068060	Village Stocks	Stocks. Probably 18th century. Pair of plain stone posts with grooves for timber foot restraints which have iron fasteners. Formerly located in the village of Hattersley.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399328	395448	135m
HA16	1068061	Minorca House	Early/mid-18th century house. Two storey squared rubble with graduated stone slate roof and a 20th porch and lean-to extension.	Post-Medieval	Listed Building	II	N	Medium	400949	396423	561m
HA17	1068062	Gun Inn	Three cottages and public house, now public house and restaurant. "JMA 1781" on datestone of public house, with the cottages of a similar date. Interior much altered.	Post-Medieval	Listed Building	II	N	Medium	400342	396032	9m
HA18	1068063	Meadowbank Farmhouse	Farmhouse. c.1700. Two storey stone (rendered) with a lean-to against right gable. Central ridge chimney stack.	Post-Medieval	Listed Building	II	N	Medium	400714	396744	671m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA19	1068065	Ivydene, Mottram Old Hall	House. c.1825 although the rear wing (Ivydene) is of 1727. Ashlar with slate roof. Regency style, two storeys and a large rear wing. The interior of the Old Hall is largely intact and has a vaulted plaster entrance hall and a grand staircase.	Post-Medieval	Listed Building	II	N	Medium	399358	396367	78m
HA20	1068085	Higher Matley Hall	House of 17th century date. T-shaped 2-storey plan with 2-storey porch, porch dated MB 1733. Building has multiple 20th century alterations to its fabric.	Post-Medieval	Listed Building	II	N	Medium	397521	395934	862m
HA21	1162440	Miniature Castle Miniature Castle Cottage	Farmhouse and cottage. Late 18th century but with additions, including a mid-19th century facade and 20th century roofing. A higher parapet has an engraved stone reading "Longdendale Miniature Castle".	Post-Medieval	Listed Building	II	N	Medium	398110	395454	114m
HA22	1162494	19 and 21, Ashworth Lane	Two houses dated 1790-1800, built for Samuel Cook. Three storeys hammer-dressed watershot stone with graduated stone slate roof, and a large central ridge chimney stack in brick.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399272	395387	200m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA23	1162544	4, Back Lane	Former 18th century house now converted to a shop. Two storeys, squared rubble, graduated stone slate roof and brick stack. Included for group value.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399305	395571	15m
HA24	1162570	Lower Roe Cross Farmhouse	A 18th century farmhouse. Two storey squared rubble (largely rendered), graduated stone slate roof and small extension in hammer-dressed stone. "GCS 1719" on datestone in gable.	Post-Medieval	Listed Building	II	N	Medium	398782	396314	266m
HA25	1162603	Thornclyff Barn	Late 17th or early 18th century Tithe barn with some 19th century alterations to the fabric. Squared rubble with hammer-dressed stone dressings and corrugated plastic roof. A 20th century lean-to stabling at rear is not of special interest.	Post-Medieval	Listed Building	II	N	Medium	400226	396830	754m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA26	1162687	3 And 5, Meadow Bank	Two cottages, both two storey with ashlar dressings and graduated stone slate roof. Cottage number 3 has a shaped lintel reading "1698 IH AH" and cottage number 5 has "1679 TH IH" on door lintel.	Post-Medieval	Listed Building	II	N	Medium	400730	396740	674m
HA27	1162691	Barn and byre at Meadowbank Farm	Barn and byre. "IH 1700" on door lintel with 18th, 19th and 20th century additions and alterations. Included for group value.	Post-Medieval	Listed Building	II	N	Medium	400704	396725	650m
HA28	1162700	Dial Cottage	Two storey 18th century house with 19th century extension. Dressed stone, ashlar dressings, graduated stone slate roof and brick stacks. "John Gee 1742" listed on stone tablet.	Post-Medieval	Listed Building	II	N	Medium	399297	396233	19m
HA29	1162742	Sundial in Graveyard to south of Church of St Michael and All Angels	Sundial dated 1811. Situated in graveyard to south of church of St. Michael and All Angels.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399420	395270	327m
HA30	1162753	Arrowscroft House	Two storey house. c.1820. Flemish bond brick with ashlar dressings and slate roof.	Post-Medieval	Listed Building	II	N	Medium	400763	396126	280m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA31	1309517	Manor Cottages	Two houses, of late 18th century date. Both structures are hammer-dressed stone with graduated stone slate roof and brick stacks. No. 190 (left) has a door to left with heavy timber frame, with no. 192 having a central door and a lower roofline.	Post-Medieval	Listed Building	II	N	Medium	400970	396459	599m
HA32	1309545	Mottram Court House	A 19th century courthouse, now Longdendale Information and Advice Office. Hammer-dressed stone with hipped slate roof. A drinking fountain on the front commemorates the installation of a piped water supply in 1888.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399310	395459	123m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA33	1309587	Old Hillend Farmhouse at Home Farm	Farmhouse, now barn and stable. 1604 on door lintel although successively altered in later centuries. Two storeys coursed rubble, watershot stone and brick with slate and graduated stone slate roof. An I-bay cottage added as a wing to the left in 18th century, 19th and 20th century. The internal walls and floors and the original roof construction have all been removed.	Post-Medieval	Listed Building	II	N	Medium	399082	394478	812m
HA34	1334809	Millbrook House	Late 18th century mill owner's house. Multiphase, with c 1870s, c 1880 and 1924 extensions and modifications. History: the original cotton mill was built by John Sidebottom in the late C18. After a fire, the mill was demolished in 1882. The gardens were laid out by Edward Milner.	Post-Medieval	Listed Building	II	N	Medium	401059	396760	869m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA35	1356421	Bardsley Gate Cottage Bardsley Gate Farmhouse Mead Cottage	Three cottages, with "RWE1736" on lintel. Two storeys squared rubble, hammer-dressed stone and graduated stone slate roof. Late 19th century extensions.	Post-Medieval	Listed Building	II	N	Medium	398127	396653	978m
HA36	1356438	Woolley Farmhouse	Farmhouse. "MB 1736" on door lintel. Two storeys, squared rubble with slate roof.	Post-Medieval	Listed Building	II	N	Medium	400776	395680	37m
HA37	1356448	21, Church Brow	Early 19th century house. Squared rubble with 20th century tile roof and brick chimney stacks, and a 20th century extension. Included for group value.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399400	395385	211m
HA38	1356449	Edge Lane House	A mid-18th century house. "ITE 1746" on keystone above porch. Two Story, squared-rubble with graduated stone slate roof, and a 20th century lean-to against right gable.	Post-Medieval	Listed Building	II	N	Medium	398736	396180	228m
HA39	1356451	Thornclyff Hall	House constructed 1702 (date over doorway) in Jacobean style. Dressed stone (watershot at rear) with graduated stone slate roof, and heavily rebuilt and modified c.1830.	Post-Medieval	Listed Building	II	N	Medium	400164	396649	611m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA40	1356452	The Old Parsonage	Late 17th century house. Two storey, squared rubble with graduated stone slate roof and brick stacks. The former building on the site was sold in 1547 by Henry VIII to the Bishop of Chester who became rector of Mottram.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399287	394982	601m
HA41	1356471	Stamford Cottage	Late 18th century house. three story, hammer-dressed stone with graduated stone slate roof.	Post-Medieval	Listed Building	II	N	Medium	398718	396477	427m
HA42	1356472	1 and 3, Pingot Lane	Two adjoining cottages. Deeds said to date from 1742. Two storeys hammer-dressed stone with graduated stone slate roof.	Post-Medieval	Listed Building	II	N	Medium	399888	394625	9367m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA43	1384309	Roman Catholic Church of St Charles Borromeo and attached Presbytery	Roman Catholic church and attached presbytery. Constructed 1858, by JG Weightman, ME Hadfield and George Goldie. Lady chapel added 1888, alterations 1918-22 and north chancel chapel added 1940. Gothic Revival coursed rock-faced millstone grit with ashlar dressings and Welsh slate roofs with coped gables, kneelers and cross finials	Post-Medieval	Listed Building	II	N	Medium	401612	396195	720m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA44	1410735	The Elms and Forecourt Wall	The Elms and forecourt wall, 23 Stalybridge Road, Mottram-in-Longdendale, of c.1850. Architectural interest: as a mid-19th century, ashlar-fronted detached house which makes a positive contribution to the streetscape of Mottram-in-Longdendale and reflects the landscape that Lowry so distinctively recorded in his famous paintings. Historical interest: as the home and working environment for 28 years of the nationally important artist, L S Lowry, who used the dining room as his studio.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399241	395774	92m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA45	1449368	Hollingworth War Memorial	Hollingworth War Memorial commemorating the First World War, with Second World War and Iraq War additions, is listed at Grade II for the following principal reasons: Architectural interest: A well-designed granite Latin Cross on a high octagonal pedestal standing on a semi-circular platform partially bounded by a low wall providing a dignified and fitting tribute to the lives lost. Historic interest: As an eloquent witness to the tragic impact of world events on the local community, and the sacrifice it has made in the conflicts of the 20th century and 21st .	Post-Medieval	Listed Building	II	N	Medium	400311	396017	2m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA46	1162561	School House	Schoolmaster's house. Dated 1862. Two storey, rock-faced stone with ashlar dressings and graduated stone slate roof. Tudor style door in bay 3 with "manners maketh man" inscribed above in Gothic script. A plaque in bay 3 also reads "Come ye Children: Harken unto me: I will teach you the fear of the Lord: The fear of the Lord is the Beginning of Wisdom: Bring them: In the nurture and admonition of the Lord: Anno Domini MDCCCLXII".	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399370	395389	199m
HA47	1068051	Old Post Office Farm	Listing includes left hand bay only of No. 50 MARKET STREET (west side) which was formerly part of the same house. House, "NWM 1694" (Nicholas and Martha Wagstaffe) on door lintel. Two storey squared coursed rubble with graduated stone slate roof and brick stack.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399306	395582	8m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated with Conservation area	Significance	Easting	Northing	Distance from Scheme
HA48	1068058	Crown Pole	Pole bearing light pendants, weather-vane and sign posts. Originally erected 1760 for the coronation of George III but replaced in 1902 and again in 1926.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399325	395441	142m
HA49	1356437	The Old School	A 19th century Jacobean style. school, with 1858 on datestone. Rock-faced stone with ashlar dressings and graduated stone slate roof. T-shaped with one storey plus basement. A cusped panel in the gable reads "Scholam Grammatican, A.S. MDCXX Benivolentian Roberti Garsett Armig et Ricardi Willbraham Equit Fundatam. Metustate et Incuria Dilapsam Instaurarit Reposuit Restituit Geogius Woodhead Armig A.S. MDCCCLVIII". Included for group value.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399432	395258	342m
HA50	1356447	23, Ashworth Lane	House. "ITE 1746" on keystone above porch. Two storey, squared-rubble with graduated stone slate roof, with a 20th century lean-to against right gable.	Post-Medieval	Listed Building	II	Mottram Conservation Area	Medium	399267	395380	208m

Table C-2 - Non-designated assets within the study area

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA51	MDR573	Mesolithic flint and chert scatter, Melandra, Glossop	A Mesolithic assemblage, including flint and chert microliths and waste, has been found on the hill later occupied by the Roman fort of Melandra	Mesolithic	400900	395000	283m
HA52	MGM9439	Field System, Mottram	An early field system, of possible Bronze Age date. Defined by a series of banks and ditches, with what appear to be clearance cairns.	Bronze Age	398445	396155	416m
HA53	MGM4258	Rectilinear Enclosure	Comprises a small group of banks, ditches and mounds, on the south-eastern side of Harrop Edge. Such earthworks occur over wide areas of the Pennines, the closest concentration to Tameside being in the Derbyshire Peaks. They are very difficult to date, unless accompanied by settlement evidence, since such small field systems seem to have been common from the second millennium BC to the first millennium AD.	Roman	400550	395770	68m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA54	MGM9454	Pottery and Hearths	Hearths and coarseware pottery reported from the western bank of the river Etherow near Woolley, opposite Melandra Castle Roman fort. Possibly related to activity by the Manchester–Melandra road	Roman	400905	395505	49m
HA55	MGM9455	Cropmark Enclosure, Hollingworth	Single-ditched square enclosure. Apparently attached to the possible Melandra–Gallow Clough Roman road by a short trackway.	Roman	400500	395750	54m
HA56	MGM9459	Cropmark (possible Roman Road)	Two parallel ditches, running NW from the top of the Etherow river plain. These appear to be a routeway, which if projected westwards would run along the old coach road to the north of Mottram Old Hall, meeting with the Werneth Low–Castleshaw road at Gallows Clough	Roman	400705	395505	35m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA57	MDR11569	Roman Road (conjectural route of), Brough to Melandra, High Peak	A large proportion of this road is lost, either by erosion or burial under peat. The road was completely rebuilt once and, judging from some of the sections, the first road was overgrown and therefore disused. This could perhaps imply a reoccupation of one or both of the forts. There is also a third period when the second road was in commission but suffering from wear and tear. The line of the Roman road between the fort at Brough and Melandra Castle has been investigated in some detail, with some sections being dug across it in places. The course of the road cannot be identified with certainty along its whole length. In some places it has probably been destroyed by erosion, landslips, forestry work and peat accumulation.	Roman	400900	395000	348m
HA58	MGM4181	Strip Lynchets (possible)	A series of lynchets running north to south across the side of the hill. May be medieval in origin.	Medieval	399305	395105	483m
HA59	MGM4178	Medieval house platforms (possible) (site of) (medieval Mottram?)	One or more house platforms may be present along Littlemoor Road between Parsonage Farm and Warhill. This area may be the medieval core of Mottram	Medieval	399375	395155	436m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA60	MGM1196	Mottram Unitarian Church (former)	The "Barkerite" congregation from the Christian Brethren moved to a new building 150 yards south-west of their former chapel, opened November 1846. The chapel is stone-built. Building extant but divided into four dwellings	Post-Medieval	399245	395635	10m
HA61	MGM16750	Post Office, Hollingworth (former)	Post Office present on 1882 map.	Post-Medieval	400479	396132	16m
HA62	MGM16754	Wesleyan Methodist Chapel (now Hollingworth Methodist Church)	Chapel present on 1882 map	Post-Medieval	400690	396253	251m
HA63	MGM2859	Mottram Old Hall, Entrance Lodge	This building, guarding the approach to Mottram Old Hall, was designed in a style suggestive of a classical temple, with a pediment supported on a portico of Ionic columns. It dates from the 1820s, when the hall itself was remodelled in a classical style.	Post-Medieval	399067	396279	142m
HA64	MGM4104	Cheetham's (house)	A rectangular structure is shown on the 1846 tithe map. A two-storey structure in a laithe house arrangement.	Post-Medieval	398055	395695	356m
HA65	MGM4106	Silverspring (Silver Springs Farm)	Three rectangular structures are shown on this site on the 1846 map. On the western side of the site is a shippon constructed of squared rubble with a graduated stone slate roof. Building extant although no longer a farm.	Post-Medieval	398315	395925	409m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA66	MGM4110	Paddock Farm	Single rectangular structure shown on 1846 map. A trench was put between two possibly man-made mounds on the site and confirmed human activity with a series of small shallow postholes that could have been associated with the woollen trade, possibly tenterhooks. The whole field shows evidence of ridge and furrow section.	Post-Medieval	398328	396002	434m
HA67	MGM4114	Mainsgrass (Mainsgras Farm)	A T-shaped structure is shown on the east side of the lane on the 1846 map (2). Present structure is rectangular in plan; it has an outshut to rear	Post-Medieval	398411	395595	125m
HA68	MGM4121	Jobs/ Grange Farm (structure)	A rectangular structure shown at the fork of two lanes on the 1840 map. This now forms part of Grange Farm.	Post-Medieval	398367	395414	12m
HA69	MGM4145	Brookside Cottage and The Old Manor House	An L-shaped structure is shown on this site on the 1840 map on the east side of the road. There are in fact two structures on this site, namely the Old Manor House and Brookside Cottage. Both have been heavily modernized.	Post-Medieval	398689	394770	336m
HA70	MGM4177	Mile-end House	Two structures are shown on the west side of the lane on the 1882 map. The larger building is a 2-storey Georgian-style house.	Post-Medieval	399216	395182	394m
HA71	MGM4183	High View (2 houses)	Two houses. Circa 19th century. Two-storey building of rock-faced stone.	Post-Medieval	399365	395175	415m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA72	MGM4187	Warhill Farm	Farmstead, pre-1700. Three structures are shown on the 1846 map	Post-Medieval	399435	395215	388m
HA73	MGM4188	Barn at Warhill Farm	On the eastern side of the site is a barn which has two recognizable phases.	Post-Medieval	399415	395185	412m
HA74	MGM4192	Pack Horse Inn	Farmstead pre-1700, now a public house. The present east-facing façade of the 2-storey building was rebuilt in 1927 in mock Tudor style. However, the core of the building would appear to be early 17th century. The building is no longer in use as a public house and appears to have been unoccupied by 2016.	Post-Medieval	399275	395435	159m
HA75	MGM4195	Victoria Place	Group of three, now 5 houses. "Victoria Place 1852" inscribed in eastern elevation.	Post-Medieval	399230	395797	113m
HA76	MGM4199	Old Mill Farm	A T-shaped structure is shown on the east side of the road on the 1846 map. The site is now occupied by a similarly shaped structure called Old Mill Farm:	Post-Medieval	398785	396165	187m
HA77	MGM4207	Roe Cross Inn (the Roe Cross PH)	Two storey inn. The inn has sustained many alterations and extensive rebuilds but the shell is extant	Post-Medieval	398800	396380	300m
HA78	MGM4214	Cottages on North Side of Old Hall Lane	A single rectangular structure is shown on the north side of Old Hall Lane on the 1885 tithe map (2). This building is in fact 2 cottages.	Post-Medieval	399235	396105	19m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA79	MGM4219	Cottage on Rabbit Lane	A small square-shaped structure is situated on the eastern side of the lane on the 1845 map. A 2-storey cottage with a rendered exterior.	Post-Medieval	399304	396469	173m
HA80	MGM4221	Middle O' Th' Hill, Mottram Moor	A small square-shaped structure is situated on the eastern side of the lane on the 1845 map. A 2-storey cottage with a rendered exterior.	Post-Medieval	399957	395896	7m
HA81	MGM4225	Nettle Hall	A rectangular structure is shown on this site on the 1845 tithe map. A laithe house arrangement.	Post-Medieval	399945	396035	139m
HA82	MGM4238	St Mary's Church	This building appears for the first time on the 1882 map. Rock-faced stone with ashlar dressing.	Post-Medieval	400471	396070	19m
HA83	MGM4240	Holly Grove (Grove House)	A small structure is shown on this site on the 1845 map. By 1882 the site is called Holly Grove. The present structure is called Grove House. Inaccessible	Post-Medieval	401370	396620	300m
HA84	MGM4246	Moorfield House	A rectangular structure is shown on this site on the 1845 map (2). The present structure appears to be a modern building. A 2-storey house of hammer-dressed watershot stone with a graduated stone slate roof and ridge and gable chimneys. A coped gable and stone gutter brackets. Stone sills and lintels to modern windows	Post-Medieval	400630	396370	297m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA85	MGM4247	12–18, Wood Street (Thornecliffe Wood)	A group of 5 buildings on this site on the 1845 map. A small quarry is to the east of the buildings on the 1882 and 1910 maps.	Post-Medieval	400501	396350	234m
HA86	MGM4252	Thornecliffe Vale	Two L-shaped structures are shown on this site on the 1845 map. The present structures may be the same	Post-Medieval	400406	396586	474m
HA87	MGM4259	Carr House, Mottram	Two structures are shown on this site on the 1882 map. Burdett's map of Cheshire shows "The Carr" but it is impossible to tell if it is referring to a building or locality. The 1983 map shows 2 oblong buildings.	Post-Medieval	400740	395920	147m
HA88	MGM4317	River Etherow Bleach Works	Four buildings appear to survive relating to this complex, all early 20th century in date, constructed on the site of what was known as Hollingworth Print Works. There is a single-storey stone building, one bay wide, a possible engine house with large arched windows, attached to a single-storey shed. There has been some demolition recently, between the engine house and one-bay wide building. Fair condition, partly occupied.	Post-Medieval	401070	396150	322m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA89	MGM4322	Albion Mill (former), Hollingworth	rectangular structure on the north side of the lane appears on the 1882 map (2), where it is described as a cotton mill. A structure is also shown on this site on the 1845 map (3).	Post-Medieval	400166	396091	111m
HA90	MGM7357	Dry Mill	Dry Mill was built in the mid-1790s as a small textile factory by John Wagstaffe of Post Office Farm, a local yeoman farmer. Wagstaffe already had one textile factory in the village, in a former barn on Back Lane, which he had converted in 1786. The machinery in these buildings was either horse- or hand-powered, but no evidence survives at Dry Mill as to the power source	Post-Medieval	399314	395556	27m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA91	MGM12200	Black Bull Inn (site of)	The site was excavated, revealing a four-roomed property with a second storey accessed by a staircase in the north-eastern corner. This detail was supported by a set of architect's plans from 1910. Furthermore, it became clear that the southern wall of the site, which contained the only access point, was the remains of the southern gable of the property. It still stood to a height of over 3m and contained the original doorway, a blocked window and a fireplace. Likewise, the south-western boundary wall of the site was also part of the property and contained a blocked window. Further excavations on the site are proposed with the aim of establishing the phasing of the site and to recover an artefactual assemblage covering the 18th to 20th centuries	Post-Medieval	399415	395325	274m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA92	MGM16527	Aircraft Crash Site, Mottram	Around 3.30pm on Sunday 19th July 1942 a Miles Master Mark III piloted by Jozef Gawkowski (a Polish Air Officer) crashed in a gully behind the cemetery off Church Brow, Mottram. Little remains of the aircraft on the crash site apart from a few fragments of metal, and the precise crash location is unknown. Jozef Gawkowski's body was recovered and is buried in the Polish War Cemetery at Newark	Post-Medieval	399868	395360	224m
HA93	MGM16649	Isolation Hospital (site of), Carrhouse Lane	No visible remains, possibly built on parts of Hospital Farm. Reports by local farmer suggest that building foundations are below the fields. An 'Isolation Hospital' is marked at this location on the c.1909 Cheshire OS map. The site is vacant by the time of the c.1969 OS map.	Post-Medieval	400213	395690	8m
HA94	MGM16751	School, Wedneshough Road (site of)	School marked on the 1882 map. One of the two schools on Wedneshough Green mentioned by Butterworth. The earliest dated from 1794. There is a building at this site (now a house) that is named on modern mapping as 'The Old Schoolhouse'. It is not clear whether this includes part or all of the building that was present in the 19th century.	Post-Medieval	400299	396093	40m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA95	MGM16752	School, Cannon Street (site of)	School present on 1882 map. One of the two schools on Wednesough Green mentioned by Butterworth. The earliest dated from 1794 and had an inscription: "This school was built by public contributions, 1794". Possibly still extant: a building ('Hall') on a similar footprint to that shown on C19 mapping is still shown on the 2006 map.	Post-Medieval	400328	396126	77m
HA96	MGM16753	Congregational Chapel (site of)	Decorated Gothic with large gabled front divided by buttresses and twin-arched outer porch with date of 1861. By Poulton and Woodman. Replaced 1835 chapel. Built between 1859-62. Demolished in the late 1990s or early 21st century, seemingly following a fire.	Post-Medieval	400688	395865	67m
HA97	MGM4103	Structure (site of) East of Westwood Clough	A rectangular structure on the north side of the lane. Unnamed. This site is now vacant.	Post-Medieval	397765	395465	410m
HA98	MGM4105	Bates (two structures) (site of)	Two structures are shown on the south side of the lane opposite Harropedge Quarry on the 1882 map; these may be the structures later described as Bates. This site is now demolished. There appears to be a mixture of stone and some brick debris.	Post-Medieval	398175	395815	436m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA99	MGM4122	Intake (site of structure)	A T-shaped structure on the east side of the lane on the 1840 map. This site has been built over.	Post-Medieval	398505	395237	6m
HA100	MGM4123	Steel (site of)	An irregular-shaped structure on the east side of the lane on the 1840 map. This structure has been built over.	Post-Medieval	398484	395099	9m
HA101	MGM4124	Arandale (site of)	An irregularly shaped structure on the east side of the lane on the 1840 map. This structure would appear to underlie Ashworth Lane.	Post-Medieval	398519	394929	123m
HA102	MGM4129	Miles (site of)	Two irregularly shaped structures shown on the west side of the lane on the 1840 map. The structures have been built over.	Post-Medieval	398539	394789	264m
HA103	MGM4131	Structure, Hattersley (site of)	An elongated structure in the fork of the lane is shown on the 1840 map. This unnamed structure has been built over.	Post-Medieval	398549	394743	312m
HA104	MGM4143	Structures, Hattersley (site of)	A group of 4 unnamed structures about a fork in the lane on the 1882 map, 2 of which also appear on the 1840 map. These structures have been built over.	Post-Medieval	398485	394535	520m
HA105	MGM4144	Structure (site of), S of Chain Bar Lane	An L-shaped structure is shown on this site on the 1882 map.	Post-Medieval	398715	394665	441m
HA106	MGM4146	Millhill House (site of)	Two structures are shown on the 1840 map on this site. These sites have been built over. Present in 1882; demolished by 1977.	Post-Medieval	398652	394818	275m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA107	MGM4184	Mottram Colliery (site of)	A single coal shaft is shown on this site on the 1882 map Coal shaft flooded and used by anglers (TAS 99).	Post-Medieval	399521	395123	499m
HA108	MGM4189	Kiln Field, Mottram (site of)	This field name appears in the 1846 tithe apportionment (2). The kiln element suggests "land on which bricks are made".	Post-Medieval	399345	395295	294m
HA109	MGM4190	Kiln Field, Mottram (site of)	This field-name appears in the 1846 tithe apportionment together with a reference to a kiln field pit in the same field (2). There is nothing visible in the field.	Post-Medieval	399255	395315	280m
HA110	MGM4191	Sundial in Garden of 29, Ashworth Lane	Stone column with entasis on square base on circular plinth. The square capital is inscribed and the dial and gnomon are missing. Formerly Listed. The listing was revoked in February 2004	Post-Medieval	399197	395291	285m
HA111	MGM4198	Mottram Old Mill (site of)	The earliest reference to a mill in Longdendale is a charter dated 1211–25. The Longdendale Survey shows the manorial mill is located on a tributary of the Etherow, the site of the later Woolley mill.	Post-Medieval	398895	395965	39m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA112	MGM4200	Ridge and Furrow, Mottram	Not accessible. However, the ridges did not appear to be very wide. Therefore probably a late date can be ascribed to this feature. Site now redeveloped.	Post-Medieval	398900	395900	95m
HA113	MGM4202	Kiln Green (field name)	This field-name appears in the 1846 tithe apportionment. Heavily overgrown, nothing visible. There is a reference from 1684 to "the great kill field" in Mottram.	Post-Medieval	398770	396350	299m
HA114	MGM4213	Structures at Spoutgreen (site of)	Eight structures are located in the area between the lanes on the 1840s tithe map. All of these structures appear to have been built over.	Post-Medieval	399095	396135	14m
HA115	MGM4218	Mausoleum, West of Mottram Old Hall (site of)	A square-shaped structure on the 1845 map. No longer standing. Present on the 1882 map; building on this site on the 1983 map; not known if it is the same building. The mausoleum was for a racehorse. The site is now demolished for redevelopment.	Post-Medieval	399190	396360	137m
HA116	MGM4239	Arrowscroft Mill (Cardwell's Factory) (site of)	A large structure is shown on this site on the 1845 map. By 1882 the mill is described as disused. The 1910 map shows a larger structure on the site and describes it as a cotton mill. The mill has since been demolished.	Post-Medieval	401100	396620	117m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA117	MGM4243	Rose Bank (site of)	Two structures are shown on this site on the 1845 map . Inaccessible. Site cleared and area shown as under development for housing on 2006 map.	Post-Medieval	400980	396352	511m
HA118	MGM4248	Methodist Chapel (site of)	This structure appears on the 1845 map and was opened in 1830.The chapel is now disused. 2-storey hammer-dressed stone with an ashlar façade. Chapel destroyed by fire c.1994. Sections of the outer wall survive. Cemetery still in use . In 2001 Tameside Metropolitan Borough Council approved the erection of dwelling houses to be built on the site of the chapel (but not on the graveyard).	Post-Medieval	400392	396301	200m
HA119	MGM4260	Carr Farm (former coal workings at)	Site of the earliest coal seams to be exploited by deep mine technology in Tameside. Details of the pits are shown on Burdett's map, and Stockwell's map. A steam engine is mentioned in relation to mines in the Mottram estate rentals of the 1770s. Evidence of coal workings between Hague and Carr Farms survived but because of ploughing has subsequently been obscured.	Post-Medieval	400205	395405	162m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA120	MGM4261	Flax Lands (field name)	This field-name appears in the 1846 tithe apportionment and suggests "land on which flax was grown".	Post-Medieval	400690	395840	221m
HA121	MGM4323	Bents Mill (site of)	This mill appears on the 1882 map, where it is described as a die cutting mill. The site has been built over.	Post-Medieval	400680	396610	534m
HA122	MGM6865	Victoria/Albert/Roughdale Mill (site of)	Mentioned as a cotton spinning mill from 1852 until c.1869. Site now built upon by council houses and a large rest home	Post-Medieval	399320	395767	73m
HA123	MGM7340	Hague/Hague Carr Colliery (site of)	Now lying under a derelict water reservoir, Hague Carr was one of the earliest sections to be exploited by deep mine technology in Tameside. The six pits here may have been worked by Messrs Garlick & Company. It was sold by William Thornley in 1837, but was first sunk c.1767. Evidence had survived in the form of earthworks, but has been obscured by ploughing	Post-Medieval	400305	395105	473m
HA124	MGM7360	Wagstaffe's Factory (site of)	Mentioned as a cotton spinning mill from c.1786 until c.1813. Building comprises two cottages at present, previously used as a Liberal Club. John Wagstaffe of Post Office Farm, a local yeoman farmer, converted a barn on Back Lane into a textile factory in 1786	Post-Medieval	399295	395565	33m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA125	MGM7387	Dog Kennel Mill (site of)	Mentioned as a cotton spinning mill from c.1786 until 1823	Post-Medieval	400910	397080	468m
HA126	MGM7388	Spout Green Mill (site of)	Mentioned as a cotton spinning mill from c.1887 until 1907–14. The mill was last used as a tannery, possibly in the 1920s. Derelict for many years until its demolition. The site is now covered by a private housing estate	Post-Medieval	399005	396205	45m
HA127	MGM9374	Hattersley Mill (Mill Hill) (possible site of)	Mill, pre-1700. Site unknown but may have been on the Hurstclough Brook at Mill Hill. Robert Garsyde of Hattersley Mill buried at Mottram in February 1685	Post-Medieval	398695	394815	304m
HA128	MGM1199	Arrowscroft House Park	A large structure is shown on this site on the 1845 map. By 1882 the mill is described as disused. The 1910 map shows a larger structure on the site and describes it as a cotton mill. The mill has since been demolished.	Post-Medieval	400786	396081	292m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA129	MGM1209	Mottram Old Hall (grounds)	The house is set in a triangular-shaped park with Coach Road forming the north east boundary and Old Hall Lane the south east. The house is set at the apex of the triangle. There is a possible coach house and a possible pleasure garden with a treebelt separating the house area from the main park, which has two small woodland areas. Off the drive is a mausoleum. Extant. The house still sits in the small park whilst the larger park is still shown as open space. The mausoleum is also possibly extant.	Post-Medieval	399467	396230	37m
HA130	MGM4237	Market Street Structures including Organ Inn & former Co-op, Hollingworth	A number of buildings front Market Street. Organ Inn built 1824. Co-op larger than neighbouring houses but unadorned. No longer a Co-op but still extant	Post-Medieval	400930	396590	10m
HA131	MGM4241	Holly Grove and grounds (now Grove House)	House with garden and grounds to the south of Market Street. The site is extant. Now known as Grove House, and part of the grounds are in use as a football ground	Post-Medieval	400918	396090	257m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA132	MGM4244	Rose Bank (former grounds to)	House off Market Street, bounded by Etherow House to the east, the river Etherow to the south, and field divisions to the west. There is a small productive garden, a pleasure garden, and small park with a possibly implied larger park with clumps and single trees perhaps delineating field boundaries. No longer survives.	Post-Medieval	401005	396294	454m
HA133	MGM19279	Organ Inn, Hollingworth	It has local interest as a historic vernacular building dating from the earlier 19th century which positively adds to the distinctiveness of the character of Hollingworth.	Post-Medieval	400719	396289	284m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA134	MGM4236	Wedneshough Green (settlement)	A number of structures surround this green on its N side on 1777 map. In the NE corner of the green are 3 2-storey houses of hammer-dressed stone with modern roofs and ridge & gable chimneys. Datestone "WKG 1770". Modern windows set in a stone surround. Quoins. No.11 Wedneshough is 3-storey, hammer-dressed stone with graduated stone slate roof and gable chimney. Modern windows set in recessed stone frames. Gable end now cement rendered (TAS 1998). Map depicts settlement with the addition of Alban Cotton Mill and development along the main Mottram Moor Road, said to be a Roman road at this point . Wedneshough Green is the core of Hollingworth settlement . First documented in the 18th century, probably meaning "weedy place" or "willow place".	Post-Medieval	400900	395000	61m
HA135	MDR12266	Former Congregational Chapel, A57, Brookfield	A former Congregational Chapel that was built in 1883-4. It was sold in 1971 and is now used as a retail DIY premise.	Post-Medieval	401100	395200	149m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA136	MDR12267	Former school, A57, Brookfield	This school was built in 1852 in association with the Congregational Chapel at Brookfield (see SMR 6199). Part of it was converted into a Chapel in 1972, but it was closed in 1981 due to a decreasing congregation. Now in use as an Antiques Centre.	Post-Medieval	401100	395200	168m
HA137	MDR12272	St Andrew's Mission and worker's cottages (site of), Lees Street, Wooley Bridge, Hadfield	When Hadfield became a separate parish in 1872 the Mission became associated with St. Andrew's Church. The Woolley Bridge Mission had been in existence for over 100 years when it closed in October 1964. The area has since been redeveloped for industrial and retail use. The terrace of cottages on Lees Street has since been demolished and a warehouse is now situated here.	Post-Medieval	401000	395700	11m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA138	MDR13242	Mersey Mill (site of), Woolley Bridge Road, Hollingworth	Mersey Mill was a large cotton mill on the south side of the River Etherow. It lay in Cheshire in the 19th century but is now in Derbyshire. Late 19th century Ordnance Survey maps show that it was linked to the Waterside branch of the Great Central Railway by a short stretch of railway line. In 1902 the mill was occupied by Thomas Rhodes & Co., cotton spinners and manufacturers. Constructed in 1846 on the south bank of the river Etherow for cotton spinning and weaving, and owned by Thomas Rhodes & Sons Ltd. from 1846 to 1928. The old building was 2 and a half acres in area and the spinning mill was four storeys high, plus the basement.	Post-Medieval	401100	396000	139m
HA139	MDR686	Waterside branch of the Great Central Railway, Dinting	The line of the former Great Central Railway, Waterside Branch, which served Dinting Vale Printworks and other industrial establishments in the vicinity. The branch diverged from the GCR main line at Dinting Goods Station. Crossing gates on the A625 survive.	Post-Medieval	401000	395100	0m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA140	MDR13761	Woolley Bridge Mill (site of), A57, Woolley Bridge	Woolley Bridge Mill, or Lees Mill was situated on the east bank of the river Etherow. It was built and owned in 1825 by Henry Lees for cotton spinning.. The mill's name was changed to Henry Lees & Son when the son came into partnership with his father and 6 years later Robert Lees was the recorded mill owner. The mill had become mostly demolished in 1953, with only the chimney and one part of the mill remaining.	Post-Medieval	400900	395700	0m
HA141	MDR13762	Brookfield / Shepley's Mill (site of), A57, Glossop	Samuel Shepley built Brookfield Mill in 1818 for cotton spinning and weaving. The mill was bounded by the Hollingworth to Glossop Road, a fairly large mill of 1 acre, situated in the easterly angle of the confluence of the Glossop Brook and the river Etherow. When the mill goit channel was being reconstructed a stone coffin, in which a Roman Soldier was buried, one of a garrison at the adjoining Roman fort, was found. A large part of the mill was destroyed by fire during the winter of 1911-12. A Belgium firm refurbished the mill but production did not materialise. By 1940 Brookfield Mill had been demolished.	Post-Medieval	401100	395200	105m

Atkins ID	List Entry	Name	Description	Period	Type	Grade	Situated within Conservation Area
HA142	MGM4112	Field System, Harrop Edge	Ditches forming an irregular field system. These earthworks can be clearly seen on the ground and suggest former field boundaries.	Undated	398335	396155	503m
HA143	MGM4197	Structure, Mottram (site of)	Stone debris and earthworks on the north side of the brook may represent the walls of a former structure and also some form of water control, possibly a dam	Undated	398865	395875	81m
HA144	MGM4201	Subrectangular Enclosure off Roe Cross Road	Cropmark of subrectangular enclosure, c.40mx50m. Some earthworks are visible although they may be associated with drainage.	Undated	398810	396250	205m

Appendix D. Landscape Assessment and Methodology

D.1 Landscape Assessment

Landscape assessment judges the sensitivity of the landscape receptor (based on value and susceptibility to change) and the magnitude of effect (change) likely to occur on the landscape receptor resulting from the Proposed Scheme.

Assessment of landscape sensitivity is set out in the table below (from LA107 table 3.22):

Table D-1 - Landscape sensitivity (susceptibility and value) and typical descriptions.

Landscape Sensitivity (Susceptibility and Value) of Receptor/Resource	Typical Description
Very high	Landscapes of very high international/national importance and rarity or value with no or very limited ability to accommodate change without substantial loss/gain (i.e. national parks, internationally acclaimed landscape – UNESCO World Heritage Sites).
High	Landscapes of high national importance containing distinctive features/elements with limited ability to accommodate change without incurring substantial loss/gain (i.e. designated areas, areas of strong sense of place – registered parks and gardens, country parks).
Medium	Landscapes of local or regional recognition of importance able to accommodate some change (i.e. features worthy of conservation, some sense of place or value through use/perception).
Low	Local landscape areas are receptors of low to medium importance with ability to accommodate change (Like non-designated or designated areas of local recognition or areas of little sense of place).
Negligible	Landscapes of very low importance and rarity able to accommodate change.

Assessment of magnitude of effects on the landscape receptors will report on a combined judgement of the scale of the effect, the extent of the area affected, and the duration and reversibility of the effect. This is set out in the table below (from LA107 table 3.24):

Table D-2 - Magnitude and nature of effect on the landscape and typical descriptions.

Magnitude of Effect (Change)		Typical Descriptions
Major	adverse	Total loss or large-scale damage to existing landscape character or distinctive features or elements: and/or addition of new uncharacteristic, conspicuous features or elements (I.e. road infrastructure).
	beneficial	Large scale improvement of landscape character to features and elements: and/or addition of new distinctive features or elements, or removal of conspicuous road infrastructure elements.
Moderate	adverse	Partial loss or noticeable damage to existing landscape character or distinctive features or elements: and/or addition of new uncharacteristic, noticeable features or elements (I.e. road infrastructure).
	beneficial	Partial or noticeable improvement of landscape character by restoration of existing features or elements; or addition of new characteristic features or elements or removal of noticeable features or elements.
Minor	adverse	Slight loss or damage to existing landscape character of one (maybe more) key features and elements; and/or addition of new uncharacteristic features and elements.
	beneficial	Slight improvement of landscape character by the restoration of one (maybe more) key existing features and elements; and/r the addition of new characteristic features.
Negligible	adverse	Very minor loss, damage or alteration to existing landscape character of one or more features and elements.
	beneficial	Very minor noticeable improvement of character by the restoration of one or more existing features and elements.
No change		No noticeable alteration or improvement, temporary or permanent, of landscape character of existing features and elements.

Sensitivity and magnitude of effect shall inform the significance of effect. This is based on the significance matrix within the Environmental assessment methodology section of LA104 and also includes evidence to support any professional judgements that are made. The significance of effect categories are set out in the table below (from LA104 table 3.7):

Table D-3 - Significance categories and typical descriptions

Significance Category	Typical Description
Very Large	Effects at this level are material in the decision-making process.
Large	Effects at this level are likely to be material in the decision-making process.
Moderate	Effects at this level can be considered to be material decision-making factors.
Slight	Effects at this level are not material in the decision-making process.
Neutral	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

The significance of effect is derived from the following table below, where there are two significance categories, evidence will be provided to support the reporting of a single significance category (from LA104 table 3.8.1):

Table D-4 - Significance Matrix

Landscape Sensitivity (Susceptibility and Value)	Magnitude of Impact (Degree of Change)				
	No change	Negligible	Minor	Moderate	Major
Very high	Neutral	Slight	Moderate or large	Large or very large	Very large
High	Neutral	Slight	Slight or moderate	Moderate or large	Large or very large
Medium	Neutral	Neutral or slight	Slight	Moderate	Moderate or large
Low	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or moderate
Negligible	Neutral	Neutral	Neutral or slight	Neutral or slight	Slight

An overall assessment of the effect on the landscape receptors is given. A level of moderate, large or very large is considered to be significant.

D.2 Visual Assessment

Visual assessment judges the sensitivity of the visual receptor (based on value and susceptibility to change) and the magnitude of effect (change) likely to occur on the visual receptor resulting from the Scheme. Landscape of landscape sensitivity is set out in the table below (from LA107 table 3.41):

Table D-5 - Visual Sensitivity (Susceptibility and Value) and Typical Descriptions.

Sensitivity (Susceptibility and Value)	Typical Descriptions
Very high	Static views from and of major tourist attractions;

	<p>Views from and of very important national/international landscapes, cultural/historical sites (e.g. National Parks, UNESCO World Heritage sites);</p> <p>Receptors engaged in specific activities for enjoyment of dark skies.</p>
High	<p>Views by users of nationally important PRow/recreational trails (e.g. national trails, long distance footpaths);</p> <p>Views by users of public open spaces for enjoyment of the countryside (e.g. country parks);</p> <p>Static views from dense residential areas, longer transient views from designated public open space, recreational areas;</p> <p>Views from and of rare designated landscape of national importance.</p>
Moderate	<p>Static views from less populated residential areas, schools and other institutional building and their outdoor areas;</p> <p>Views by outdoor workers;</p> <p>Transient views from local/regional areas such as public open space, scenic roads, railways or waterways, users of local/regional designated tourist routes of moderate importance;</p> <p>Views from and of landscape of regional importance.</p>
Low	<p>Views by users of main roads or passengers in public transport on main arterial routes;</p> <p>Views by indoor workers;</p> <p>Views by users of recreational/formal sports facilities where the landscape is secondary to enjoyment of the sport;</p> <p>Views by users of local public open spaces of limited importance with limited variety or distinctiveness.</p>
Negligible	<p>Quick transient views such as from fast moving vehicles;</p> <p>Views from industrial area, land awaiting re-development;</p> <p>Views from landscape of no importance with no variety or distinctiveness.</p>

Sensitivity and magnitude of effect shall inform the significance of effect and is informed by the scale and nature of change, the duration, distance, screening, direction and focus of the view. It considers the removal of existing vegetation and whether the receptor is static or moving. This is set out in the table below (from LA107 table 3.43):

Table D-6 - Magnitude (Change) of Visual Effect and Typical Descriptions.

Magnitude (change) of visual effect	Typical descriptions
Major	The project, or part of it, would become the dominant feature or focal point of the view.
Moderate	The project, or part of it, would form a noticeable feature or element of the view, which is readily apparent to the receptor,
Minor	The project, or part of it, would be perceptible but not alter the overall balance of features and elements that comprise the existing view.
Negligible	Only a very small part of the project work or activity would be discernible or being at such a distance it would form a barely noticeable feature or element of the view.
No change	No part of the project work or activity would be discernible.

Sensitivity and magnitude of effect shall inform the significance of effect. This is based on the significance matrix within the Environmental assessment methodology section of LA104. An overall assessment of the effect on the visual receptors is given see Chapter 4. Environmental Assessment Methodology. A level of moderate, large or very large is considered to be significant.

D.3 Lighting and Night-time Assessment

Night-time Assessment

In line with DMRB guidance (LA107) a high-level night-time assessment will be undertaken for landscape and visual receptors which might be likely to be affected by the addition of artificial lighting from lighting columns associated with the Scheme.

A drive through of the study area during the hours of darkness will be undertaken by two landscape architects experienced in LVIA.

Limitations and Assumptions

Assessment will be undertaken from publicly accessible viewpoints only. Where access is not possible or not considered to be safe in the dark, an assumption will be made regarding what the anticipated change might be. Viewpoints where there is unlikely to be visual receptors after dark (e.g. on long distance waymarked walking routes/PRoW in remote locations) have been scoped out.

Landscape Night-time Assessment

Sensitivity levels and criteria is the same as that set out for the overall assessment (Table D-1). All criteria will be informed by DMRB LA107 and DMRB LA104 but tailored to reflect the introduction of lighting columns to the Proposed Scheme.

Assessment of magnitude of effects on the landscape receptors will report on a combined judgement of the scale of the effect, and the extent of the area affected. The duration is considered to be long-term. The magnitude of effect criteria for landscape receptors is set out in Table D-7.

Table D-7 - Magnitude of Effect/Change on the Landscape Receptor

Magnitude of Effect (Change)		Typical Descriptions
Major	adverse	total loss or large scale damage to the existing landscape character or distinctive features or elements; and/or addition of new elements resulting from the introduction of lighting columns where there is little/no existing lighting columns.
	beneficial	large scale improvement in landscape character arising from the removal or reduction in existing lighting columns.
Moderate	adverse	partial loss or noticeable damage to existing landscape character or distinctive features or elements, resulting from the introduction of lighting columns where there is little/no existing lighting columns.
	beneficial	partial or noticeable improvement in landscape character arising from the removal or reduction in existing lighting columns.
Minor	adverse	slight loss or damage to landscape character resulting from the introduction of lighting columns where there is little/no existing lighting columns.
	beneficial	slight improvement in landscape character by the restoration of limited features or elements made possible by the removal or reduction of existing lighting columns.
Negligible	adverse	very minor loss, damage or alteration to landscape character arising from the introduction of lighting columns where there is little/no existing lighting columns.
	beneficial	very minor improvement to landscape character by restoration of very limited features or elements made possible by the removal or reduction of existing lighting columns.
No change		No noticeable alteration or improvement, temporary or permanent, arising from the introduction of lighting columns

The significance of effect is the same for both landscape and visual receptors and is set out in Tables D-8 and D-9.

Table D-8 - Significance of Effect on the Landscape Receptor

Significance Category	Typical Description
Very Large	Effects at this level are material in the decision-making process.
Large	Effects at this level are likely to be material in the decision-making process.
Moderate	Effects at this level can be considered to be material decision-making factors.
Slight	Effects at this level are not material in the decision-making process.

Neutral	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.
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The significance of effect is derived from the following table below. Where there are two significance categories, evidence will be provided to support the reporting of a single significance category (from LA104 table 3.8.1). A level of moderate, large or very large is considered significant.

Table D-9 - Significance Matrix.

Landscape Sensitivity (Susceptibility and Value)	Magnitude of Impact (Degree of Change)					
	No change	Negligible	Minor	Moderate	Major	
Very high	Neutral	Slight	Moderate or large	Large or very large	Very large	
High	Neutral	Slight	Slight or moderate	Moderate or large	Large or very large	
Medium	Neutral	Neutral or slight	Slight	Moderate	Moderate or large	
Low	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or moderate	
Negligible	Neutral	Neutral	Neutral or slight	Neutral or slight	Slight	

Visual Night-time Assessment

Sensitivity levels and criteria are the same as those set out for the overall assessment (Table D-1). All criteria has been informed by DMRB LA107 and DMRB LA104 but tailored to reflect the introduction of lighting columns to the Proposed Scheme.

Viewpoints to be selected for assessment are those considered to be most likely to have changes in view resulting from additional lighting. Some viewpoints do not have public access/safe public access and for these likely views will be assumed. Other viewpoints will be scoped out as either being in close proximity to existing lighting already or as not likely to have visual receptors after dark.

Sensitivity and magnitude of effect shall inform the significance of effect and is informed by the scale and nature of change, the duration, distance, screening, direction and focus of the view. Table D-10 sets out the magnitude of effect criteria for visual receptors.

Table D-10 - Magnitude of Effect/Change on the Visual Receptor

Magnitude of visual Effect/Change	Typical Descriptions
Major	Adverse – the lighting columns would become the dominant or focal point of the view.
Moderate	The lighting columns would form a noticeable feature or element of the view which is readily apparent to the receptor.
Minor	The lighting columns would be perceptible but not alter the overall balance of features and elements that comprise the existing view.

Negligible	Only a small part of the lighting columns would be discernible or being at such a distance it would form a barely noticeable element or feature in the view.
No change	No part of the lighting columns would be discernible.

The significance of effect is the same for both landscape and visual receptors and is set out in Tables D-8 and D-9 (above).

D.4 Landscape, Townscape and Visual Receptors

The distance to each receptor was approximated using the centre line of the Proposed Scheme route.

Table D-11 Landscape, Townscape and Visual Receptor Sensitivity

Receptor	Type	Approx. Distance (m) from Scheme	Sensitivity
Harrop Edge Zone			
Located in the north-western extent of the study area, from the urban edge of Hattersley to the A6108 at Spout Green, located north of the A57			
Landscape Receptor			
Landscape Character Area (SLLCA) 1: Harrop Edge Valley Pasture	Landscape	0	High
Townscape Receptor			
Townscape Character Area (SLTCA) 1: South Stalybridge	Townscape	900	Medium
Visual Amenity Receptor			
Public Right of Way (PRoW) - HYD/52	Recreational	500	Moderate
PRoW - HYD/46	Recreational	700	Moderate
PRoW - HYD/51	Recreational	800	Moderate
PRoW - HYD/49	Recreational	900	Moderate
PRoW - HYD/50	Recreational	500	Moderate
PRoW - LON/104	Recreational	200	Moderate
PRoW - LON/49	Recreational	0	Moderate
PRoW - LON/48	Recreational	400	Moderate
PRoW - LON/47	Recreational	200	Moderate
PRoW - LON/46 including Edge Lane	Recreational	0	Moderate
PRoW - LON/50	Recreational	0	Moderate
PRoW - LON/51	Recreational	0	Moderate
PRoW - LON/52	Recreational	0	Moderate
PRoW - LON/41	Recreational	400	Moderate

Receptor	Type	Approx. Distance (m) from Scheme	Sensitivity
PRoW - DUK/1	Recreational	500	Moderate
A6018 Roe Cross Road & PRoW - LON/40	Travel	0	Low
Close Farm	Residential	900	High
Higher Matley Farm	Residential	1000	High
Cheetham Fold Farm	Residential	400	High
Miniature Castle Farm	Residential	200	High
Grange Farm & Farmstead on Edge Lane	Residential	0	High
Cluster of residential properties on Harrop Edge Road	Residential	600	High
Cluster of residential properties on Edge Lane	Residential	200	High
Residential Properties on Four Lanes, Ash Close, Meadowcroft, and Littlefields	Residential	200	High
Residential Properties on Elm Close, Oak Close, Lowry Close, Rushycroft, and the Croft	Residential	300	High
Residential Properties along the A57 Hyde Road	Residential	300	High
A57 Hyde Road	Travel	300	Low
Stalybridge Road	Travel	200	Low
Mottram Moor Zone			
An area located in the north-eastern extent of the study area, north of the A57, from the A6108 at Spout Green to the A628 at Hollingsworth, including the urban area of Hough Green			
Landscape Receptor			
SLLCA 2: Hollingsworth Hall Moorland Slopes	Landscape	500	High
SLLCA 3: Mottram Moor Pasture	Landscape	0	High
SLLCA 7: Swallows Valley with Woodland	Landscape	600	Medium
Townscape Receptor			
SLTCA 3: Mottram Spout Green	Townscape	0	Medium
SLTCA 5: Mottram Moor	Townscape	0	Medium
SLTCA 6: Wedneshough Green	Townscape	0	High
SLTCA 7: Hollingsworth	Townscape	0	Medium

Receptor	Type	Approx. Distance (m) from Scheme	Sensitivity
Visual Amenity Receptor			
PRoW - LON/38	Recreational	300	Moderate
PRoW - LON/39	Recreational	400	Moderate
Residential Properties and PRoW - LON/35 along Old Hall Lane	Residential/Recreational	0	High
PRoW - LON/108 Coach Road	Recreational	100	Moderate
PRoW - LON/109	Recreational	500	Moderate
PRoW - LON/28	Recreational	400	Moderate
PRoW - LON/18	Recreational	600	Moderate
PRoW - LON/17	Recreational	1000	Moderate
PRoW - LON/19	Recreational	800	Moderate
PRoW - LON/16	Recreational	800	Moderate
PRoW - LON/20	Recreational	700	Moderate
PRoW - LON/24	Recreational	800	Moderate
PRoW - LON/4	Recreational	1100	Moderate
PRoW - LON/23	Recreational	900	Moderate
Back Moor	Travel	100	Low
A57 Mottram Moor	Travel	0	Low
Residential Properties along Roe Cross Road	Residential	0	High
Residential Properties along Old Road	Residential	100	High
Residential Properties along Roe Cross Green	Residential	200	High
Residential Properties along Lodge Court	Residential	100	High
Residential Properties along Shaw Street	Residential	100	High
Residential Properties along the A57 Mottram Moor	Residential	0	High
Residential Properties along Hall Drive, Hall Close, and Tollemache Road	Residential	200	High
Residential Properties along and Tollerliche Close	Residential	100	High
Mottram Old Hall	Residential	200	High

Receptor	Type	Approx. Distance (m) from Scheme	Sensitivity
Residential Properties along Dewsnap Lane and Rabbit Lane	Residential	500	High
Lumb Farm	Residential	600	High
Hardtimes Farm	Residential	800	High
Landslow Farm	Residential	1200	High
Thornccliffe Farm	Residential	1000	High
Thornccliffe Hall	Residential	800	High
Longendale High School	Educational	500	Moderate
Nettle Hall and Residential Properties along Coach Road	Residential	200	High
Residential Properties along Hollinhey Terrace and War Memorial	Residential	200	High
Residential Properties along Spring Street and Cannon Street	Residential	400	High
Residential Properties in Hollingworth	Residential	700	High
Etherow Valley Zone			
Located in the south and eastern extent of the study area, south of the A628 at Hollingsworth to the eastern edge of Hattersley south of the A57 including the Etherow Valley, and urban areas of Gomersley, and Hadfield			
Landscape Receptor			
SLLCA 4: Etherow Valley Pasture	Landscape	0	High
SLLCA 5: Etherow Valley Floor with Woodland	Landscape	100	High
SLLCA 6: Brookfield Valley Floor	Landscape	800	Medium
Townscape Receptor			
SLTCA 4: Old Mottram	Townscape	50	High
SLTCA 8: Gamesley	Townscape	200	Medium
SLTCA 9: Brookfield Industrial Valley	Townscape	100	Low
SLTCA 10: Hadfield	Townscape	50	Medium
SLTCA 11: Etherow Industrial Valley Floor	Townscape	100	Low
Visual Amenity Receptor			
PRoW - LON/29	Recreational	400	Moderate
PRoW - LON/32	Recreational	400	Moderate

Receptor	Type	Approx. Distance (m) from Scheme	Sensitivity
PRoW - LON/105	Recreational	500	Moderate
PRoW - LON/90 Etherow – Goyt Valley Way, & Tameside Trail	Recreational	0	High
PRoW - LON/91	Recreational	100	Moderate
PRoW - LON/92 & LON/93	Recreational	0	Moderate
PRoW - LON/88 Carrhouse Lane	Recreational	0	Moderate
PRoW - HP12/83	Recreational	500	Moderate
PRoW - HP12/144	Recreational	300	Moderate
PRoW - HP12/177	Recreational	0	Moderate
PRoW - HP12/180	Recreational	0	Moderate
PRoW - HP12/81	Recreational	100	Moderate
PRoW - HP12/179	Recreational	100	Moderate
PRoW - HP12/70	Recreational	200	Moderate
PRoW - HP12/176	Recreational	300	Moderate
PRoW - HP12/72	Recreational	300	Moderate
PRoW - HP12/71	Recreational	700	Moderate
PRoW - HP12/73	Recreational	700	Moderate
PRoW - HP12/162	Recreational	600	Moderate
PRoW - HP12/175 Pennine Bridleway	Recreational	100	High
PRoW - LON/89	Recreational	300	Moderate
PRoW - LON/97	Recreational	500	Moderate
PRoW - LON/98	Recreational	500	Moderate
PRoW - LON/94	Recreational	500	Moderate
PRoW - LON/87	Recreational	0	Moderate
PRoW - LON/86	Recreational	200	Moderate
PRoW - LON/94	Recreational	500	Moderate
PRoW - LON/99	Recreational	700	Moderate
PRoW - LON/100	Recreational	500	Moderate
PRoW - LON/85	Recreational	2700	Moderate
National Cycle Network Route 68 – Trans Pennine Trail	Recreational	200	High
Residential Properties along Woolley Lane	Residential	300	High
Residential Properties along Booth Street, Church	Residential	300	High

Receptor	Type	Approx. Distance (m) from Scheme	Sensitivity
Road, Taylor Street, Claylands Close, Earnshaw Street, Lord Street, Cross Street Wooley Close, and Taylor Street			
Residential Properties along the A57 Brookfield Road	Residential	300	High
Residential Properties along Potter Road	Residential	100	High
Residential Properties in Woolley Bridge	Residential	200	High
Residential Properties in Hadfield	Residential	800	High
Brookfield Industrial Estate	Workplace	400	Low
Melandra Castle	Residential	500	High
Residential Properties in Gamesley	Residential	1000	High
Tara Brook Farm	Residential	100	High
Carr House Farm and Meadow View	Residential	100	High
Residential Properties along Carrhouse Lane	Residential	100	High
Residential Properties along Pingot Lane, Hague Road, including The Hague	Residential	1100	High
Residential Properties along Littlemoor Road, and Broadbottom Road	Residential	900	High
Cluster of Residential Properties at Warhill, Targeton Hill & Mudd including Mottram C of E Primary School	Residential & Education	500	High
St Michaels and All Angels Church and Graveyard at Warhill	Institutional building/asset	500	High
Residential Properties along Market Street, and Mottram Moor.	Residential	300	High

Receptor	Type	Approx. Distance (m) from Scheme	Sensitivity
Hattersley and Mottram Zone			
Located in the south and western extent of the study area, south of the A57, including the urban areas of Hattersley, and Mottram in Longendale			
Townscape Receptor			
SLTCA 2: West Mottram and Hattersley	Townscape	0	Low
Visual Amenity Receptor			
Hurst Clough Local Nature Reserve	Recreational	1300	Moderate
PRoW - LON/63	Recreational	600	Moderate
PRoW - LON/64	Recreational	600	Moderate
Residential Properties along John Kennedy Road, Lowry Grove, Arundale Grove, Arundale Close, Manley Grove, and John Kennedy Garden	Residential	300	High
Residential Properties along Mottram Road, and Melyncourt Drive	Residential	100	High
Arundale Community Primary School	Educational	200	Moderate
Recreation Ground adjacent to the A57, John Kennedy Road	Residential	200	High
Premier Inn Manchester Hyde at Dawlish Close	Visitor Accommodation	100	Moderate
Residential Properties at Dawlish Close, and Colbourne Grove	Residential	300	High
Setting of Peak District National Park	Landscape	3600	Very High

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