

M60/M62/M66 Simister Island Interchange

TR010064

7.1 CASE FOR THE SCHEME

APFP Regulation 5(2)(q)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

VOLUME 7

November 2024

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009**

**M60/M62/M66 Simister Island Interchange
Development Consent Order 202[]**

CASE FOR THE SCHEME

Regulation Reference	Regulation 5(2)(q)
Planning Inspectorate Scheme Reference	TR010064
Application Document Reference	TR010064/APP/7.1
Author	M60/M62/M66 Simister Island Interchange Project Team & National Highways

Version	Date	Status of Version
P02	November 2024	Deadline 3 Update

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1 Introduction

1.1 Purpose of this Document

- 1.1.1 This Case for the Scheme relates to an application made by National Highways (the “Applicant”) to the Secretary of State for Transport via the Planning Inspectorate (the “Inspectorate”) under the Planning Act 2008 (the “2008 Act”) for a Development Consent Order (“DCO”). If made, the DCO would grant consent for the M60/M62/M66 Simister Island Interchange (“the Scheme”).
- 1.1.2 This Case for the Scheme sets out the case and need for the Scheme. Although it is not a mandatory requirement under the 2008 Act, the Case for the Scheme summarises how the Scheme relates to and complies with government policy and the relevant planning policy context. It also provides details of the traffic assessment and related economic analysis on which the need for the Scheme is based.
- 1.1.3 This Case for the Scheme has been prepared in accordance with Regulation 5(2)(q) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 and the Planning Inspectorate’s Advice Note Six: Preparation and Submission of Application Documents (Version 11).
- 1.1.4 Section 104(2)(a) of the 2008 Act states that, in deciding an application, the Secretary of State must have regard to ‘a relevant national policy statement (“NPS”) and Section 104(3) that the Secretary of State must decide an application in accordance with any relevant NPS’. As the NPS is (subject to Section 104(4) and (8)) the primary policy reference for the Secretary of State in decision making, the relevant NPS sets the scope of matters for this Case for the Scheme to consider.
- 1.1.5 The relevant designated NPS is the National Policy Statement for National Networks (NPS NN) (Department for Transport (DfT), 2014). A draft National Policy Statement for National Networks (draft NPS NN) was consulted on in March 2023. This consultation closed in June 2023. Although the draft NPS NN is not yet designated it remains an important and relevant consideration for the Secretary of State in determining the DCO decision.

1.2 Introduction to the Scheme

- 1.2.1 The Scheme is a Nationally Significant Infrastructure Project (NSIP) as defined by Section 22 of the 2008 (described further in Section 1.4 below).
- 1.2.2 The location of the Scheme is the M60 Junction 18 (Simister Island), north of Manchester. The M60 Junction 18 provides the interchange between the M60, M62 and M66 motorways. The location of the Scheme in its geographical context is shown on the Location Plan (TR010064/APP/2.1).

- 1.2.3 All the land required to construct the Scheme (the “Order Limits”) is located within Bury Metropolitan Borough Council (BMBC). The neighbourhoods surrounding the Order Limits include Whitefield, Prestwich, Simister and Middleton.
- 1.2.4 Adjoining local authorities are Rochdale Borough Council (RBC), Salford City Council (SCC), Manchester City Council (MCC) and Oldham Metropolitan Borough Council (OMBC).
- 1.2.5 The Scheme is situated on more than one motorway and has two assigned junction numbers: M60 Junction 18, M66 Junction 4 and M62, Junction 18. For consistency it is referred to as the M60 Junction 18 throughout the DCO application.
- 1.2.6 The M60, M62 and M66 motorways are key corridors in the Strategic Road Network (SRN). They connect major centres of population including west and east coast ports. The M60 Junction 18 links the Greater Manchester orbital motorway with Rossendale and Burnley to the north, and Rochdale and West Yorkshire to the east. The Scheme encompasses the following motorways and slip roads:
- M60 between Junction 17 – Junction 18, in eastbound and westbound directions.
 - M60 between Junction 18 – Junction 19, southbound and northbound, partly.
 - M60 Junction 17 eastbound entry slip road and westbound exit slip road.
 - M60 Junction 18, including all entry and exit slip roads to and from the M60, M62 and M66 motorways.
 - M66 motorway from the M60 Junction 18 (M66 J4) to M66 Junction 3, partly.
- 1.2.7 If the capacity constraints on the northern section of the M60/M62 are not addressed, its impact on the wider transport network in the north could hold back growth across the region. Some of the busiest stretches of road in the UK are located on the M60 between Junction 8 and Junction 18, and the combination of local and strategic traffic, coupled with the design of the road, further exacerbates congestion and environmental problems.
- 1.2.8 The key objectives of the Scheme are to:
- Improve the journey experience for users of this section of our network by:
 - Reducing congestion at peak times
 - Reducing journey times
 - Delivering more reliable journey times

- Provide a scheme that is safe for all road users.
- Minimise the impact of the Scheme on the surrounding environment including within Noise Important Areas (NIA) and Air Quality Management Areas (AQMA).
- Support future economic growth across the Greater Manchester area by delivering against local aspirations set out in regional and local authorities' transport strategies and local plans.

1.2.9 The summary below sets out how this Case for the Scheme demonstrates that the Scheme has met these objectives.

1.3 Reduce Congestion at Peak Times, Reduce Journey Times and Deliver More Reliable Journey Times

1.3.1 Traffic modelling shows that, without intervention, congestion, journey times and delays will increase in future years. The Scheme is expected to:

- Reduce congestion related delay,
- Improve journey time reliability.
- Increase the overall transport capacity of the network.

1.3.2 Without the Scheme almost all journey times are forecast to increase over time due to traffic demand. This situation will be reversed with the Scheme in place, with most journey times forecast to improve. Traffic using the free flow loop as part of the Scheme will save up to 1.5 minutes compared to the current M60 Junction 18 layout.

1.3.3 The Scheme also allows higher traffic flows to travel through the SRN network meaning that future traffic growth can be accommodated without compromising journey times.

1.3.4 With the Scheme in place, a reduction in delay and journey time is forecast for routes through the Scheme area. In turn this attracts some additional traffic to the SRN around the Scheme. These increases are from a combination of reassignment from the Local Road Network, traffic switching the junctions used to access the M60 and variable demand effects as traffic seeks to take advantage of the extra capacity provided by the Scheme.

1.3.5 The Scheme will help relieve traffic congestion and improve the journey experience for motorists at M60 Junction 18. Traffic wanting to travel eastbound to southbound on the M60 will use the free flow loop instead of the M60 Junction 18 circulatory thereby significantly reducing traffic flows on the M60 Junction 18 circulatory and freeing up capacity for other movements at the junction.

- 1.3.6 In addition, the Scheme provides additional capacity between M60 Junctions 17-18 with the upgrade to a dual 5-lane motorway, providing five lanes in both directions and reducing delays associated with merging and diverging traffic.
- 1.3.7 As a result of the Scheme, the M60 Junction 18 is forecast to operate within capacity up to and beyond 2044.

1.4 Provide a Scheme That is Safe for all Road Users

- 1.4.1 Over the 60-year appraisal period, the Scheme is forecast to lead to a reduction of 9 accidents. However, the number of fatal, serious and slight casualties are forecast to increase slightly. This is due to the accidents that do occur having more casualties as drivers reroute from local roads to higher speed strategic roads to take advantage of the Scheme benefits.
- 1.4.2 The casualties per billion vehicle kilometres has also been calculated. This calculation considers casualties as a proportion of the overall miles travelled with the Scheme in place. This is because the Scheme will increase traffic and therefore the total number of miles will increase. Overall, the risk of a personal injury accident is reduced for each driver that would use the Scheme.

1.5 Minimise Impacts on the Surrounding Environment

- 1.5.1 The design of the Scheme has sought to minimise the impacts on the environment. An assessment of the environmental effects of the Scheme has been carried out and documented within the Environmental Statement (ES) (TR010064/APP/6.1) and summarised within the Non-Technical Summary (TR010064/APP/6.4).
- 1.5.2 Overall, the Scheme provides positive biodiversity net gain (BNG) as it creates a greater amount of new habitats than would be lost. This includes enhanced vegetation, landscaping and hedgerows.
- 1.5.3 The NIAs are shown on Figure 2.1, Environmental Constraints of the Environmental Statement Figures (TR010064/APP/6.2) and predicted levels of noise change presented in Chapter 11, Noise and Vibration of the ES (TR010064/APP/6.2). There are five NIAs within 600 metres of the Order Limits. Three of them are directly adjacent to the motorway network, and the remaining two located adjacent to the Local Road Network (LRN) on Bury New Road and Higher Lane. There are predicted reductions of up to 5.1 decibels (dB) in road traffic noise levels for some receptors within the NIA reference number 1671 (adjacent to the M60 between Junction 17 and Junction 18) that, in the short-term, would be noticeable and considered to be a likely significant beneficial effect. There are no other changes in road traffic noise of greater than 1dB predicted within other NIAs.
- 1.5.4 Mitigation has reduced the overall effect of construction and vibration noise at many properties; however, significant adverse impacts are still reported for a number of residential properties close to the Order Limit or

along diversion routes to be used when the motorway is closed during night time working. Night time working is required for construction to maintain the operation of the motorway and for the safety of workers. Additional potential mitigation is being investigated to reduce these impacts and the Principal Contractor will work closely with the community to develop this further.

- 1.5.5 The Scheme is located almost entirely in the Bury Air Quality Management Area (AQMA) which forms part of the Greater Manchester Community Area AQMA and was declared for exceedances of the Nitrogen Oxide Air Quality Objective in 2016. A proposed Clean Air Zone to tackle these exceedances is still under review. Section 5.4 of the Air Quality Chapter in the ES (TR010064/APP/6.1) outlines the technical engagement that has taken place with BMBC to prepare air quality models. The residual potential effect of the Scheme to exceed relevant Limit Values is detailed in Section 5.10 of the Air Quality Chapter in the ES (TR010064/APP/6.1). This assessment concludes that no new exceedances of air quality or a further deterioration of existing exceedances will be experienced as part of the Scheme. There are no significant effects at modelled human health receptors and on Limit Values and target compliance receptors from road transport for both the construction and operation of the Scheme.
- 1.5.6 Mitigation measures to reduce the impacts of construction are proposed. These are provided in the Register of Environmental Commitments (REAC) and a series of Outline Management Plans within the First iteration Environmental Management Plan (TR010064/APP/6.5). This will be secured by Requirement 4 of the draft DCO (TR010064/APP/3.1). These mitigation measures will reduce the adverse effects of the Scheme during construction.
- 1.5.7 The design of the Scheme has maximised opportunities to provide climate change adaptation and resilience, sustainability and carbon reduction, protecting the water environment and minimising flood risk. This includes nature based solutions such as Sustainable Urban Drainage Systems (SuDs), landscape and ecological habitat enhancements and BNG.
- 1.5.8 All wards impacted by the Scheme would benefit from improved health as a result of a reduction in the long term exposure to traffic noise.

1.6 Support Future Economic Growth Across the Greater Manchester Area

- 1.6.1 The Scheme is nationally significant being an alteration to a major interchange on the SRN. The Scheme improves connectivity nationally as well as across Greater Manchester. This improves connectivity across the sub-region and helps provide additional capacity on the SRN to accommodate additional traffic which is forecast to occur.

- 1.6.2 The improvement of journey reliability and reduction in journey times bring economic benefits with every £1 spent on the Scheme releasing a benefit of £1.17.
- 1.6.3 The Scheme has also taken into account the requirements of the local development plan, which is the Bury Unitary Development Plan (UDP) and the emerging Places for Everyone. Overall, providing additional capacity on the SRN aligns with the objectives of these plans which promote significant amounts of new housing and employment developments in the surrounding area over the period to 2039 and beyond.

1.7 The Applicant

- 1.7.1 The Applicant is appointed and licensed as the strategic highways company for England by the Secretary of State for Transport, on whose behalf it is responsible for operating, maintaining and improving the SRN. The network is made up of England's motorways and all-purpose trunk roads (the major A-roads).
- 1.7.2 The Applicant seeks to provide a modern and reliable road network with fewer delays. In achieving this, its aims are for a network that:
- Provides fast and reliable journeys (supporting economic growth).
 - Improves safety for all.
 - Delivers better environmental outcomes.
 - Meets the needs of all users.
- 1.7.3 Achieving the above aims can also support economic growth through creating jobs, helping businesses and opening up new areas for development. The underlying focus is to deliver long-term benefits for the community and road users and be environmentally sustainable.

1.8 Requirements for a Development Consent Order

- 1.8.1 The Scheme is defined as an NSIP under Sections 14(1)(h) and 22(1)(b) and 22(2) of the 2008 Act (as amended), by virtue of the fact that:
- It comprises the alteration of a highway (refer to the Explanatory Memorandum (TR010064/APP/3.2)).
 - The highway (when constructed) will wholly be in England.
 - National Highways, the strategic highways company, will be the Strategic Highway Authority for the highway.
 - The Order Limits comprises 85.69 hectares (ha) which exceeds the 15ha threshold where the construction or alteration of a motorway falls within the 2008 Act.

1.9 Requirements for Environmental Impact Assessment

1.9.1 The Scheme is an Environmental Impact Assessment (EIA) development because:

- It is of a type of development listed within schedule 2, regulation 3(1), part 10 (f) (construction of roads) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations); and
- Has the potential for significant environmental effects by virtue of its nature, scale and location.

1.9.2 In accordance with regulation 8(1)(b) of the EIA Regulations, the Applicant notified the Secretary of State in a letter to the Planning Inspectorate that an Environmental Statement will be submitted with the Application. The letter was accompanied by an Environmental Scoping Report for the Scheme and a request for a Scoping Opinion under regulation 10(1) of the EIA Regulations. The Planning Inspectorate reviewed and consulted on the Environmental Scoping Report (TR010064/APP/6.6) and published a Scoping Opinion (TR010064/APP/6.7) on 12 August 2021, which accompanies the Application.

1.9.3 The Application provides details of the assessments that have been undertaken for the Scheme. It sets out a description of the likely significant effects on the environment and identifies the measures that would be provided to reduce and, if possible, avoid those likely significant effects.

1.9.4 The EIA Regulations and the NPS NN also require that DCO applications set out alternative options as part of the Scheme development. Further details of these options can be found in Chapter 3, Assessment of Alternatives of the ES (TR010064/APP/6.1) with a brief summary in Section 2.2 of this Case for the Scheme.

1.10 Consents and Agreements Position Statement

1.10.1 The principal consent for the Scheme will be a DCO. The DCO process provides development consent for the works and enables land acquisition and temporary possession of land, along with other consents and powers to be dealt with at the same time. However, the DCO application may need to be supplemented by other consents and agreements because:

- A specific consent cannot be contained in the DCO.
- A consenting authority declines to allow a consent to be contained within the DCO.
- It is not desirable, or it is inappropriate, to include a consent within a DCO due to the stage of design development meaning the detail required is unavailable.

- 1.10.2 The Consents and Agreements Position Statement (TR010064/APP/3.3) sets out what consents and agreements are expected to be needed for the Scheme, along with the Applicants intended strategy for obtaining those consents and associated agreements.

2 Scheme Development and Options Considered

2.1 Need for the Scheme

Road Investment Strategy 2 2020-2025

2.1.1 In March 2020, the Government published the 2020-2025 Road Investment Strategy 2 (RIS2), (Department for Transport (DfT), 2020) which covers investment in, and management of, the SRN from April 2020 to March 2025 (DfT, 2020).

2.1.2 RIS2 commits £27.4 billion of government spending to deliver improvements in the capacity and quality of the SRN between financial year 2020/21 to 2024/25. It sets out the standard that the Applicant must meet and identifies the Scheme for which funding will be made available and that the Government expects will be built. The Scheme is a '*committed scheme*' in the Investment Plan contained in Part 3 (d) of RIS2:

- '*M60/M62/M66 Simister Island Interchange – improvement of the intersection between the M60 (junction 18), M62 and M66 north of Manchester that improves the traffic flow on the M60*'.

2.1.3 RIS2 aims to develop a greener network, specifically through:

- '*The majority of all vehicles using the SRN, including almost all cars and vans, are zero emission at the tailpipe, transforming the impact of the SRN on air quality and carbon emissions.*
- '*The SRN makes extensive and effective use of environmentally and visually sensitive 'green infrastructure', modern materials and careful planting, including trees. Together, these minimise and mitigate the air, light, noise, visual, and water quality impacts of the SRN on those living or working near to it, and sustain habitats and enhance biodiversity.*
- '*Enhancements to the network create roads that fit with their surroundings and which keep negative consequences to a minimum. In particular they employ high standards of design, responding to place-specific issues and in keeping with the natural, built and historic environment.*'

2.1.4 RIS2 sets Key Performance Indicators (KPIs) to which the Scheme aims to contribute. These KPIs are set out below and this Case for the Scheme explains how the Scheme delivers the KPIs:

- '*Improving safety for all.*
- '*Providing fast and reliable journeys.*
- '*A well maintained and resilient network.*

- *Delivering better environmental outcomes.*
- *Meeting the needs of all road users.*
- *Achieving efficient delivery.'*

National Highways Strategic Business Plan 2020-2025

- 2.1.5 The Applicant's Strategic Business Plan sets out its commitment to protecting the environment and neighbouring communities, while preparing roads for future developments. It sets out the Applicant's response to RIS2 and presents the careful balance between maintaining and operating the SRN safely and providing new capacity where it's needed.

National Highways Delivery Plan 2020-2025

- 2.1.6 The Applicant's Delivery Plan 2020-2025 explains how the committed schemes included in RIS2 will be delivered in the period up to 2025. The Delivery Plan 2020-2025 notes that the Scheme will deliver a wide range of benefits, including reduced congestion, and will align with local authority development plans.

Net Zero Highways' Plan (National Highways, 2021)

- 2.1.7 The 'Net Zero Highways' plan sets out the Applicant's programme for achieving net zero Greenhouse Gas (GHG) emissions for the SRN by 2050. The plan commits the Applicant to achieving:
- *'Net zero for its own operations by 2030.*
 - *Net zero for maintenance and construction by 2040.*
 - *Net zero carbon travel on the SRN by 2050'.*
- 2.1.8 Within the plan, a number of key targets have been set to achieve each of these commitments from 2022 onwards. Many of these targets involve research and / or the development of future policies and procedures as the Applicant transitions towards achieving net zero, the outcomes of which would inform the design, development and operation of the Scheme going forwards (where applicable).
- 2.1.9 As set out in Chapter 6 of this Case for the Scheme, the Scheme design has incorporated several measures which will help deliver the net zero target. These include extensive landscaping, biodiversity enhancement, sustainable construction methods, the sustainable use of materials, minimising waste, reusing materials as far as practicable and ensuring that the land required to construct the Scheme has been kept to a minimum.

2.2 Development of the Scheme and Alternative Options

2.2.1 Chapter 3, Assessment of Alternatives of the ES (TR010064/APP/6.1) sets out a detailed commentary and explanation of the decision making process for developing the Scheme and the alternatives which were considered. In summary:

- The Scheme is currently at Preliminary Design which has followed three assessment stages. This optioneering dates back to 2015. It resulted in four options been considered and then two alternative options taken forward for further assessment.
- The two alternative options were called the Northern Loop and the Inner Links. A public options consultation was held for the Northern Loop and Inner Links from 22 June 2020 to 17 August 2020. Due to the COVID-19 pandemic, the public options consultation was carried out remotely. The consultation included posting of a consultation brochure and response form to almost 10,000 addresses, provision of on-line information and providing telephone events to replace face-to-face engagement.
- Following this public options consultation, the Northern Loop option was chosen as the emerging preferred option. When selecting the preferred route, the Applicant considered several criteria, including the Scheme objectives, safety, benefits, costs, environmental effects, construction and feedback from the public consultation. While both options would meet the Scheme objectives, the Northern Loop would provide greater capacity improvements and journey time savings for road users when compared to the Inner Links. These benefits, therefore, would be felt for longer into the future, as predicted traffic levels continue to grow. The option selected was also widely supported during the public consultation, with over 67% of respondents preferring the Northern Loop. The Preferred Route Announcement was made for the Northern Loop option on 27 January 2021.
- Statutory consultation on the Scheme, was undertaken between 15 February and 28 March 2023 (6 weeks).
- Targeted supplementary non statutory consultation was undertaken between 27 July and 9 September 2023. This notified affected landowners and other interests about changes to the Scheme affecting them. BMBC, Natural England and the Environment Agency were also informed of this targeted supplementary consultation.

2.2.2 The Consultation Report (TR010064/APP/5.1) and Consultation Report Annexes (TR010064/APP/5.2) outlines:

- The prescribed consultees and relevant land interests consulted under Section 42 of the 2008 Act and the local community consulted under Section 47 of the 2008 Act.
- Targeted supplementary non statutory consultation.
- A summary of the responses received during the consultation exercises and how the Applicant has had regard to those responses in compliance with Section 49 of the 2008 Act.
- A summary of all supporting stakeholder engagement undertaken throughout the pre-application stage of the Scheme.
- Copies of consultation documents, notices and materials produced to support the assessment of statutory compliance under Section 55 of the 2008 Act, for the statutory consultation and to support the non-statutory and supplementary consultations, are included in a series of annexes to the Consultation Report.

2.2.3 Statements of Common Ground are under development to provide the Examining Authority (ExA) with the current position between the Applicant and prescribed consultees, statutory undertakers and interested parties (“other parties”) in relation to the Scheme. These will be submitted to the ExA during the course of the examination.

3 Scheme Description

3.1 Scheme Description

3.1.1 This section and Table 3.1 briefly describes the Scheme as it is shown on the General Arrangement Plans (TR010064/APP/2.2). A more detailed description is provided by Chapter 2, the Scheme, of the ES (TR010064/APP/6.1).

Table 3.1 - Scheme Highway Elements/Sections

Highway element/section	Description	Alteration of existing alignment or new element
Northern Loop (M60 eastbound to M60 southbound free flow link)	A new free-flow link from the M60 eastbound to the M60 southbound (the 'Northern Loop').	New element. This element would be mainly on an embankment.
M66/M60 existing carriageway	Widening of the M66 southbound through M60 Junction 18 from two lanes to four lanes.	Alteration of existing alignment.
M66 southbound diverge	Realignment of the M66 southbound diverge slip road to M60 Junction 18 to accommodate the Northern Loop structure, including a new overbridge where the slip road crosses the Northern Loop and realignment of the left turn lane to the M62 eastbound.	Alteration of existing alignment. This element would be on an embankment.
M60 eastbound to M66 northbound free flow link	The existing one lane free flow link would be retained. The alignment of the approach to the free flow link would change as the M60 eastbound off-slip to the Junction 18 circulatory would be closed for use by the public. Access to the circulatory would be provided to authorised vehicles only.	Alteration of existing alignment.
M60 northbound to M60 westbound free flow link	Widening from one lane to two lanes.	Alteration of the existing alignment. This element would consist of cutting (M60 northbound) and embankment (M60 westbound).
M62 westbound to M60 southbound free flow link	Realignment of the existing free flow link.	Alteration of existing alignment.

Highway element/section	Description	Alteration of existing alignment or new element
M60 Junction 18 circulatory carriageway (i.e. the M60 Junction 18 roundabout)	The M60 eastbound off-slip to J18 and southbound on-slip to the M60 would both be closed for use by the public, with only authorised access provided; the lanes on the roundabout would change to a new alignment to reflect the closures.	Alteration of existing alignment
M60 mainline J17 to J18	Widening of the existing four-lane Controlled Motorway between M60 Junction 17 to Junction 18 to provide an additional lane each side with a new hard shoulder.	Alteration of existing alignment

3.1.2 The Scheme would require two new major structures:

- Simister Pike Fold Viaduct: A three-span bridge (west, east and main span) to carry the new M60 eastbound to M60 southbound link (the Northern Loop) over the M66 and slip roads (approximately 13m above the level of the M66 carriageway), approximately 70m north of M60 Junction 18. The spans are approximately 43m for the west span, 56m for the main span, and 43m for the east span. The viaduct would comprise a composite weathering steel girder and reinforced concrete (RC) superstructure, supported on RC piers and full-height RC abutments with mechanically stabilised earth (MSE) wingwalls. An access route would be provided to the internal area of the Northern Loop to allow for maintenance of vegetation during operation.
- Simister Pike Fold Bridge: A standard height (approximately 5.7m above the adjacent M66 carriageway), single-span fully integral bridge carrying the M66 southbound off-slip road over the Northern Loop, some 350m north of M60 Junction 18. The span would be approximately 43m. The bridge would comprise a weathering steel girder and RC superstructure, supported on MSE abutments and wingwalls.

3.1.3 Nine new gantries would be required. These would be steel lattice type structures.

3.1.4 The Scheme would require a number of embankments and cuttings to accommodate the horizontal and vertical alignment of the new road. As a general principle, these slopes would be 1:3 (1 in 3) gradient, with the exception of one retaining wall on the M60 eastbound between Sandgate Road and Haweswater Aqueduct underpass at 1:2.5 (1 in 2.5) gradient.

3.1.5 Haweswater Aqueduct, which passes underground between M60 Junction 17 and Junction 18, will not require modification. The Scheme will not

require new crossings of watercourses or alterations to existing watercourse culverts.

- 3.1.6 The drainage design includes an allowance for the effects of climate change over a 100-year period. A climate change allowance of 30% has been applied, together with a sensitivity test which considers a 40% climate change uplift in peak rainfall intensity.
- 3.1.7 Where feasible, surface water runoff will be discharged to the following hierarchy order:
- Into the ground (infiltration).
 - To a surface water body.
 - To a surface water sewer, highway drain, or another drainage system.
 - To a combined sewer.
- 3.1.8 As the Scheme is, for the most part, an alteration to an existing highway alignment, the general strategy is that the drainage of highway run-off would follow the existing arrangement. It will only be adjusted to suit new pavement locations, before continuing to attenuate and ultimately discharge at the watercourse or existing highways network. The drainage system would discharge into the existing system where feasible.
- 3.1.9 Chapter 2, the Scheme of the ES (TR010064/APP/6.1) sets out the details of 4 attenuation ponds and one treatment pond that will be provided. The five ponds are designed to be permanently wet to function as retention basins and achieve the desired treatment efficiencies.
- 3.1.10 In addition to attenuation ponds, runoff will be collected via surface water channels, kerbs and gullies, filter drains, slit drains, linear drains, combined kerb drainage and combined carrier and filter drains. Oversized pipes (1.2m diameter) will be installed in the central reservation of the M60 mainline from Haweswater Aqueduct underpass and will tie into the existing drainage network prior to the Bury Old Road overbridge.
- 3.1.11 All of the Scheme will be lit. The lighting strategy is set out in detail in Chapter 2, the Scheme of the ES (TR010064/APP/6.1).
- 3.1.12 The Scheme will interact with numerous statutory undertaker's assets owned and maintained by various companies. These companies include:
- Electricity North West Limited (ENWL) (low voltage (LV) 6 kilovolt (kV) to 33kV underground cables and 33kV overhead cables).
 - Openreach (underground ducts).
 - United Utilities (potable water and wastewater).
 - National Grid (high voltage (HV) overhead cables).
 - Cadent Gas (mains gas).

- 3.1.13 Whilst the construction works need to be planned around key gas, telecommunication, water and electricity assets, the Scheme will not require the diversion of high pressure gas mains and overhead electricity lines which can be defined as NSIPs in their own right.
- 3.1.14 A summary of the utilities impacted is provided below:
- There is a high-pressure gas main operated by Cadent Gas located at the northern extent of the Scheme crossing the M66. This high-pressure gas main will not need to be diverted. There is also a low pressure gas main which directly feeds residential properties within the area around Balmoral Avenue. There is the potential for the gas main to require diversion or protection works.
 - National Grid owns and operates electricity transmission networks in the UK. Within the footprint of the Order Limits there are two National Grid pylons, with several more located in close proximity to the Scheme. Appropriate construction methodologies would be engaged to protect these assets.
 - ENWL is the power network operator for the north-west of England. ENWL have several assets which have potential to be impacted by the Scheme and which will require either temporary or permanent diversion.
 - There is a telecommunication mast located in the north-east quadrant of the Order Limits (approximately 20-30m north of the M60). This will be unaffected by the Scheme.
 - Openreach maintains the telephone cables, ducts, cabinets, and exchanges across the UK and construction interacts with several Openreach assets. To allow the construction of temporary access tracks that are suitable for plant trafficking, the assets will either be protected or diverted.
 - The Order Limits interact with several water and wastewater assets owned and maintained by United Utilities. Protection measures will be required to potable and wastewater United Utilities assets to allow the construction of temporary access tracks parallel to Corday Lane that are suitable for plant trafficking from Heywood Road. The extent of the action to be taken will be confirmed by on-site investigation prior to the main works in each location.
- 3.1.15 Measures to protect all these assets during construction are contained in the Protective Provisions set out within Schedule 9 of the draft DCO (TR010064/APP/3.1).
- 3.1.16 The Scheme also includes replacement and new areas of landscaping and other ecological and planting improvements. These are shown on Figure 2.3 the Environmental Masterplan of the ES Figures (TR010064/APP/6.2). These enhancements incorporate:

- Mixed woodland planting to reinstate native species.
- Species rich grassland.
- Reinstated native linear tree belts.
- Mixed broadleaf woodland on embankments to break up the scale of the motorway.
- New trees, shrubs and hedgerow planting to provide landscape integration and visual screening of the Northern Loop and Simister Pike Fold Bridge.
- New landscape and woodland planting to provide landscape integration.
- Marsh and wet grassland and marginal planting at wet drainage features.
- Creation of wet woodlands.
- Planting of embankments and visual screening including broadleaf woodland and coniferous/evergreen species.
- Individual tree planting.
- Maintenance of wildflower habitats.
- Log piles, brash piles and standing deadwood to provided microhabitats for invertebrates and amphibians.
- Bat and bird boxes.

3.2 Order Limits

3.2.1 The Order Limits form the Scheme boundary which is shown on the Land Plans (TR010064/APP/2.3). The total area of land required for the construction and operation of the Scheme is set out in Table 3.2 below. A fuller description of the Order Limits is set out in Chapter 6 of this Case for the Scheme.

Table 3.2 - Order Limits Land Area

Land Area	Total – Hectares
Land already owned by the Applicant	49.11
Land not owned by the Applicant which needs to be permanently acquired to construct the Scheme.	23.08

Land Area	Total – Hectares
Land not owned by the Applicant which needs to be temporarily acquired to construct the Scheme.	11.09
Land required for permanent rights of access.	2.41
Total Order Limits	85.69

- 3.2.2 The land that needs to be permanently acquired for the Scheme has been kept to a minimum. The justification for the land to be acquired for the Scheme is set out in the Statement of Reasons (TR010064/APP/4.1).

4 Transport Case for the Scheme

4.1 Overview

4.1.1 This chapter provides further information on the transport problems that support this Case for the Scheme. The Transport Assessment (TR010064/APP/7.4) also provides more detailed information on the transport analysis.

4.2 Key functions of the M60 Junction 17- Junction 18

4.2.1 The existing M60 Junction 18 Simister Island is a three-level roundabout interchange with the M60/M62 on the highest level and the M66/M60 on the lowest level and a signal controlled roundabout at mid-level. There are physically segregated links providing for left turn movements prior to each entry to the roundabout. M60 Junction 18 provides the interchange between the M60, M62 and M66 to the north east of Manchester.

4.2.2 Significantly, the M60 Junction 18 links the Greater Manchester orbital motorway, with Rossendale and Burnley to the North, Rochdale and Leeds to the East, and Warrington and Liverpool to the west via the M60 Manchester Outer Ring Road. There are a number of significant employment areas accessible from M60 Junction 18 including Manchester's city centre / central business district, Bury Town Centre and the Pilsworth Road Industrial Estate as well as Heywood Distribution Park.

4.2.3 The M62 and M60 Junction 18 to Junction 12 form a large part of the strategic route presented in the South Pennines Route Strategy, connecting the cities of Leeds, Manchester and Liverpool. The M60 orbital ring road and arterial links cater for long-distance east-west traffic across the M62 as well as shorter commuting trips within Greater Manchester.

4.3 Overview of Transport Modelling

4.3.1 The Scheme traffic model was developed to reflect the current conditions on a typical weekday in 2018 (Base Year) observed in the baseline data. The Scheme traffic model has two main elements; Highway Assignment Model (HAM) and Variable Demand Model (VDM).

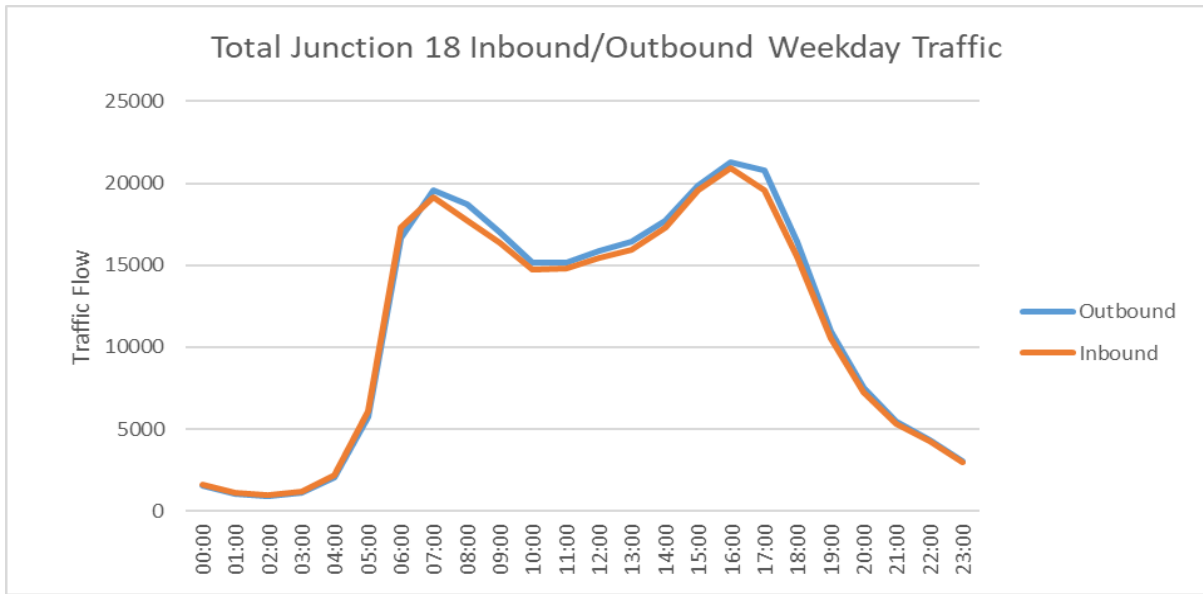
4.3.2 A VDM is a mathematical model which estimates the changes that occur in travel behaviours in terms of the types, frequency, distribution and mode of trips they make in response to the impact of an intervention, based on known demographic and economic data and empirically observed behavioural patterns. The HAM consists of a representation of the road network, including the characteristics of each road and junction, along with details of the demand for car travel between different areas of the model. The model then assigns the traffic onto the road network based on the relative cost in terms of travel times and distances of each route.

- 4.3.3 The Scheme traffic assignment model is a static equilibrium highway assignment model developed in Simulation and Assignment of Traffic to Urban Road Networks (SATURN) using version 11.5.05H.
- 4.3.4 DfT's Transport Analysis Guidance (TAG), which provides guidance on transport modelling and appraisal, states that "any change to transport conditions will, in principle, cause a change in demand. The purpose of variable demand modelling is to predict and quantify these changes."
- 4.3.5 A Dynamic Integrated Assignment and DEMand Model (DIADEM) is a computer software package that was developed to assess variable demand for traffic models. DIADEM is used to model variable demand responses. The Scheme demand model uses the DIADEM software (version 7.0) issued on behalf of the DfT.
- 4.3.6 An important initial consideration in model design is the years for which forecasts will be produced. Future year traffic flows are required for the design of the Scheme and for economic and environmental assessment purposes.
- 4.3.7 The following forecast year traffic models have been developed for the situation with and without the Scheme. The scenario without the Scheme in place is referred to as "Do Minimum" and the scenario with the Scheme in place as "Do Something":
- 2029 – this is the Scheme opening year.
 - 2044 – Scheme design year (15 years after Scheme opening year).
 - 2061 – this is the final year for which DfT has published traffic growth forecasts from its National Transport Model.
- 4.3.8 The Transport Assessment (TR010064/APP/7.4) provides more detailed information on the development of the Scheme traffic model.
- 4.3.9 Outputs from the model have been used in the economic appraisal of the Scheme as discussed in Chapter 5 of this Case for the Scheme.

4.4 Current Traffic Conditions

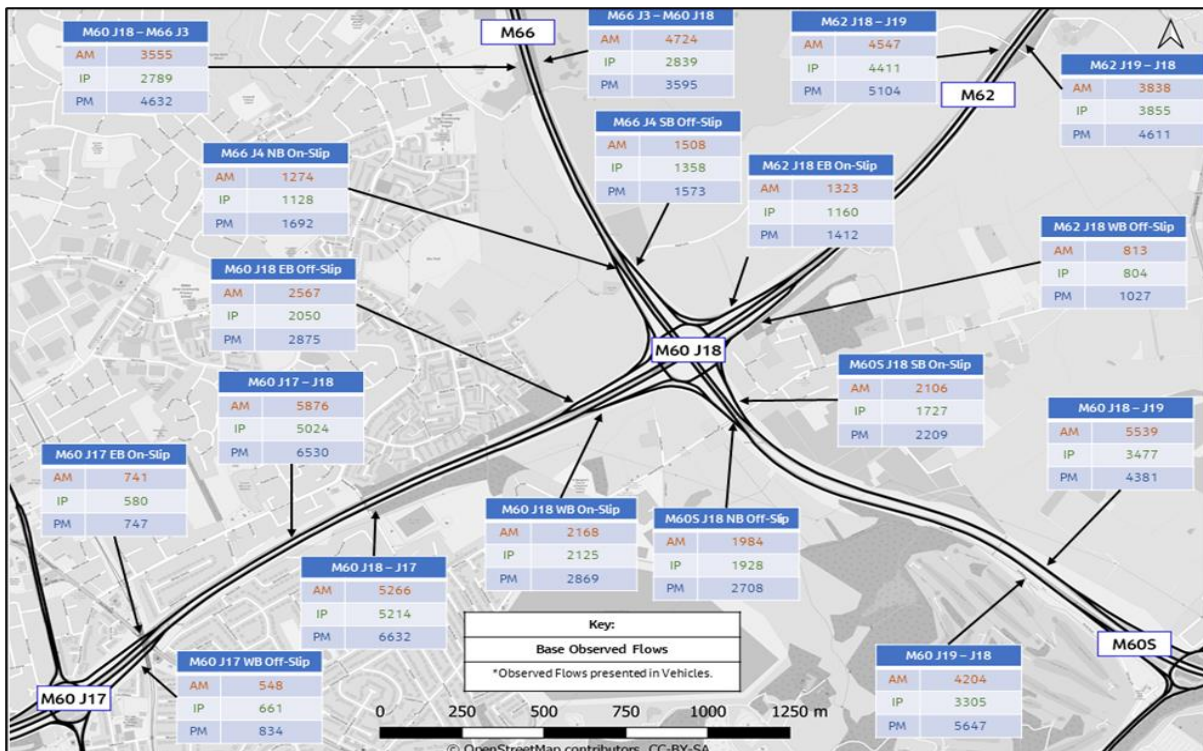
- 4.4.1 Figure 4.1 shows the observed weekday traffic flow profile inbound and outbound on the mainline motorway approach arms to Junction 18 in 2018. Whilst flows are high throughout the day, there are specific AM and PM peaks between 7:00 – 9:00 and 16:00 – 18:00 respectively.

Figure 4.1 - Average inbound and outbound weekly traffic by hour



4.4.2 Figure 4.2 presents the observed flows in vehicles for the AM Peak (average 7:00 – 9:00), Inter Peak (average 9:00 – 15:00) and PM Peak (average 16:00 – 18:00) for key SRN links in the vicinity of the Scheme area. The highest traffic flows in the area are observed along the M60 between Junction 17 and Junction 18 in both directions, especially in the PM peak.

Figure 4.2 - Observed Base Link Flows



- 4.4.3 Analysis of a turning count undertaken at Junction 18 indicates the following:
- The movements with the highest traffic flows are M60 northbound to M60 westbound and for movements travelling from M60 eastbound to M60 southbound.
 - The other major movements through the junction are on the dedicated left turn from M60 eastbound to M66 northbound and the right turn from M66 southbound to M60 westbound.
- 4.4.4 Automatic Number Plate Recognition (ANPR) surveys were also undertaken between 21 and 23 May 2018. These have been used to analyse the origin and destination of trips travelling between Junction 17 and Junction 18.
- 4.4.5 Table 4.1 and Table 4.2 below shows the percentage of trips travelling to and from Junction 17 and Junction 18, and vice versa. The tables show that a significant proportion, around 55%, of trips using Junction 17 or Junction 18 are using both of these junctions.

Table 4.1 - Trips travelling to Junction 17

To	Time Period	From		% from Junction 18
		J18	M62 East of J18	
J17	AM	930	688	57%
	PM	1,405	1,143	55%

Table 4.2 - Trips travelling to Junction 18

To	Time Period	From		% from Junction 17
		J17	M60 West of J17	
J18	AM	1,180	898	57%
	PM	1,130	877	56%

Journey Times and Speeds

- 4.4.6 Speed data from the Trafficmaster database have been plotted to analyse the average speeds of the mainline and slip road traffic. Analysis was undertaken based on weekday traffic in May and June 2018. Figure 4.3 and Figure 4.4 show the average speeds in the AM Peak (7:00-9:00) and the PM Peak (16:00-18:00) respectively.

Figure 4.3 - AM Observed Trafficmaster Speeds

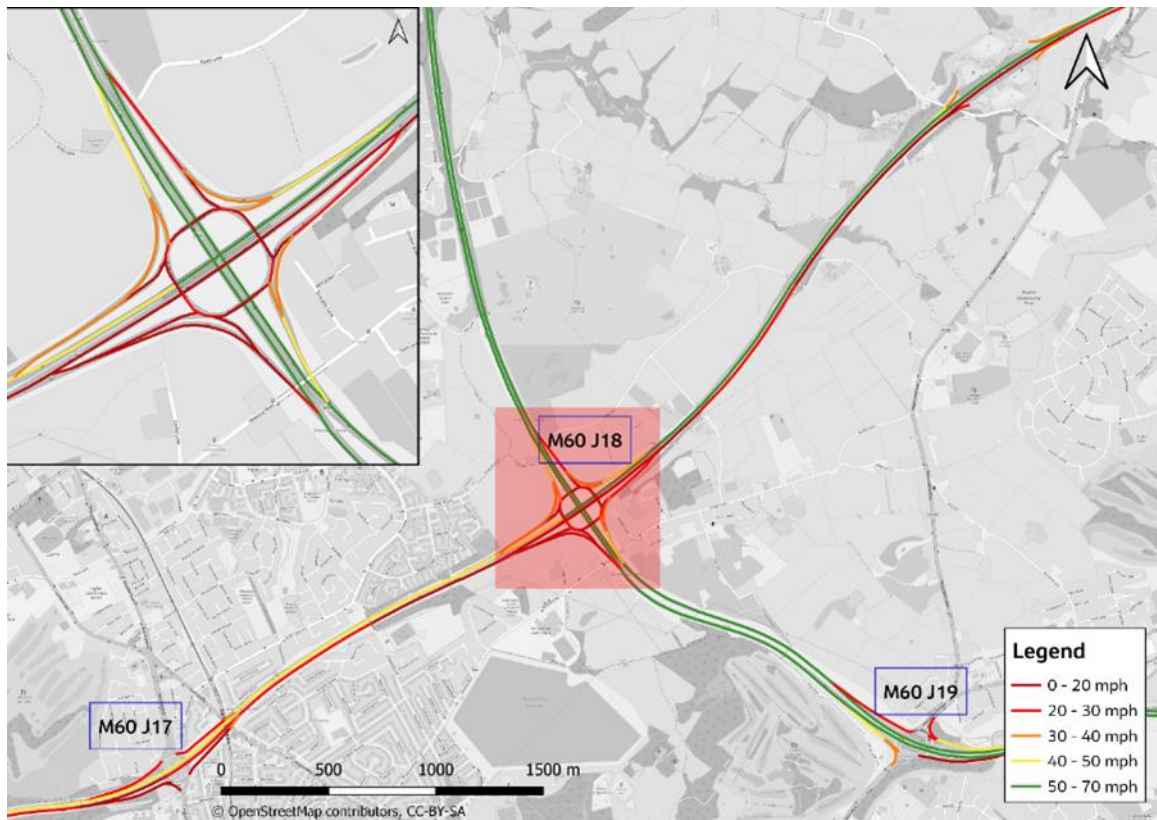
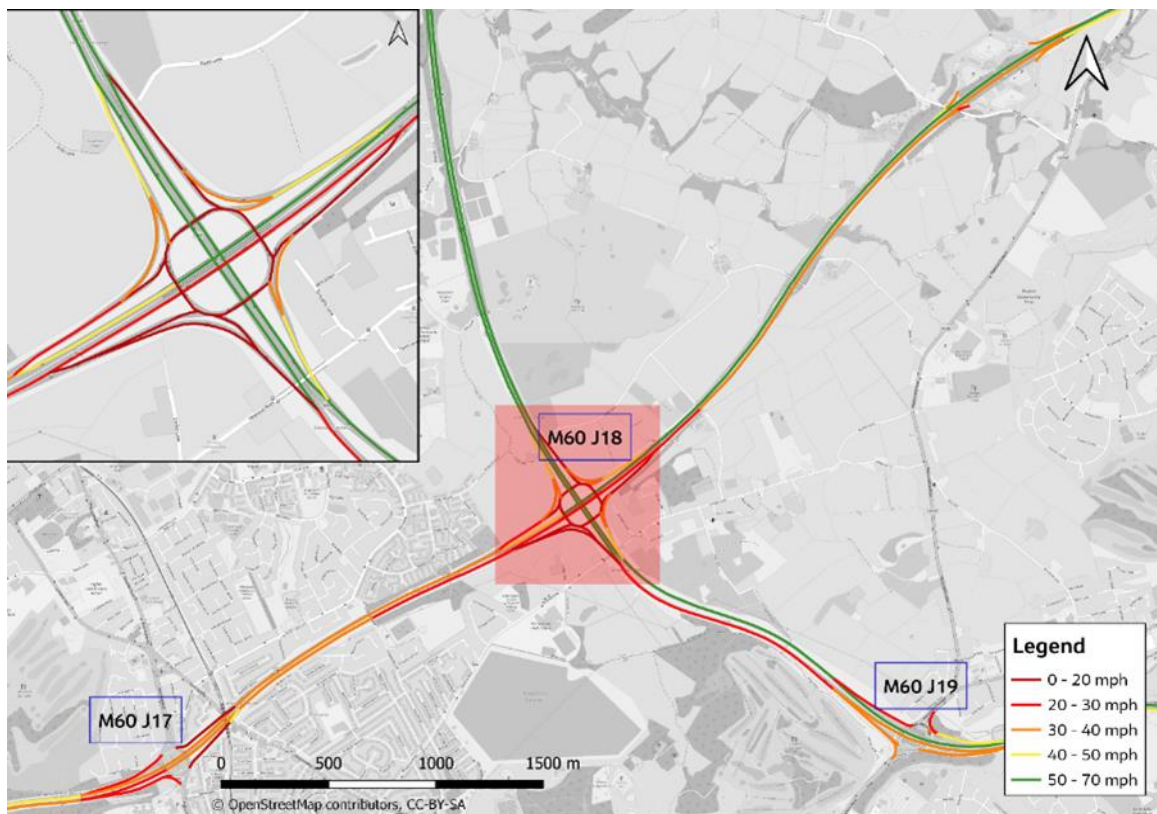


Figure 4.4 - PM Observed Trafficmaster Speeds

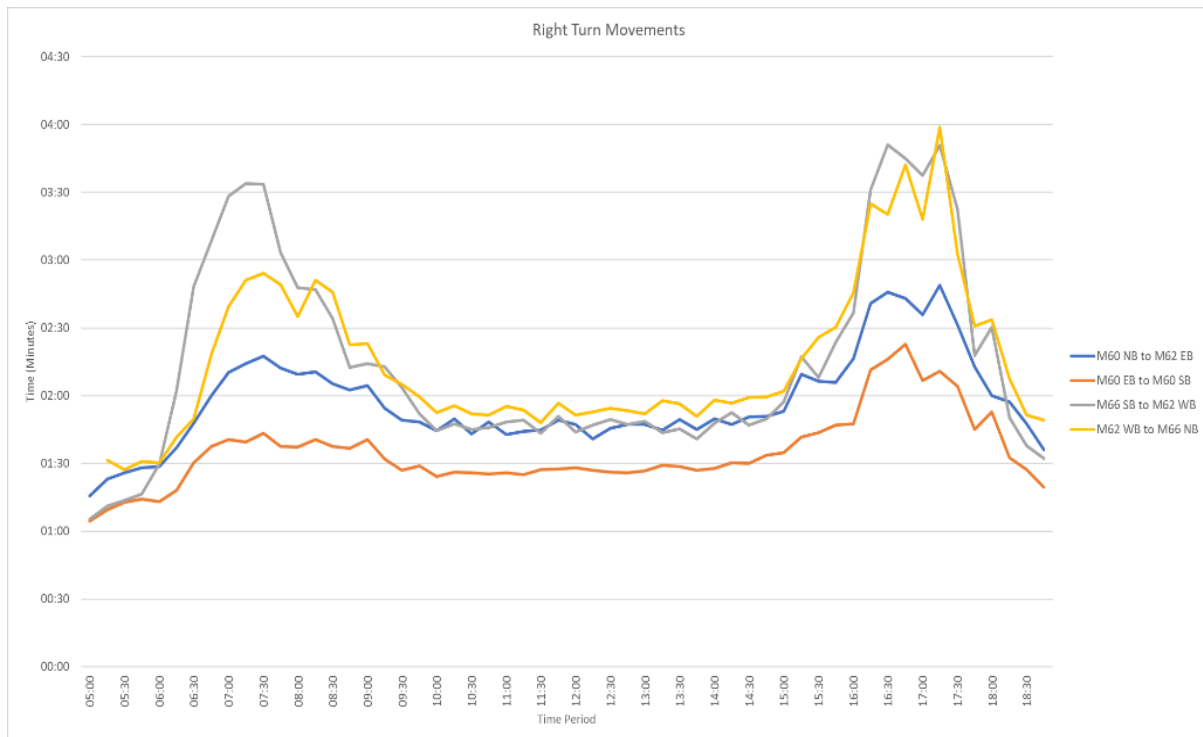


4.4.7 The speed data shows the following:

- There are significant delays in the westbound direction throughout the Scheme area on the M62 and M60, with speeds as low as 20mph along sections in both the AM and PM periods. This is due to a combination of the high volume of traffic using this section, the weaving and merging between junctions and downstream slow-moving traffic extending back from Junction 15.
- The eastbound movement along the mainline is more free flowing in the AM peak with speeds of 40-70mph though this drops with the correspondingly higher PM flows.
- Significant delays are shown around the M60 Junction 18 circulatory in both the AM and PM periods with speeds falling to 0-20mph. Furthermore, the approach arms to the roundabout experience low speeds as traffic queues at the signals. These delays are caused by heavy conflicting movements at the junction.
- Significant delays occur on the merges and diverges at Junction 17 and Junction 18, particularly for westbound merging traffic at M60 Junction 18 in both peak time periods. High flows on the mainline and joining the M60 in this location contribute to these delays.
- In the PM peak period, there is a significant delay on the M60 northbound approach to Junction 18 with speeds of 30-40mph at M60 Junction 19 and decreasing to 20-30mph on approach to M60 Junction 18.

4.4.8 The same Trafficmaster data that was used to display the speeds above has been used to calculate the journey times for movements through the Scheme area. Firstly, Figure 4.5 shows the profile of travel times across the day for the right turn (i.e. non-free flow) movements through Junction 18.

Figure 4.5 - Journey Times for Right Turn Movements at Junction 18



- 4.4.9 All the right turning movements experience some delay in both the AM and PM time periods, with the M62 westbound to M66 northbound and the M66 southbound to M60 westbound experiencing the largest delays of around 2.5 minutes compared with off peak travel times.
- 4.4.10 The M60 northbound to M62 eastbound and M60 eastbound to M60 southbound show some delay in both the AM and PM peak periods, with the highest in the PM peak of up to 1.5 minutes.
- 4.4.11 The travel times on the mainline sections through M60 Junction 18 in all four directions starting and finishing at the adjacent junctions are presented in Figure 4.6.
- 4.4.12 The through movements along the mainline between M60 Junction 19 and M66 Junction 3 as well the eastbound movement from M60 Junction 17 to M62 Junction 19 generally show minimal delay in the AM peak and a slightly higher delay in the PM peak of around 1.5 minutes. The highest delay is shown to be along the westbound movement from M62 Junction 19 to M60 Junction 17 with a 6.5-minute delay at around 07:30 in the AM peak and a 3 minute delay in the PM at around 17:00.
- 4.4.13 Figure 4.7 then shows the journey times for the left turn movements at Junction 18. Although all left turn movements show some slight delays during either the AM or PM peak, the highest delay is experienced for trips travelling from the M60 northbound to the M60 westbound with a delay of up to 2 minutes in both the AM and PM peak periods. The higher delays for this movement results from the slow-moving traffic at the merge point which affects the operation of the slip road.

Figure 4.6 - Journey Times for Through Junction Movements

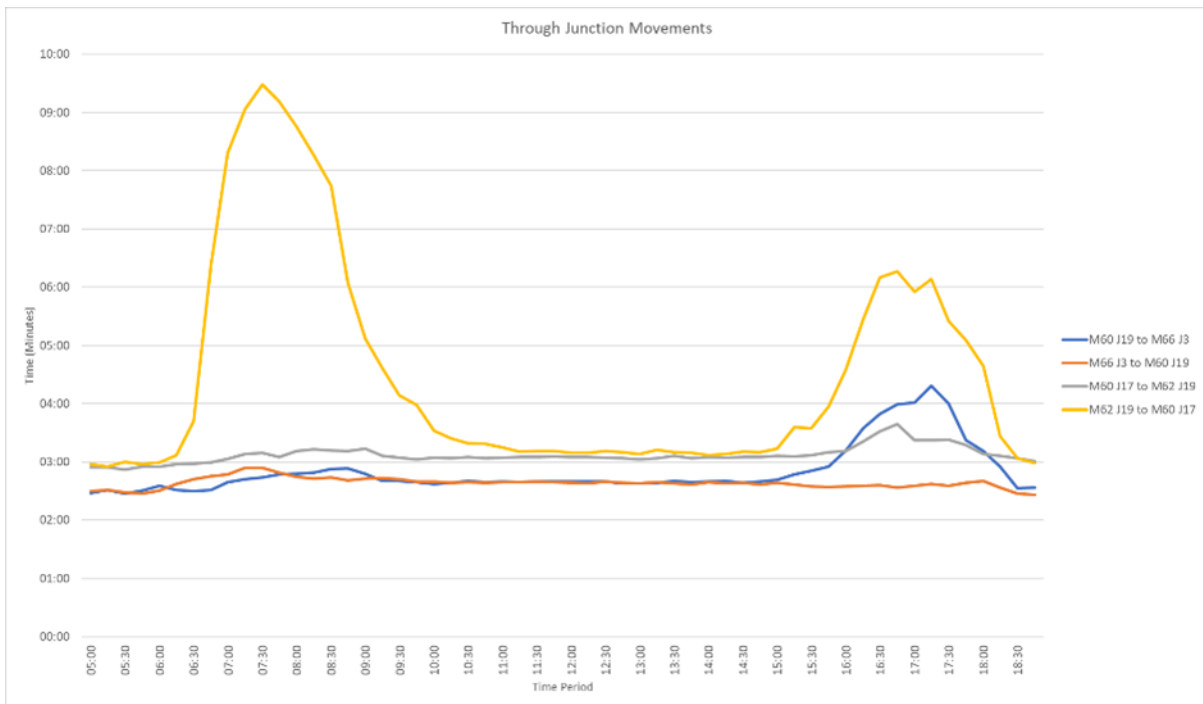
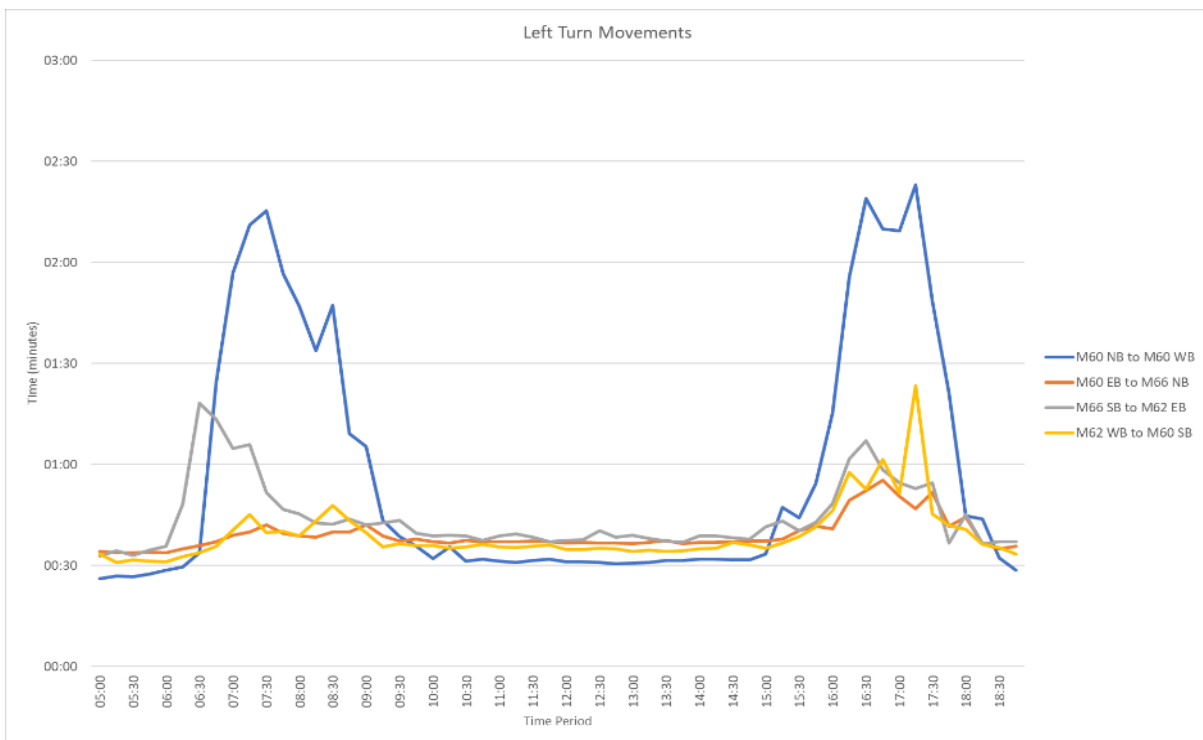


Figure 4.7 - Journey Times for Left Turn Movements



4.5 Future Traffic Flows: With and Without the Scheme

4.5.1 Figures 4.8 to Figure 4.10 show the forecast traffic flows from the Simulation and Assignment of Traffic to Urban Road Networks SATURN traffic model for the 2029 forecast year for the AM, IP and PM peak periods in the Do Something and Do Nothing.

Figure 4.8 - 2029 AM Hour SATURN Flows

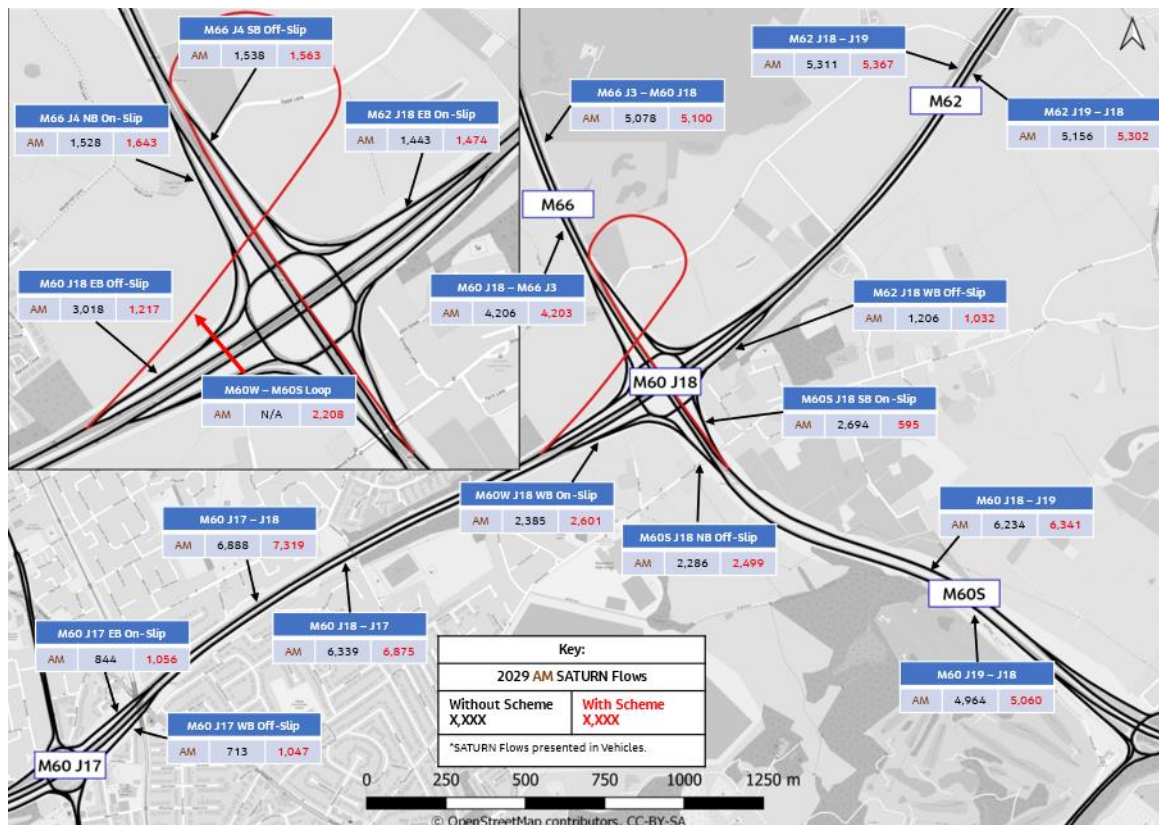


Figure 4.9 - 2029 IP Hour SATURN Flows

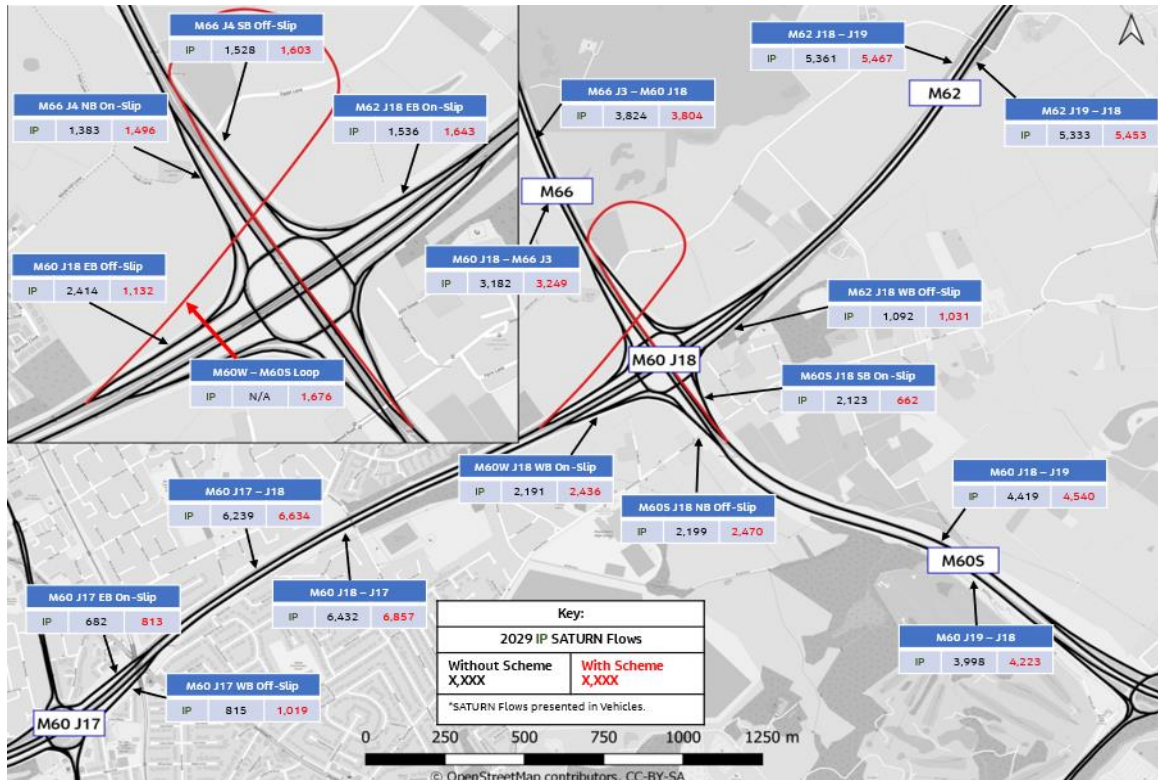
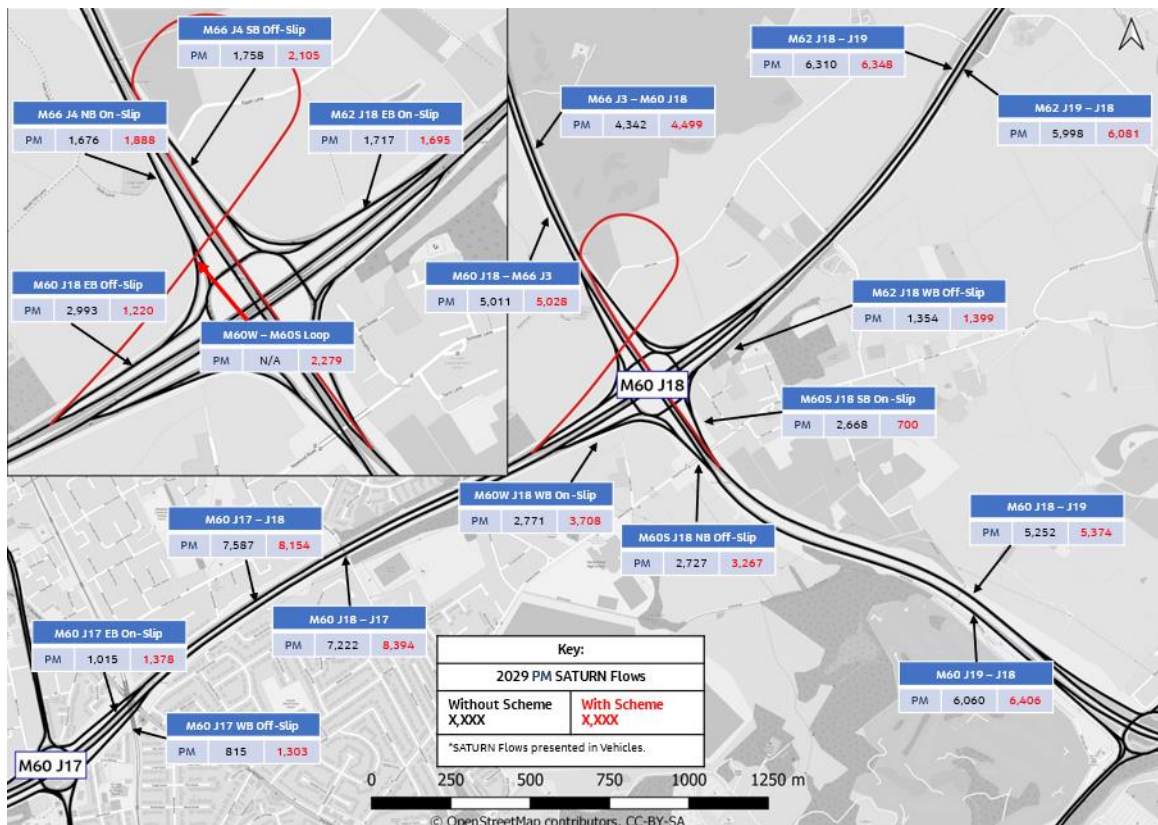
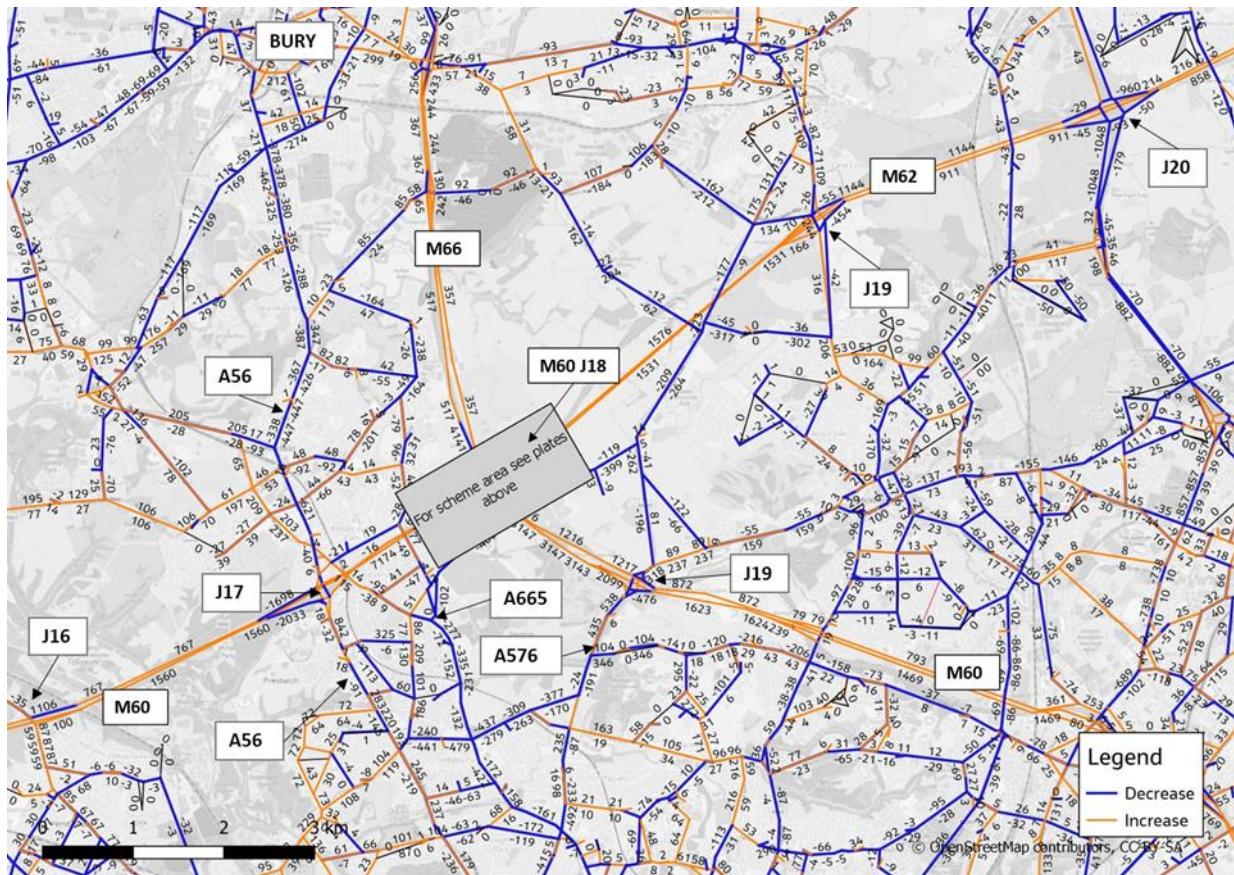


Figure 4.10 - 2029 PM Hour SATURN Flows



- 4.5.2 The forecasts show increased traffic levels when compared with the 2018 base year (Figure 4.2) between M60 Junction 17- Junction 18, in the AM and PM periods. For instance, the forecast eastbound flow between M60 Junction 17- Junction 18 without the Scheme in place is approximately 7,600 vehicles per hour in the PM peak up from 6,600 in 2018.
- 4.5.3 In the Do Something scenario traffic is forecast to increase above the levels in the Do Minimum scenario, particularly on the sections of network where capacity is constrained by congestion such as the M60 between Junction 18 and Junction 17. In the westbound direction, the traffic volumes on this section are highest in the PM period, with more than 7,200 trips in the Do Minimum scenario increasing to approximately 8,400 in the Do Something scenario.
- 4.5.4 These increases in the 'with the Scheme' scenario are primarily from reassignment as traffic seeks to take advantage of the extra capacity provided by the Scheme by switching from other routes. Secondly the removal of queuing traffic in the Scheme area increases the throughput in the peak periods and finally, the Scheme results in some induced traffic along this part of the network through variable demand effects.
- 4.5.5 The Scheme results in changes in flows on the M60 Junction 18 links themselves, for example, in the scenario without the Scheme the traffic flow forecast on the M60 southbound on-slip at Junction 18 is around 2,600 vehicles in the AM and PM peak periods but drops to around 600 vehicles in the Do Something Scenario. With the addition of the free flow loop in the Do Something scenario, traffic wanting to travel eastbound to southbound will use the loop instead of the M60 Junction 18 circulatory significantly reducing traffic flows on the Junction 18 circulatory and the M60 southbound on-slip.
- 4.5.6 To provide an overview of how daily traffic levels are forecast to change due to the Scheme across a wider area, Figure 4.11 presents the change in Annual Average Daily Traffic (AADT) from the 2029 models. As there is no exact correlation between links in the Do Minimum and Do Something scenarios in the immediate vicinity of Junction 18 due to the Scheme, changes in this area are not displayed but are already presented above.

Figure 4.11 - 2029 AADT Flow Change



- 4.5.7 The figure shows that some trips from the Bury area to/from Manchester now use the M66 and M60 Junction 18 and Junction 17 rather than the A56 due to the reduced delays on the SRN route. Due to this transfer of trips the A56 is forecast to experience a reduction in delay as discussed in the journey time section below.
- 4.5.8 Reductions in traffic flows, especially westbound, are also forecast along Simister Lane as local traffic, particularly to/from areas around Heaton Park, no longer uses this route to bypass congestion on the SRN in the Do Something scenario. With the Do Something scenario, this traffic remains on the SRN and exits at Junction 17, which is the cause of the increase in flow on the A56 southbound from Junction 17 and along Fairfax Road / Heys Road. This increase in traffic is relatively slight and is forecast to result in less than 10 seconds additional travel time on the A56 and Fairfax Road / Heys Road route.
- 4.5.9 An increase in traffic is forecast on the M60 northbound from Junction 19 to Junction 18. This is due to more of the traffic choosing to travel westbound on the SRN from areas around the A576 (inside the M60) joining the M60 at Junction 19 rather than using the LRN routes to work across to Junction 17 and bypass Junction 18. Whilst this effect reduces flows on some local roads an increase is seen on the A576 northbound towards M60 Junction 19. This is not forecast to result in any significant delay issues on this route.

Junction 17 Impacts – 2029 (Opening Year)

- 4.5.10 After Junction 18, the greatest Scheme impact in terms of flow change is forecast at M60 Junction 17. Further review of Junction 17 in the traffic models indicates that the west facing slip roads are forecast to experience a reduction in traffic demand due to the Scheme, whereas an increase in traffic demand is forecast on the east facing slip roads. There is also a noticeable reduction in through movements on the north-south A56 corridor.
- 4.5.11 The previously presented Figures 4.8 to 4.10 show the change in traffic demand on the east facing slip roads due to the Scheme. The highest change in traffic demand is observed in the PM peak period where the eastbound on-slip flow is forecast to increase by around 250 vehicles. This is due to the Scheme reducing the level of congestion at this merge point by converting this from a taper merge to a lane gain layout.
- 4.5.12 In the opposite direction the westbound off-slip also experiences increases in traffic flow of up to 500 additional vehicles in the PM peak. This is a result of a number of the effects discussed previously where traffic diverts from LRN routes, including the A56 and Simister Lane, onto the SRN to then exit at M60 Junction 17. In turn this contributes to a reduction in north – south A56 movements through M60 Junction 17.
- 4.5.13 The eastbound off-slip is forecast to experience a reduction in traffic demand in the Do Something scenario. This is due to eastbound traffic opting to remain on the SRN to take advantage of the free flow loop to turn right at M60 Junction 18 and exit at Junction 19 or Junction 20 to access local areas rather than exiting at M60 Junction 17 and using the LRN to avoid the congestion at M60 Junction 18. The westbound on-slip is also forecast to experience a reduction in traffic partly due to the reasons discussed above but for the reverse traffic movements. It is to be noted that the M60 Junction 17 westbound merge onto the M60 is over capacity in the Do Minimum scenario. However, the additional mainline traffic attracted to the area by the Scheme further increases the delay at this merge point resulting in some traffic rerouting away from the Junction 17 westbound merge elsewhere in the network.
- 4.5.14 The net effect of these increases and decreases in traffic flows on the performance of the M60 Junction 17 roundabout is largely neutral with the increased flows on the westbound off-slip approach to the roundabout counterbalanced by lower flows on the circulatory meaning that the traffic signals can be adjusted to accommodate the extra off-slip traffic.

2044 Forecasts (15 Years After Opening)

- 4.5.15 Figure 4.12 to Figure 4.14 show the forecast traffic flows from SATURN for the 2044 forecast year for the AM, Inter Peak (IP) and PM peak periods in the Do Minimum and Do Something scenarios.

Figure 4.12 - 2044 AM Saturn Flows

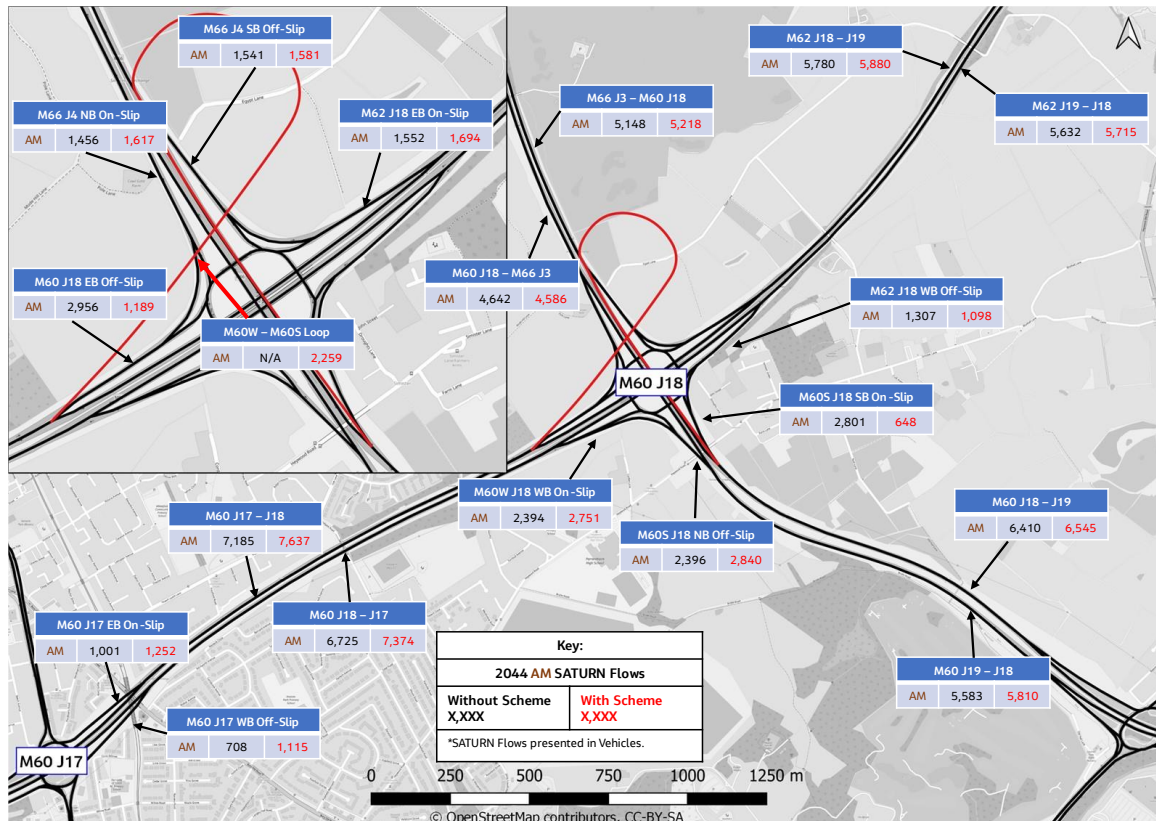


Figure 4.13 - 2044 IP Saturn Flows

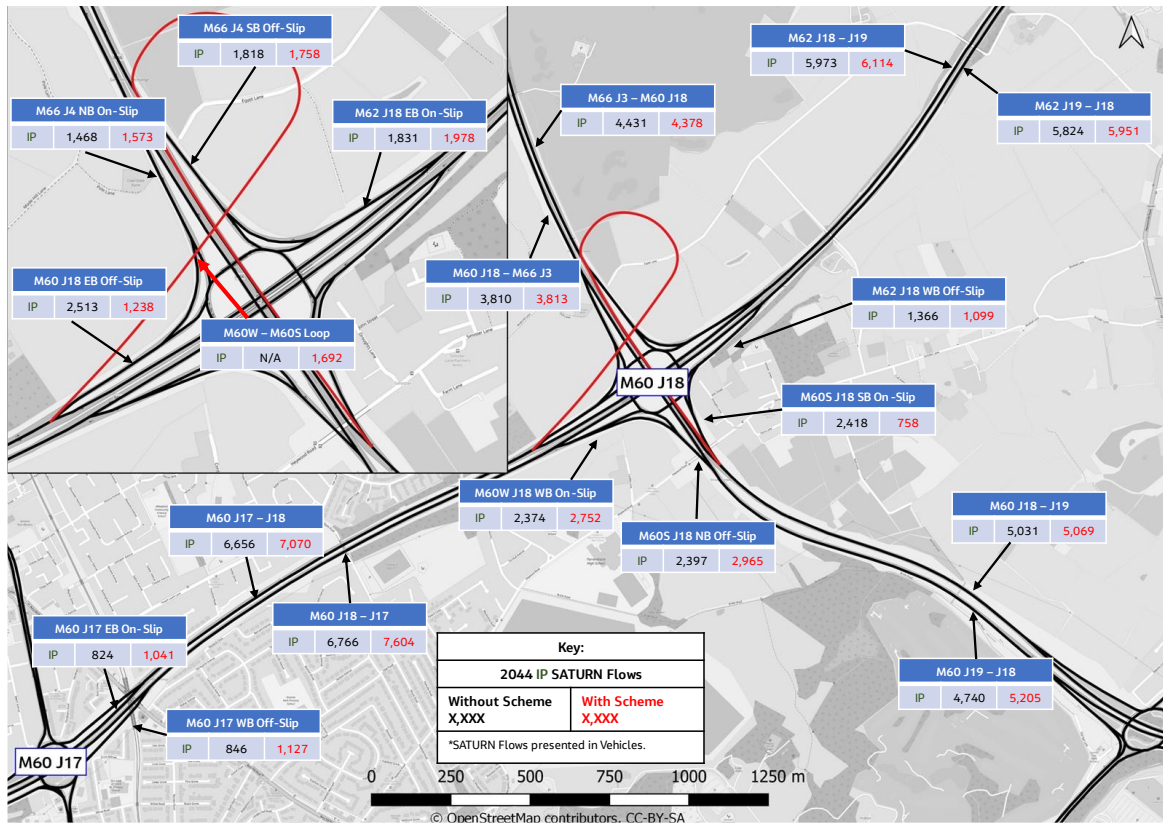
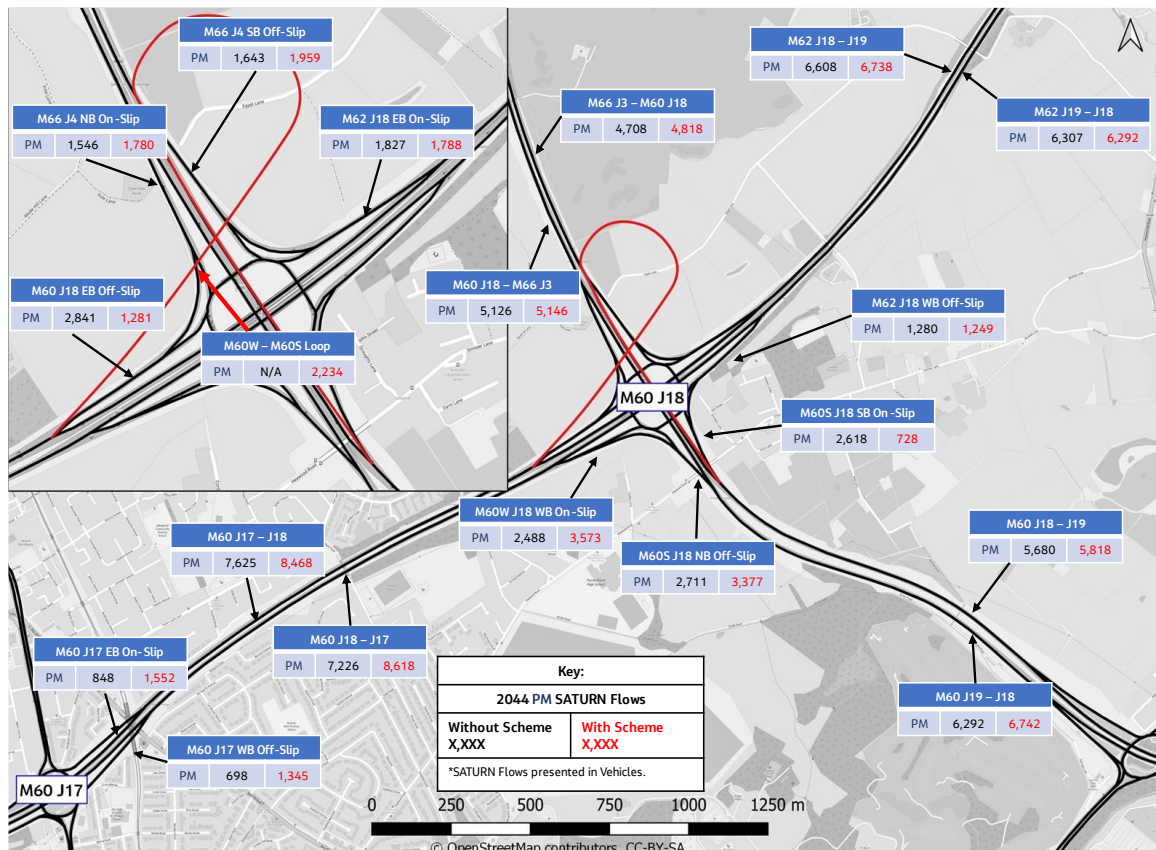
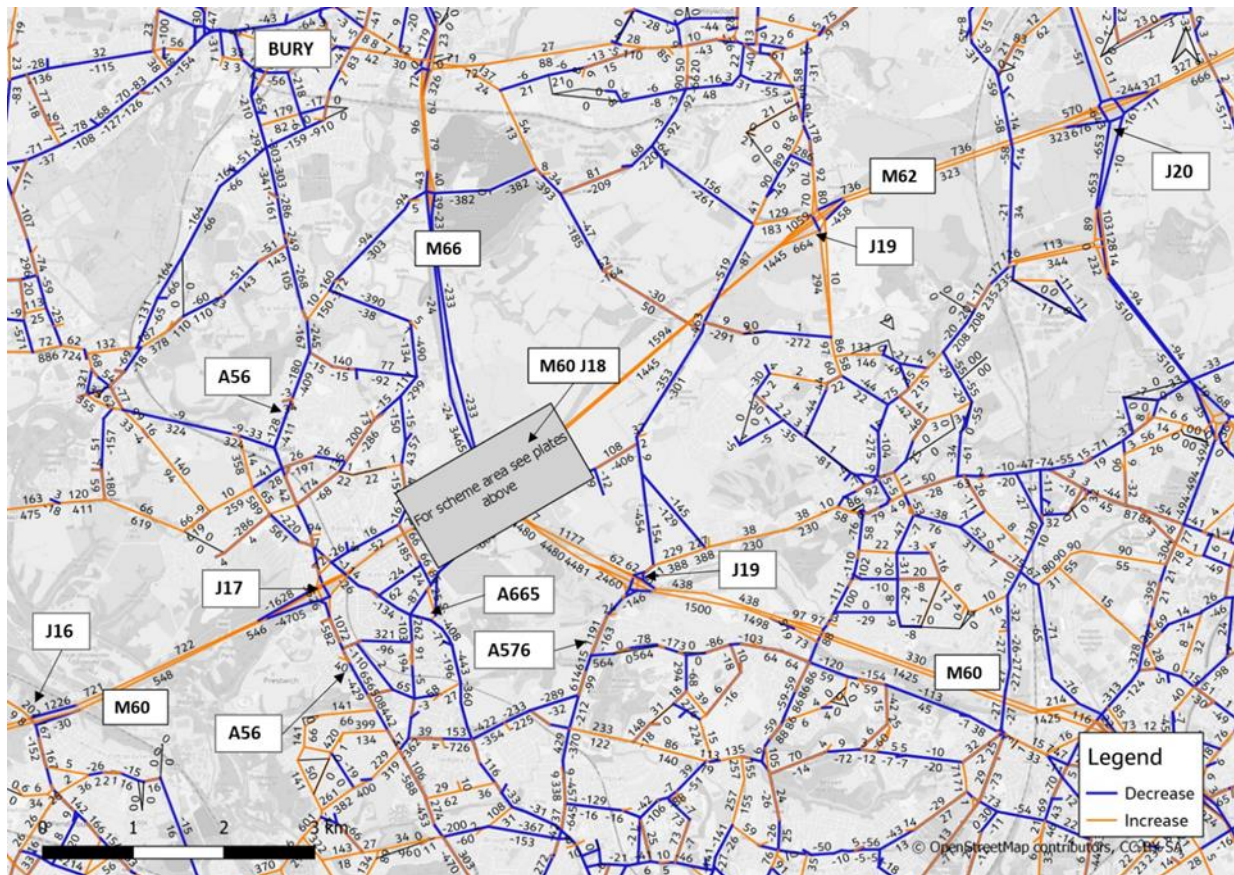


Figure 4.14 - 2044 PM Saturn Flows



- 4.5.16 When comparing the flows from the Do Minimum scenario between 2029 and 2044, the forecasts indicate a further increase in traffic volumes on many sections of the Scheme area for all modelled peak periods. However, the amount of congestion in the area is limiting the amount of additional growth that can occur, for example on the M60 Junction 18 – Junction 17 westbound in the PM peak no growth is seen between 2029 and 2044.
- 4.5.17 In a similar way to the 2029 forecasts, the Scheme would enable higher traffic flows to be carried through the area in 2044 compared to Do Minimum scenario in place. For example, the congestion constraining growth on the M60 Junction 18 – Junction 17 is alleviated with growth in traffic on this section seen in the PM peak between 2029 and 2044.
- 4.5.18 Figure 4.15 represents the forecast AADT changes due to the Scheme in 2044 which have a very similar pattern to that observed in 2029.

Figure 4.15 - 2044 AADT Flow Change



Junction 17 Impacts – 2044

4.5.19 The impacts of the Scheme on M60 Junction 17 in forecast year 2044 are similar to those in 2029. The westbound on-slip merge point is forecast to be further over capacity with associated increases in delays.

4.6 Future Journey Times: With and Without the Scheme

4.6.1 Eight journey time routes were selected covering a wide geographical area with specific consideration to routes which are likely to be impacted by the Scheme. Forecast journey times have been extracted from the SATURN model for these routes to identify the forecast Scheme impact on travel times.

4.6.2 It is to be noted that whilst the 2018 Base and Do Minimum journey times will be using the same routes and links in the model, some routes (e.g. route 14) will be using the network links that form the Scheme option (i.e. using the new loop links) in the Do Something scenario.

4.6.3 Table 4.3 and Table 4.4 present the journey time analysis results by direction for the forecast years 2029 and 2044 respectively, for all modelled periods (AM, IP and PM). Additionally, the results are presented for the Do Minimum and Do Something. The Do Something – Do Minimum (DS-DM) column is the change in journey times due to the

Scheme. A negative number in red indicates a journey time saving (i.e. reduction in journey time due to the scheme). Figure 4.16 presents the journey time routes.

Figure 4.16 - Journey Time Routes

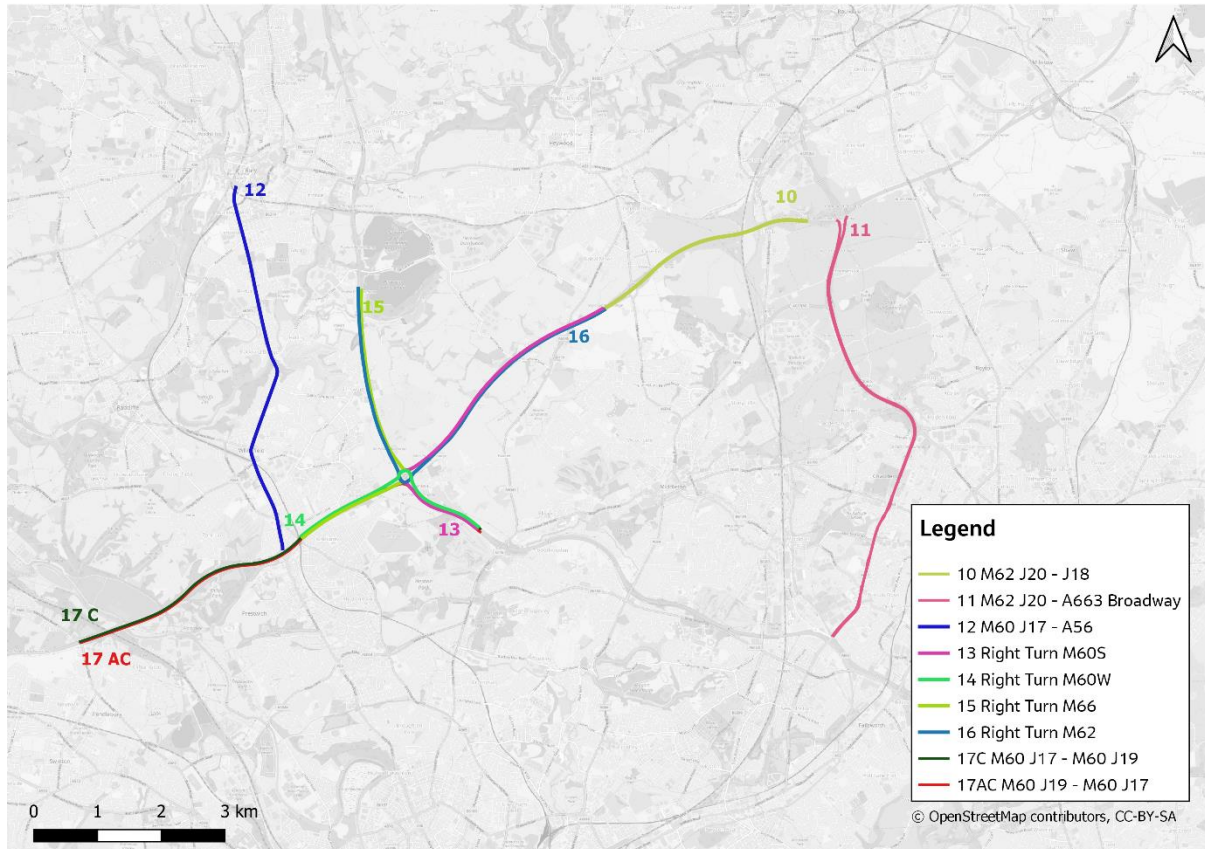


Table 4.3 - 2029 Journey Times (Seconds)

Route	AM				IP				PM			
	Base	DM	DS	DS-DM	Base	DM	DS	DS-DM	Base	DM	DS	DS-DM
10E	311	335	349	14	313	358	377	19	322	385	397	11
10W	301	304	307	3	303	312	317	5	308	323	321	-2
11S	695	745	744	0	652	704	699	-5	664	775	777	2
11N	614	668	671	3	550	585	580	-5	642	728	726	-1
12S	784	806	801	-6	752	768	765	-3	821	861	837	-25
12N	818	873	879	6	742	757	754	-2	811	848	834	-14
13	290	324	305	-19	294	354	325	-30	305	376	366	-10
14	254	288	206	-81	224	238	171	-67	266	284	198	-86
15	313	334	297	-37	303	334	273	-61	376	453	308	-145
16	352	379	358	-21	345	363	348	-15	377	426	395	-31
17C	575	669	609	-61	504	544	494	-50	576	670	579	-91

Table 4.4 - 2044 Journey Times (Seconds)

Route	AM				IP				PM			
	Base	DM	DS	DS-DM	Base	DM	DS	DS-DM	Base	DM	DS	DS-DM
10E	311	385	401	16	313	419	437	18	322	415	435	20
10W	301	318	321	3	303	328	335	7	308	338	334	-4
11S	695	828	830	2	652	756	755	-1	664	823	823	0
11N	614	687	672	-14	550	591	588	-3	642	773	770	-3
12S	784	837	826	-11	752	792	779	-13	821	916	877	-39
12N	818	914	918	4	742	768	770	2	811	871	860	-11
13	290	376	331	-45	294	417	357	-60	305	433	392	-41
14	254	306	225	-81	224	254	184	-70	266	279	207	-72
15	313	357	301	-56	303	383	320	-63	376	534	356	-178
16	352	407	379	-28	345	387	378	-10	377	448	421	-27
17C	575	763	683	-80	504	618	561	-57	576	681	603	-78
17AC	459	630	595	-35	454	626	576	-51	610	875	793	-82

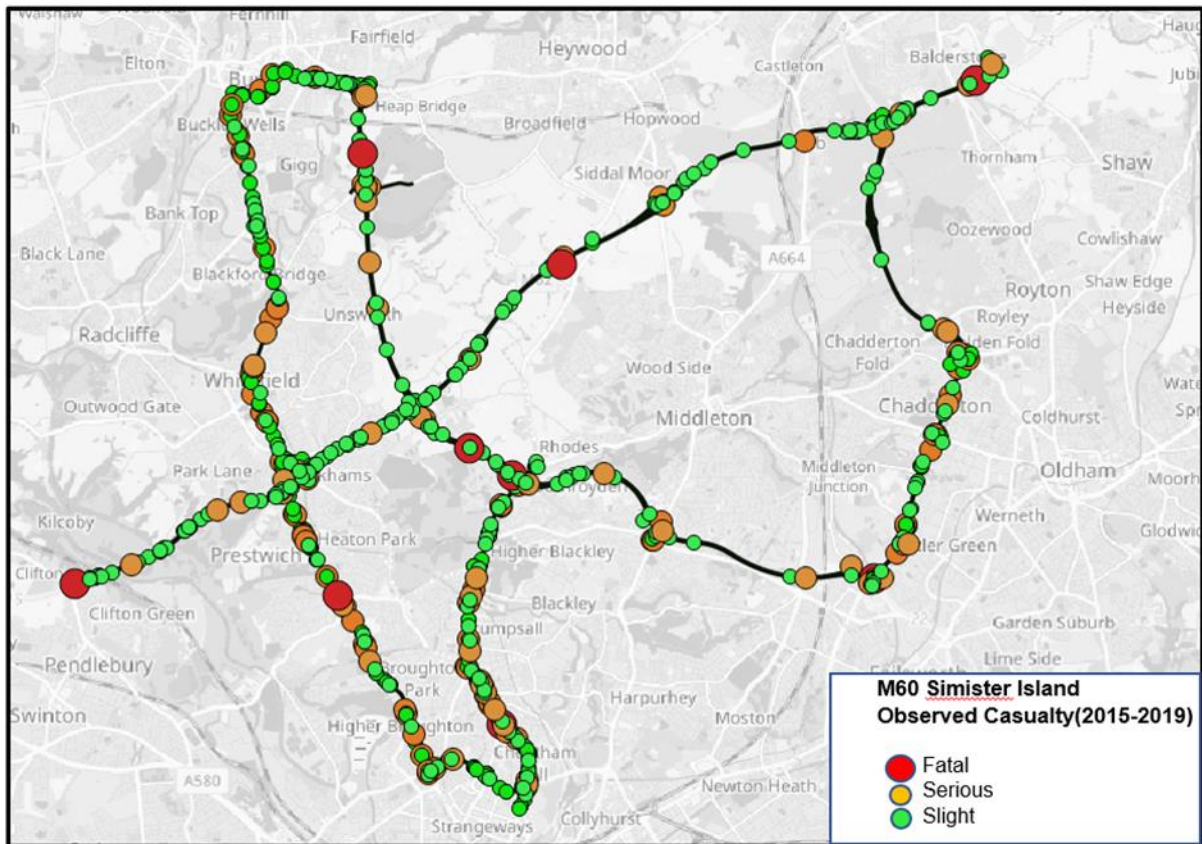
- 4.6.4 Almost all journey times are forecast to increase over time without the Scheme due to increased traffic demand in the area. However, with the Scheme in place, all journey times on all routes through the Junction 18 roundabout (routes 13-16) and along the M60 between Junction 17 and Junction 18 (Route 17C and 17AC) are forecast to improve.
- 4.6.5 The largest increase in journey times without the Scheme is forecast on Route 17 clockwise and anti-clockwise with PM peak journey times forecast to increase by over 4 minutes from the base by 2044. The majority of this additional delay occurs at the M60 Junction 18 westbound on-slip at the merge point, which also affects route 15 which in turn increases by over 2.5 minutes in the 2044 PM peak.
- 4.6.6 With the Scheme, route 15 (M66 southbound Junction 18 off-slip right turn to M60westbound Junction 18 on-slip) is forecast to experience a significant journey time saving of almost 2.5 minutes in 2029 and almost 3 minutes in the 2044 PM peak period. In addition to the reduction in Junction 18 westbound merge delay this movement benefits from the M60 clockwise traffic currently opposing this movement on the circulatory now using the free flow loop link. As a result, the signal timings can be changed to allow more green time and additional capacity for traffic making the right turn from M66 southbound to M60 westbound.
- 4.6.7 Traffic using the new free flow loop (journey time route 14) save up to 1.5 minutes compared with the equivalent movement via the circulatory with the current layout.
- 4.6.8 The one route on the SRN that is forecast to consistently experience an increase in journey time due to the Scheme is route 10 between Junction 18 and M62 Junction 20, especially in the eastbound direction. The slight increases of around 20 seconds are due to the additional traffic forecast to use this section of the network after being attracted to the Scheme area.
- 4.6.9 Of the two routes on the LRN, route 11 on the A663 is forecast to experience insignificant changes in journey times due to the Scheme,

whilst route 12 on the A56 generally experiences journey time reductions as some traffic from the areas around Bury are forecast to switch from this route to the M66 to take advantage of the faster journey times through Junction 18 provided by the Scheme.

4.7 Road Safety

- 4.7.1 This section provides an overview of road safety in the M60 Junction 18 study area. It summarises the current situation in terms of safety, and the benefits to safety in the future with the Scheme in place.
- 4.7.2 STATS 19 Personal Injury Accident (PIA) data for the latest available complete pre-Covid five-year period 2015-2019 was used to identify existing accidents in the study area. Whilst there was roadworks present up to mid-2018 for links within the M60 Junction 8 to M62 Junction 20 smart motorway Scheme area the accident statistics don't show a significant change during and post the roadworks, so it is considered reasonable to use data for this period.
- 4.7.3 Figure 4.17 presents the observed accident data by severity for the assessment period (2015-2019) in the study area.

Figure 4.17 - Observed Casualties by Severity (2015-2019)



4.7.4 Table 4.5 presents the yearly observed casualties by severity between 2015-2019. Between 2015 and 2019 there were a total of 829 casualties, out of which 83% were slight, 15% serious and 1% were fatal casualties. The number of casualties per year are relatively consistent, on average 165 casualties occurred per year.

Table 4.5 - Observed Yearly Casualties

Year	Fatal	Serious	Slight	Total	% Total
2015	2	21	119	142	17%
2016	1	20	122	143	17%
2017	1	32	160	193	23%
2018	2	33	132	167	20%
2019	3	22	159	184	22%
Total	9	128	692	829	100%
% Total	1%	15%	83%	100%	

4.7.5 Figure 4.18 presents the location of the accidents over the 2015 to 2019 period on the Scheme links. The locations of the accidents are spread around the M60 J18, M60 Junction 17 and the mainline between Junction 17 and Junction 18.

Figure 4.18 - Observed Accident Locations – Scheme Area (2015 – 2019)



4.7.6 Table 4.6 presents the accident summary over the 60-year appraisal period.

Table 4.6 - Accident Impact

Scenario	2029	2044	2061	Appraisal Period (60 Years)
Without Scheme	188.4	183.8	190.5	11,264.6
With Scheme	188.1	183.6	190.4	11,255.3
Change in Total Accidents	-0.3	-0.2	-0.1	-9.3

4.7.7 The accidents saved by the Scheme are calculated as the difference between the number of accidents in the Do Minimum and Do Something scenarios. Table 4.6 indicates that over the 60-year appraisal period, the Scheme is forecast to lead to a reduction in 9 accidents over the 60 year appraisal period.

4.7.8 Table 4.7 presents a summary of the casualties for the Do Something and Do Minimum scenarios over the appraisal period.

Table 4.7 - Casualties Impact

Scenario	Casualties						Change in Total Casualties		
	Without Scheme			With Scheme					
	Fatal	Serious	Slight	Fatal	Serious	Slight	Fatal	Serious	Slight
2029	1.84	21.23	243.40	1.85	21.23	243.31	0.01	-0.00	-0.09
2044	1.80	20.63	237.90	1.82	20.65	238.03	0.02	0.02	0.13
2061	1.87	21.38	246.69	1.89	21.41	247.01	0.02	0.02	0.32

Scenario	Casualties						Change in Total Casualties		
	Without Scheme			With Scheme			Fatal	Serious	Slight
	Fatal	Serious	Slight	Fatal	Serious	Slight			
Appraisal Period (60 Years)	110	1,264	14,577	111	1,265	14,590	0.96	1.16	12.66

4.7.9 It is observed that while there is a slight decrease in the overall volume of accidents (9 accidents in 60 year appraisal period) that occur, the number of fatal, serious and slight casualties increases slightly equivalent to 1.0, 1.2 and 12.7 additional fatal, serious and slight casualties over the 60 year appraisal period.

4.7.10 To understand the locations of the impacts on the network, Table 4.8 presents the change PIAs over the 60-year appraisal period broken down by different sections along the Cost and Benefits to Accidents Light Touch (COBALT) network. Figure 4.19 presents the location of those sections geographically.

Figure 4.19 - Benefit Section Locations

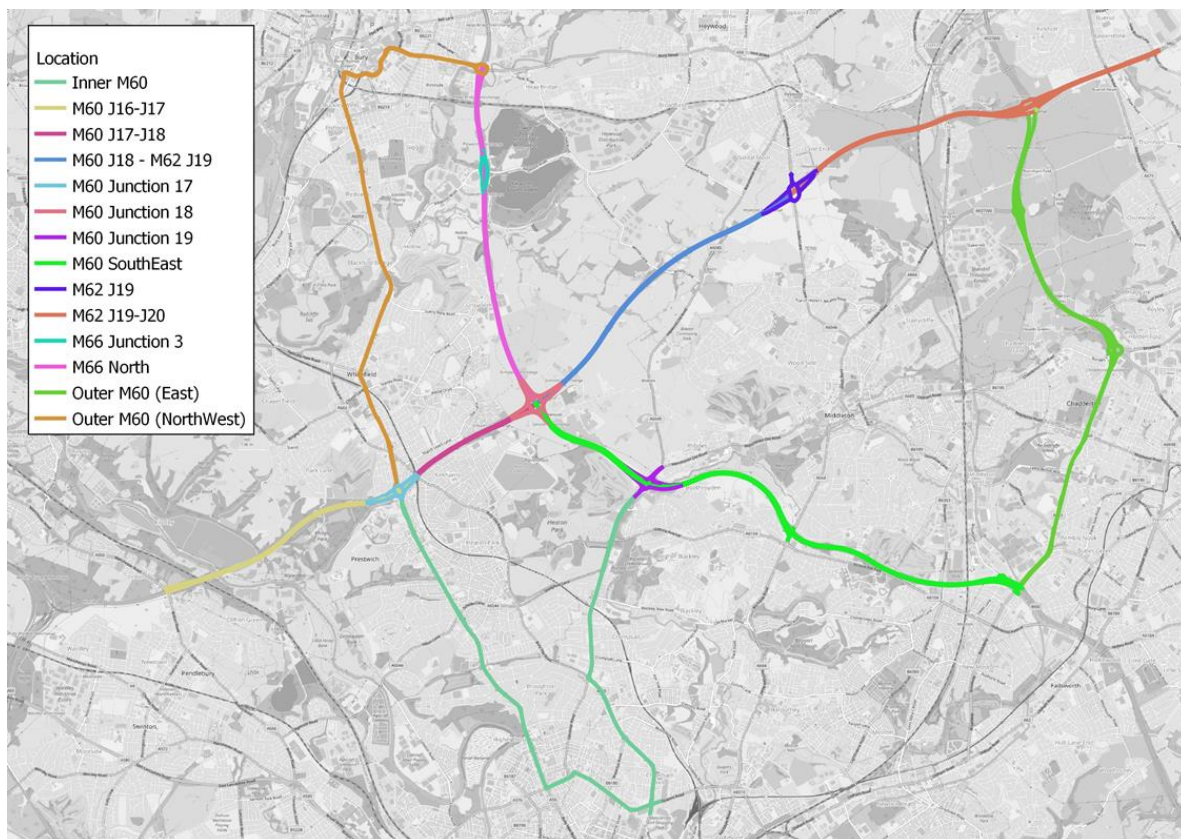


Table 4.8 - PIA Impact by Location

Type	Location	Change in PIAs
Strategic road section	M60 J16-J17	8
	M60 J17-J18	31
	M66 North	16
	M60 SouthEast	12
	M60 J18 - M62 J19	3
	M62 J19-J20	4
Junctions	M60 Junction 17	14
	M60 Junction 18	-35
	M66 Junction 3	-1
	M62 Junction 19	-1
	M60 Junction 19	1
Local Roads	Outer M60 (NorthWest)	-24
	Inner M60	-22
	Outer M60 (East)	-15
	Total	-9

- 4.7.11 Table 4.8 indicates that in general the SRN is forecast to experience an increase in accidents as traffic flows increase across many sections as more people use the SRN due to the benefits of the Scheme on journey times. As much of the additional SRN traffic has rerouted from the local road network, conversely, reductions in PIAs are forecast on local roads. The overall net change is reduction in nine accidents.
- 4.7.12 M60 Junction 18 is forecast to experience 35 fewer PIAs over 60 years due to the Scheme removing traffic from the junction onto the Northern Loop. Conversely, the increased traffic flows using M60 Junction 17 to take advantage of the Scheme results in additional PIAs forecast here.
- 4.7.13 The absolute changes in both accidents and casualties do not identify whether the Scheme is improving or worsening road safety or whether it is primarily the change in traffic flows that is affecting the total number of accidents and casualties. For this reason, forecast accidents and casualties have been calculated per billion vehicle kilometres across all COBALT links, these results are presented in Table 4.9 and Table 4.10.

Table 4.9 - Accident Change per Billion VehKms

Scenario	2029	2044	2061
Without Scheme	80.8	71.3	71.1
With Scheme	78.0	69.0	68.7
Change	-2.8	-2.3	-2.4

- 4.7.14 Table 4.9 shows that, as well as reducing the absolute number of accidents in the study area, the Scheme is also forecast to reduce the accident rate thereby lowering the risk of accident for each individual driver.

Table 4.10 - Change in Casualties per Billion Vehicle Kilometres

Scenario	Casualties per Billion VehKms						Change in Total Casualties		
	Without Scheme			With Scheme			per Billion VehKms		
	Fatal	Serious	Slight	Fatal	Serious	Slight	Fatal	Serious	Slight
2029	0.79	9.10	104.37	0.77	8.81	100.94	-0.02	-0.30	-3.43
2044	0.70	8.00	92.26	0.68	7.76	89.40	-0.02	-0.25	-2.86
2061	0.70	7.98	92.03	0.68	7.72	89.13	-0.02	-0.25	-2.89

4.7.15 Table 4.10 highlights that when casualties are considered within the context of traffic volumes, there is a reduction in the forecast rate of all casualty types in the Do Something scenario. By implication, the Scheme is improving safety for the individual driver using the study area, both in terms of the likelihood of an accident, but also in terms of the likelihood of a personal injury accident.

4.8 Walking Cycling and Horse-Riding Assessment

4.8.1 A Walking, Cycling and Horse-Riding (WCH) Assessment was undertaken at the start of the preliminary design stage. The aims of a WCH Assessment are:

- To gain an appropriate understanding of all relevant existing facilities for pedestrians, cyclists and equestrians (users) in the local area.
- To provide background user information that can be referred to throughout the development of the Scheme.
- To identify opportunities for improvement for users.

4.8.2 As part of the assessment process, liaison was undertaken with stakeholders such as BMBC and information was gathered about local WCH routes. These include the Transport for Greater Manchester Cycle and Bee Networks and the Public Rights of Way network. The SRN through the Scheme only consists of motorways which pedestrians, cyclists and equestrians are prohibited from using but locations where they can cross the SRN were identified.

4.8.3 All existing walking, cycling and horse-riding routes across the motorways are being retained in their current form. Replacement routes are being provided for the existing public footpaths affected by the Scheme including where they are affected by new drainage ponds, wetlands or swales.

4.8.4 The WCH Assessment identified possible opportunities for improvement to users. Opportunities for improvements to the Haweswater Aqueduct underpass are being considered separately and outside of delivery of the Scheme. This is discussed further in section 6.21, Population and Human Health of this Case for the Scheme.

4.9 Summary

Construction

- 4.9.1 During construction, journey times are forecast to increase through the Scheme area by up to two minutes on certain routes. As a result, some traffic is forecast to divert onto other nearby routes to avoid these delays. However, the volumes of traffic changing route are not forecast to be significant enough to result in substantial changes in travel time on these alternative routes.

Operation

- 4.9.2 Do Minimum and Do Something traffic forecasts were produced for forecast years 2029, 2044 and 2061. The forecast models indicate that increases in traffic are forecast throughout the study area over time. Without the Scheme the additional traffic results in increased journey times and delays.
- 4.9.3 Without the Scheme almost all journey times are forecast to increase over time due to traffic demand. This situation will be reversed with the Scheme in place, with most journey times forecast to improve. Traffic using the Northern Loop will save up to 1.5 minutes with the Scheme compared to the current junction layout.
- 4.9.4 The Scheme also allows higher traffic flows to travel through the network meaning that future traffic growth can be accommodated without compromising journey times.
- 4.9.5 The Scheme will improve M60 Junction 18 and facilitate the movement of traffic along the M60, M62 and M66 in the Scheme area, contributing to more reliable and safer journeys through the junction and along the SRN.
- 4.9.6 With the Scheme in place a reduction in delay and journey time is forecast for routes through the Scheme area. In turn this attracts some additional traffic to the SRN around the Scheme. These increases are from a combination of reassignment from the LRN, traffic switching the junctions used to access the M60, and variable demand effects as traffic seeks to take advantage of the extra capacity provided by the Scheme.
- 4.9.7 The Scheme will help relieve traffic congestion and improve the journey experience for motorists at M60 Junction 18. Traffic wanting to travel eastbound to southbound on the M60 will use the Northern Loop instead of the M60 Junction 18 circulatory thereby significantly reducing traffic flows on the Junction 18 circulatory and freeing up capacity for other movements at the junction.
- 4.9.8 In addition, the Scheme provides additional capacity between M60 Junction 17 and Junction 18 with the upgrade to a dual 5-lane motorway, providing five lanes in both directions and reducing delays associated with merging and diverging traffic.
- 4.9.9 As a result of the Scheme, M60 Junction 18 is forecast to operate within capacity up to and beyond 2044.

Safety

- 4.9.10 Over the 60-year appraisal period, the Scheme is forecast to lead to a reduction in 9 accidents. However, the number of fatal, serious and slight casualties are forecast to increase slightly. This is due to the accidents that do occur having more casualties as drivers reroute from local roads to higher speed strategic roads to take advantage of the Scheme benefits.
- 4.9.11 However, as more people will use the Scheme this means overall there will be more users and more miles will be driven. The casualties per billion vehicle kilometres have been calculated across the assessment area, this shows that the risk of accident and the risk of a personal injury accident is reduced for each driver due to the Scheme.

5 Economic Case

5.1 Overview

- 5.1.1 This chapter of the Case for the Scheme summarises the economic appraisal, which is used to demonstrate whether the Scheme is likely to represent value for money. The appraisal estimates the monetised benefits and disbenefits of the Scheme and compares them to the cost of the Scheme. This is presented in terms of a Benefit to Cost Ratio (BCR). Benefits and disbenefits that cannot be monetised are also assessed and taken into account when determining the Scheme's overall value for money.
- 5.1.2 As the Scheme will be operational for several decades, the standard approach is to evaluate the costs and benefits of the Scheme over a 60-year period (from the year of opening, 2029).
- 5.1.3 Costs and benefits occur in different years throughout the assessment period. For example, construction costs occur before the Scheme opens, whilst the benefits occur in the 60 years afterwards.
- 5.1.4 In addition, it is considered that benefits that accrue now are considered more valuable than those that accrue further into the future.
- 5.1.5 Consequently, to compare benefits and costs, it is essential that they are all converted to a common base and a common value known as the "Present Value Year".
- 5.1.6 Costs can also be in different price bases. To enable comparisons to be made between such costs they need to be adjusted so that they are all in a common price base. The combination of having costs and benefits in a standard price base and discounted to a common year means that all cost and benefit results are in 2010 prices, discounted to 2010 (unless explicitly stated).
- 5.1.7 The process used is called discounting, and the Present Value Year is currently 2010. Discounting is undertaken internally within the computer software (Transport Users Benefit Appraisal) (TUBA), using the standard DfT discount rates of 3.5% per year for the next 30 years and 3.0% per year thereafter.

5.2 Costs

- 5.2.1 The economic appraisal takes into account the estimated costs of developing and constructing the Scheme, as well as the change in future road maintenance costs.
- 5.2.2 The overall Scheme cost calculated for use in economic appraisal, which is known as the Present Value of Costs, was calculated as £117.3 million. This comprises construction-related investment costs (including construction, land and property, preparation and administration, and supervision) of around £109.11 million and maintenance costs of £8.2 million.

5.3 Monetised Benefits and Disbenefits

5.3.1 Wherever possible, the benefits and disbenefits of the Scheme have been monetised. This allows them to be directly compared against the Scheme costs. In general, the monetised impacts were calculated using outputs from the Scheme's traffic model and running them through the TUBA software. This chapter summarises the results of these assessments. As with the Scheme costs (and in line with all other economic assessments of UK transport schemes) all monetised benefits quoted are provided in 2010 market prices, discounted to 2010.

Economic Efficiency

5.3.2 One of the key objectives of the Scheme is to address the problem of congestion, which causes slow and unreliable journeys and reduces economic efficiency. The largest predicted source of monetised benefits is due to travel time savings, as the Scheme will relieve congestion that would otherwise worsen if the Scheme is not built.

5.3.3 As well as the journey time savings once the Scheme is operational, some other smaller impacts on road users have also been considered:

- Disbenefits for road users as they experience some additional delays while the Scheme is being constructed.
- Benefits from a reduction in road user delay during future road maintenance (reflecting the 'maintenance holiday' once the Scheme is newly built, and the additional traffic management flexibility offered by an extra lane).
- Disbenefits from increases in vehicle operating costs, as vehicles on average would travel faster and further once the Scheme is operational.

5.3.4 In total, these Economic Efficiency benefits are worth **£125.1 million**. Split into three different types of journey purpose, this gives:

- Consumer users (commuting): £13.6 million.
- Consumer users (other): £41.6 million.
- Business users and providers: £62.5 million.

5.3.5 The Scheme will also lead to an increase in the tax revenues received by the Government over the 60 year appraisal timeframe, primarily due to an increase in fuel consumption as more vehicles move at a faster speed (based on traffic model predictions). This gives a monetised benefit of **£7.6 million**.

Safety

5.3.6 The numbers of road user casualties and their associated costs were predicted for the situations both with and without the Scheme. Over the 60-year appraisal period, there will be 0.96 more fatalities, 1.16 more

serious and 12.6 more slight casualties. The change in the overall number of accidents due to the Scheme will be a slight decrease in the overall volume of accidents over the 60 year appraisal period shown in table 4.6.

5.3.7 The overall monetised safety impact of the Scheme is a disbenefit of - **£0.36 million**.

5.3.8 The broad trends from the assessment are that the SRN experiences disbenefits as traffic increases across many sections due to the improved capacity. The local roads exhibit benefits as traffic is drawn onto the strategic routes by the increased capacity which then improves journey times on previously congested routes.

Noise, Air Quality and Greenhouse Gases

5.3.9 The Scheme is predicted to cause an increase in greenhouse gas emissions. This is due to more vehicles travelling at higher speeds, taking advantage of the enhanced opportunities for travel offered by the Scheme, as predicted by the traffic model.

5.3.10 As reported in Chapter 14, Climate of the ES (TR010064/APP/6.1), there is predicted to be an increase in carbon dioxide emissions of 201,784 tonnes due to road users over the 60 year appraisal period. This gives a monetary disbenefit of **-£16.46million**.

5.3.11 In terms of air quality, as reported in Chapter 5, Air Quality of the ES (TR010064/APP/6.1) there is predicted to be increases in PM10 (particulate matter $\leq 10\mu\text{m}$ in diameter) and NOx emissions, due to changes in traffic flows, distances and speeds once the Scheme is operational. The total value of the change in air quality is a disbenefit of - **£1.3 million**.

5.3.12 Chapter 11, Noise and Vibration of the ES (TR010064/APP/6.1), sets out that there are short term benefits from a reduction in noise particularly within one NIA adjacent to the M60 between Junction 17 and Junction 18 (see Section 6.15 of this Case for the Scheme). This decrease is because the existing road surface will be replaced with a low road noise surface which has better noise reducing properties. The assessment concludes that there are 74 households who are forecast to experience increased daytime noise and 1166 household experiencing reduced daytime noise. Equally, there are 84 households forecast to experience increased night time noise, and 911 households who are forecast to experience reduced night time noise. The total value of change in noise is a benefit of **£9.5 million**.

Journey Time Reliability

5.3.13 Road users experience day-to-day variability in travel times due to high congestion, and delays from accidents and other incidents. The additional capacity offered by the Scheme, and the presence of improved technology, would result in lower congestion and an ability to deal with incidents effectively. This improvement in journey time reliability would result in benefits of **£8.4 million**.

Wider Economic Impacts

- 5.3.14 As well as the direct economic impacts described above, the Scheme will also lead to productivity improvements in the wider economy. These wider economic impacts would provide overall benefits of **£27.84 million**.
- 5.3.15 The largest source of these productivity benefits is from increases in agglomeration (**£20.59million**). This is due to the improvements in journey time that the Scheme provides between and within urban areas. Increasing the effective density of urban areas leads to an improvement in the productivity of jobs within those areas. There are also benefits from increasing the labour supply (**£1.05 million**) as some people decide to enter the workforce as travel costs fall, and from other increases in business output (**£6.2million**).

Overall Monetised Impacts

- 5.3.16 The benefits described above can be summed to give an overall value, known as the Present Value of Benefits (PVB). The Scheme is forecast to generate an adjusted PVB of **£137.5m**.

5.4 Benefit to Cost Ratio

- 5.4.1 Comparing the costs and benefits of the Scheme gives a BCR.
- 5.4.2 As is standard in transport economic appraisal, two different BCRs are reported. An 'Initial BCR' that excludes benefits from wider economic impacts and journey time reliability, and an 'Adjusted BCR' that includes all monetised benefits.
- 5.4.3 The Initial BCR compares a PVB (**£101.27 million**) with the Present Value of Costs (**£117.3 million**) to give an Initial BCR of 0.86.
- 5.4.4 The Adjusted BCR compares a PVB (**£137.5 million**) with the Present Value of Costs (**£117.3 million**) to give an Adjusted BCR of 1.17.

5.5 Non-Monetised Benefits

- 5.5.1 A summary of the non-monetised residual benefits of the Scheme is provided in Table 5.1.

Table 5.1 - Non-Monetised impacts

Item	Residual Impact (Remaining Impact Following Mitigation)
Landscape	This is covered in Chapter 7, Landscape and Visual of the ES (TR010064/APP/6.1). As shown on the Environmental Masterplan, (see Figure 2.3 of the ES Figures (TR010064/APP/6.2)), the design includes new woodland and new hedgerow planting with hedgerow trees. This integrates the Scheme into the landscape over time as this new planting establishes, although it will not fully mitigate the Northern Loop road and motorway infrastructure encroaching into open countryside northeast of M60 Junction 18. Residual Impact: Slight Adverse

Item	Residual Impact (Remaining Impact Following Mitigation)
Historic environment	<p>This is covered in Chapter 6, Cultural Heritage of the ES (TR010064/APP/6.1). Changes to the setting of one Grade II Registered Park and Garden, a listed building and two non-designated historic buildings due to construction activity has been assessed as Slight Adverse significance of effect during construction. There will be removal of three sets of known archaeological remains during construction, which will be a Neutral Effect after mitigation has been applied. The setting of a non-designated historic building and a Registered Park and Garden will be changed during operation. Residual Impact: Slight Adverse</p>
Biodiversity	<p>This is covered in Chapter 8, Biodiversity of the ES (TR010064/APP/6.1). Direct impacts to habitats will be mitigated through the implementation of the Environmental Masterplan (see Figure 2.3 of the ES (TR010064/APP/6.2)). This would provide a net gain in habitats. Potential indirect effects from nitrogen deposition, dust, hydrological changes and spread of invasive species can be mitigated by implementing construction mitigation measures and through good construction practices. Potential effects on species can be adequately mitigated through embedded and essential mitigation. Residual Impact: Neutral</p>
Water environment	<p>This is covered in Chapter 13, Road Drainage and the Water Environment of the ES (TR010064/APP/6.1). No significant effects on surface waterbodies are identified. There are some enhancement opportunities, to identified receptors, through inclusion of water quality treatment measures which improve water quality discharges compared to the existing operation of the drainage scheme.</p> <p>In terms of flood risk, with mitigation for attenuating flows where there will be additional impermeable areas, there will be no significant effects.</p> <p>Moderate adverse impacts have been identified for three Groundwater Dependent Terrestrial Ecosystems (GWDTEs – e.g wet woodlands) owing to habitat loss from the development. However, the overall assessment score has been determined as slight adverse (and insignificant) collectively when considering the Scheme as a whole. The loss of habitat is compensated for through the creation of new habitat of equal or greater quality than the habitat which is lost.</p> <p>Groundwater (superficial and bedrock aquifers) is considered to be of medium importance with the Principal bedrock aquifer being of high quality. All features are important on a local scale except the groundwater bedrock aquifer which is important on a regional scale. There are moderate adverse impacts identified to three GWDTE sites (Cowl Gate Farm, Castle Brook South and Egypt Lane South) owing to habitat loss from the development. The drainage design has been developed on the basis that all</p>

Item	Residual Impact (Remaining Impact Following Mitigation)
	attenuation ponds will be lined and linear drainage features will be sealed. It has therefore been assumed there would be no discharges to ground as part of the Scheme's temporary and permanent drainage design. Residual Impact: Slight Adverse
Physical activity	This is covered in Chapter 12, Population and Human Health of the ES (TR010064/APP/6.1). The Scheme is unlikely to have a significant impact on the level of walking and cycling in the area as provision is unchanged by the Scheme. Residual Impact: Neutral
Journey quality	Journey quality is sub-divided into traveller care (cleanliness, facilities, information), travellers view (pleasantness of the surroundings) and traveller stress (frustration, fear of accident and route uncertainty). Anticipated improvement to journey quality through reduction in driver stress. Segregation and new alignments are expected to reduce motorist frustration, fear of accidents and provide clear informative routes through the Scheme. New clear road signs will be in place to aid route choice and reduce route uncertainty. Residual Impact: Moderate Beneficial
Security	The Scheme is unlikely to have a significant impact on security. The Scheme does not introduce any change that will impact on feelings of security. Residual Impact: Neutral
Access to services	Users of bus services at Junction 18, in particular the current X43 service, will benefit from improved journey times. Minor positive impact on bus journey times may result indirectly in increase in frequencies but this is dependent on operator response. There are no significant changes to routing or facilities from the Scheme. Furthermore, any other private coach services such as National Express will also benefit from improved journey times for services travelling through Junction 18. Residual Impact: Slight Beneficial
Severance	This is covered in Chapter 12, Population and Human Health of the ES (TR010064/APP/6.1). Severance is not anticipated to increase or decrease due to the Scheme. Residual Impact: Neutral
Options and non-use values	Option values are unaffected as the Scheme does not involve the loss or introduction of a new mode of transport (no rail or bus services are being withdrawn or introduced due to the Scheme). Residual Impact Neutral

5.6 Overall Value for Money Conclusion

5.6.1 The Scheme has an adjusted BCR of **1.17** (which means that for £1 spent on the Scheme there will be a **£1.17** return to society in benefits) when

compared to a Present Value of Costs of **£117.3 million**. Impacts which cannot be monetised have also been considered. These include:

- Slight adverse impacts on landscape, historic environment and water environment.
- A neutral impact on biodiversity, physical, security, severance and options and values.
- Moderate and slight beneficial impacts for journey quality and access to services.

6 Accordance with National and Local Planning Policy

6.1 Overview

6.1.1 Once the draft DCO (TR010064/APP/3.1) is accepted for examination, an independent Inspector (or panel of Inspectors) (ExA) will be appointed to examine the Scheme on behalf of the Secretary of State for Transport.

6.1.2 This examination will consider the overall compliance of the Scheme with National Planning Policy and any other important and relevant considerations. The purpose of this chapter is to set out the assessment against national and local planning policy and how this has been taken into account when developing the Scheme.

6.2 Description of the Order Limits

6.2.1 The existing land use and purpose of land within and surrounding the Order Limits forms the baseline for assessing accordance of the Scheme with national and local planning policy. This section describes the Order Limits.

6.2.2 The locations of the areas referred to in the sections below are provided by:

- The General Arrangement Plans (TR010064/APP/2.2) which include street names.
- The Streets, Rights of Way and Access Plans (TR010064/APP/2.5) that show streets and Public Rights of Way.
- Figure 1.1, the Location Plan, Figure 2.1 the Environmental Constraints Plan, Figure 2.2 the Scheme Design and Figure 2.3 the Environmental Masterplan of the ES Figures (TR010064/APP/6.2), which show all the key environmental constraints and features and where PRowS would be extinguished and replaced.
- Figure 9.3 Agricultural Land Classification, Figure 12.1, Population and Human Health Context and Figure 12.3 Agricultural Land Holdings in the ES Figures (TR010064/APP/6.2).
- Further detailed figures specific to each ES (TR010064/APP/6.1) technical Chapter that are embedded into each individual appendix of the ES Appendices (TR010064/APP/6.3).
- For Green Belt, the location is shown in this chapter of this Case for the Scheme.
- The location of the M60 Junction 17, Junction 18 and Junction 19 is shown on Figure 4.4 in Chapter 4 of this Case for the Scheme.

Residential

6.2.3 The settlements of Unsworth, Simister, Whitefield, Prestwich and Kirkhams are located close to the Scheme, with residential dwellings located adjacent to or in close proximity to the Order Limits. Residential streets near or adjoining the Order Limits are:

- Cross Avenue.
- Stanley Avenue North.
- Kenilworth Avenue.
- Warwick Close.
- Warwick Avenue.
- Barnard Avenue.
- Hollymount off Simister Lane.
- St Georges Road (edge of estate).
- Castle Road (one group of rural properties).
- Hardmans Road (southernmost extent only).
- North Circle.
- Balmoral Avenue.
- Prestfield Road (southernmost extent only).
- Kensington Street.
- Glendevon Place.
- Conisborough Place.
- Derwent Close.
- Duddon Close.
- Derwent Avenue.
- Leven Walk.
- Heybrook Walk.
- Heybrook Close.
- Brathay Close.
- Rothay Close.

- Marston Close.
- Mode Hill Lane.

Green Belt

- Green Belt land is located within and surrounding the Order Limits around M60 Junction 18 (extending north, south and east of the junction).

Open Space

- Heaton Park Registered Park and Garden is located adjacent to the Order Limits between M60 Junction 18 and Junction 19.

Leisure, Recreation and Sports Facilities

- Prestwich Heys Football Club is located south of the M60 (immediately adjacent to the Order Limits).
- Unsworth Academy Playing Fields are accessed from the school via an underpass under the M66. Parts of the playing fields are within the Order Limits.
- Eden Gardens Allotment abuts the Order Limits on the north side of the M60 in Whitefield.
- Pike Fold Golf Club is located east of the M66, within the Order Limits.
- Simister Green Playground is located in Simister approximately 45m south of the Order Limits, south of the M62.
- Simister Allotments is located in Simister approximately 35m west of the Order Limits which follow private lane and public footpath 50PRE south of Lower Droughts Farm and the M62.
- Unsworth Cricket and Tennis Club located between Pole Lane, Unsworth and the M66. The cricket grounds abut the Order Limits.
- Heaton Park Registered Park and Garden located adjacent to the Order Limits between M60 Junction 18 and Junction 19.

Educational Establishments

- Unsworth Academy Main school campus is immediately adjacent to M66 within 40m of Order Limits (but with playing fields within the Order Limits).
- Our Lady of Grace Roman Catholic Primary School grounds are within 25m of Order Limits, south-east of the M60 Junction 17.

- St Margaret's Church of England Primary School grounds are within 10m of the Order Limits to the south-west of the M60 Junction 18.
- Parrenthorn High School School grounds abut the Order Limits to the south-west of the M60 Junction 18.

Other

- The proposed Heywood/Pilsworth strategic land allocation which is part of the Northern Gateway is located to the North East of Junction 18.
- Haweswater Aqueduct underpass is located within the Order Limits 500m west of M60 Junction 18. This aqueduct supplies most of Greater Manchester's population with their daily water supply.
- Agricultural land is present within the Order Limits. Agricultural land is graded using the Agricultural Land Classification (ALC) system. This system classifies land into five grades according to the extent to which physical or chemical characteristics impose long term limitations on the agricultural use of a site for food production. Most agricultural land and the associated agricultural land holdings is located on the land surrounding M60 Junction 18. More information on the agricultural classification of land in the Order Limits and the amount of agricultural land that will be lost to the Scheme is provided in Section 6.18 of this Case for the Scheme.

Environmental Features and Designations

6.2.4 Key environmental features are:

- The Greater Manchester AQMA located within the Order Limits.
- Five NIAs, 3 adjoining the motorway network and two on the local road network.
 - NIA reference 1671 which covers 821 properties. This is located on the M60 extending from west of Junction 17 to west of Junction 18.
 - NIA reference 8188 which covers 170 properties. This is located at the M60 Junction 18.
 - NIA reference 10718 which covers 2 properties. This is located at the M62 north east of M60 Junction 18.
 - NIA reference 1670 which covers 171 properties. This is located on the A56 Bury New Road to the north west of the Scheme.
 - NIA reference 10719 which covers 38 properties. This is located on the A565 Higher Lane to the west of the Scheme.

- Brick Farmhouse is a Grade II Listed Building outside the Order Limits. It is a presumed 17th century brick 2-storey building, with front rendering and 20th century renovation. The Church of St George is also a Grade II Listed Building outside the Order Limits.
- Designated ecological sites adjacent to or near to the Order Limits, including:
 - Hazlitt Wood Site of Biological Importance (SBI), located adjacent to the Order Limits between M60 Junction 18 and Junction 19.
 - Hollins Vale Local Nature Reserve (LNR) and Hollins Plantation SBI, located approximately 30m west of the Order Limits along the M66.
 - Heaton Park Reservoir (East) SBI and Heaton Park Reservoir (West) SBI, located south-west of M60 Junction 18 approximately 40m from the Order Limits.
 - Hollins Vale SBI, located approximately 180m north-west of the Order Limits along the M66.
 - Philips Park and North Wood SBI, located west of M60 Junction 17 approximately 185m from the Order Limits.
 - Mere Clough Ancient Woodland Inventory (AWI) site and LNR, located within 250m of the Order Limits south-west of M60 Junction 17.
 - Pilsworth SBI, located approximately 300m east of the Order Limits east of the M66.
 - Philips Park LNR, located 300m west of M60 Junction 17, and AWI site, located 650m west of M60 Junction 17.
 - Mere Clough LNR and AWI site, located west of M60 Junction 17, approximately 450m from the Order Limits.
- Rochdale Canal Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI), located within 200m of the Affected Road Network (ARN) (see Chapter 5: Air Quality of the ES (TR010064/APP/6.1) for further details regarding the ARN).
- The Bury UDP Special Landscape Area (SLA) located within the Order Limits north-east of the M60 Junction 18.
- Mineral Safeguarding Areas (MSA) for sand and gravel and brick clay/surface coal, and Areas of Search for sand and gravel, located partially within the Order Limits.

- Several PRoW and one Permissive Path located within the Order Limits.
- Two watercourses are within the Order Limits. Blackfish which supplies Blackfish Pond and the headwaters of Parr Brook which passes in culvert under the M60 west of M60 Junction 18. Castle Brook runs north of M60 Junction 18 outside the Order Limits.
- Parr Brook flows in a northwest direction, within the culvert beneath the M60 embankment between Junction 17 and Junction 18. Parr Brook eventually discharges into the River Roch approximately 2.5km to the north-west of the M60 carriageway.
- A series of ponds and ditches are present along the northern Order Limits, located immediately south of Pike Fold Golf Course. The ponds and ditches eventually discharge into the Castle Brook, located approximately 60m northeast of the Order Limits. Castle Brook flows north, passed the Hollins Plantation, and converges with Hollins Brook approximately 370m east of the Order Limits' northern tip.

6.2.5 Protected or notable species, such as great crested newt (*Triturus cristatus*), common toad (*Bufo bufo*), bats, brown hare (*Lepus europaeus*), hedgehog (*Erinaceinae*), water shrew (*Neomys fodiens*), wintering birds, ground nesting birds, badgers, and invasive species, such as Japanese knotweed (*Reynoutria japonica*) and Himalayan balsam (*Impatiens glandulifera*), have been recorded within or near to the Order Limits (see Chapter 8: Biodiversity of the ES (TR010064/APP/6.1)) for further details regarding the ecological baseline).

6.3 National Policy Statement for National Networks and Draft National Policy Statement for National Networks

6.3.1 National Policy Statements (NPSs) are produced by Government. They are explained on the Inspectorate's National Infrastructure Planning website as, '*They give reasons for the policy set out in the statement, and must include an explanation of how the policy takes account of government policy relating to the mitigation of, and adaptation to, climate change. They comprise the Government's objectives for the development of nationally significant infrastructure in a particular sector and state, including:*

- *how this will contribute to sustainable development*
- *how these objectives have been integrated with other government policies*
- *how actual and projected capacity and demand have been taken into account*

- *consideration of relevant issues in relation to safety or technology*
- *circumstances where it would be particularly important to address the adverse impacts of development*
- *specific locations, where appropriate, in order to provide a clear framework for investment and planning decisions.”*
- *NPS also include any other policies or circumstances that ministers consider should be taken into account in decisions on infrastructure development’.*

6.3.2 There are 12 designated NPSs setting out Government policy on different types of national infrastructure development. The National Policy Statement for National Networks (NPS NN) (DfT, 2014) is the primary national policy document that guides decision making on this Application. As previously stated within this Case for the Scheme the government has published a draft NPS NN which is yet to be designated. However, and assessment against the Scheme’s compliance with the draft NPS NN can be found in the draft NPS NN Accordance Tables (TR010064/APP/7.3).

6.3.3 The NPS NN contains the following vision: The Government will deliver national networks that meet the country’s long term needs; supporting a prosperous and competitive economy and improving overall quality of life, as part of a wider transport system. This means:

- *Networks with the capacity and connectivity and resilience to support national and local economic activity and facilitate growth and create jobs.*
- *Networks which support and improve journey quality, reliability and safety.*
- *Networks which support the delivery of environmental goals and the move to a low carbon economy.*
- *Networks which join up our communities and link effectively to each other.*

6.3.4 The NPS NN sets out the cost to the economy from delays and congestion on the SRN.

- *‘Paragraph 2.17: The national road network is already under significant pressure. It is estimated that around 16% of all travel time in 2010 was spent delayed in traffic, and that congestion has significant economic costs: in 2010 the direct costs of congestion on the Strategic Road Network in England were estimated at £1.9 billion per annum.*
- *Paragraph: 2.18 The pressure on the road network is forecast to increase with economic growth, substantial increases in population and a fall in the cost of car travel from fuel efficiency improvements.*

Under the Department's 2014 estimates, it is forecast that a quarter of travel time will be spent delayed in traffic by 2040, with direct costs rising to £9.8 billion per annum by 2040 on the Strategic Road Network in England, without any intervention. Under our low and high demand scenarios, the proportion of travel time spent delayed in traffic could range between 12.1% and 21.8% on the Strategic Road Network'.

6.3.5 Section 3 of the draft NPS NN contains the following 'Drivers of need for the development of national networks:

- *'Maintaining network performance and customer needs.*
- *Supporting economic growth.*
- *Ensuring resilience in networks.*
- *Supporting the Government's environment and net zero policies.*
- *Maintaining and enhancing the safety of national network.'*

6.3.6 The draft NPS NN provides an updated picture on the future of travel on the SRN:

- *'Paragraph 3.27: Congestion is the largest contributor to delay on the road network. With more vehicles on the road in 2021-22, average delay rose substantially. The average delay on the SRN in 2021-22 was 8.8 seconds per vehicle mile. This was higher than the 6.7 seconds per vehicle mile average delay in 2020-21, but still below the amount of delay in March 2019 to February 2020 of 9.5 seconds per vehicle mile. Correspondingly, the average speed on the SRN was 58.6mph in 2021-22 down from 60.7mph, but higher than the average speed seen in 2019-20 prior to the COVID-19 pandemic - which was 58mph with a downward trend from 2018- 19.*
- *Paragraph 3.28: Increases in vehicle miles undertaken can lead to worsening performance of the network. The main drivers of traffic growth are population growth, economic growth, and the actual and perceived costs of motoring. The National Road Traffic Projections projects road traffic between 2025 and 2060. The National Road Traffic Projections have modelled a range of scenarios, which explore uncertainties in demographic change, economic growth, regional redistribution, behavioural and technological change, and decarbonisation. As a result of these uncertainties, a range of possible outcomes have been identified. However, all scenarios have projected a growth of traffic between 2025 and 2060 for England and Wales, with forecasts ranging from 12% to 54%. The Core scenario, which represents a world in which deviation from historic trends in the key drivers of demand and current Government policies is minimal, projects a 22% increase in traffic between 2025 and 2060'.*

- 6.3.7 Therefore, the NPS NN and the draft NPS NN support improvements to National Networks, such as the SRN, where this would provide benefits (such as reducing journey times, congestion, improving safety, reducing noise, improving air quality etc.) and reduces or mitigates any adverse effects.

6.4 National Planning Policy Framework

- 6.4.1 The National Planning Policy Framework (NPPF) (The Department for Levelling Up, Housing and Communities, December 2023) sets out the Government's national planning policies for England and how these should be applied strategically in the development plan system and in the management of development.

- 6.4.2 The NPPF states that NPSs are the primary decision-making document for NSIPs under the Act 2008. Paragraph 5 of the NPPF states:

- *'Para 5: The Framework does not contain specific policies for nationally significant infrastructure projects. These are determined in accordance with the decision-making framework in the Planning Act 2008 (as amended) and relevant national policy statements for major infrastructure, as well as any other matters that are relevant (which may include the National Planning Policy Framework).'*

- 6.4.3 Paragraph 1.17 and Paragraph 1.18 of the NPS NN states that the overall strategic aims of the NPS NN and NPPF are consistent and that the NPPF will be an important and relevant consideration *'but only to the extent relevant to (the) project'*. This is reiterated by paragraph 1.10 of the draft NPS NN which states:

- *'Para 1.10: Under s104(2) there may be other important and relevant considerations, including other plans or frameworks (with a statutory footing as required by legislation outside of the Planning Act or otherwise) which are capable of being important and relevant considerations. The National Planning Policy Framework may be an important and relevant consideration in decisions on NSIPs, but only to the extent relevant to that project. The National Planning Policy Framework makes clear that it does not contain specific policies for NSIPs. This NPS will assume that function and provide transport policy which will guide individual development brought under it, taking precedence over the National Planning Policy Framework in areas of overlap'*.

6.5 The Development Plan

- 6.5.1 The development plan must include strategic policies to address each local planning authority's priorities for the development and use of land in its area. These strategic policies can be produced in different ways, depending on the issues and opportunities facing each area. They can be contained in:

- Joint or individual local plans, produced by authorities working together or independently (and which may also contain non-strategic policies); and/or
- A spatial development strategy produced by an elected Mayor or combined authority, where plan-making powers have been conferred.

6.5.2 The development plan is at the heart of the planning system with a requirement set in law that planning decisions must be taken in line with the development plan unless material considerations indicate otherwise. Whilst Nationally Significant Infrastructure Projects are assessed against the relevant NPS, the policies of the development plan can still be important and relevant considerations in the examination of such projects.

6.5.3 The development plan, which is relevant to the Scheme, is outlined below.

The Bury Unitary Development Plan (UDP)

6.5.4 The current Bury UDP was adopted by the BMBC on 29th August 1997. BMBC is now working to replace the adopted UDP with a new document called the Bury Local Plan. Until the new Local Plan is produced, the UDP will continue to be used to make planning decisions.

6.5.5 BMBC had to decide which policies they wanted to keep until the new Local Plan was adopted. The Secretary of State then had to decide which policies could be kept. All policies were kept apart from Policy OL7/1 (East Lancashire Paper Mill Water Catchment Area). However, since Places for Everyone (“PfE”) was adopted on March 21, 2024, some of the remaining Bury UDP policies were superseded by the new Policies in PfE (see below). As such, the Applicant considers that PfE provides the most up to date Local Plan Policies that are relevant to the Scheme.

The Greater Manchester Joint Minerals Plan

6.5.6 The Greater Manchester Joint Minerals Plan (GMJMP) forms part of Bury’s statutory development plan. Map 21 (Bury) of the Plan shows that there are Minerals Safeguarding Areas for both Brick Clay and Sandstone within the Order Limits. This is therefore considered in Section 6.23 below.

Places for Everyone (“PfE”)

6.5.7 In addition to the Bury UDP, BMBC adopted a combined plan with nine other Greater Manchester local planning authorities (Bolton Council, BMBC, Manchester City Council, Oldham Council, Rochdale Borough Council, Salford City Council, Tameside Metropolitan Borough, Trafford Council and Wigan Council).

6.5.8 Up until December 2020 a joint development plan document of the ten Greater Manchester local authorities was being prepared, Greater Manchester’s Plan for Jobs, Homes & the Environment (known as the Greater Manchester Spatial Framework (GMSF)). However, the decision by Stockport Metropolitan Borough Council to not submit the GMSF to the

Secretary of State for independent examination effectively terminated any further work on this plan.

6.5.9 In February and March 2021, each of the nine remaining Greater Manchester districts agreed to establish a Joint Committee responsible for the preparation of a joint Development Plan Document. The text of the GMSF was revised following the withdrawal of Stockport and a new document, PfE was established.

6.5.10 PfE sets out the long term planning policy for sustainable growth in the nine remaining local planning authority areas which includes BMBC. The plan:

- Sets out how Greater Manchester should develop up to the year 2039
- Provides the strategic framework for local plans.
- Sets specific requirements to be taken forward in local plans in terms of housing, offices, and industry and warehousing, and the main areas in which this will be focused.
- Sets out policies to inform the preparation and determination of planning applications.
- Identifies the important environmental assets which will be protected and enhanced.
- Allocates sites for employment and housing outside of the urban area.
- Supports the delivery of key infrastructure, such as transport and utilities; and
- Defines a new Green Belt boundary for the nine boroughs.

6.5.11 The plan provides a large strategic allocation (under Policy JP Allocation 1.1, Heywood / Pilsworth (Northern Gateway), referenced as Policy JPA1.1. This is a mixed use development primarily comprising business and industrial uses and also includes community facilities, open space and housing.

6.5.12 The PfE policies which are relevant to the Scheme are outlined and assessed in Section 6.23 below.

Greater Manchester Transport Strategy, 2040

6.5.13 There is also a Greater Manchester Transport Strategy 2040 (GMTS 2040). Although this is not a planning policy document and is not part of the Local Plan, it may still be an important and relevant consideration.

6.5.14 As set out in the Consultation Report (TR010064/APP/5.1) and Consultation Report Annexes (TR010064/APP/5.2), Manchester City Council as a neighbouring Local Authority has noted that the Scheme aligns with the GMTS 2040 objectives, which '*aims to contribute to delivering sustainable economic growth, improve quality of life and protect*

the environment'. The Scheme is identified on page 92 of GMTS 2040 as part of the suite of planned investment in Greater Manchester's SRN which is described as key to the delivery of a more reliable northern highways network.

6.6 Assessment Against Key Policies

- 6.6.1 Combined, the designated NPS NN, the draft NPS NN, the NPPF, the Bury UDP and the emerging PfE provide the planning policies that are important and relevant to determining the draft DCO (TR010064/APP/3.1). The NPS NN is of primary importance and takes precedence in case of any conflict with the other policies.
- 6.6.2 The key areas of planning policy that are relevant to the Scheme are assessed in the sections below. The next section of this chapter assesses the accordancy of the Scheme with the NPS NN and the draft NPS NN. The last Section assesses it against the Bury UDP and the emerging Places for Everyone.
- 6.6.3 Separate accordancy tables also provide a supporting assessment of the Scheme against specific paragraphs of the designated NPS NN (TR010064/APP/7.2) and the draft NPS NN (TR010064/APP/7.3).

6.7 Good Design/Sustainable Development

Key Policies of the NPS NN and the draft NPS NN

- 6.7.1 The NPS NN outlines the need for good design including policies 4.28-4.35.
- *'Paragraph 4.28: Applicants should include design as an integral consideration from the outset of a proposal.*
 - *Paragraph 4.29: Visual appearance should be a key factor in 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 4.30: It is acknowledged however, that given the nature of much national network infrastructure development, particularly SRFIs, there may be a limit on the extent to which it can contribute to the enhancement of the quality of the area.*
 - *Paragraph 4.31: A good design should meet the principal objectives of the scheme by eliminating or substantially mitigating the identified problems by improving operational conditions and simultaneously minimising adverse impacts. It should also mitigate any existing adverse impacts wherever possible, for example, in relation to safety or the environment. A good design will also be one that sustains the*

improvements to operational efficiency for as many years as is practicable, taking into account capital cost, economics and environmental impacts.

- *Paragraph 4.32: Scheme design will be a material consideration in decision making. The Secretary of State needs to be satisfied that national networks infrastructure projects are sustainable and as aesthetically sensitive, durable, adaptable and resilient as they can reasonably be (having regard to regulatory and other constraints and including accounting for natural hazards such as flooding).*
- *Paragraph 4.33: The applicant should therefore take into account, as far as possible, both functionality (including fitness for purpose and sustainability) and aesthetics (including the scheme's contribution to the quality of the area in which it would be located). Applicants will want to consider the role of technology in delivering new national networks projects. The use of professional, independent advice on the design aspects of a proposal should be considered, to ensure good design principles are embedded into infrastructure proposals.*
- *Paragraph 4.34: Whilst the applicant may only have limited choice in the physical appearance of some national networks infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting and design measures relative to existing landscape and historical character and function, landscape permeability, landform and vegetation.*
- *Paragraph 4.35: Applicants should be able to demonstrate in their application how the design process was conducted and how the proposed design evolved. Where a number of different designs were considered, applicants should set out the reasons why the favoured choice has been selected. The Examining Authority and Secretary of State should take into account the ultimate purpose of the infrastructure and bear in mind the operational, safety and security requirements which the design has to satisfy.'*

6.7.2 Paragraphs 4.24-4.28 of the draft NPS NN also set out the criteria for good design for national network infrastructure.

- *'Paragraph 4.24: Applicants should include design as an integral consideration from the outset of the proposal. Applying good design to national networks projects should not be limited to general aesthetics. High quality and inclusive design goes far beyond aesthetic considerations. It demonstrates an understanding of context, local needs, history and culture, enhances local landscape character, and is adaptable to future needs and technologies. The National Infrastructure Design Principles described good design as:*
 - *a key aspect of sustainable development. It includes opportunities to enable decarbonisation, incorporates flexibility, and builds*

resilience against climate change. The functionality of projects, including fitness for purpose, resilience, and sustainability, is equally important.

- *helping to improve the quality of life for local communities. It promotes inclusion, cohesion and increases accessibility. It creates safe spaces with clean air that improve health and wellbeing.*
- *giving places a strong sense of identity, creating a sense of place, connecting communities, addressing community severance, and integrating into its surroundings. It makes a positive contribution to the local landscape within and beyond the project boundary. Good design enhances local culture and character and supports local ecology, delivering through biodiversity net gain, while protecting wildlife corridors and irreplaceable nature assets and habitats.*
- *adding value by defining issues clearly from the outset. Good design also finds opportunities to add value beyond the main purpose of the infrastructure to consider the wider benefits savings on cost, the environment, materials, and space. It is efficient in the use of material resources, sustainable materials and energy used in construction.*
- *Paragraph 4.25: A good design should meet the principal objectives of the scheme by applying the mitigation hierarchy to avoid, eliminate or substantially mitigate the identified problems and existing adverse impacts, by improving operational conditions, simultaneously minimising adverse impacts and contributing to the conservation and enhancement of the natural, built and historic environment. A good design will also be one that sustains the improvements to operational efficiency for as many years as is practicable, taking into economic, social, and environmental impacts.*
- *Paragraph 4.26: In light of the above, scheme design will be a material consideration in decision making. The Secretary of State needs to be satisfied that national networks infrastructure projects are sustainable, having regard to appropriate industry good design guidance, and the applicant has considered, as far as possible, both functionality (including fitness for purpose and sustainability) and aesthetics (including the scheme's contribution to the quality of the area in which it would be located).*
- *Paragraph 4.27: Applicants should have regard to the National Design Guidance, National Model Design Code, Local Nature Recovery Strategies, Local Air Quality Plans, the purposes of National Parks, Areas of Outstanding Natural Beauty, the Broads and any local design codes.*

- *Paragraph 4.28: In their application, applicants should be able to demonstrate how the design process was conducted, effective engagement with communities and stakeholders and how the proposed design evolved to maximise design outcomes. Where a number of different designs were considered, applicants should set out the reasons why the favoured choice has been selected with a clear articulation of the benefits. The Examining Authority and the Secretary of State should consider the ultimate purpose of the infrastructure and the operational, safety and security requirements which the design must satisfy.'*

Accordance with the NPS NN and the draft NPS NN

Design Process

6.7.3 To meet paragraph 4.28 of the NPS NN and paragraph 4.24 of the draft NPS NN, the design has evolved through the following processes:

- The Applicant has identified environmental constraints and opportunities at all stages of the design and this has, for example, included collaborative working between the Applicant's appointed design team and environmental specialists to minimise the impact of attenuation ponds through consideration of pond size, layout and location. Also, development of mitigation and enhancement strategy that avoids unnecessary clearance of screening vegetation during the construction phase and specifies interplanting to reinforce existing and retained screening.
- The design has also taken into account the outcomes of the options public consultation carried out by the Applicant in June 2020 to August 2020
- As the Scheme has progressed through Preliminary Design, pre-application statutory consultation has been undertaken. The Applicant has consulted with stakeholders such as affected land interests, prescribed consultees (such as Natural England), Local Planning Authorities and specialist bodies (such as the Greater Manchester Archaeological Advisory Service) to take into account their considerations and requirements. Further details can be found in Annex Q of the Consultation Report Annexes (TR010064/APP/5,2)
- With reference to paragraph 4.35 of the NPS NN and paragraph 4.28 of the draft NPS NN, statutory consultation was undertaken over six weeks in February and March 2023, allowing prescribed consultees, stakeholders and the wider local community to comment on the proposals for the Scheme. Early engagement with prescribed consultees enabled the sharing of the preliminary design and survey information to gain their technical input prior to statutory consultation and the Application.

- Further supplementary non-statutory targeted consultation took place between July and September 2023.
- Details of the comments received in terms of design and how the Scheme has responded to these are outlined in the Consultation Report (TR010064/APP/5.1) and Consultation Report Annexes (TR010064/APP/5.2).
- With reference to securing good design, as required by paragraphs 4.31 of the NPS NN and paragraphs 4.24 and 4.27 of the draft NPS NN, the Scheme Design Report (TR010064/APP/7.6) explains that the design has been informed by the ten principles for good design as set out in National Highways' The Road to Good Design'. The Scheme Design Report sets out in detail how each design principle has been met. The ten principles are:
 - *'Makes roads safe and useful.*
 - *Is inclusive.*
 - *Makes roads understandable.*
 - *Fits in context.*
 - *Is restrained.*
 - *Is environmentally sustainable.*
 - *Is thorough.*
 - *Is innovative.*
 - *Is collaborative.*
 - *Is long-lasting'.*

Environmental Design Measures

6.7.4 With reference to paragraph 4.29 of the NPS NN and 4.25 of the draft NPS NN, as shown on Figure 2.3, the Environmental Masterplan of the ES Figures (TR010064/APP/6.2)) and set out in Chapter 7, Landscape and Visual and Chapter 8, Biodiversity of the ES (TR010064/APP/6.1), the Scheme design incorporates several measures to enhance the environment including:

- An overall net gain in terms of biodiversity as set out in section 6.11 of this Case for the Scheme.
- New hedgerow and tree planting.

- New road verges would support low-nutrient grassland habitats which are of high ecological value. The habitat will be managed to maximise ecological delivery.
- On the inherently linear road verges of the Scheme, the creation of low-nutrient grasslands will provide an important wildlife corridor, as under these conditions native wildflowers have space to germinate and thrive amid reduced competition.
- Aquatic and marginal planting will be provided at the five attenuation and treatment ponds and swales to improve biodiversity.
- The Simister Pike Fold Viaduct and Simister Pike Fold Bridge are prominent new structures and have been subject to a design process aimed at providing structures that acknowledge the potential impacts on the wider landscape. A combination of concrete and weathering steel will be implemented for the bridge spans. The combination of weathering steel and planting along the structure embankments will be visually attractive and will help to physically integrate the structures into the landscape.
- The existing raised earth mound in the north-east quadrant has been used in the configuration of the Simister Pike Fold Viaduct and Simister Pike Fold Bridge embankments and Northern Loop to limit landscape change the Special Landscape Area.
- New embankments required for the Northern Loop are designed with a shallower gradient than typical highway embankments, and the landscape design developed to further help integrate the road into the 'pattern' of the Special Landscape Area.

6.7.5 The Non-Technical Summary of the ES (TR010064/APP/6.4) summarises the potential impacts of the Scheme in non-technical language, the mitigation which has been included within the design and construction of the Scheme and what impacts remain with mitigation in place (these are referred to as "residual effects"). Section 6.9 of this Case for the Scheme outlines how construction impacts will be managed.

Design Measures for a Changing Climate

6.7.6 As set out in Chapter 13 Road Drainage and the Environment and Chapter 14 Climate of the ES (TR010064/APP/6.1), an extensive list of measures has also been embedded to reduce Greenhouse Gas emissions (GHG) and increase the resilience of the Scheme to future changes in climate. In summary, key measures include:

- Incorporating optimal design on the Northern Loop to retain as much of the existing slip road, reducing cut and fill, reducing the need for retaining walls.
- Retaining as much existing drainage as possible.

- Retaining as much existing pavements as possible.
- Minimising overall land take within the Order Limits to reduce vegetation loss and planting new areas of woodland and vegetation in the Order Limits.
- Attenuation ponds are designed to include a pool of water at the base of the pond (to create a wetland) that will retain the operational functionality of the attenuation ponds (i.e. so that vegetation is not lost during hot and dry periods and the treatment capacity of SuDS reduced).
- The Scheme is designed to be resilient to potential changes in the climate including drought, flood and temperature rises. These elements are set out in more detail in section 6.12 of this Case for the Scheme.
- Reducing the use of fossil fuel based machinery and plant during construction, for example electric powered machinery and plant.
- Appendix O, the Outline Carbon Management Plan is provided in the First Iteration Environmental Management Plan (EMP) (TR010064/APP/6.5). This sets out how carbon reduction for the Scheme will be implemented. An assessment of changes in GHG emissions during the construction and operational phases of the Scheme has been undertaken in accordance with National Highways' Design Manual for Road and Bridges (DMRB) methodologies. The carbon management objectives include an assessment of changes in GHG emissions at each life cycle stage of the Scheme, as well as to regularly report construction related GHG emissions throughout the development and construction phase.

Design Panel

- 6.7.7 In response to paragraph 4.33 of the NPS NN and paragraph 4.24 of the draft NPS, design reviews are an integral part of the process for delivering the 10 design principles in the Road to Good Design. The Applicant has created an independent Design Council of built environment experts to impartially evaluate Scheme design with a remit to constructively challenge design approach. The Design Council helps to provide scheme specific observations and general recommendations that help put good design at the heart of network improvements.
- 6.7.8 Through the role of the Design Council, a Design Panel of experts has reviewed the Scheme. A Scheme briefing and site visit was carried out on 6 March 2023, with key attendees from the Design Panel and the Applicant in attendance. The Scheme briefing included a site walkover, panel discussion and presentation.
- 6.7.9 The Design Panel then prepared a confidential letter of advice for the Applicant. A summary of the advice received and how the design

responded to this advice is provided in the Scheme Design Report (TR010064/APP/7.6).

Concluding Assessment

6.7.10 Overall, it is considered that the design process and subsequent Scheme design that forms the application for development consent meets the objectives of the NPS NN and draft NPS NN for the following reasons:

- An iterative design process has been followed, which has included extensive consultation throughout the development and evolution of the Scheme design.
- The design meets the ten principles for good design as set out in the Applicants 'The Road to Good Design'. These ten design principles meet the requirements of the NPS NN and the draft NPS NN as set out in the Scheme Design Report (TR010064/APP/7.6).
- The Scheme requires an Environmental Impact Assessment. This process has identified mitigation to reduce environmental impacts and to identify and include opportunities for environmental enhancement. This is detailed in the ES (TR010064/APP/6.1)
- Carbon management and resilience to Climate Change have been embedded into the design principles.
- The Applicant used an independent Design Council which appointed a panel of design experts to assess the Scheme.
- The design delivers on the overall objectives for National Networks and the key objectives of the Scheme, which were set out previously in this Case for the Scheme.

6.8 Green Belt

Key Policies of the NPS NN and the draft NPS NN

6.8.1 The NPS NN defines the purpose of the Green Belt as:

- *'Paragraph 5.164, Green Belts, defined in a development plan, are situated around certain cities and large built-up areas. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence. For further information on the purposes and protection of Green Belt see the National Planning Policy Framework'.*

6.8.2 The application of policies controlling development in the Green Belt as they relate to highways infrastructure is as follows:

- *'Paragraph 5.1.70: The general policies controlling development in the countryside apply with equal force in Green Belts but there is, in addition, a general presumption against inappropriate development*

within them. Such development should not be approved except in very special circumstances. Applicants should therefore determine whether their proposal, or any part of it, is within an established Green Belt and, if so, whether their proposal may be considered inappropriate development within the meaning of Green Belt policy. Metropolitan Open Land, and land designated as Local Green Space in a local or neighbourhood plan, are subject to the same policies of protection as Green Belt, and inappropriate development should not be approved except in very special circumstances’.

- *Paragraph 5.171: Linear infrastructure linking an area near a Green Belt with other locations will often have to pass through Green Belt land. The identification of a policy need for linear infrastructure will take account of the fact that there will be an impact on the Green Belt and as far as possible, of the need to contribute to the achievement of the objectives for the use of land in Green Belts’.*
- *‘Paragraph 5.178: When located in the Green Belt national networks infrastructure projects may comprise inappropriate development. Inappropriate development (109) is by definition harmful to the Green Belt and there is a presumption against it except in very special circumstances. The Secretary of State will need to assess whether there are very special circumstances to justify inappropriate development. Very special circumstances will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations. In view of the presumption against inappropriate development, the Secretary of State will attach substantial weight to the harm to the Green Belt, when considering any application for such development’.*

6.8.3 Sub-note 109 of para 5.178 cross refers to the NPPF in defining very special circumstances. Therefore, whilst the NPS NN is the primary document for determining applications submitted under the 2008 (as amended), it is also necessary to have regard to the provisions of the NPPF.

6.8.4 The draft NPS NN contains similar guidance at paragraphs 5.172, 5.173, 5.177 and 5.195:

- *Paragraph 5.172: The re-use of previously developed land for new development can make a major contribution to sustainable development by reducing the amount of countryside and undeveloped greenfield land that needs to be used. However, this may not be possible for some forms of infrastructure, particularly linear infrastructure such as roads and railway lines. Similarly, for strategic rail freight interchanges, brownfield land may not be economically or commercially feasible, albeit applicants will need to demonstrate clearly why the use of brownfield land is not appropriate.*

- *‘Paragraph 5.173: Green Belts, defined in a development plan, are situated around certain cities and large built-up areas. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence. The Examining Authority should ensure that substantial weight is given to any harm to the Green Belt when assessing a proposal. Under very special circumstances, development in the Green Belt is allowed if the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations’.*
- *‘Paragraph 5.177: The general policies controlling development in the countryside apply with equal force in Green Belts but there is, in addition, a general presumption against inappropriate development within them. Such development should not be approved except in very special circumstances. Applicants should therefore determine whether their proposal, or any part of it, is within and established Green Belt and, if so, whether their proposal may be considered inappropriate development within the meaning of Green Belt planning policy. Metropolitan Open Land, and land designated as Local Green Space in a local or neighbourhood plan, are subject to the same policies of protection as Green Belt, and inappropriate development should not be approved except in very special circumstances’.*
- *‘Paragraph 5.195: Inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances. When considering any Development Consent Order, the Examining Authority and the Secretary of State should ensure that substantial weight is given to any harm to the Green Belt. ‘Very special circumstances’ will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations. When located in the Green Belt, elements of many national networks infrastructure projects will comprise inappropriate development. In such cases, scheme promoters will need to demonstrate very special circumstances if projects are to proceed. Such very special circumstances may include the safety benefits associated with improvements to the relevant section of the national network’.*

6.8.5 Para 134 of the NPPF states that Green Belt serves five purposes:

- *‘a) to check the unrestricted sprawl of large built-up areas;*
- *b) to prevent neighbouring towns merging into one another;*
- *c) to assist in safeguarding the countryside from encroachment;*
- *d) to preserve the setting and special character of historic towns; and*

- *e) to assist in urban regeneration, by encouraging the recycling of derelict and other urban land’.*

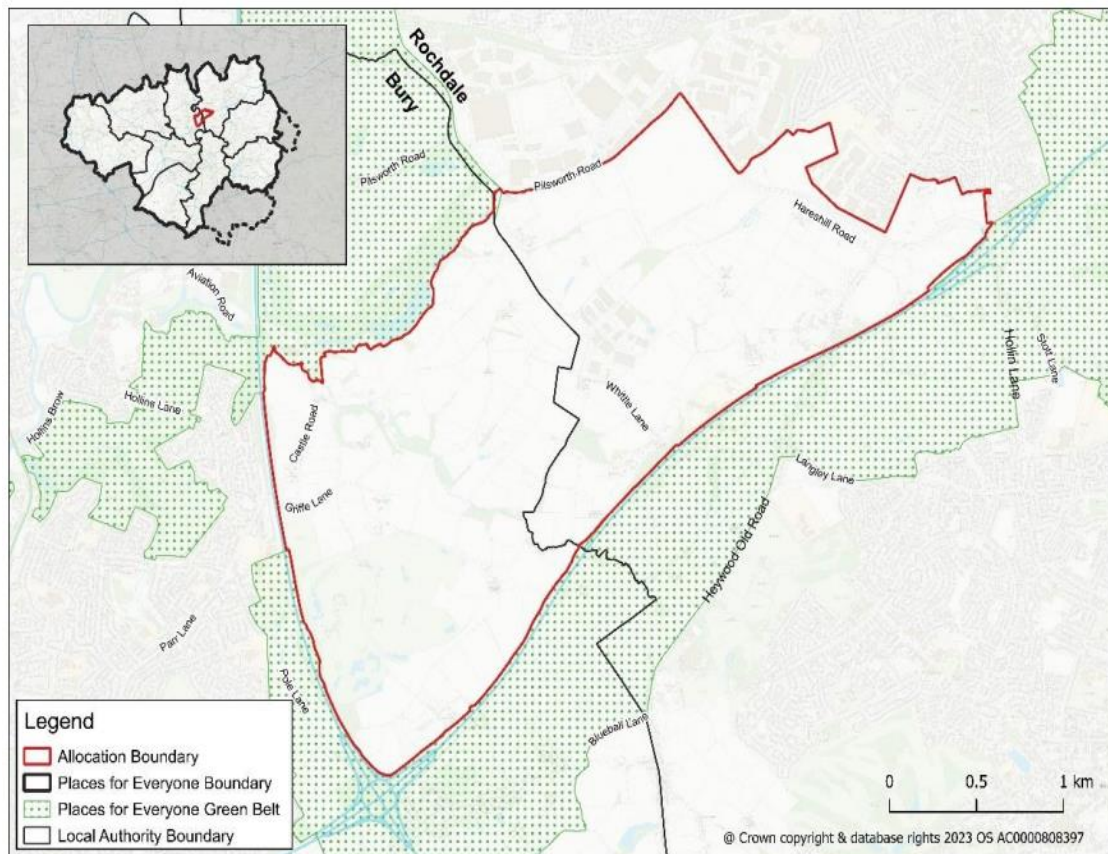
6.8.6 Relevant paragraphs of the NPPF are:

- *Paragraph 143: Inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances’.*
- *Paragraph 144: When considering any planning application, local planning authorities should ensure that substantial weight is given to any harm to the Green Belt. ‘Very special circumstances’ will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations.’*
- *‘Paragraph 145: A local planning authority should regard the construction of new buildings as inappropriate in the Green Belt. Exceptions to this are ... (those listed are not relevant to the Scheme).’*
- *‘Paragraph 146: Certain other forms of development are also not inappropriate in the Green Belt provided they preserve its openness and do not conflict with the purposes of including land within it. These are:*
 - *a) mineral extraction;*
 - *b) engineering operations;*
 - *c) local transport infrastructure which can demonstrate a requirement for a Green Belt location;*
 - *d) the re-use of buildings provided that the buildings are of permanent and substantial construction;*
 - *e) material changes in the use of land (such as changes of use for outdoor sport or recreation, or for cemeteries and burial grounds); and*
 - *f) development brought forward under a Community Right to Build Order or Neighbourhood Development Order’.*

6.8.7 Places for Everyone (PfE) was adopted in March 2024 and is now part of the statutory development plan for Bury. The amount of Green Belt land within the Order Limits is approximately 49 hectares. As the Order Limits also includes the existing motorway infrastructure, which is already located in the Green Belt, this does not mean that 49 hectares of Green Belt land is developed and therefore lost as a result of the Scheme. Approximately 21 hectares of land within the Order Limits within the Green Belt comprises the existing motorway infrastructure.

- 6.8.8 An extract from PfE is shown in 1 below. The area delineated by a solid red line is the Heywood/Pilsworth Strategic Allocation Policy JPA1.1 forming part of the Northern Gateway.
- 6.8.9 Policy JP-G9 of PfE effectively reinforces the five purposes of Green Belt as described above.

Figure 6.1 - Extract from Places for Everyone (August 2023)



Accordance with the NPS NN and the draft NPS NN

Inappropriate Development

- 6.8.10 Inappropriate development is by definition, harmful to the Green Belt. As set out above, certain types of development are considered to not conflict with the purposes of the Green Belt provided they preserve the openness and do not conflict with the purposes of including land within it. These include 'engineering operations' (NPPF Paragraph 146 (b)) and 'local transport infrastructure' (NPPF Paragraph 146 (c)) which can demonstrate a requirement for a Green Belt location'.

Engineering Operations

- 6.8.11 The Applicant considers the Scheme to be a major engineering operation, which NPPF paragraph 146 states would not be inappropriate development, provided that it would preserve the openness of the Green Belt and would not conflict with the purposes of including land within it.

Openness

- 6.8.12 The Applicant considers the following to be relevant in terms of whether the Scheme harms the openness of the Green Belt:
- The Scheme will require permanent works in the Green Belt beyond the existing highways boundary including changes to existing slip roads, new sections of highway, earthworks and other associated development such as signage, overhead gantries and drainage attenuation.
 - The Northern Loop will be an elevated section of new highway which as set out in Chapter 3 of this Case for the Scheme, requires two new major structures. This will impact on the visual appearance and openness of the Green Belt although these impacts will lessen over time as landscape mitigation takes effect (see Section 6.17 below). However, the emerging PfE proposes to remove part of land where the Northern Loop is situated from the Green Belt, which would reduce this impact.
 - Whilst the Scheme itself does not result in urban sprawl or the coalescence of settlements, it is encroachment into the countryside. Therefore, it conflicts with one of the five purposes of including land in the Green Belt as outlined in paragraph 134 of the NPPF.
 - Impact and harm on the openness of the Green Belt is potentially a sufficient reason to refuse an NSIP and paragraph 5.178 of the NPS NN states that when making decisions the Secretary of State will attach substantial weight to the harm to the Green Belt and that any such harm must be outweighed by other considerations.
- 6.8.13 Overall, it is considered that the substantial nature of the development, along with its permanence and other operational features such as lighting, mean that the Scheme would harm the openness of the Green Belt.

Local Transport Infrastructure

- 6.8.14 The Applicant has reviewed other decisions where NSIP highway schemes are located in the Green Belt in terms of when an NSIP might be regarded as Local Transport Infrastructure. Although there are examples where NSIPs for the SRN have been regarded by the ExA as Local Transport Infrastructure, this does not seem to be the case for NSIPs where the SRN is part of the motorway network.
- 6.8.15 The Scheme is identified in the Governments Road Investment Strategy 2 (2020–2025) which sets out a long-term vision for the SRN in the UK. The primary purpose of the Scheme is to facilitate future increases in traffic through providing additional capacity and network resilience. This will reduce overall journey times for vehicles travelling through the network well into the future.

- 6.8.16 As the Scheme is strategic in nature and is part of the motorway network of the SRN, it is not local transport infrastructure.
- 6.8.17 Although Policy HT2/9 of the Bury UDP does make reference to improvements along this section of the SRN, the land for the Scheme is not safeguarded in the Local Plan.
- *HT2/9 - Highways Agency Road Schemes: The Highways Agency has identified a number of major highway schemes as part of the national trunk road programme.*
 - *The following scheme has been identified within the Borough: HT2/9/1 - M60 improvement between Junctions 12 to 18.*
- 6.8.18 The Policy inserted into the emerging PfE as part of the main modifications, which relates to the SRN, does not in itself justify the development in the Green Belt.
- *Policy JP-CX: The Strategic Road Network: We will work with Department for Transport, National Highways, Transport for the North and TfGM to ensure a co-ordinated approach to the planning and delivery of potential interventions on the SRN and at interfaces with the local street network, as Local Plans, site Masterplans and planning applications come forward in accordance with Department for Transport, National Highways, and other UK Government policy and guidance as applicable.*
- 6.8.19 Although both policies recognise that improvements to the SRN are likely to be required, they do not directly safeguard land for the Scheme.
- Very Special Circumstances
- 6.8.20 Overall, it is concluded that the Scheme is not local transport infrastructure and that it would impact on the openness of the Green Belt.
- 6.8.21 As such, on balance, it is considered that very special circumstances (VSC) must be demonstrated to evidence that other considerations outweigh any potential harm to the Green Belt.
- 6.8.22 The VSC include:
- The need for the Scheme. This is to improve national infrastructure and is part of a national investment strategy for the SRN in England. This is consistent with the overall objectives for National Networks set out in the NPS NN and the Draft NPS NN.
 - The benefits of the Scheme:
 - The Scheme provides future capacity for the forecast growth in traffic to deliver national networks which are resilient and meet the long-term needs. A key objective of the Scheme is to address the problem of congestion, which causes slow and unreliable journeys and reduces economic efficiency.

- As set out in section 4 of this Case for the Scheme, the most significant benefit of the Scheme is due to travel time savings. The Scheme would alleviate congestion that would otherwise worsen without the Scheme. As a result of the Scheme, this part of the SRN will operate within capacity up to and beyond 2044 and traffic using the Junction 18 would save up to 1.5 minutes compared to current journey times during normal traffic conditions.
- As set out in section 5 of this Case for the Scheme, the overall economic benefits of the Scheme provide a Present Value of Benefits of £137.5 million.
- The lack of alternatives with less impact on the Green Belt: Given that the purpose of the Scheme is to improve an existing section of the SRN, it is not possible to pursue an option which is outside the Green Belt, unless the surrounding motorway network is relocated entirely.

Concluding Assessment

6.8.23 As referenced in paragraph 144 of the NPPF, it is considered that ‘*other considerations*’ (in the form of the VSC which include the need and national benefits of the Scheme), outweigh any harm to the Green Belt.

6.9 Managing Construction Impacts

Key Policies of the NPS NN and the draft NPS NN

6.9.1 The remaining sections of this chapter cover managing the impacts of constructing and operating the Scheme on the built and natural environment. The NPS NN states:

- *‘Paragraph 4.3: In considering any proposed development, and in particular, when weighing its adverse impacts against its benefits, the Examining Authority and the Secretary of State should take into account:*
 - *its potential benefits, including the facilitation of economic development, including job creation, housing and environmental improvement, and any long-term or wider benefits;*
 - *its potential adverse impacts, including any longer-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts’.*
- *‘Paragraph 4.4: In this context, environmental, safety, social and economic benefits and adverse impacts, should be considered at national, regional and local levels. These may be identified in this NPS, or elsewhere’.*

6.9.2 Paragraph 4.3 is also repeated in the draft NPS NN.

6.9.3 This section of the Case for the Scheme specifically focuses on how the construction impacts of the Scheme will be managed. The remaining sections of this Chapter then set out the specific impacts on different elements of the built and natural environment.

Accordance with the NPS NN and the draft NPS NN

6.9.4 The First Iteration EMP (TR010064/APP/6.5) contains the Register of Environmental Actions and Commitments (REAC), which sets out the mitigation measures that will be provided to offset and manage the construction impacts of the Scheme.

6.9.5 The First Iteration EMP (TR010064/APP/6.5) will be developed into the Second Iteration EMP to be implemented during construction and is secured by Requirement 4 of the draft DCO (TR010064/APP/3.1).

6.9.6 The Third Iteration EMP will be developed on completion of the Scheme and set out those ongoing measures required for operation and maintenance. This is secured by Requirement 4 of the draft DCO (TR010064/APP/3.1).

6.9.7 The First Iteration EMP (TR010064/APP/6.5) includes a number of outline management plans included as appendices:

- Appendix A - Outline Air Quality and Dust Management Plan.
- Appendix B - Outline Noise and Vibration Management Plan.
- Appendix C - Outline Site Waste Management Plan.
- Appendix D - Outline General Ecology Management Plan.
- Appendix E - Outline Invasive Species Management Plan.
- Appendix F - Outline Soil Management Plan.
- Appendix G - Outline Materials Management Plan.
- Appendix H - Outline Surface and Ground Water Management Plan.
- Appendix I - Outline Construction Compound Management Plan.
- Appendix J - Outline Contaminated Land Management Plan.
- Appendix K - Outline Energy & Resource use Management Plan.
- Appendix L - Outline Emergency Procedures & Environmental Incidents.
- Appendix M - Environmental Constraints Map.
- Appendix N - Outline Landscape and Ecology Management Plan.
- Appendix O - Outline Carbon Management Plan.

Concluding Assessment

- 6.9.8 In accordance with paragraph 4.3 of the draft NPS NN, the First Iteration EMP (TR010064/APP/6.5) sets out how construction impacts from the Scheme will be managed and mitigated and secured by Requirement 4 of the draft DCO (TR010064/APP/3.1). This has considered the potential for adverse impacts and outlines how such impacts will be managed appropriately.

6.10 Open Space and Formal Recreational Facilities

Key Policies of the NPS NN and the draft NPS NN

- 6.10.1 The NPS NN paragraph 5.166 covers the retention of open space, sports and recreational facilities.
- *‘Paragraph 5.166: Existing open space, 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. Applicants considering proposals which would involve developing such land should have regard to any local authority’s assessment of need for such types of land and buildings’.*
- 6.10.2 The protection of open space, and other green infrastructure (such as sports pitches) is covered in the following paragraphs of the draft NPS NN:
- *‘Paragraph 5.171: Access to high quality open spaces and the countryside and opportunities for sport and recreation can be a means of providing necessary mitigation and/or compensation requirements. Green infrastructure is a network of multi-functional green and blue features and other natural features, urban and rural, which are capable of delivering a wide range of environmental, economic, health and wellbeing benefits for nature, climate, local and wider communities and prosperity. Green Infrastructure can include nature-based solutions to prevent or reduce environmental impacts. Green infrastructure can also enable developments to provide positive environmental, social and economic benefits.*
 - *Paragraph 5.176: Existing open space, 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, quality and functionality in a suitable and accessible location. Applicants considering proposals which would involve developing such land should have regard to any local authority’s assessment of need for such types of land and buildings.*
 - *Paragraph 5.185: Where green infrastructure is affected, applicants should aim to ensure the functionality and connectivity of the green infrastructure network is maintained and any necessary works are undertaken, where possible, to mitigate any adverse impact.*

Applicants should endeavour to improve networks and other areas of open space, including appropriate access to new coastal access routes, National Trails and other public rights of way.

- *Paragraph 5.186: The Secretary of State should also consider whether mitigation of any adverse effects on green infrastructure or open space is adequately provided for by means of any planning obligations, for example, to provide an exchange of land between two owners and provide for appropriate management and maintenance agreements. Any exchange land should be at least as good in terms of size, usefulness, attractiveness, quality and accessibility. Alternatively, where sections 131 and 132 of the Planning Act apply, any replacement land provided under those sections will need to conform to the requirements of those sections.*
- *Paragraph 5.192: The Secretary of State should not grant consent for development on existing open space, sports and recreational buildings and land, including playing fields, unless an assessment has been undertaken either by the local authority or independently, which has shown the open space or the buildings and land to be surplus to requirements. Additionally, if the Secretary of State determines that the benefits of the project (including need) outweigh the potential loss of such facilities, taking into account any positive proposals made by the applicant to provide new, improved or compensatory land or facilities.*
- *Paragraph 5.193: Where networks of green infrastructure have been identified in development plans, they should be protected from development, and, where possible, strengthened. The environmental and visual value of linear infrastructure and its footprint in supporting biodiversity and ecosystems should also be taken into account, including the creation of new green infrastructure, when assessing the impact on green infrastructure. The value of the development in improving connectivity, particularly through active travel links and recreation should also be taken into account when assessing the impact on green infrastructure’.*

6.10.3 As stated in paragraph 5.186 of the draft NPS NN, sections 131 and 132 of the 2008 Act make provision for special parliamentary procedure to apply where a development consent order authorises the compulsory acquisition of land, or rights over land, forming part of a common, open space, or fuel or field garden allotment. This means that certain types of land are referred to in the 2008 Act as Special Category Land (SCL) which requires compensatory land to be provided in order to avoid triggering the parliamentary procedure.

Accordance with the NPS NN and the draft NPS NN

6.10.4 Figure 12.1, Population and Human Health Context in the Environmental Statement Figures (TR010064/APP/6.2) provides the geographical context for this section.

- 6.10.5 Whitefield Golf Course, Prestwich Forest Park and Philips Park are large areas of greenspace to the west of the Order Limits. Prestwich Forest Park encompasses Philips Park and comprises woodland, scrub and some amenity grass areas. It is an important area for outdoor recreation, including mountain biking.
- 6.10.6 Prestwich Forest Park, Philips Park and Whitefield Golf Club would be unaffected by the Scheme.
- 6.10.7 To accommodate the Scheme, part of the Pike Fold Golf Course will need to be reconfigured to maintain an 18-hole course. The Scheme does not require any permanent acquisition of land from the Golf Club and work to redesign and implement changes will be undertaken separately by the Golf Course. Within the Order Limits, the Scheme will carry out relatively minor earthworks, drainage and landscaping within the area occupied by the Golf Course. Discussions have taken place with Pike Fold Golf Club as referenced in the Consultation Report (TR010064/APP/5.1) and Consultation Report Annexes (TR010064/APP/5.2).
- 6.10.8 Prestwich Heys Football Club is located to the south of the Order Limits. No impact on the ability to use the pitches at Prestwich Heys Football Club is anticipated. The REAC within the First Iteration EMP (TR010064/APP/6.5) includes measures to ensure access is maintained during construction.
- 6.10.9 Education facilities with playing fields include St Margarets Church of England Primary School and Unsworth academy. Temporary acquisition of an area of approximately 2 ha which falls between two pitches on Unsworth Academy playing fields would be required to facilitate drainage improvement works. Chapter 12, Population and Human Health of the ES (TR010064/APP/6.1) states that approximately 6% (0.3ha) of playing fields area will be used to allow for drainage works and a permanent right of access will be in place. The land take will be in the form of one strip of land along the southern boundary of the field. No physical impact is anticipated on the marked pitches themselves and therefore the sports function of the playing fields will be generally maintained. Discussions that have taken place with Unsworth Academy are set out in the Consultation Report (TR010064/APP/5.1) and Consultation Report Annexes (TR010064/APP/5.2).
- 6.10.10 Access to Simister Allotments and Eden Garden Allotments would be maintained throughout.

Concluding Assessment

- 6.10.11 In response to paragraph 5.186 of the draft NPS NN, there is no permanent loss of any open space or recreational land which would mean sections 131 and 132 of the 2008 Act are not applicable. As the Unsworth Academy Playing Fields are owned by BMBC as the Local Authority, they are not classified as SCL for the purposes of the 2008 Act.

- 6.10.12 The only impact is that part of Pike Fold Golf Course will need to be redesigned to accommodate the Scheme design and discussions to mitigate this impact have taken place and will continue.
- 6.10.13 No other recreational land would be lost or permanently impacted by the Scheme. This includes Prestwich Heys Football Club, Unsworth Cricket and Tennis Club, Heaton Park and Eden Park Gardens and Simister Allotments.
- 6.10.14 The Scheme would not directly impact on outdoor recreational space at St Margarets Church of England Primary School, Our Lady of Grace Roman Catholic Primary School or Parrenthorn School but appropriate liaison with the schools would take place during construction.
- 6.10.15 Overall, it is considered that the Scheme accords with the NPS NN and draft NPS NN in terms of open space and recreation.

6.11 Biodiversity and Biodiversity Net Gain

Key Policies of the NPS NN and the draft NPS NN

- 6.11.1 Relevant paragraphs of the designated NPS NN are:
- *‘Paragraph 4.22: Prior to granting a Development Consent Order, the Secretary of State must, under the Habitats Regulations, consider whether it is possible that the project could have a significant effect on the objectives of a European site, or on any site to which the same protection is applied as a matter of policy, either alone or in combination with other plans or projects. Applicants should also refer to paragraphs 5.20 to 5.38 of this national policy statement on biodiversity and geological conservation and to paragraphs 5.3 to 5.15 on air quality. The applicant should seek the advice of Natural England and, where appropriate, for cross-boundary impacts, Natural Resources Wales and Scottish Natural Heritage to ensure that impacts on European sites in Wales and Scotland are adequately considered.*
 - *Paragraph 4.23: Applicants are required to provide sufficient information with their applications for development consent to enable the Secretary of State to carry out an Appropriate Assessment if required. This information should include details of any measures that are proposed to minimise or avoid any likely significant effects on a European site. The information provided may also assist the Secretary of State in concluding that an appropriate assessment is not required because significant effects on European sites are sufficiently unlikely that they can be excluded.*
 - *Paragraph 5.22: Where the project is subject to EIA the applicant should 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 (including those outside England) on protected species and on*

habitats and other species identified as being of principal importance for the conservation of biodiversity and that the statement considers the full range of potential impacts on ecosystems.

- *Paragraph 5.23: The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests.*
- *Paragraph 5.24: The Government's biodiversity strategy is set out in Biodiversity 2020: A Strategy for England's wildlife and ecosystem services. Its aim is to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people. This aim needs to be viewed in the context of the challenge of climate change: failure to address this challenge will result in significant impact on biodiversity.*
- *Paragraph 5.25: As a general principle, and subject to the specific policies below, development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives. The applicant may also wish to make use of biodiversity offsetting in devising compensation proposals to counteract any impacts on biodiversity which cannot be avoided or mitigated. Where significant harm cannot be avoided or mitigated, as a last resort, appropriate compensation measures should be sought.*
- *Paragraph 5.26: In taking decisions, the Secretary of State should ensure that appropriate weight is attached to designated sites of international, national and local importance, protected species, habitats and other species of principal importance for the conservation of biodiversity, and to biodiversity and geological interests within the wider environment.*
- *Paragraph 5.27: The most important sites for biodiversity are those identified through international conventions and European Directives. The Habitats Regulations provide statutory protection for European sites⁷⁶ (see also paragraphs 4.22 to 4.25). The National Planning Policy Framework states that the following wildlife sites should have the same protection as European sites:*
 - *potential Special Protection Areas and possible Special Areas of Conservation;*
 - *listed or proposed Ramsar sites; and*
 - *sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation and listed or proposed Ramsar sites.*

- *Paragraph 5.28: Many Sites of Special Scientific Interest (SSSIs) are also designated as sites of international importance and will be protected accordingly. Those that are not, or those features of SSSIs not covered by an international designation, should be given a high degree of protection. All National Nature Reserves are notified as SSSIs.*
- *Paragraph 5.29: Where a proposed development on land within or outside a SSSI is likely to have an adverse effect on an SSSI (either individually or in combination with other developments), development consent should not normally be granted. Where an adverse effect on the site's notified special interest features is likely, an exception should be made only where the benefits of the development at this site clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest, and any broader impacts on the national network of SSSIs. The Secretary of State should ensure that the applicant's proposals to mitigate the harmful aspects of the development and, where possible, to ensure the conservation and enhancement of the site's biodiversity or geological interest, are acceptable. Where necessary, requirements and/or planning obligations should be used to ensure these proposals are delivered.*
- *Paragraph 5.30: Marine Conservation Zones (MCZs), introduced under the Marine and Coastal Access Act 2009, are areas that have been designated for the purpose of conserving marine flora or fauna, marine habitat or types of marine habitat or features of geological or geomorphological interest. The protected feature or features and the conservation objectives for the MCZ are stated in the designation order for the MCZ, which provides statutory protection for these areas. Measures to restrict damaging activities will be implemented by the Marine Management Organisation (MMO) and other relevant organisations. As a public authority, the Secretary of State is bound by the duties in relation to MCZs imposed by sections 125 and 126 of the Marine and Coastal Access Act 2009.*
- *Paragraph 5.31: Sites of regional and local biodiversity and geological interest (which include Local Geological Sites, Local Nature Reserves and Local Wildlife Sites and Nature Improvement Areas) have a fundamental role to play in meeting overall national biodiversity targets, in contributing to the quality of life and the well-being of the community, and in supporting research and education. The Secretary of State should give due consideration to such regional or local designations. However, given the need for new infrastructure, these designations should not be used in themselves to refuse development consent.*
- *Paragraph 5.32: Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. The Secretary of State should not grant*

development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss. Aged or veteran trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by development proposals, the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons for this.

- *Paragraph 5.33: Development proposals potentially provide many opportunities for building in beneficial biodiversity or geological features as part of good design. When considering proposals, the Secretary of State should consider whether the applicant has maximised such opportunities in and around developments. The Secretary of State may use requirements or planning obligations where appropriate in order to ensure that such beneficial features are delivered.*
- *Paragraph 5.34: Many individual wildlife species receive statutory protection under a range of legislative provisions.*
- *Paragraph 5.35: Other species and habitats have been identified as being of principal importance for the conservation of biodiversity in England and Wales and therefore requiring conservation action. The Secretary of State should ensure that applicants have taken measures to ensure these species and habitats are protected from the adverse effects of development. Where appropriate, requirements or planning obligations may be used in order to deliver this protection. The Secretary of State should refuse consent where harm to the habitats or species and their habitats would result, unless the benefits of the development (including need) clearly outweigh that harm.*
- *Paragraph 5.36: Applicants should include appropriate mitigation measures as an integral part of their proposed development, including identifying where and how these will be secured. In particular, the applicant should demonstrate that:*
 - *during construction, they will seek to ensure that activities will be confined to the minimum areas required for the works;*
 - *during construction and operation, best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised (including as a consequence of transport access arrangements);*
 - *habitats will, where practicable, be restored after construction works have finished;*
 - *developments will be designed and landscaped to provide green corridors and minimise habitat fragmentation where reasonable;*

- *opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site landscaping proposals, for example through techniques such as the 'greening' of existing network crossing points, the use of green bridges and the habitat improvement of the network verge'.*

6.11.2 The NPS NN paragraphs relating to Biodiversity and Nature Conservation are:

- *'Paragraph 4.13: The applicant should seek the early advice of the appropriate Statutory Nature Conservation Body and provide the Secretary of State with such information as the Secretary of State may reasonably require, to determine whether or not the plan or project should proceed to the Appropriate Assessment stage of Habitats Regulation Assessment.*
- *Paragraph 4.14: Where a proposed plan or project is considered likely to have a significant effect on a habitats site, the applicant must provide sufficient information with the application to enable the Secretary of State to make an appropriate assessment of these likely effects in view of the site's conservation objectives. The assessment may consider the effect of any mitigation measures and the Statutory Nature Conservation Body must be formally consulted on the assessment and its advice considered. The applicant should also consider agreeing an Evidence Plan with the Statutory Nature Conservation Body to help determine the information required.*
- *Paragraph 4.15: Such plans or projects may only proceed if the assessment concludes they will not adversely affect the integrity of the site or, notwithstanding a negative assessment, there are no alternative solutions, and they must proceed for imperative reasons of overriding public interest. The applicant must demonstrate that they have sought advice from the Statutory Nature Conservation Body on whether any proposed compensation is appropriate to maintain the overall coherence of the National Sites Network. They must also show that the compensation is secured or provide an indication as to how it can be secured to maintain the overall coherence of the National Sites Network. Provision of such information will not be taken as an acceptance of adverse effects on integrity and if an applicant disputes the likelihood of adverse effects, it can provide this information without prejudice to the Secretary of State's final decision on the effects of the potential development on the habitats site. If, in these circumstances, an applicant does not supply information required for the assessment of a potential derogation, there will be no expectation that the Secretary of State will allow the applicant the opportunity to provide such information following the examination.*
- *Paragraph 4.16: During the pre-application stage, and without prejudice to the formal Habitats Regulation Assessment of the submitted plan or project, if the Statutory Nature Conservation Body*

gives an early indication that, irrespective of any anticipated mitigation measures, the proposed development is highly likely to lead to adverse effects on the integrity of one or more habitats sites, the applicant must include with their application such information required to assess a potential derogation under the Habitats Regulations .

- *Paragraph 4.17: Applicants should comply with all legal requirements, and any policy requirements set out in this NPS, on the assessment of alternatives. For example, current requirements include:*
 - *The Infrastructure Planning (Environmental Impact Assessment) 2017 Regulations requires projects with significant environmental effects to include an outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant's choice, taking into account the environmental effect:*
 - *There may also be other specific legal requirements for the consideration of alternatives, for example, under the Conservation of Habitats and Species Regulations 2017 (as amended) and Water Environment (Water Framework Directive) (England and Wales) Regulations 2017*
 - *There may also be policy requirements in this NPS, for example the flood risk sequential test and the assessment of alternatives for developments in National Parks, the Broads and Areas of Outstanding Natural Beauty (AONB) - where there is a policy or legal requirement to consider alternatives, the applicant should describe the alternatives considered in compliance with these requirements and in a proportionate manner.*
- *Paragraph 4.20: Biodiversity net gain is an approach to development that delivers measurable improvements for biodiversity by creating or enhancing habitats in association with developments. Applicants should therefore not just look to mitigate direct harms, but also identify and deliver appropriate opportunities for nature recovery and wider environmental opportunities for enhancements by providing net gains for biodiversity.*
- *Paragraph 4.21: Applicants should use the most appropriate version of the Department of Environment, Food and Rural Affairs (Defra) biodiversity metric (as advised by Defra) to calculate their biodiversity baseline and inform their biodiversity net gain outcomes, and to present this data as part of their application. Biodiversity net gain should be applied in conjunction with the mitigation hierarchy and does not change or replace existing environmental obligations.*
- *Paragraph 4.22: Biodiversity net gain can be delivered onsite or wholly or partially off-site and should also be set out within the application for development consent. When delivering biodiversity net gain off-site, developments should do this in a manner that best contributes to the achievement of relevant wider strategic outcomes, for example by*

increasing habitat connectivity or enhancing other ecosystem service outcomes. Reference should be made to any Local Nature Recovery Strategy (which should be the primary reference point for those delivering biodiversity net gain off-site) and other relevant national or local plans and strategies, such as green infrastructure strategies, used to inform Biodiversity net gain delivery.

- *Paragraph 4.23: A government Biodiversity Gain Statement will set out the concept for Biodiversity net gain for NSIPs. The Secretary of State will need to be satisfied that the biodiversity gain objective in any relevant biodiversity gain statement has been met.*
- *Paragraph 5.41: The applicant should consider the full range of potential impacts on ecosystems (including habitats and protected species) and provide environmental information proportionate to the likely impacts of the infrastructure on biodiversity and nature.*
- *Paragraph 5.42: The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests as well as consider how their proposal will deliver Biodiversity net- gain in line with the requirements in a Biodiversity Gain Statement, as set out in paragraphs 4.20 to 4.23 above.*
- *Paragraph 5.43: To avoid harm or disturbance in line with the mitigation hierarchy the applicant should demonstrate that:*
 - *developments are designed to avoid the risk of harm and to minimise the footprint of the development and/or to retain the site's important habitat features*
 - *developments are designed and landscaped to provide green corridors and minimise habitat fragmentation (for example using underpasses or green bridges to link habitats)*
 - *during construction, they will seek to ensure that activities will be confined to the minimum areas required for the works*
 - *during construction and operation, best practice will be followed to ensure that risk of disturbance or damage to species or habitats follows the mitigation hierarchy (including as a consequence of transport access arrangements). For example, plan for construction work to be carried out at specific times to avoid sensitive times and location, such as the breeding season for wild birds and lifecycles of migratory fish.*
- *Paragraph 5.44: If avoidance or reduction of harm is not possible, applicants should include appropriate mitigation measures, in line with the mitigation hierarchy, as an integral part of their proposed development, including identifying where and how these will be secured in the long term.*

- *Paragraph 5.45: If avoidance or bespoke mitigation measures are insufficient or not possible, as a last resort, appropriate compensation measures should be sought and implemented. For example, moving protected species out of the development site and where practicable, restore habitats after construction works have finished.*
- *Paragraph 5.46: The applicant should not just look to mitigate direct harms but should show how the project has taken advantage of opportunities to conserve and enhance biodiversity, having regard to any relevant Local Nature Recovery Strategy. Opportunities will be taken to enhance or expand existing habitats and create new habitats in accordance with biodiversity net gain requirements. Habitat creation, enhancement and management proposals should include measures for climate resilience, including appropriate species selection. Maintaining habitat connectivity is important for climate resilience and the biodiversity of ecological networks.*
- *Paragraph 5.47: Wider ecosystem services and benefits of natural capital should also be considered when designing enhancement measures in order to maximise multi-functional benefits whilst minimising land take. For example, this can be achieved through integration of Biodiversity net gain features within a sustainable drainage system; the use of green roofs and walls to harvest rainwater and ameliorate urban heating; or the restoration of rivers to reduce flood risk and provide attractive amenity areas.*
- *Paragraph 5.48: The Secretary of State should consider what appropriate requirements should be attached to any consent and/or in any planning obligations entered into to ensure that any necessary mitigation and compensatory measures are secured, delivered, and if necessary enforced, and that biodiversity improvements are registered in accordance with Biodiversity net gain requirements.*
- *Paragraph 5.49: The Secretary of State will need to take account of the advice provided to the applicant by Natural England and/or the Marine Management Organisation, as regards any necessary mitigation measures and whether Natural England and/or or the Marine Management Organisation has granted or refused, or intends to grant or refuse, any relevant licences, including protected species mitigation licences. In advance of the formal submission, applicants are encouraged to use Natural England's Letter of No Impediment Approach and engage with Natural England.*
- *Paragraph 5.50: The government's 25 Year Environment Plan marked a step change in ambition for wildlife and the natural environment. The Secretary of State should have regard to the aims and goals of the government's Environmental Improvement Plan, the United Nations Environmental Programme Convention on Biological Diversity of 1992 and any relevant measures and targets, such as the Environment Act 2021 targets. In doing so, the Secretary of State should also take*

account of the context of the challenge of climate change: failure to address this challenge will result in significant adverse impacts to biodiversity. The benefits of nationally significant low carbon transport infrastructure development may include benefits for biodiversity and geological conservation interests and these benefits may outweigh harm to these interests. However, the mitigation hierarchy will still need to be applied.

- *Paragraph 5.51: As a general principle, and subject to the specific policies below, development should, at first avoid significant harm to biodiversity and geological conservation interests, including through consideration of reasonable alternatives. If avoidance is not possible, mitigation needs to be considered (as set out in paragraphs 5.43 to 5.49 above). Where significant harm cannot be avoided or mitigated it should be compensated for as a last resort, with on-site mitigation being considered prior to off-site. The Secretary of State will give significant weight to any residual harm.*
- *Paragraph 5.52: In taking decisions, the Secretary of State should ensure that appropriate weight is attached to: designated sites of international, national, and local importance; irreplaceable habitats; protected species habitats; other species of principal importance for the conservation of biodiversity; local nature recovery strategies; and to biodiversity and geological interests within the wider environment.*
- *Paragraph 5.53: The most important sites for biodiversity in the UK are those identified and designated to meet the obligations of international biodiversity conventions, and which are afforded special protection by the Habitats Regulations. These sites are designated as Special Areas of Conservation and Special Protection Areas and are collectively known as Habitats Sites. The following should be given the same protection as sites legally protected by the Habitats Regulations: potential Special Protection Areas and possible Special Areas of Conservation, listed or proposed Wetlands of International Importance (Ramsar sites); and sites identified, or required, as compensatory measures for adverse effects on habitats sites.*
- *Paragraph 5.54: The Habitats Regulations set out a specific process (see paragraphs 4.12 to 4.16) to assess the likely implications for these sites from a proposed plan or project. To maintain the overall coherence of the National Site Network, such plans or projects may only proceed if the assessment concludes they will not adversely affect the integrity of the site or, in the case of a negative assessment, if there are no alternative solutions, and they must proceed for imperative reasons of overriding public interest with the necessary compensatory measures secured.*
- *Paragraph 5.55: Many Sites of Special Scientific Interest are also designated as sites of international importance and will be protected accordingly. Those that are not, or those features of Sites of Special*

Scientific Interest not covered by an international designation, are given a high degree of protection by the Wildlife and Countryside Act 1981. Most of the land that has been declared by Natural England as National Nature Reserves are also notified as Sites of Special Scientific Interest.

- *Paragraph 5.56: Where a proposed development on land within or outside a Site of Special Scientific Interest is likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments), development consent should not normally be granted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest. The Secretary of State is bound by the duty placed on all public bodies in section 28G of the Wildlife and Countryside Act 1981 to take reasonable steps, consistent with the proper exercise of their functions, to further the conservation and enhancement of the features by reason of which a site is of special scientific interest.*
- *Paragraph 5.57: Ancient woodland, ancient wood pastures and parkland, and ancient and veteran trees are irreplaceable habitats. Their long-standing presence, species and form serve as a rich cultural record of past management practices. Ancient and veteran trees are a valuable biodiversity resource for diversity of species and unique ecological conditions, once lost they cannot be recreated. Many ancient woodlands provide ecosystem services, for example, water and soil health, carbon storage, flood alleviation and pollution mitigation as well as providing public access, allowing people to make important contact with nature that helps to promote interest in the protection of these habitats, while delivering many health and wellbeing benefits. Keepers of Time, the government's policy for ancient and native trees and woodlands in England sets out the government's commitment to maintain and enhance the existing area of ancient woodland, maintain and enhance the existing resource of known ancient and veteran trees, excluding natural losses from disease and death, and to increase the percentage of ancient woodland in active management.*
- *Paragraph 5.58: The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and ancient or veteran trees unless there are wholly exceptional reasons (for example, where the public benefit would clearly outweigh the loss or deterioration of habitat) and a suitable compensation strategy exists.*

- *Paragraph 5.60: Sites of regional and local biodiversity and geological interest, which include Local Geological Sites, Local Nature Reserves and Local Wildlife Sites and Nature Improvement Areas, are areas of substantive nature conservation value and make an important contribution to ecological networks and nature's recovery. They can also provide wider benefits including contributing to the quality of life and the well-being of the community, and in supporting research and education. The Secretary of State should give due consideration to any such harm to the detriment of biodiversity features of regional or local importance which it considers may result from a proposed development. However, given the need for new infrastructure, these designations should not be used in themselves to refuse development consent, nevertheless the mitigation hierarchy applies to these sites.*
- *Paragraph 5.61: Development proposals provide many opportunities for incorporating beneficial biodiversity or geological features as part of good design. Nature contributes to the quality of a place, to people's quality of life, the attractiveness of active travel routes and movements, and it is a critical component of well-designed development. Road and rail projects can also play a part in meeting government tree planting and nature recovery targets through partnership working with adjoining landowners, delivering biodiversity, carbon offsetting and social benefits.*
- *Paragraph 5.62: Consideration should be given to the impacts on, and improvement to, habitats and species in, around and beyond developments, for wider ecosystem services and natural capital benefits, relevant to the local area and communities. The value of linear infrastructure and its footprint in supporting biodiversity and connecting habitats ecosystems should also be taken into account. Local Nature Recovery Strategies will identify opportunities to create or enhance habitat likely to have greatest benefit to biodiversity and wider environmental improvement. Consideration should also be given to national priorities and targets, such as reduced flood risk, improved air or water quality, and increased access to natural greenspace, or tree planting, woodland creation and protecting long established woodlands.*
- *Paragraph 5.63: When considering proposals, the Secretary of State should consider whether the applicant has maximised such opportunities and enhancement of wider biodiversity, in and around developments. The Secretary of State may use requirements or planning obligations where appropriate in order to ensure that such beneficial features are delivered, and ongoing management and maintenance secured.*
- *Paragraph 5.64: Many individual wildlife species receive statutory protection under a range of legislative provisions. Some species and habitats have been identified as being of principal importance for the*

conservation of biodiversity in England and Wales and therefore requiring conservation action. As a public authority, the Secretary of State is bound by the duty in by section 40 of the Natural Environment and Rural Communities Act 2006 (as amended by section 102 of the Environment Act 2021) to periodically consider what action the authority can take, consistent with the exercise of its functions, to further the conservation and enhancement of biodiversity. In doing so the Secretary of State may consider the impact on species or habitats listed under Section 41 of the Act. The Secretary of State should ensure that applicants have taken measures to ensure these species and habitats are protected from the adverse effects of development by using requirements, planning obligations, or licence conditions. The Secretary of State should refuse consent where harm to the habitats or species and their habitats would result, unless the benefits of the development (including need) clearly outweigh that harm’.

Accordance with the NPS NN and the draft NPS NN

Sites of International Nature Importance

- 6.11.3 The most important sites for biodiversity in the UK are those identified and designated to meet the obligations of international biodiversity conventions, and which are afforded special protection by the Habitats Regulations. These sites are designated as Special Areas of Conservation (SAC) and Special Protection Areas (SPA). There are none of these sites within the Order Limits but the Rochdale Canal SAC and SSSI is located close to the ARN to the east of the Scheme. Affected roads are those where the traffic level changes are likely to result in a change in road traffic related air pollution concentration, locations beyond the affected roads are unlikely to result in a significant impact, The definition of the affected road network is further explained in Chapter 5, Air Quality of the ES (TR010064/APP/6.1).
- 6.11.4 The location of this SAC is shown on Figure 8.13.1, Location of European Sites of Appendix 8.13 Habitats Regulations Assessment (HRA) Report of the ES Appendices (TR010064/APP/6.3).
- 6.11.5 Likely significant effects on internationally, nationally and locally designated sites, habitats and species are considered in Section 8.10 of Chapter 8 Biodiversity of the ES (TR010064/APP/6.1) which concludes no significant adverse effects on any of these receptors.
- 6.11.6 The HRA Report provided at Appendix 8.13, of the ES Appendices (TR010064/APP/6.3) also assessed likely significant effects on internationally designated sites.
- 6.11.7 A Stage 1 Screening Assessment concluded that likely significant effects could not be discounted for the Rochdale Canal SAC and SSSI, when considered alone or in-combination with other plans and projects. This meant that a Stage 2 Statement to Inform an Appropriate Assessment must be carried out. This concluded that the Scheme will not adversely affect the integrity of the Rochdale Canal SAC and SSSI during its

construction or operational phases, either alone or in combination with other plans or projects and therefore Stage 2 of the HRA process is not required.

6.11.8 The Applicant sought the advice of Natural England in producing the HRA through the statutory consultation in February 2023. This advice has been followed by progressing the HRA to Stage 2 appropriate assessment. Subsequent consultation with Natural England has been undertaken throughout 2023 and early 2024 under a Discretionary Advice Service contract and the Applicant has had due regard to Natural England's feedback in completing the assessment.

6.11.9 Appendix 8.13: Habitats Regulations Assessment Report of the ES Appendices (TR010064/APP/6.3) has been shared with Natural England for their review and feedback and Natural England have confirmed that they agree with the conclusions of the HRA and have no further comments.

Sites of National and Local Importance

6.11.10 There are no other SSSIs within 2km of the Scheme, however as noted above, Rochdale Canal SAC and SSSI is located within 200m of the ARN. Rochdale Canal SAC and SSSI do not need to be assessed further following the completion of the Stage 2 Statement to Inform an Appropriate Assessment, as set out in Appendix 8.13, HRA Report of the ES Appendices (TR010064/APP/6.3), as this concluded that their integrity will not be adversely affected by the Scheme.

6.11.11 As shown on Figure 8.1.2, Statutory and Non Designated Sites of Appendix 8.1 of the ES Appendices (TR010064/APP/6.3), although located over 2km away from the Order Limits near Little Lever and Kearsley there is potential for adverse effects on Ashclough SSSI, Nob End SSSI and Local Nature Reserve and Moses Gate LNR. This is because of the hydrological connectivity to the Order Limits via the Rivers Irwell and Roch and associated tributaries. Therefore, these sites could be impacted if surface water became polluted as a result of the Scheme.

6.11.12 As shown on Figure 8.12.2, BNG Metric 3.1 Rivers and Streams Arrangements of Appendix 8.12.2 of the ES Appendices (TR010064/APP/6.3), Castle Brook watercourse runs adjacent to the Order Limits, before merging with Hollins Brook which flows through Hollins Vale LNR and SBI (but not Hollins Plantation SBI which also overlaps Hollins Vale LNR). They are located just outside the northern extent of the Order Limits west of the M66 as shown on Figure 8.1.2, Statutory and Non Designated Sites of Appendix 8.1 of the ES Appendices (TR010064/APP/6.3).

6.11.13 As shown on Figure 8.12.2, BNG Metric 3.1 Rivers and Streams Arrangements of Appendix 8.12.2 of the ES Appendices (TR010064/APP/6.3), the watercourse 'Blackfish' is located partially within the Order Limits. Blackfish merges with the River Irk which flows through Blackley Forest LNR. There is also the potential for pollution to these sites

if surface water became contaminated as a result of the Scheme. The mitigation measures set out below would therefore reduce this risk.

Minimising the Risk of Water Pollution to Sites of National and Local Importance

6.11.14 Appendix H, Outline Surface Water and Ground Management Plan of the First Iteration EMP (TR010064/APP/6.5) includes the following measures to avoid pollution of surface water during construction:

- Temporary site drainage will be utilised to manage the risk due to heavy rainfall or flood events during construction works. Temporary drainage systems will be sized to provide an appropriate standard of flood protection and assessed individually.
- Drainage ditches with check dams and sediment traps will be installed across site in appropriate locations to reduce the likelihood of surface water collecting in work areas.
- Pre-earthworks drainage will be installed where appropriate to intercept and accommodate shallow groundwater.
- Outfalls from temporary drainage systems will be to local surface water bodies.
- Sediment barriers will be installed adjacent to and within temporary drainage ditches and nearby watercourses, as applicable, to reduce the likelihood of flooding.
- Minimising stockpile of materials and locating more than 10m away from any watercourses, attenuation ponds site drainage

6.11.15 The potential for pollution from surface water during operation will be mitigated through sediment forebays in drainage attenuation ponds which would intercept pollutants, vegetation in swales to slow the rate of surface water discharge and filters drains and silt traps (these are outlined in more details at section 6.16 of this Case for the Scheme).

6.11.16 Appendix 13.2, Water Quality Assessment Report of the ES Appendices (TR10064/APP/6.3) also includes an assessment of spillage risk. This assessment has concluded that the risk of a serious chemical spillage from all road catchments is low. Isolation chambers fitted with penstock valves will be located at the downstream end of the Scheme's drainage systems. This would allow isolation of the pollutants within the highway drainage system thereby avoiding pollution to receiving watercourses.

Minimising the Risk of Air Pollution and Dust to Sites of National and Local Importance

6.11.17 As shown on Figure 8.1.2, Statutory and Non Designated Sites of Appendix 8.1 of the ES Appendices (TR010064/APP/6.3), Hazlitt Wood SBI is within 50m of the southern extent of the Order Limits, west of the M60. Therefore, it is assessed as being at high risk of dust deposition.

6.11.18 Appendix A, Outline Air Quality and Dust Management Plan included as part of the First Iteration EMP (TR010064/APP/6.5) includes the following measures to limit the impact of dust during construction which will minimise the potential pollution risks to nature conservation sites:

- Ensure an adequate water supply on the site for effective dust/particulate matter suppression should it be required. Use non-potable water where practicable and appropriate for dust suppression where available.
- Minimise drop heights from loading shovels, and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- Where required and appropriate use enclosed chutes and covered skips.
- Avoid dry sweeping of areas if causing visible dust emissions and the area is within 350m of human receptors.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression should it be required. Use non-potable water where practicable and appropriate for dust suppression where available.
- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Implement a wheel washing system with rumble grids or other suitable methods to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable.
- Inspect haul roads, including crossing points on the existing highway, for integrity and instigate any necessary repairs to the surface as soon as reasonably practicable.
- Install hard surfaced haul roads, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.

- The movement of construction traffic around the site will be kept to the minimum reasonable for the effective and efficient operation of the site and construction of the Scheme.
- The use of diesel or petrol powered generators will be reduced by using mains electricity, hybrid generators, hydrogen generators, solar panels or battery powered equipment where reasonably practicable.

6.11.19 With these mitigation measures in place, it is unlikely that there would be any significant adverse effects resulting from construction dust on Hazlitt Wood SBI.

6.11.20 All other local nature conservation areas in the surrounding area would not experience any negative effects, including from nitrogen deposition.

Protected Species and Habitats

6.11.21 Pre-construction surveys for bats will be undertaken for all trees to be felled to enable construction of the Scheme, and all trees within a radius of potential disturbance effects depending on the type of construction activity proposed but up to a maximum distance of 50m. Should surveys confirm the presence of roosting bats, a licence will be sought from Natural England (to ensure legal compliance) and felling operations / construction will be conducted in accordance with a method statement which will require exclusion of roosting features, soft felling, and timing of works to avoid sensitive seasons for bats as appropriate, as set out in commitment B11 of the REAC contained within the First Iteration EMP (TR010064/APP/6.5).

6.11.22 Bat boxes will be provided to mitigate for the loss of potential roost features with suitability to support roosting bats in the future. Boxes will be provided at a ratio of 2:1 for every tree lost to account for variance in bat roosting preferences. Boxes will comprise a range of types to also account for variance in bat roosting preferences.

6.11.23 Where impacts from habitat lost as a result of construction of the Scheme cannot be avoided, mitigation will be provided through the provision of newly created habitat. This has been designed so that connectivity is maintained within the wider landscape.

6.11.24 Creation of new habitat within landscaping and mitigation areas has been designed to enhance bat foraging opportunities, for example through the provision of native flowering trees and shrubs that will attract invertebrate prey species.

6.11.25 As set out in the Consents and Agreements Position Statement (TR010064/APP/3.3), the Applicant will use Natural England's District Level Licencing scheme to mitigate the effects on Great Crested Newts. The Applicant is in discussion with the Natural England District Level Licencing team to secure an Impact Assessment and Conservation Payment Certificate (IACPC). A provisional IACPC has been agreed and is currently awaiting countersignature by Natural England (see Appendix 8.15: GCN District Level Licence Provisional Impact Assessment &

Conservation Payment Certificate of the Environmental Statement appendices (TR010064/APP/6.3)). The Applicant is working with Natural England and will submit the countersigned IACPC to the ExA at the earliest opportunity and will provide updates as appropriate through the examination. No further mitigation is proposed.

- 6.11.26 A licence will be required to interfere with (close) badger setts. A draft badger licence has been prepared and agreed with Natural England. The Applicant is seeking a Letter of No Impediment (LONI) from Natural England with respect to badger. Further details are included in the Consents and Agreements Position Statement (TR010064/APP/3.3).
- 6.11.27 Appropriate stand-off distances will be implemented around watercourses where suitable, using physical barriers during construction works to protect aquatic plant and invertebrate species from destruction and disturbance.

Impact on Hedgerows, Priority Habitats and Ancient Woodland

- 6.11.28 During site clearance there will be a loss of 0.88km of hedgerows of the 2.56km assessed within the Order Limits. This will be mitigated through the creation of 1.48km of new hedgerows.
- 6.11.29 There will be no direct loss of lowland fens, lowland acid grassland or Ancient Woodland. No veteran trees or ancient woodland are impacted by the Scheme, either directly or indirectly. The assessment in Appendix 8.2, Designated Sites Air Quality Assessment of the Environmental Statement Appendices (TR010064/APP/6.3) concludes that there will be no significant effect on any veteran or ancient trees.

Biodiversity Net Gain

- 6.11.30 The Environment Act 2021 was given Royal Assent on 9 November 2021. This Act contains provisions for the protection and improvement of the environment, including biodiversity. The BNG objective is that the biodiversity value attributable to a scheme must exceed the pre-development value by at least 10%. This post-scheme biodiversity value may comprise onsite habitat, any offsite biodiversity gain and any biodiversity credits. The overall effect has to be a net gain offset against any harm to biodiversity.
- 6.11.31 Following a transition period, the Environment Act 2021 will mandate NSIPs in England consented through the 2008 Act to deliver an 0% BNG. This will be measured using a version of Natural England's Biodiversity Metric adopted as the statutory Metric once mandatory BNG comes into force. The Environment Act 2021 will be underpinned by secondary legislation which was issued by the Department of Levelling Up and Communities in November 2023. It is likely that the mandated minimum of 10% BNG will be a requirement for all NSIPs which are not yet in examination by November 2025. The Government intends to consult on a biodiversity gain statement in March 2024 and publish a final version, alongside further NSIP guidance, in September 2024. .

- 6.11.32 Whilst there is no current legal requirement for the Scheme to provide 10% BNG, the Applicant has been proactive in applying the Biodiversity Metric to assess measurable changes in biodiversity. The Scheme aims to provide a net gain in biodiversity. Therefore, the Scheme will deliver BNG as set out in Appendix 8.12, Biodiversity Net Gain Report, of the ES Appendices (TR0010064/APP/6.3).
- 6.11.33 Natural England has published a Biodiversity Metric which is a biodiversity accounting tool to be used for the purposes of calculating BNG.
- 6.11.34 The Biodiversity Metric 4.0, dated 15 December 2025, will be used by Natural England for calculating BNG. However, Natural England advice is that the same version of the Biodiversity Metric should be used throughout the duration of the Scheme. This is because using an updated version of the tool is not simply a case of using the same numbers in a different calculator tool, as the advice regarding how the data is compiled and applied differs between different versions. As such, results from one version to another cannot be compared. The Applicant has continued to use Biodiversity Metric 3.1, which is the version of the tool first used to calculate BNG for the Scheme.
- 6.11.35 The baseline for BNG is assessed on-site and would be delivered within the Order Limits. No off-site BNG is proposed. Figure 2.3, the Environmental Masterplan of the ES Figures (TR010064/APP/6.2) visually presents the BNG.
- 6.11.36 The Applicant has sought to maximise biodiversity delivery, with a forecast of an overall net gain of 3.68% for habitats and 58.5% for hedgerows. This includes habitat retention, creation and enhancement to woodland and grassland habitats. Specific areas of enhancement include:
- Particular attention has been given to the retention of existing vegetation.
 - Hedgerows and woodland in the vicinity of the Northern Loop.
 - Linear tree belts adjacent to Prestwich Heys Football Club sports ground.
 - Hedgerows and vegetation along Mode Hill Lane, Egypt Lane and Corday Lane.
 - Linear tree belts along the verge of the M60 northbound to westbound diverge.
 - An important hedgerow and highways woodland belt west of Pond 5, near Heaton Park.
 - A narrow belt of trees and shrubs along the M60 verge adjoining Kenilworth Road.
- 6.11.37 Planting and seeding will use native species as appropriate to the location and will be overseen by Ecologists and Arboriculturists. New road verges

will support low-nutrient grassland habitats which are of high ecological value. No topsoil will be applied to these areas which will be sown with a commercial and locally native seed mix appropriate to the geology. The habitat will be managed to maximise ecological delivery. On the inherently linear road verges of the Scheme, the creation of low-nutrient grasslands will provide an important wildlife corridor, as under these conditions native wildflowers have space to germinate and thrive amid reduced competition.

- 6.11.38 Connectivity of habitats will be maximised through provision of new hedgerow planting and planting to improve existing hedgerows in areas adjacent to the ecological areas, along highway boundaries and around attenuation ponds. New hedgerow tree planting will also be provided to strengthen new and existing hedgerows. Aquatic and marginal planting would be provided at the five attenuation ponds and swales to improve biodiversity. Appendix N, Outline Landscape and Ecology Masterplan is also provided in the First Iteration EMP (TR010064/APP/6.5).

Concluding Assessment

- 6.11.39 The nearest site of International and National Importance to the Scheme is the Rochdale Canal SAC and SSSI. As reported in Appendix 8.13, HRA Report of the ES Appendices (TR010064/APP/6.3), no likely significant effects on this site is anticipated, when considered alone or in combination with other plans and projects.
- 6.11.40 The Applicant sought the advice of Natural England in producing the HRA through the statutory consultation in February 2023. This advice has been followed by progressing the HRA to Stage 2 appropriate assessment. Subsequent consultation with Natural England has been undertaken throughout 2023 under a Discretionary Advice Service contract and the Applicant has had due regard to Natural England's advice feedback in completing the assessment. Appendix 8.13: Habitats Regulations Assessment Report of the ES Appendices (TR010064/APP/6.3) has been shared with Natural England for their review and feedback and Natural England have confirmed that agree with the conclusions of the HRA and have no further comments. The findings of the HRA have, therefore, taken into account the advice received from Natural England, as required by the NPS NN and draft NPS NN.
- 6.11.41 There are also no significant impacts on other sites of national importance that are over 2km away from the Scheme.
- 6.11.42 The assessments presented in Chapter 8, Biodiversity of the ES (TR010064/APP/6.1) takes into account the potential for impacts on LNRs and LWSs (known locally as SBIs). Hazlitt Wood SBI is the nearest SBI as it is immediately adjacent to the Order Limits and several others are located within 2km of the Order Limits. The assessment concludes that there will be no significant effects on LNR and SBI due to construction or operation of the Scheme.

- 6.11.43 Overall, it is considered that with mitigation, the Scheme will not lead to adverse effects on International, National or Local Nature Conservation Sites in accordance with both the NPS NN and the draft NPS NN.
- 6.11.44 The draft NPS NN has introduced a new requirement to provide 10% BNG from November 2025. The Applicant is providing BNG although this is not currently mandated for NSIPs. Landscape planting has been designed to maximise biodiversity by improving the value of habitat and improving wildlife connectivity by incorporating linear habitats such as hedgerows and lines of trees, linking with retained woodland and hedgerows where feasible. The BNG will improve the overall ecological value of the land within the Order Limits.

6.12 Climate Change Adaptation

Key Policies of the NPS NN and the draft NPS NN

- 6.12.1 Relevant paragraphs from the NPS NN are:
- *Paragraph 4.40: New national networks infrastructure will be typically long-term investments which will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the impacts of climate change when planning location, design, build and operation. Any accompanying environment statement should set out how the proposal will take account of the projected impacts of climate change.*
 - *Paragraph 4.41: Where transport infrastructure has safety-critical elements and the design life of the asset is 60 years or greater, the applicant should apply the UK Climate Projections 2009 (UKCP09) high emissions scenario (high impact, low likelihood) against the 2080 projections at the 50% probability level.*
 - *Paragraph 4.42: The applicant should take into account the potential impacts of climate change using the latest UK Climate Projections available at the time and ensure any environment statement that is prepared identifies appropriate mitigation or adaptation measures. This should cover the estimated lifetime of the new infrastructure. Should a new set of UK Climate Projections become available after the preparation of any environment statement, the Examining Authority should consider whether they need to request additional information from the applicant.*
 - *Paragraph 4.43: The applicant should demonstrate that there are no critical features of the design of new national networks infrastructure which may be seriously affected by more radical changes to the climate beyond that projected in the latest set of UK climate projections. Any potential critical features should be assessed taking account of the latest credible scientific evidence on, for example, sea level rise (e.g. by referring to additional maximum credible scenarios such as from the Intergovernmental Panel on Climate Change or*

Environment Agency) and on the basis that necessary action can be taken to ensure the operation of the infrastructure over its estimated lifetime through potential further mitigation or adaptation.

- *Paragraph 4.44: Any adaptation measures should be based on the latest set of UK Climate Projections, the Government's national Climate Change Risk Assessment and consultation with statutory consultation bodies. Any adaptation measures must themselves also be assessed as part of any environmental impact assessment and included in the environment statement, which should set out how and where such measures are proposed to be secured'.*

6.12.2 Relevant paragraphs from the NPS NN are:

- *'Paragraph 4.40: New national networks infrastructure will be typically long-term investments which will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the impacts of climate change when planning location, design, build and operation. Any accompanying environment statement should set out how the proposal will take account of the projected impacts of climate change.*
- *Paragraph 4.32: Article 7 of the Paris Agreement establishes a global goal on adaptation – of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change in the context of the temperature goal of the Agreement. It aims to significantly strengthen national adaptation efforts, including through support and international cooperation.*
- *Paragraph 4.33: To support planning decisions, the government produces a set of UK Climate Projections and has developed a statutory National Adaptation Programme. In addition, the government's Adaptation Reporting Power, invites authorities (a defined list of public bodies and statutory undertakers, including National Highways, Network Rail and the Office for Rail and Road) to assess the risks presented by a changing climate, include policies and actions to address climate risk, and set out progress made.*
- *Paragraph 4.34: In certain circumstances, measures implemented to ensure a scheme can adapt to climate change may give rise to additional impacts. For example, as a result of protecting against flood risk, there may be consequential impacts on coastal change (see paragraphs 5.95 to 5.110). If this happens, the Secretary of State should consider the impact of the latter in relation to the application as a whole and the impacts guidance set out in chapter 5 of this NPS.*
- *Paragraph 4.35: In preparing measures to support climate change, adaptation applicants should consider whether nature-based solutions could provide a basis for such adaptation. In addition to avoiding further greenhouse gas emissions when compared with some more*

traditional adaptation approaches, nature-based solutions can also result in biodiversity benefits as well as increasing absorption of carbon dioxide from the atmosphere (see also paragraphs 5.170 to 5.194 on the role of green infrastructure).

- *Paragraph 4.36: New national networks infrastructure will typically be a long-term investment and will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the direct (e.g. flooding of road or rail infrastructure) and indirect (e.g. flooding of other parts of the road or rail network) impacts of climate change when planning the location, design, build, operation and maintenance. The Secretary of State will need information on how the proposal will take account of the projected impacts of climate change and remain resilient.*
- *Paragraph 4.37: The Secretary of State should be satisfied that applications for new national networks infrastructure have taken into account the potential direct and indirect impacts of climate change. This should include using the latest UK Climate Projections and associated research and expert guidance (such as the Environment Agency's Climate Change Allowances for Flood Risk Assessments) applicable at the time the environmental assessment was prepared as part of their Development Consent Order application, to ensure they have identified mitigation or adaptation measures. This should cover the estimated lifetime of the new infrastructure, with a high level of climate resilience built-in from the outset. The applicant should also be able to demonstrate how proposals can be adapted over their predicted lifetimes to remain resilient to a credible maximum climate change scenario. Should a revised set of UK Climate Projections or associated research be applicable after the preparation of the environmental assessment, the Examining Authority should consider whether they need to request further information from the applicant.*
- *Paragraph 4.38: The Secretary of State should be satisfied that there are no features of the design of new national networks infrastructure critical to its safety or operation which may be seriously affected by more radical changes to the climate. Beyond that projected in the latest set of UK climate projections and taking account of the latest credible scientific evidence on, for example, sea level rise. The Secretary of State should also be satisfied that necessary action can be taken to ensure the operation of the infrastructure over its estimated lifetime.*
- *Paragraph 4.39: Any adaptation measures should be based on the latest set of UK Climate Projections, the government's latest UK Climate Change Risk Assessment, when available and in consultation with the Environment Agency's Climate Change Allowances for Flood Risk Assessments. Any adaptation measures must themselves also*

be assessed as part of any environmental assessment, which should set out how and where such measures are proposed to be secured.

- *Paragraph 4.40: Adaptation measures should be required to be implemented at the time of construction where necessary and appropriate to do so. However, where they are necessary to deal with the impact of climate change, and that measure would have an adverse effect on other aspects of the project and/or surrounding environment (for example coastal processes), the Secretary of State may consider requiring the applicant to ensure that the adaptation measure could be implemented should the need arise, rather than at the outset of the development (for example reserving land for future extension or increasing height of existing, or requiring new, sea walls). In these circumstances, the applicant should make a case to justify implementing adaptation measures later, set out clearly how the design could be adapted and have mechanisms in place (such as Development Consent Order requirements) for monitoring and implementation of these future adaptation measures’.*

Accordance with the NPS NN and the draft NPS NN

- 6.12.3 As required by paragraphs 4.37 and 4.39 of the draft NPS NN, the latest UK Climate Change Projections (UKCP18) have been used to understand possible changes in climate over the lifetime of the Scheme (i.e. up to the 2080s). The EIA process has therefore considered the effects of possible future changes in climate over a 60-year appraisal period. The potential impacts of these climatic changes on the Scheme is assessed in Chapter 14 Climate, Section 14.10 of the ES (TR010064/APP/6.1).
- 6.12.4 In accordance with paragraphs 4.36- 4.40 of the draft NPS NN, extensive measures are embedded within the Scheme to reduce the vulnerability to future changes in climate as described in Chapter 14, Climate of the ES (TR010064/APP/6.1). These include:
- The highway drainage system is designed with allowances for climate change in line with the latest national Environment Agency Climate Change Guidance (Environment Agency, 2022).
 - Edge of pavement drains will mitigate the risk of standing water and flooding of the carriageway areas. The most appropriate drainage type would be selected to allow for ground water interception.
 - The road surface is designed to reduce the risk of skidding caused by increased rainfall, especially for high-risk areas.
 - Large trees will be planted at least 9m from the edge of carriageway, medium trees at least 7m from the edge of carriageway and shrubs at least 4.5m from edge of the carriageway, thereby limiting potential damage caused by the accelerated growth of tree roots.

- Where widening will be undertaken, the design approach will consider requirements to maintain drainage continuity between the existing carriageway and the widening.
- Measures which have been or will be taken to mitigate climate related impacts on structures (including embankments, earthworks and bridges) are:
 - A drainage blanket will be installed on a portion of the route around the Northern Loop to aid drainage of the formation and improve slope stability following heavy rainfall.
 - Retaining structures, earthworks and embankment slopes will be designed for the worst-case groundwater conditions considering climate change.
 - Positive drainage measures (i.e. measures which encourage water to drain away from an area rather than pooling) will be installed behind all retaining walls with accessible maintenance rodding points. Weepholes will also be provided as an additional drainage measure.
 - Drainage systems will be installed to prevent water build-up at toes of slopes and erosion protection measures will be installed where risk of erosion of the slope surface could lead to shallow slip failures.
 - Raking drains will be installed if groundwater is required to be lowered to increase slope stability.
 - Adequate long and crossfalls will be provided on all new bridge decks and positive drainage will be installed in the form of combined bridge deck drainage units to prevent build-up of water over the deck.
 - Sub-surface deck drainage systems will be installed on top of deck waterproofing systems at low points adjacent to deck joints to collect and dispose of seeping water through the surfacing material.
 - Embankments will be designed from slope-stability analysis using site specific soil parameters and compacted and constructed in line with best practice including alignment with DMRB standards.
 - Water filled tension cracks that could have an impact on retaining wall or slope stability will be considered in the detailed design to improve slope stability.

- The bridges are designed as fully integral structures where practicable, meaning there are no bridge bearings or deck movement joints, which may be impacted (i.e. expand) as a result of increases in temperature.
- Temperature effects in the structure will be taken into account through the soil and structure interaction.
- Loading due to wind actions will be in accordance with using partial safety factors which takes account of climate change and the location and local topography of individual gantry sites.
- Measures which have been or will be taken to mitigate climate related impacts on drainage systems include:
 - Additional storage capacity through sediment forebays at attenuation ponds that will allow sediment to settle out from surface water runoff caused by periods of increased precipitation or more intense rainfall events. Gullies and catchpits forming part of the surface water drainage systems will also provide further additional silt-trapping capacity at the attenuation ponds.
 - The drainage design will include accessible sediment traps (“catchpits”) that will be regularly cleared. Catchpits will have sumps where silt can be trapped and more easily removed than manholes.
 - Attenuation ponds will be designed to include a pool of water at the base of the pond (to create a wetland) that will retain the operational functionality of the attenuation ponds (i.e. so that vegetation is not lost during hot and dry periods and the treatment capacity of SuDS reduced).
 - Embankments will be compacted and grassed, and topsoil retention systems will be used, if deemed necessary, in order to mitigate the effects of lower summer rainfall and more frequent drought events and dry spells on the SuDS.
- Measures which have been or will be taken to mitigate climate related impacts on road technology and street furniture (e.g. signs, signals and lighting) include:
 - Cabinet and equipment housings are designed to mitigate and reduce water ingress during periods of increased precipitation and more intense rainfall events.
 - The Scheme design will include the specification of suitable Ingress Protection ratings for both feeder pillars and luminaires to protect from water ingress during periods of increased precipitation and more intense rainfall events.

- Cables will be specified correctly including a medium density polyethylene (MDPE) sheath where there is a risk of being located in water, particularly during periods of increased precipitation and more intense rainfall events.
- Electrical equipment will be protected against main electrical supply surge and lightning current by surge protection devices.
- For feeder pillar locations the design will ensure there is sufficient free space to dissipate heat and passive cooling as required, particularly during periods of increased temperatures and periods of excessive temperatures, such as heat waves and hot spells.
- Luminaires (bulbs/lamps) selected for the Scheme design are tested to withstand heat in extreme weather climates equivalent to those experienced in the United Arab Emirates.
- The lighting design includes the use of LED units with breather glands to remove heat to maintain a 'constant ambient temperature', keeping the heat-sink free of debris which is essential in keeping the LED within the required temperature range, particularly during periods of increased temperatures and periods of excessive temperatures, such as heat waves and hot spells.
- Measures which have been or will be taken to mitigate climate related impacts on landscaping, include:
 - The landscape design will futureproof the Scheme in terms of climate change as well as in terms of pests and diseases by adhering to best practice. This will include diversifying planting species as much as practicable, including using drought tolerant species, whilst still having regard to the local character, and generally planting only native species.
 - In terms of increased future flood risk, the landscape design will futureproof the Scheme by including species tolerant of flooding, such as willow and alder, on floodplains and next to watercourses.

Concluding Assessment

- 6.12.5 In accordance with the NPS NN and the draft NPS NN, the Scheme design has used the most recent set of climate change projections and incorporated solutions for greater and more intense rainfall, more extreme temperatures. It has incorporated nature-based solutions into the design, in accordance with paragraph 4.35 of the draft NPS NN.
- 6.12.6 This reduces the Schemes vulnerability to future changes in weather patterns, extreme temperatures, storms and more intense rainfall. For example, the lighting strategy is designed to withstand temperatures equivalent to those experienced in the United Arab Emirates.

- 6.12.7 Overall, the Scheme is designed to meet the requirements of the NPS NN and the draft NPS NN, by incorporating resilience and adaptability to future changes in the climate.

6.13 Greenhouse Gas Emissions

Key Policies of the NPS NN and the draft NPS NN

- 6.13.1 The NPS NN paragraphs predominantly relate to Climate Change which is assessed above. The draft NPS NN introduces new paragraphs and requirements for NSIPs regarding the need to reduce and minimise Greenhouse Gases:

- *‘Paragraph 5.29: A whole life carbon assessment should be used to measure greenhouse gas emissions at every stage of the proposed development to ensure that emissions are minimised as far as possible as we transition to net zero. This includes the construction, maintenance, operation and use of the asset across its entire lifecycle. This is critical at early stages of project planning, for example, the conception stage, because the ability to reduce whole life carbon emissions is increasingly more limited as the project passes through detailed design and enters construction.*
- *Paragraph 5.30: All proposals for national network infrastructure projects should include a whole life carbon assessment at critical stages in the project lifecycle, for example the submission of a major business case. This should be conducted according to the guidance, standards and methodologies set out in Transport Appraisal Guidance Unit A3. Also refer to the Environmental Assessment at paragraphs 4.10 to 4.11 for more information about cumulative assessment.*
- *Paragraph 5.31: Having regard to current knowledge, a carbon management plan should be produced as part of the Development Consent Order submission and include:*
 - *an explanation of the steps that have been taken to drive down the climate change impacts at each of those stages*
 - *how operational emissions and, where applicable, emissions from maintenance activities, have been reduced as much as possible through the application of best available technology for that type of technology (recognising that in the case of road projects while the developer can estimate the likely emissions from road traffic, it is not solely responsible for controlling them)*
 - *whether and how any residual carbon emissions will be (voluntarily) offset or removed using a recognised framework*
 - *where there are residual emissions, the level of emissions and the impact of those on national and international efforts to limit climate change, both alone and where relevant in combination with other*

developments at a regional or national level, or sector level, if statutory sectoral targets are developed and come into force

- *Paragraph 5.32: Applicants should look for opportunities within the design of the proposed development to embed nature-based or technological solutions to mitigate, capture or offset the emissions of construction.*
- *Paragraph 5.33: Steps taken to minimise, capture and offset emissions in design and construction, should be set out in a Greenhouse Gas Reduction Strategy, secured under the Development Consent Order. This Strategy could include, for example, mitigation through woodland creation on or adjacent to the site and registered with the Woodland Carbon Code, contributing significantly to offsetting residual emissions. Applicants may wish to refer to the Institute of Environmental Management and Assessment Greenhouse Gas Management Hierarchy guidance when drafting their Greenhouse Gas Reduction Strategy.*
- *Paragraph 5.34: The Secretary of State must be satisfied that the applicant has as far as possible assessed the greenhouse gas emissions at all stages of the development.*
- *Paragraph 5.35: S.1(1) of the Climate Change Act 2008 reflects and puts into effect the UK's Nationally Determined Contributions as set out in the Paris Agreement and sets out that the carbon budgets are the mechanism by which the net zero target is to be achieved. Consequently, it can reasonably be concluded that an applicant who assesses the carbon impacts of its scheme against the carbon budget is to be taken also to have assessed the carbon impacts of the scheme against the net zero target in the Climate Change Act 2008 and the UK's Nationally Determined Contributions, where the carbon budget is consistent with the Climate Change Act 2008 carbon target and the Nationally Determined Contributions.*
- *Paragraph 5.36: The Secretary of State should be content that the applicant has taken all reasonable steps to reduce the total greenhouse gas emissions from a whole life carbon perspective. The Secretary of State should also give positive weight to projects that embed nature-based or technological processes to mitigate or offset the emissions of construction and within the proposed development. However, given the important role national network infrastructure plays in supporting the process of economy wide decarbonisation, the Secretary of State accepts that there are likely to be some residual emissions from construction of national network infrastructure.*
- *Paragraph 5.37: Operational greenhouse gas emissions from some types of national network infrastructure cannot be totally avoided. Given the range of non-planning policies aimed at decarbonising the transport system, government has determined that a net increase in*

operational greenhouse gas emissions is not, of itself, reason to prohibit the consenting of national network projects or to impose more restrictions on them in the planning policy framework. Any carbon assessment will include an assessment of operational greenhouse gas emissions, but the policies set out in chapter 2 of the NPS, apply to these emissions. Operational emissions will be addressed in a managed, economy-wide manner, to ensure consistency with carbon budgets, net zero and our international climate commitments. Therefore, approval of schemes with residual carbon emissions is allowable and can be consistent with meeting carbon budgets, net zero and the UK's Nationally Determined Contribution.

Accordance with the NPS NN and the draft NPS NN

Government Net Zero Targets

- 6.13.2 In June 2019 the Government announced its 2050 'Net Zero target', which was a significant step towards carbon reduction and alignment with the Paris Agreement. The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015. It came into force on 4 November 2016.
- 6.13.3 Its overarching goal is to hold 'the increase in the global average temperature to well below 2°C above pre-industrial levels' and pursue efforts 'to limit the temperature increase to 1.5°C above pre-industrial levels'. This is transposed into a legally binding target for the Government to cut carbon emissions to net zero, when compared to emissions in the 1990 baseline figure, by 2050.
- 6.13.4 The Climate Change Act 2008 requires five-yearly carbon budgets to be set 12 years in advance so as to meet the 2050 target. Six carbon budgets have been adopted to-date, which are enshrined into law through the implementation of the Climate Orders. These orders serve as legislative mechanisms that enshrine the carbon budgets, ensuring their legal enforceability and accountability. The time periods covering the fourth, fifth and sixth budgets are 2023-2027, 2028-2032 and 2033-2037 respectively. Achieving net zero will require the UK's future GHG emissions to be aligned with these budget targets and any future new or revised carbon budget targets that may be set out by Government to achieve net zero carbon by 2050, i.e. a 100% reduction in the UK's carbon emissions by 2050 compared with those in 1990.
- 6.13.5 The only statutory carbon targets are the carbon budget targets and the Net Zero 2050 target that are set at a national level i.e. they are targets for the UK as a whole. The Applicant is not aware of any relevant non-statutory targets. There are no sectoral targets (e.g. for transport), nor any targets set at a sub-national geographic scale. The Net Zero 2050 and the carbon budget targets are themselves cumulative as they are a sum of carbon emissions for a range of sectors. In addition to the absence of sectoral or sub-national scale targets for carbon emissions, it is not possible for the Applicant to produce a baseline at such scales.

Accordingly, there is no reasonable basis upon which the Applicant can assess the potential likely significant effect of the Schemes carbon emissions at anything other than at the national level.

National Highways Net Zero Targets

- 6.13.6 The 'Net Zero Highways' sets out the Applicants programme for achieving net zero GHG emissions for the SRN by 2050.
- 6.13.7 Appendix O, the Outline Carbon Management Plan which is part of the First Iteration EMP (TR010064/APP/6.5) includes mitigation measures to reduce carbon in line with net zero targets for both construction and maintenance operations, such as:
- Preparation and implementation of a Logistics Management Plan (or similar) to manage the transport to/from and onsite of employees and materials required for the construction of the Scheme. The Logistics Management Plan (or similar) will set out measures where practicable, to reduce distances travelled, optimise journeys and use low emission modes of transport (such as public transport) or vehicles (e.g. electric vehicles) to reduce GHG emissions associated with transport.
 - Seeking to source materials from local suppliers, where practical and cost-effective to do so, in order to reduce the travel distance of materials and associated GHG emissions.
 - Measures to reduce the magnitude of GHG emissions associated with the use of materials and waste disposal (for further details refer to Section 10.9 of Chapter 10: Material Assets and Waste of the ES (TR010064/APP/6.1)).
- 6.13.8 Over time, it will also be expected that electric vehicles and other non-polluting fuels will reduce tail pipe emissions from vehicles.
- Greenhouse Gas Emissions
- 6.13.9 The seven GHGs that contribute to climate change are:
- Carbon dioxide (CO₂).
 - Methane (CH₄).
 - Nitrous oxide (N₂O).
 - Hydrofluorocarbons (HFCs).
 - Perfluorocarbons (PFCs).
 - Nitrogen trifluoride (NF₃).
 - Sulphur hexafluoride (SF₆).

- 6.13.10 These GHG emissions are collectively expressed as emissions of carbon dioxide equivalent (CO₂e).
- 6.13.11 The GHG emissions during the construction phase of the Scheme would be associated with:
- Embodied carbon (i.e. GHGs generated during the manufacture of the raw materials required to build the Scheme).
 - Energy consumption (e.g. through petrol or diesel combustion and use of electricity) and water consumption.
 - Changes in road user GHG emissions as a result of traffic management measures implemented during the construction phase.
 - The disturbance or removal of carbon stored within vegetation, peaty soil and soil within the Order Limits.
 - Changes in the GHG emissions/sequestration balance within the Order Limits associated with changes in land use, for example through changes in the spatial extents and management of carbon sinks such as woodland.
- 6.13.12 GHG emissions during the operational phase of the Scheme would be associated with:
- Maintenance and operation of the road infrastructure: Through consumption of energy (e.g. through petrol or diesel combustion and use of electricity) and materials to support activities such as the repair and replacement of lighting and structures (including fencing) and highway resurfacing.
 - Consumption of energy (e.g. through petrol and diesel combustion and use of electricity) by motorised vehicles using the road infrastructure: The Scheme has the potential to alter traffic volumes, composition and speeds on the local road network, both positively and negatively, which could act to alter the overall magnitude of road user GHG emissions.
 - Ongoing changes in the emissions/sequestration balance within the Scheme footprint associated with changes in land use, for example through changes in the spatial extents and management of carbon sinks such as woodland and soil.
- 6.13.13 Total emissions associated with the Scheme can be broken down as follows:
- The largest proportion of construction phase GHG emissions (43.9% in total) is associated with the construction process stage, which includes the transport of materials to the site, the transport and treatment of waste, employee transport, and construction and installation processes.

- The GHG emissions associated with the production of materials are estimated to contribute 39.3%.
- The GHG emissions associated with changes in land use, peat soil excavation and forestry during the construction phase are estimated to contribute 16.8%.
- The total GHG emissions from road users during the construction period are estimated to decrease as a result of rerouting away from the construction works and enforced speed limits near the Scheme. The operational phase GHG emissions are dominated by road user GHG emissions.

Reduction of Greenhouse Gases Including the Management of Peaty Soils (if encountered)

- 6.13.14 As set out previously at section 6.7 of this Case for the Scheme, the Scheme design has incorporated mitigation measures to reduce GHG emissions. This includes the Appendix O, Outline Carbon Management Plan which is part of the First Iteration EMP (TR010064/APP/6.5).
- 6.13.15 The results of Scheme specific soil surveys and ground investigations indicate that there are limited existing peaty soils within the Order Limits. However, as peaty soils are a carbon store, which if disturbed can result in emissions of GHGs, an Outline Soil Management Plan has been produced and can be found at Appendix F of the First Iteration Environmental Management Plan (TR010064/APP/6.5). The Outline Soils Management Plan outlines the strategy if peaty soils are encountered. Where peat excavation cannot be avoided through design alterations, alternative peat management techniques will be followed. The Outline Soils Management Plan will be developed into a Soils Management Plan as part of the Second Iteration Environmental Management Plan for implementation during construction and secured by Requirement 4 of the draft DCO (TR010064/APP/3.1).

Compliance with Carbon Budgets

- 6.13.16 The Scheme is estimated to result in an increase in GHG emissions during both its construction and operation. The impact of the Scheme on climate (i.e. GHG emissions) is, however, considered to be not significant as it is considered unlikely to have a material impact on the ability of UK Government to meet its carbon reduction targets. Estimated changes in GHG emissions are negligible in comparison to relevant UK carbon budgets.

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- 6.13.17 Whilst the Scheme will increase GHG emissions overall, this is associated with more traffic travelling on the network in the future. Carbon emissions will be expected to decrease over the longer term as Government targets are focused on significantly reducing the number of vehicles powered by fossil fuels.

- 6.13.18 Whilst mitigation measures have been and will be implemented to reduce GHG emissions (e.g. through the implementation of the Outline Carbon Management Plan, which is included in Appendix O of the First Iteration EMP (TR010064/APP/6.5)), the Scheme is estimated to result in an increase in GHG emissions during both its construction and operation. The impact of the Scheme on climate (i.e. GHG emissions) is, however, considered to be not significant as it is considered unlikely to have a material impact on the ability of UK Government to meet its carbon reduction targets. This aligns with guidance in paragraph 5.37 of the draft NPS NN.
- 6.13.19 The Scheme includes measures to contribute to net zero targets during construction and operation. This includes a specific strategy if peaty soils are encountered. As peaty soils are a carbon store, which if disturbed can result in emissions of GHGs, an Outline Soil Management Plan has been produced and can be found at Appendix F of the First Iteration Environmental Management Plan (TR010064/APP/6.5). The Outline Soils Management Plan outlines the strategy if peaty soils are encountered. Where peat excavation cannot be avoided through design alterations, alternative peat management techniques will be followed.
- 6.13.20 As set out in Section 6.7 of this Case for the Scheme, the Scheme design has incorporated mitigation measures to reduce GHG emissions.
- 6.13.21 In accordance with paragraphs 5.29-5.31 of the draft NPS NN, Appendix O, Outline Carbon Management Plan is provided in the First Iteration EMP (TR010064/APP/6.5). This sets out how carbon reduction for the Scheme will be implemented. An assessment of changes in GHG emissions during the construction and operational phases of the Scheme has been undertaken in accordance with National Highways' DMRB methodologies. The carbon management objectives include an assessment of changes in GHG emissions at each life cycle stage of the Scheme, as well as to regularly report construction related GHG emissions throughout the development and construction phase.

6.14 Air Quality

Key Policies of the NPS NN and the draft NPS NN

- 6.14.1 Relevant paragraphs in the designated NPS NN are:
- *'Paragraph 5.7: The environmental statement should describe:*
 - *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 air quality 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.*

- *Paragraph 5.8: Defra publishes future national projections of air quality based on evidence of future emissions, traffic and vehicle fleet. Projections are updated as the evidence base changes. Applicant's assessment should be consistent with this but may include more detailed modelling to demonstrate local impacts.*
- *Paragraph 5.9: In addition to information on the likely significant effects of a project in relation to EIA, the Secretary of State must be provided with a judgement on the risk as to whether the project would affect the UK's ability to comply with the Air Quality Directive.*
- *Paragraph 5.10: The Secretary of State should consider air quality impacts over the wider area likely to be affected, as well as in the near vicinity of the scheme. In all cases the Secretary of State must take account of relevant statutory air quality thresholds set out in domestic and European legislation. Where a project is likely to lead to a breach of the air quality thresholds, the applicant should work with the relevant authorities to secure appropriate mitigation measures with a view to ensuring so far as possible that those thresholds are not breached.*
- *Paragraph 5.11: Air quality considerations are likely to be particularly relevant where schemes are proposed:*
 - *Within or adjacent to Air Quality Management Areas (AQMAs); roads identified as being above Limit Values or nature conservation sites (including Natura 2000 sites and SSSIs, including those outside England); and 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*
 - *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 exceedences of the Limit Values, or where they may have the potential to impact on nature conservation sites.*
- *Paragraph 5.12: 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.*
- *Paragraph 5.13: 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 with the Air Quality Directive becoming non-compliant; or*

- *affect the ability of a non-compliant area to achieve compliance within the most recent timescales reported to the European Commission at the time of the decision.*
- *Paragraph 5.14: The Secretary of State should consider whether mitigation measures put forward by the applicant are acceptable. A management plan may help codify mitigation at this stage. The proposed mitigation measures should ensure that the net impact of a project does not delay the point at which a zone will meet compliance timescales.*
- *Paragraph 5.15: Mitigation measures may affect the project design, layout, construction, operation and/or may comprise measures to improve air quality in pollution hotspots beyond the immediate locality of the scheme. Measures could include, but are not limited to, changes to the route of the new scheme, changes to the proximity of vehicles to local receptors in the existing route, physical means including barriers to trap or better disperse emissions, and speed control. The implementation of mitigation measures may require working with partners to support their delivery’.*

6.14.2 The draft NPS NN provides similar paragraphs on air quality.

- *‘Paragraph 5.11: Where a project is likely to have adverse effects on air quality and/or where a project could lead to a deterioration in air quality in an area or lead to a new area where air quality breaches any national air quality limits or statutory air quality objectives, the applicant should undertake an assessment as part of their Development Consent Order application.*
- *Paragraph 5.12: The assessment should describe:*
 - *any air pollutant emissions, that would lead to a deterioration in air quality and their mitigation, distinguishing between the project stages, including construction and operation and taking account of emissions such as from any road traffic generated by the project*
 - *the predicted absolute emission levels of the proposed project after mitigation methods have been applied*
 - *existing air quality levels, how they are monitored and the relative change in air quality from existing levels*
 - *any potential impacts on nearby protected habitats from air pollutant emissions*
- *Paragraph 5.13: Defra publishes future projections of UK air pollutant emissions based on evidence of future emissions, traffic and vehicle fleet. Projections are updated as the evidence base changes. The applicant’s assessment should be consistent with this but may include more detailed modelling to demonstrate local impacts. If the latest future projections do not reflect the latest available evidence base at*

the assessment stage, applicants should still provide an assessment using the latest future projections published by Defra. If an applicant believes they have robust additional supporting evidence that is likely to change the projected emissions, they should include this in their representations to the Examining Authority.

- *Paragraph 5.14: Mitigation measures may affect the project design, layout, construction, operation and/or may consist of measures to improve air quality in pollution hotspots beyond the immediate locality of the scheme. Measures could include, but are not limited to, changes to the route of the new scheme, changes to the proximity of vehicles to local receptors in the existing route, physical means including barriers to trap or better disperse emissions, and/or speed control. Applicants should routinely look for opportunities within the design of the proposed development to embed nature-based solutions, such as urban woodlands and trees to assist with pollutant reduction and dispersal along major transport corridors. In addition to avoiding further greenhouse gas emissions when compared with some more traditional approaches, nature-based solutions can also result in biodiversity benefits as well as increasing absorption of carbon dioxide from the atmosphere (see also paragraphs 5.171 to 5.195 on the role of green infrastructure).*
- *Paragraph 5.15: The Secretary of State should consider whether mitigation measures are needed both for operational and construction emissions over and above any which may form part of the project application. In doing so the Secretary of State should have regard to the Air Quality Strategy or any successor to it and should consider relevant advice within Local Air Quality Management guidance.*
- *Paragraph 5.16: The proposed mitigation measures should ensure that the net impact of a project does not delay the point at which a zone will meet compliance timescales.*
- *Paragraph 5.17: Many activities involving air emissions are subject to pollution control. The considerations set out in paragraphs 4.42 to 4.50 on the interface between planning and pollution control therefore apply.*
- *Paragraph 5.18: The Secretary of State should give air quality considerations substantial weight where a project would lead to a deterioration in air quality in an area or leads to a new area where air quality breaches any national air quality limits or statutory air quality objectives. However, air quality considerations will also be important where substantial changes in air quality levels are expected, even if this does not lead to any breaches of national air quality limits or statutory air quality objectives.*
- *Paragraph 5.19: In all cases the Secretary of State must take account of any relevant statutory air quality limits or statutory air quality*

objectives. The Secretary of State should be content that the applicant has taken all reasonable steps to reduce emissions in the construction and operational stage of the development.

- *Paragraph 5.20: Where a project is likely to lead to a breach of such limits or objectives, the applicant should work with the relevant authorities to secure appropriate mitigation measures to avoid any breach and allow the proposal to proceed. Where a project is located within, or in close proximity to, a Local Air Quality Management Area or Clean Air Zone, applicants should engage with the relevant local authority to ensure the project is compatible with the local Air Quality Plan'.*

Accordance with the NPS NN and the draft NPS NN

Bury Air Quality Management Areas

- 6.14.3 National Air Quality Objectives (AQOs) are defined in the Air Quality (England) Regulations 2000 and the Air Quality (England) (Amendment) Regulations 2002. The EU Ambient Air Quality Directive (2008/50/EU) formed the basis for UK air quality legislation and the European Union Limits Values were transposed into UK law by the Air Quality Standards (England) Regulations 2010.
- 6.14.4 The UK is currently failing to meet the annual mean Nitrogen Oxide (NO₂) AQO and air quality Limits Value in many areas across the country. The first Air Quality Plan for NO₂ in the UK (Defra, 2015) outlined how air quality in the UK would be improved by reducing NO₂ emissions in towns and cities. A revised UK Air Quality Plan was published in July 2017 (Defra and DfT, 2017), but the most recent ruling from the High Court in February 2018 (reference ClientEarth (No.3) versus SoSEFRA (2018)) concluded that this plan was insufficient to bring compliance with the air quality Limits Values within the soonest timeframe possible. In May 2018, Defra released a consultation draft of the Clean Air Strategy 2018, outlining actions to tackle emissions from a range of pollutant sources. The consultation on this draft informed the final Clean Air Strategy (Defra, 2019a) and National Air Pollution Control Programme (Defra, 2019b), which were published in January 2019 and March 2019 respectively.
- 6.14.5 Local authorities review current and future air quality to assess whether or not AQOs are being achieved or are likely to be achieved. Where it is anticipated that an AQO will not be met, it is a requirement that an AQMA is declared. Where an AQMA is declared, the local authority is obligated to produce an Action Plan in pursuit of the achievement of the AQOs.
- 6.14.6 The Scheme is located almost entirely in the Bury AQMA which forms part of the Greater Manchester Community Area AQMA and was declared for exceedances of the NO₂ AQO in 2016. The location of the AQMA is shown on Figure 5.2, Air Quality Operational Study Area of the ES Figures (TR010064/APP/6.2),

Greater Manchester Clean Air Plan

- 6.14.7 In Greater Manchester (GM), the 10 local authorities, GMCA and Transport for Greater Manchester (TfGM) are working together to develop a Clean Air Plan to tackle exceedances of the annual mean NO₂ Limits Value in the shortest possible time, referred to as the Greater Manchester Clean Air Plan (GM CAP). Modelling undertaken to inform the development of the GM CAP (GMCA, 2022) indicates that the annual mean NO₂ Limits Value is currently exceeded within the air quality study area adjacent to the A56, immediately to the north of M60 Junction 17, and that compliance is unlikely to be achieved at this location until 2025 (in the absence of any other action).
- 6.14.8 The original GM CAP included a GM-wide category C charging Clean Air Zone (CAZ), which was designed to comply with a legal direction from Government issued before the COVID-19 pandemic. Since then, there have been significant vehicle supply chain issues, particularly for vans, and the cost of living has increased. This means that the original GM CAP was considered unworkable as it would not have met the obligations in the direction to achieve compliance with the NO₂ Limits Value by 2024 and could have caused significant financial hardship for people affected.
- 6.14.9 In February 2022, the Government agreed to lift the legal direction that GM should achieve compliance with the NO₂ Limits Value in the shortest possible time and by 2024 at the latest. It has since issued a new direction for compliance in the shortest possible time and by 2026 at the latest. As a result, the first phase of the planned GM CAZ did not go ahead on 30 May 2022.
- 6.14.10 Greater Manchester local authorities have submitted the case for a new GM CAP, with a no charging CAZ, to Government, and currently, further modelling evidence has been requested by Government to support this case. Due to this current uncertainty, no CAZ has been incorporated in the assessment of the Scheme. In addition, it is also unlikely that a CAZ will be in place by the opening year of 2029 due to the natural turnover of the fleet meaning that enforcing EURO 4 (petrol) and EURO VI (diesel) vehicles would be obsolete (as most vehicle would already meet these standards).
- 6.14.11 Chapter 5, Air Quality in the ES (TR010064/APP/6.1) outlines the technical engagement that has taken place with BMBC.
- 6.14.12 The air quality assessment considers levels of nitrogen dioxide (NO₂) and particulate matter (referred to as PM₁₀ or PM_{2.5}, depending on the size of the particles). These levels are compared to objectives and limit values that have been set in UK legislation based on the effects of each pollutant on health and on the environment. If air quality levels are higher than the objectives or limit values, the term 'exceedance' is used. For ecological sites the air quality assessment also considers nitrogen deposition and the change in nitrogen deposition.
- 6.14.13 The dispersion modelling process takes into account the emissions produced by Light Duty Vehicles (LDVs, less than 3.5 tonnes) and HDVs travelling at a certain speed along a section of road over an average hour

for the period considered and predicts the dispersion of these emissions. Emissions for LDVs and HDVs were derived using the National Highways Speed Band emission factors (version 4.3) (National Highways, 2022) using the AM, Inter Peak, PM and Outside Peak traffic data.

- 6.14.14 More information on the modelling assumptions including the model used, data assumptions and validation criteria and baseline air quality conditions are described in Chapter 5, Air Quality of the ES (TR010064/APP/6.1) and Appendix 5.2, Air Quality Results of the ES Appendices (TR010064/APP/6.3).
- 6.14.15 Emissions for the affected road network ARN and air quality concentrations and impacts are presented in Appendix 5.2: Air Quality Results of the ES Appendices (TR010064/APP/6.3).
- 6.14.16 The assessment has identified that for human receptors there are some locations where air quality is worsened and some where it is improved. There are no exceedances of the relevant air quality objectives or limit values with the Scheme. The overall effect of the operation of the Scheme on air quality at human receptors is considered not significant. As reported under the Biodiversity Section of this Case for the Scheme, no ecological receptors will be negatively impacted by nitrogen deposition.
- 6.14.17 The air quality model confirmed that concentrations of nitrogen dioxide at specific roadside locations used to report on compliance with air quality limit values are within the acceptable value set in law during both construction and operation. Particulate matter at these locations is also below the relevant limit values too.

Impact of Dust

- 6.14.18 Chapter 5, Air quality of the ES (TR010064/APP/6.1) states the construction dust risk is considered to be 'high'. The receptors within 200m of the Order Limits are shown on Figure 5.7, Construction Dust Results of the ES Figures (TR010064/APP/6.2) and outlined in Chapter 5 Air Quality, of the ES (TR010064/APP/6.1). There are 1174 human health receptors within this distance. The level and distribution of construction dust emissions will depend on where within the Order Limits the dust raising activity takes place, the nature of the activity and controls, and weather conditions.
- 6.14.19 Measures to mitigate the impacts of dust during construction are set out in Appendix A, Air Quality and Dust Management of the First Iteration EMP (TR010064/APP/6.5).
- 6.14.20 The Outline Air Quality and Dust Management Plan contains measures to control fugitive dust to avoid and reduce potential impacts during construction. Mitigation measures include the dampening down of surfaces, planning the site layout so that machinery and dust-causing activities occur as far from receptors as possible, erecting screens or barriers around the dust-causing activities or the site boundary, covering stockpiles to prevent entrainment by wind and undertaking regular monitoring. The Outline Air Quality and Dust Management Plan will be

developed into the Air Quality and Dust Management Plan as part of the Second Iteration Environmental Management Plan for implementation during construction and secured by Requirement 4 of the draft DCO (TR010064/APP/3.1).

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- 6.14.21 There is one AQMA for the whole of Greater Manchester covering the Scheme and a number of other key roads in the area. In addition, both the GMCA and the Applicant have identified exceedances of the nitrogen dioxide limit value adjacent to roads likely to be affected by the Scheme. By the opening year of the Scheme (2029), compliance with the limit value is projected to be achieved in accordance with paragraph 5.16 and 5.19 of the draft NPS NN.
- 6.14.22 For dust, there are no significant effects resulting from construction dust with the mitigation measures in place.
- 6.14.23 No significant effects are identified for air quality as discussed in section 5.10 of Chapter 5, Air Quality of the ES (TR010064/APP/6.1), including in the context of the Air Quality Directive Limit Values and the associated deterioration in air quality in a zone/agglomeration. Overall, the Scheme meets the objectives of the NPS NN and draft NN NPS (particularly paragraphs 5.18-5.20 of the draft NPS NN) as it does not lead to any worsening of existing air quality or compromise the proposed Clean Air Zone for Greater Manchester.

6.15 Noise and Vibration

Key Policies of the NPS NN and the draft NPS NN

- 6.15.1 Paragraph 5.186 to 5.200 of the NPS NN refer to the need to limit the impacts of noise and vibration. Relevant paragraphs are:
- *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. The Government's policy is set out in the Noise Policy Statement for England. It promotes good health and good quality of life through effective noise management. Similar considerations apply to vibration, which can also cause damage to buildings. In this section, in line with current legislation, references below to "noise" apply equally to assessment of impacts of vibration.*
 - *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: Factors that will determine the likely noise impact include:*
 - *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 tranquility, 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.*
- *Paragraph 5.189: Where a development is subject to EIA and significant noise impacts are likely to arise from the proposed development, the applicant should include the following in the noise assessment, which should form part of the environment statement:*
 - *a description of the noise sources including likely usage in terms of number of movements, fleet mix and diurnal pattern. For any associated fixed structures, such as ventilation fans for tunnels, information about the noise sources including the identification of any distinctive tonal, impulsive or low frequency characteristics of the noise.*
 - *identification of noise sensitive premises and noise sensitive areas that may be affected.*
 - *the characteristics of the existing noise environment.*
 - *a prediction on how the noise environment will change with the proposed development:*
 - *In the shorter term such as during the construction period;*
 - *in the longer term during the operating life of the infrastructure;*
 - *at particular times of the day, evening and night as appropriate.*
 - *an assessment of the effect of predicted changes in the noise environment on any noise sensitive premises and noise sensitive areas.*

- *measures to be employed in mitigating the effects of noise. Applicants should consider using best available techniques to reduce noise impacts.*
- *the nature and extent of the noise assessment should be proportionate to the likely noise impact.*
- *Paragraph 5.190: The potential noise impact elsewhere that is directly associated with the development, such as changes in road and rail traffic movements elsewhere on the national networks, should be considered as appropriate.*
- *Paragraph 5.191: Operational noise, with respect to human receptors, should be assessed using the principles of the relevant British Standards and other guidance. The prediction of road traffic noise should be based on the method described in Calculation of Road Traffic Noise. The prediction of noise from new railways should be based on the method described in Calculation of Railway Noise. For the prediction, assessment and management of construction noise, reference should be made to any relevant British Standards and other guidance which also give examples of mitigation strategies*
- *Paragraph 5.192: The applicant should consult Natural England with regard to assessment of noise on designated nature conservation sites, protected landscapes, protected species or other wildlife. The results of any noise surveys and predictions may inform the ecological assessment. The seasonality of potentially affected species in nearby sites may also need to be taken into account.*
- *Paragraph 5.193: Developments must be undertaken in accordance with statutory requirements for noise. Due regard must have been given to the relevant sections of the Noise Policy Statement for England, National Planning Policy Framework and the Government's associated planning guidance on noise.*
- *Paragraph 5.194: The project should demonstrate good design through optimisation of scheme layout to minimise noise emissions and, where possible, the use of landscaping, bunds or noise barriers to reduce noise transmission. The project should also consider the need for the mitigation of impacts elsewhere on the road and rail networks that have been identified as arising from the development, according to Government policy.*
- *Paragraph 5.195: The Secretary of State should not grant development consent unless satisfied that the proposals will meet, the following aims, within the context of Government policy on sustainable development:*
 - *avoid significant adverse impacts on health and quality of life from noise as a result of the new development;*
 - *mitigate and minimise other adverse impacts on health and quality of life from noise from the new development; and*

- *contribute to improvements to health and quality of life through the effective management and control of noise, where possible.*
- *Paragraph 5.196: In determining an application, the Secretary of State should consider whether requirements are needed which specify that the mitigation measures put forward by the applicant are put in place to ensure that the noise levels from the project do not exceed those described in the assessment or any other estimates on which the decision was based.*
- *Paragraph 5.197: The Examining Authority and the Secretary of State should consider whether mitigation measures are needed both for operational and construction noise over and above any which may form part of the project application. The Secretary of State may wish to impose requirements to ensure delivery of all mitigation measures.*
- *Paragraph 5.198: Mitigation measures for the project should be proportionate and reasonable and may include one or more of the following:*
 - *engineering: containment of noise generated;*
 - *materials: use of materials that reduce noise, (for example low*
 - *lay-out: adequate distance between source and noise-sensitive receptors; incorporating good design to minimise noise transmission through screening by natural or purpose built barriers;*
 - *administration: specifying acceptable noise limits or times of use (e.g., in the case of railway station PA systems).*
- *Paragraph 5.199: For most national network projects, the relevant Noise Insulation Regulations will apply. These place a duty on and provide powers to the relevant authority to offer noise mitigation through improved sound insulation to dwellings, with associated ventilation to deal with both construction and operational noise. An indication of the likely eligibility for such compensation should be included in the assessment. In extreme cases, the applicant may consider it appropriate to provide noise mitigation through the compulsory acquisition of affected properties in order to gain consent for what might otherwise be unacceptable development. Where mitigation is proposed to be dealt with through compulsory acquisition, such properties would have to be included within the development consent order land in relation to which compulsory acquisition powers are being sought.*
- *Paragraph 5.200: Applicants should consider opportunities to address the noise issues associated with the Important Areas as identified through the noise action planning process’.*

6.15.2 Paragraph 5.219-5.233 of the draft NPS NN also covers noise and vibration.

- *‘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. The Government’s policy is set out in the Noise Policy Statement for England. It promotes good health and good quality of life through effective noise management. Similar considerations apply to vibration, which can also cause damage to buildings. In this section, in line with current legislation, references below to “noise” apply equally to assessment of impacts of vibration.*
- *Paragraph 5.219: Excessive noise can have wide-ranging impacts on the quality of human life and health (for example, owing to annoyance or sleep disturbance), use and enjoyment of areas of value (such as quiet places) and areas with high landscape quality. The government’s policy is set out in the Noise Policy Statement for England. It promotes good health and good quality of life through effective noise management. Similar considerations apply to vibration, which can also cause damage to buildings. In this section, in line with current legislation, references below to “noise” apply equally to assessment of impacts of vibration.*
- *Paragraph 5.220: 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 Nature Conservation section of this NPS.*
- *Paragraph 5.221: Factors that will determine the likely noise impact include:*
 - *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 tranquility, acoustic environment or landscape quality such as National Parks, the Broads or Areas of Outstanding Natural Beauty*
 - *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*
- *Paragraph 5.222: Where noise impacts are likely to arise from the proposed development, the applicant should include the following in its noise assessment:*

- *a description of the noise sources including likely usage in terms of number of movements, fleet mix and diurnal pattern. For any associated fixed structures, such as ventilation fans for tunnels, information about the noise sources including the identification of any distinctive tonal, impulsive or low frequency characteristics of the noise*
- *identification of noise sensitive premises and noise sensitive areas that may be affected*
- *the characteristics of the existing noise environment*
- *a prediction on how the noise environment will change with the proposed development:*
 - *In the shorter term such as during the construction period.*
 - *in the longer term during the operating life of the infrastructure.*
 - *at particular times of the day, evening and night (and weekends) as appropriate.*
- *an assessment of the effect of predicted changes in the noise environment on any noise sensitive premises and noise sensitive areas, including identifying whether any particular groups are more likely to be affected.*
- *measures to be employed in mitigating the effects of noise applicants should consider using best available techniques to reduce noise impacts.*
- *Paragraph 5.223: The potential noise impact elsewhere that is directly associated with the development, such as changes in road and rail traffic movements elsewhere on the national networks, should be considered as appropriate.*
- *Paragraph 5.224: Operational noise, with respect to human receptors, should be assessed using the principles of the relevant British Standards and other guidance. The prediction of road traffic noise should be based on the method described in Calculation of Road Traffic Noise and Common Noise Assessment Methods (CNOSSOS). The prediction of noise from new railways should be based on the method described in Calculation of Railway Noise and Common Noise Assessment Methods (CNOSSOS). For the prediction, assessment and management of construction noise, reference should be made to any relevant British Standards and other guidance which also give examples of mitigation strategies.*
- *Paragraph 5.225: The applicant should consult Natural England with regard to assessment of noise on designated nature conservation sites, protected landscapes, protected species or other wildlife. The*

results of any noise surveys and predictions may inform the ecological assessment. The seasonality of potentially affected species in nearby sites may also need to be taken into account.

- *Paragraph 5.226: The Examining Authority and the Secretary of State should consider whether mitigation measures are needed both for operational and construction noise over and above any which may form part of the project application. The Secretary of State may wish to impose requirements to ensure delivery and future maintenance of all mitigation measures.*
- *Paragraph 5.227: Mitigation measures for the project should be proportionate and reasonable and may include one or more of the following:*
 - *engineering: containment of noise generated*
 - *materials: use of materials that reduce noise, (for example, low noise road surfacing)*
 - *lay-out: adequate distance between source and noise-sensitive receptors*
 - *incorporating good design: to minimise noise transmission through landscaping and screening by natural or purpose-built barriers including topographical changes*
 - *administration: specifying acceptable noise limits or times of use (for example, in the case of railway station public address systems)*
- *Paragraph 5.228: For most national network projects, the relevant Noise Insulation Regulations will apply. These place a duty on, and provide powers to, the relevant authority to offer noise mitigation through improved sound insulation to dwellings, with associated ventilation to deal with both construction and operational noise. An indication of the likely eligibility for such compensation should be included in the assessment. In extreme cases, the applicant may consider it appropriate to provide noise mitigation, through the compulsory acquisition of affected properties in order to gain consent for what might otherwise be unacceptable development. Where mitigation is proposed to be dealt with through compulsory acquisition, such properties would have to be included within the Development Consent Order land in relation to which compulsory acquisition powers are being sought.*
- *Paragraph 5.229: Applicants should consider opportunities to address the noise issues associated with the Important Areas as identified through the noise action planning process.*
- *Paragraph 5.230: Developments must be undertaken in accordance with statutory requirements for noise. Due regard must have been*

given to the relevant sections of the Noise Policy Statement for England, National Planning Policy Framework and the government's associated planning guidance on noise.

- *Paragraph 5.231: The project should demonstrate good design through optimisation of scheme layout to minimise noise emissions and, where possible, the use of landscaping, bunds or noise barriers to reduce noise transmission. The project should also consider the need for the mitigation of impacts elsewhere on the road and rail networks that have been identified as arising from the development, according to government policy.*
- *Paragraph 5.232: The Secretary of State should not grant development consent unless satisfied that the proposals will meet the following aims, within the context of government policy on sustainable development:*
 - *avoid significant adverse impacts on health and quality of life from noise as a result of the new development*
 - *mitigate and minimise other adverse impacts on health and quality of life from noise from the new development*
 - *contribute to improvements to health and quality of life through the effective management and control of noise, where possible*
- *Paragraph 5.233: In determining an application, the Secretary of State should consider whether requirements are needed which specify that the mitigation measures put forward by the applicant are put in place to ensure that the noise levels from the project do not exceed those described in the assessment or any other estimates on which the decision was based'.*

Accordance with the NPS NN and the draft NPS NN

Construction Noise

- 6.15.3 Construction noise in Chapter 11, Noise and Vibration of the ES (TR010064/APP/6.1) supported by five detailed appendices in the ES Appendices (TR010064/APP/6.3), which are:
- Appendix 11.1: Introduction to Acoustics.
 - Appendix 11.2: Noise and Vibration Assessment Guidance and Standards.
 - Appendix 11.3: Baseline Noise Survey Results.
 - Appendix 11.4: Construction Noise Calculations.
 - Appendix 11.5: Operational Noise Calculations Results.
- 6.15.4 In addition, several figures are provided by the ES Figures (TR010064/APP/6.2) which help explain the information described below.

- 6.15.5 The construction phases including whether construction involves day and/or night time working are set in table 11.18 (Main Construction Working Phases), Chapter 11 Noise and Vibration of the ES (TR010064/APP/6.1).
- 6.15.6 Calculations of noise from construction have been made for all receptors within 300m of construction works, indicated by Figure 11.1a, Noise Study Areas, Noise Important Areas and Existing Noise Barriers of the ES Figures (TR010064/APP/6.2).
- 6.15.7 Major construction works for the Northern Loop, Pike Fold Bridge and Pike Fold viaduct will mainly take place in the day. Other works such as completing the hard shoulder, widening, verges, the central reservation, bridge span installation and other off line works (such as drainage) will take place during the day and night. The amount of work that can take place during the day is limited by the need to maintain the capacity of the SRN and the safety of construction workers.
- 6.15.8 A construction noise magnitude of impact of Moderate or Major on noise sensitive receptors is classed as a likely significant effect which is where moderate or major magnitude of effect would occur for 10 or more nights in any 15 consecutive days or nights or a total number of days exceeding 40 in any six consecutive months. The location of noise sensitive receptors is shown on Figure 11.2, Noise Sensitive Receptors in the Environmental Statement Figures (TR010064/APP/6.2). Noise sensitive receptors within the noise and vibration study areas include residential properties, schools and hospitals as well as outdoor community facilities that include some parks.
- 6.15.9 There are Moderate and Major magnitude impacts predicted at up to 275 noise sensitive receptors during daytime works, For daytime works that may extend into later working hours during the summer months, there will be an additional 59 receptors that may experience construction noise levels above the evening Significant Observed Adverse Effect Level (SOAEL), which are potential significant effects.
- 6.15.10 Minor or Negligible impacts are predicted at a further 2,343 receptors for day time works.
- 6.15.11 There are Moderate and Major magnitude impacts predicted at up to 647 noise sensitive receptors during night-time works, which are potential significant effects.
- 6.15.12 Minor or Negligible impacts are predicted at a further 1,971 receptors for night time works.
- 6.15.13 Vibration is caused by piling (for example retaining walls, piers, abutments and gantries) and compaction is where machines are used for paving works. A construction vibration magnitude of impact of Moderate or Major is a likely significant effect.

- 6.15.14 There are no predicted Major magnitude impacts during either piling or compaction. Moderate magnitude impacts are predicted at up to 207 sensitive receptors as a result of vibration or compaction.
- 6.15.15 There are 117 receptors with a predicted Moderate magnitude of impact where vibration during the sheet piling of retaining walls is predicted to meet or exceed SOAEL. The maximum level of vibration during piling is calculated to be 1.2mm/s PPV Peak Particle Velocity (PPV) experienced at Prestfield Court (this is a block of residential flats located immediately adjacent to the M60 (M62) eastbound carriageway between Junction 17 and Junction 18).
- 6.15.16 There are 155 receptors with a predicted Moderate magnitude of impact where vibration during compaction is predicted to meet or exceed SOAEL. The maximum level of vibration during pavement works compaction is calculated to be 1.9mm/s PPV at Droughts Lane (this is located adjacent to the M60 west bound carriageway immediately east of Junction 18).
- 6.15.17 Minor impacts are predicted at a further 419 sensitive receptors, 312 would experience impacts from piling and 390 from compaction.
- 6.15.18 During certain night time construction activities (e.g. piling of retaining walls and gantries and bridge span installation), it will be necessary to implement full motorway closures. This will result in traffic diversions onto the strategic diversion route that will normally experience lower traffic levels at night and therefore less noise. The sudden change of traffic levels is likely to cause disturbance to receptors within 25m of the diversion route. The use of any diversion route during night-time hours (23:00 to 07:00 hours) will be considered as a Major magnitude impact. This will be a significant effect if these occur for 10 or more nights in any consecutive 15 nights, or a total of more than 40 nights in any consecutive 6-month period.
- 6.15.19 The diversion routes are described in the Outline Traffic Management Plan (TR010064/APP/7.5) and are:
- M60 Junction 17- Junction 18 Anti Clock Wise full closure: From M60 Junction 17 south along A56 Bury New Road to A6044 Scholes Lane turning east to A576 Middleton Road then north-east to M60 Junction 19, then north to M60 Junction 18. This route will be the same for both directions of travel. This would impact 258 dwellings.
 - M60 Junction 17- Junction 18 Clockwise full closure: As above in counter direction, leaving M60 at Junction 19 west onto A576 Middleton Road to A6044 Scholes Lane, then north onto A56 Bury New Road re-joining M60 at Junction 17. This will also impact 258 dwellings.
 - M60 Junction 18-Junction 19 full closure: Leaving M60 at Junction 19 west onto A576 Middleton Road to A6044 Scholes Lane, then north onto A56 Bury New Road re-joining M60 at Junction 17. This will impact 258 dwellings.

- M66 northbound and southbound closure Junction 3 to Junction 4: The eastern diversion takes traffic from M66 J3 along Pilsworth Road/Moss Haul Road to Rochdale Link Road, joining M62 westbound at Junction 19. The western diversion takes traffic onto Pilsworth Road then Croft Lane and onto A56 through Whitefield to join M60 CW at Junction 17. This will impact 377 dwellings.

6.15.20 The diversion routes are shown on Figure 6.1 below. Note alternative options were also considered through Bury and Heywood, between Junction 17 and Junction 20, but these are not included as they are much longer and impact many more properties.

Figure 6.1 - SRN Diversion Routes for Night-Time Closures



Operational Noise

6.15.21 The level of road traffic noise affecting any receptor is dependent on several variables, all of which are accounted for within the road traffic noise prediction methodology as set out in Chapter 11, Noise and Vibration of the ES (TR010064/APP/6.1). The Scheme will result in changes in some or all of these factors:

- Traffic related factors: volume, speed and composition of vehicles.
- Road related factors: surface (e.g. concrete, bituminous) and gradient.
- Propagation factors: distance, the presence of screening and type of ground cover intervening between the road and any receptor.

- Receptor specific factors: view of the road.

- 6.15.22 The Scheme will result in the existing lane between Junction 17 and Junction 18 moving closer to noise sensitive receptors both to the north and the south of the M60. Noise modelling indicates that this physical change together with changes in road traffic flows and speeds have the potential to result in noise changes of a Minor magnitude noise increase of 1 decibel (“dB”) to 2.9dB. This is predicted to occur at receptors adjacent to the M60 on roads such as Kenilworth Avenue, Warwick Close, Warwick Avenue and Peveril Close to the south, Balmoral Avenue, Kensington Street, Glendevon and Conisborough Place, Duddon Close and Derwent Avenue, to the north, and closer to Junction 18 at Brathay Close, Rothay Close, Marston Close and parts of Parrenthorn Road and Corday Lane. Although only minor changes, they are potential significant effects because existing levels of road traffic noise are already above SOAEL.
- 6.15.23 Close to M60 Junction 17, in the areas of Bury New Road, Bury Old Road and Nursery Road noise modelling indicates Negligible magnitude increases and decreases of less than 1.0dB.
- 6.15.24 Around M60 Junction 18 and south of Junction 18 in the area of Simister and Heywood Road noise modelling indicates Negligible magnitude increases and decreases of less than 1.0dB.
- 6.15.25 Either side of the M66 in the area of Unsworth and close to Pike Fold Golf Club noise modelling indicates Negligible magnitude increases and decreases of less than 1.0dB.
- 6.15.26 Many of the predicted increases of 1dB or more are in areas where the existing road traffic noise level is above the SOAEL, which indicates a potential significant effect. Additional essential mitigation for operational road traffic noise has therefore been considered (see paragraphs below).
- 6.15.27 A Minor magnitude noise increase of +1.4dB is indicated on the public right of way (ref 6WHI) adjacent to the M66 southbound. It should be noted that with increased distance from the road the level of increase in noise can be expected to be lower, as exposure would be reduced. With increased distance from the road the change in noise will become no change.
- 6.15.28 There are negligible magnitude noise increases of less than 1dB predicted at a relatively small number of receptors. These receptors are located in the area of M60 Junction 17 along Bury New Road and Bury Old Road and also around M60 Junction 18 in Simister and either side of the M60 and M66 south and north of M60 Junction 18. This negligible magnitude of change will not be expected to be noticeable and is not a significant effect.
- 6.15.29 Most of the predicted road traffic noise decreases for dwellings and other sensitive receptors will be in the negligible magnitude range of <1.0dB

and the minor magnitude range of 1dB to 2.9dB, which are not considered to be a significant effect.

- 6.15.30 There are moderate magnitude noise decreases of 3dB to 4.9dB predicted for 1,549 residential dwellings and seven other sensitive receptors, which indicates a likely significant beneficial effect. These receptors are located both north and south of the M60 between Junction 17 and Junction 18 and are due to the use of a road surface with better noise reducing properties than a conventional low noise surface across the Scheme. A proportion of these receptors are located within NIAs (see paragraphs below).
- 6.15.31 There are also major magnitude noise decreases of >5.0dB predicted for 36 residential dwellings indicating a likely significant beneficial effect. These receptors are also located both north and south of the M60 between Junction 17 and Junction 18, around Barnard Avenue and Warwick Avenue.

Mitigation

- 6.15.32 The First Iteration EMP (TR010064/APP/6.5) will be developed into a Second Iteration EMP to be implemented during construction and is secured by Requirement 4 of the draft DCO (TR010064/APP/3.1). Appendix B, Outline Noise and Vibration Management Plan and the REAC contained within the First Iteration EMP contains the following mitigation measures:
- The use of Best Practicable Means (BPM) during construction. This is standard sector practice in accordance with British Standard 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise (British Standards Institution, 2014a); and British Standard 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration (British Standards Institution, 2014b).
 - Appropriate selection of plant and construction methods: only plant conforming with or better than relevant national or international standards, directives or recommendations on noise or vibration emissions will be used. Construction plant will be maintained in good condition with regard to minimising noise and vibration output.
 - Use of audible reversing warning systems on mobile plant and vehicles will be of a type which, whilst ensuring that they give proper warning, have a minimum noise impact.
 - Choice of routes and timings for the transport of construction materials, waste materials and personnel to reduce the risk of increased noise and vibration impacts.
 - Community liaison will keep residents updated about upcoming works that will directly impact them via letter, email or a virtual information hub.

- During the noisiest phases of night-time works the Principal Contractor will review the temporal scope to aim to reduce adverse impacts to be within 10 or more nights in any consecutive 15 nights, or a total of more than 40 nights in any consecutive 6-month period for noise levels above SOAEL at receptors where this is practicable.
- For diversion routes used during construction the Principal Contractor will keep the timetable for full closures under review and aim to keep the number of night closures to below the temporal scope of 10 or more nights in any consecutive 15 nights, or a total of more than 40 nights in any consecutive 6-month period.
- The provision of temporary noise screening at the edge of working areas where an existing road traffic noise barrier needs to be temporarily removed to allow access to construction plant to working areas.
- Examine measures to limit the magnitude of vibration during piling of retaining walls.
- To reduce operational noise, replace existing noise barriers and use surfacing with better noise reducing properties than conventional surfacing between Junction 17 and Junction 18 of the M60.

Noise Important Areas

- 6.15.33 The NIAs are shown on Figure 11.1a (Noise Study Areas, Noise Important Areas and Existing Noise Barriers) as well as Figure 2.1, Environmental Constraints of the Environmental Statement Figures (TR010064/APP/6.2). There are five NIA's within 600m of the Order Limits. Three of them are directly adjacent to the motorway network and the remaining two are located adjacent to the local road network on Bury New Road and Higher Lane.
- 6.15.34 There are predicted reductions of up to 5.1dB in road traffic noise levels for some receptors within the NIA 1671 (adjacent to the M60 between Junction 17 and Junction 18) that, in the short-term, will be noticeable and considered to be a likely significant beneficial effect.
- 6.15.35 There are no other changes in road traffic noise of greater than 1dB predicted within other NIAs.

Concluding Assessment

- 6.15.36 Noise has been assessed as required by paragraph 5.222 of the draft NPS NN.
- 6.15.37 Night time working will be required during the three and a half year construction period across most of the Order Limits. Mitigation i to reduce the number of sensitive receptors impacted by noise and vibration to a minimum as required by paragraph 5.227 of the draft NPS NN.

- 6.15.38 As set out in paragraph 5.221 of the draft NPS NN, the level of noise experienced is affected by a number of different factors, including the proximity of noise sensitive receptors. The Scheme is surrounded by residential areas that are adjacent to the highways boundary, as shown on Figure 11.2, Noise Sensitive Receptors provided in the ES Figures (TR010064/APP/6.2). Therefore, even with mitigation in place, residual significant adverse effects are predicted for 275 receptors during daytime construction works and 647 receptors during night-time construction works.
- 6.15.39 Once the Scheme is operational, the road surface will be better in terms of noise reducing properties than a conventional Low Noise Surface. This reduces road traffic noise at source therefore reducing the effects for all receptors, reducing where significant effects may have otherwise been predicted. The road surface is a factor in the amount of noise that is produced by the interaction of the tyres with the road, and the better performing surface will have a Road Surface Influence (RSI) of -6.0 dB compared to -3.5 dB for a conventional LNRS. This reduces road traffic noise at source therefore reducing road traffic noise for all receptors, also removing locations where significant adverse effects may have otherwise been predicted. However, the way in which noise improvements are calculated means that they cannot be classed as beneficial over the long-term, although in quantitative terms more receptors experience a reduction in noise than would experience an increase.
- 6.15.40 There are 74 households who are forecast to experience increased daytime noise and 1166 households experiencing reduced daytime noise. Equally, there are 84 households forecast to experience increased night time noise, and 911 households who are forecast to experience reduced night time noise.
- 6.15.41 There would be overall improvements in the NIAs in accordance with paragraph 5.229 of the draft NPS NN and there is no requirement to compulsory purchase any dwellings due to noise (as set out in paragraph 5.228 of the draft NPS NN). The wider benefits of this for human health are set out in section 6.20 of this Case for the Scheme.

6.16 Road Drainage and Water Environment

Key Policies of the NPS NN and the draft NPS NN

- 6.16.1 Paragraphs 5.90 to 5.115 of the NPS NN set out the need to manage flood risk and to ensure that the water environment is protected from pollution.
- *‘Paragraph 5.90: Climate change over the next few decades is likely to mean milder wetter winters and hotter drier summers in the UK, while sea levels will continue to rise. Within the lifetime of nationally significant infrastructure projects, these factors will lead to increased flood risks in areas susceptible to flooding, and to an increased risk of flooding in some areas which are not currently thought of as being at*

risk. The applicant, the Examining Authority and the Secretary of State (in taking decisions) should take account of the policy on climate change adaptation in paragraphs 4.36 to 4.47.

- *Paragraph 5.91: The National Planning Policy Framework (paragraphs 100 to 104) makes clear 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, it should be made safe without increasing flood risk elsewhere. The guidance supporting the National Planning Policy Framework explains that essential transport infrastructure (including mass evacuation routes), which has to cross the area at risk, is permissible in areas of high flood risk, subject to the requirements of the Exception Test.*
- *Paragraph 5.92: Applications for projects in the following locations should be accompanied by a flood risk assessment (FRA):*
 - *Flood Zones 2 and 3, medium and high probability of river and sea flooding;*
 - *Flood Zone 1 (low probability of river and sea flooding) for projects of 1 hectare or greater, projects which may be subject to other sources of flooding (local watercourses, surface water, groundwater or reservoirs), or where the Environment Agency has notified the local planning authority that there are critical drainage problems.*
- *Paragraph 5.93: This should identify and assess the risks of all forms of flooding to and from the project and demonstrate how these flood risks will be managed, taking climate change into account.*
- *Paragraph 5.94: In preparing an FRA the applicant should:*
 - *consider the risk of all forms of flooding arising from the project (including in adjacent parts of the United Kingdom), in addition to the risk of flooding to the project, and demonstrate how these risks will be managed and, where relevant, mitigated, so that the development remains safe throughout its lifetime;*
 - *take the impacts of climate change into account, clearly stating the development lifetime over which the assessment has been made;*
 - *consider the vulnerability of those using the infrastructure including arrangements for safe access and exit;*
 - *include the assessment of the remaining (known as 'residual') risk after risk reduction measures have been taken into account and demonstrate that this is acceptable for the particular project;*
 - *consider if there is a need to remain operational during a worst case flood event over the development's lifetime;*

- *provide the evidence for the Secretary of State to apply the Sequential Test and Exception Test, as appropriate.*
- *Paragraph 5.95: Further guidance can be found in the Government's planning guidance supporting the National Planning Policy Framework issued by the Government.*
- *Paragraph 5.96: Applicants for projects which may be affected by, or may add to, flood risk are advised to seek sufficiently early pre-application discussions with the Environment Agency, and, where relevant, other flood risk management bodies such as lead local flood authorities, Internal Drainage Boards, sewerage undertakers, highways authorities and reservoir owners and operators. Such discussions can be used to identify the likelihood and possible extent and nature of the flood risk, to help scope the FRA, and identify the information that will be required by the Secretary of State to reach a decision on the application once it has been submitted and examined. If the Environment Agency has concerns about the proposal on flood risk grounds, the applicant is encouraged to discuss these concerns with the Environment Agency and look to agree ways in which the proposal might be amended, or additional information provided, which would satisfy the Environment Agency's concerns, preferably before the application for development consent is submitted.*
- *Paragraph 5.97: For local flood risk (surface water, groundwater and ordinary watercourse flooding), local flood risk management strategies and surface water management plans provide useful sources of information for consideration in Flood Risk Assessments. Surface water flood issues need to be understood and then account of these issues can be taken, for example flow routes should be clearly identified and managed.*
- *Paragraph 5.98: Where flood risk is a factor in determining an application for development consent, the Secretary of State should be satisfied that, where relevant:*
 - *the application is supported by an appropriate FRA;*
 - *the Sequential Test (see the National Planning Policy Framework) has been applied as part of site selection and, if required, the Exception Test (see the National Planning Policy Framework).*
- *Paragraph 5.99: When determining an application 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 and resistant, 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 5.100: For construction work which has drainage implications, approval for the project's drainage system will form part of any development consent issued by the Secretary of State. The Secretary of State will therefore need to be satisfied that the proposed drainage system complies with any National Standards published by Ministers under Paragraph 5(1) of Schedule 3 to the Flood and Water Management Act 2010. In addition, the development consent order, or any associated planning obligations, will need to make provision for the adoption and maintenance of any Sustainable Drainage Systems (SuDS), including any necessary access rights to property. The Secretary of State, should be satisfied that the most appropriate body is being given the responsibility for maintaining any SuDS, taking into account the nature and security of the infrastructure on the proposed site. The responsible body could include, for example, the applicant, the landowner, the relevant local authority, or another body such as the Internal Drainage Board.*
- *Paragraph 5.101: If the Environment Agency continues to have concerns and objects to the grant of development consent on the grounds of flood risk, the Secretary of State can grant consent, but would need to be satisfied before deciding whether or not to do so that all reasonable steps have been taken by the applicant and the Environment Agency to try and resolve the concerns.*
- *Paragraph 5.102: The Secretary of State should expect that reasonable steps have been taken to avoid, limit and reduce the risk of flooding to the proposed infrastructure and others. However, the nature of linear infrastructure means that there will be cases where:*
 - *upgrades are made to existing infrastructure in an area at risk of flooding;*
 - *infrastructure in a flood risk area is being replaced;*
 - *infrastructure is being provided to serve a flood risk area; and*
 - *infrastructure is being provided connecting two points that are not in flood risk areas, but where the most viable route between the two passes through such an area.*
- *Paragraph 5.103: The design of linear infrastructure and the use of embankments in particular, may mean that linear infrastructure can reduce the risk of flooding for the surrounding area. In such cases the Secretary of State should take account of any positive benefit to placing linear infrastructure in a flood-risk area.*

- *Paragraph 5.104: Where linear infrastructure has been proposed in a flood risk area, the Secretary of State should expect reasonable mitigation measures to have been made, to ensure that the infrastructure remains functional in the event of predicted flooding.*
- *Paragraph 5.105: Preference should be given to locating projects in Flood Zone 1. If there is no reasonably available site in Flood Zone 1, then projects can be located in Flood Zone 2. If there is no reasonably available site in Flood Zones 1 or 2, then national networks infrastructure projects can be located in Flood Zone 3, subject to the Exception Test. If the development is not essential transport infrastructure that has to cross the area at risk, it is not appropriate in Flood Zone 3b, the functional floodplain where water has to flow and be stored in times of flood.*
- *Paragraph 5.106: If, following application of the Sequential Test, it is not possible, consistent with wider sustainability objectives, for the project to be located in zones of lower probability of flooding than Flood Zone 3a, the Exception Test can be applied. The test provides a method of managing flood risk while still allowing necessary development to occur.*
- *Paragraph 5.107: The Exception Test is only appropriate for use where the Sequential Test alone cannot deliver an acceptable site, taking into account the need for national networks infrastructure to remain operational during floods.*
- *Paragraph 5.108: Both elements of the test will have to be passed for development to be consented. For the Exception Test to be passed:*
 - *it must be demonstrated that the project provides wider sustainability benefits to the community that outweigh flood risk; and*
 - *a FRA must demonstrate that the project will be safe for its lifetime, without increasing flood risk elsewhere and, where possible, will reduce flood risk overall.*
- *Paragraph 5.109: In addition, any project that is classified as 'essential infrastructure' and proposed to be located in Flood Zone 3a or b should be designed and constructed to remain operational and safe for users in times of flood; and any project in Zone 3b should result in no net loss of floodplain storage and not impede water flows.*
- *Paragraph 5.110: To satisfactorily manage flood risk and the impact of the natural water cycle on people, property and ecosystems, good design and infrastructure may need to be secured using requirements or planning obligations. This may include the use of sustainable drainage systems but could also include vegetation to help to slow runoff, hold back peak flows and make landscapes more able to absorb the impact of severe weather events.*

- *Paragraph 5.111: In this document the term Sustainable Drainage Systems (SuDS) is frequently used and taken to cover the whole range of sustainable approaches to surface water drainage management including:*
 - *source control measures including rainwater recycling and drainage;*
 - *infiltration devices to allow water to soak into the ground, that can include individual soakaways and communal facilities;*
 - *filter strips and swales, which are vegetated features that hold and drain water downhill mimicking natural drainage patterns;*
 - *filter drains and porous pavements to allow rainwater and run-off to infiltrate into permeable material below ground and provide storage if needed;*
 - *basins and ponds to hold excess water after rain and allow controlled discharge that avoids flooding; and*
 - *flood routes to carry and direct excess water through developments to minimise the impact of severe rainfall flooding.*
- *Paragraph 5.112: Site layout and surface water drainage systems should cope with events that exceed the design capacity of the system, so that excess water can be safely stored on or conveyed from the site without adverse impacts.*
- *Paragraph 5.113: The surface water drainage arrangements for any project should be such that the volumes and peak flow rates of surface water leaving the site are no greater than the rates prior to the proposed project, unless specific off-site arrangements are made and result in the same net effect.*
- *Paragraph 5.114: It may be necessary to provide surface water storage and infiltration to limit and reduce both the peak rate of discharge from the site and the total volume discharged from the site. There may be circumstances where it is appropriate for infiltration attenuation storage to be provided outside the project site, if necessary through the use of a planning obligation.*
- *Paragraph 5.115: The sequential approach should be applied to the layout and design of the project. Vulnerable uses should be located on parts of the site at lower probability and residual risk of flooding. Applicants should seek opportunities to use open space for multiple purposes such as amenity, wildlife habitat and flood storage uses. Opportunities can be taken to lower flood risk by improving flow routes, flood storage capacity and using SuDS'.*

6.16.2 This is also set out in the draft NPS NN:

- *Paragraph 4.41: The generic impacts advice in this NPS provides additional information on climate change adaptation. In particular, this section should be read alongside paragraphs 5.95 to 5.110 (coastal change and marine impacts), paragraphs 5.120 to 5.145 (flood risk), and paragraphs 5.243 to 5.259 (water quality and resources).*
- *Paragraph 4.42: The planning and pollution control systems are separate but complementary. The planning system controls the development and use of land in the public interest. It plays a key role in protecting and improving the natural environment, public health and safety, and amenity, for example by attaching conditions to allow developments, which would otherwise not be environmentally acceptable to proceed, and preventing harmful development which cannot be made acceptable even through requirements. Pollution control is concerned with preventing pollution through measures which prohibit or limit the release of substances to the environment from different sources to the lowest practicable level. It also ensures that ambient air, water, and land quality meet standards that guard against impacts to the environment or human health.*
- *Paragraph 4.43: Issues relating to discharges or emissions from a proposed project which lead to other direct and indirect impacts on air quality, water quality and land quality, or which include noise, light and vibration, may be subject to separate regulation under the pollution control framework or other consenting and licensing regimes. Relevant permissions will need to be obtained for any activities within the development that are regulated under those regimes before the activities can be operated.*
- *Paragraph 4.44: Pollution from industrial sources in England and Wales is controlled through the Environmental Permitting (England and Wales) Regulations 2016 (the Environmental Permitting Regulations). Some projects covered by this NPS may be subject to the Environmental Permitting Regulations regime, which also incorporates operational waste management requirements for certain activities. When an applicant applies for an Environmental Permit, the relevant regulator (usually the Environment Agency but sometimes the local authority) requires that the application demonstrates that processes are in place to meet all relevant Environmental Permit requirements.*
- *Paragraph 5.120: Climate change over the next few decades is likely to mean milder wetter winters and hotter drier summers in the UK, while sea levels will continue to rise alongside changes in rainfall patterns. Within the lifetime of nationally significant infrastructure projects, these factors will lead to increased flood risks in areas susceptible to flooding, and to an increased risk of flooding in some areas which are not currently thought of as being at risk. The applicant, the Examining Authority and the Secretary of State (in taking*

decisions) should take account of the policy on climate change adaptation in paragraphs 4.30 to 4.41.

- *Paragraph 5.121: The National Planning Policy Framework (paragraphs 159 to 169) makes clear 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, it should be made safe without increasing flood risk elsewhere. The guidance at Annex 3 to the National Planning Policy Framework explains that essential transport infrastructure (including mass evacuation routes), which has to cross the area at risk, is permissible in areas of high flood risk, subject to the requirements of the Exception Test. The Exception Test assesses the safety of a site, including whether the proposed development will be safe from flooding for its lifetime, including the impact of climate change.*
- *Paragraph 5.122: Applications for projects in the following flood zone locations should be accompanied by a Flood Risk Assessment:*
 - *Applications in flood Zones 2 and 3, which represent a medium and high probability of river and sea flooding*
 - *Applications in flood Zone 1 which represent a low probability of river and sea flooding. This includes projects of 1 hectare or greater, projects which may be subject to other sources of flooding (local watercourses, surface water, groundwater or reservoirs), or where the Environment Agency has notified the local planning authority that there are critical drainage problems*
 - *Applications where there is less than 1 ha in flood zone 1, including a change of use in development type to a more vulnerable class (for example from commercial to residential), where they could be affected by sources of flooding other than rivers and the sea (for example surface water drains, reservoirs)*
- *Paragraph 5.123: The Flood Risk Assessment should identify and assess the risks of all forms of flooding and coastal erosion to and from the project and demonstrate how these flood risks will be managed, taking climate change into account.*
- *Paragraph 5.124: In preparing a Flood Risk Assessment the applicant should:*
 - *consider the risk of all forms of flooding arising from the project (including in adjacent parts of the United Kingdom), in addition to the risk of flooding to the project, and demonstrate how these risks will be managed and, where relevant, mitigated, so that the development remains safe throughout its lifetime*
 - *take the impacts of climate change into account, clearly stating the development lifetime over which the assessment has been made*

- *demonstrate how residual risks to and from reservoirs will be safely managed and/ or mitigated*
 - *consider the vulnerability of those using the infrastructure including arrangements for safe access and escape*
 - *include the assessment of the remaining (known as 'residual') risk after risk reduction measures have been taken into account and demonstrate that this is acceptable for the particular project*
 - *consider if there is a need to remain operational during a worst-case flood event over the development's lifetime*
 - *provide the rationale for the Secretary of State on the application of the Sequential Test and Exception Test, as appropriate*
- *Paragraph 5.125: Applicants for projects which may be affected by, or may add to, flood risk should seek sufficiently early pre-application discussions, before the official preapplication stage of the NSIP process with the Environment Agency, and, where relevant, other flood risk management bodies such as lead local flood authorities, Internal Drainage Boards, sewerage undertakers, and highways authorities. Such discussions can be used to identify the likelihood and possible extent and nature of the flood risk, to help scope the Flood Risk Assessment, and identify the information that will be required by the Secretary of State to reach a decision on the application once it has been submitted and examined. If the Environment Agency has concerns about the proposal on flood risk grounds, the applicant should discuss these concerns with the Environment Agency and look to agree ways in which the proposal might be amended, or additional information provided, which would satisfy the Environment Agency's concerns, before the application for development consent is submitted.*
 - *Paragraph 5.126: For local flood risk (surface water, groundwater and ordinary watercourse flooding), local flood risk management strategies and surface water management plans provide useful sources of information for consideration in Flood Risk Assessments. Surface water flood issues need to be understood and then account of these issues can be taken, for example, flow routes should be clearly identified and managed.*
 - *Paragraph 5.127: Proposals should prioritise the use of sustainable drainage systems unless there is clear evidence that this would be inappropriate. A drainage strategy should also be produced and submitted as part of the Flood Risk Assessment.*
 - *Paragraph 5.128: Preference should be given to locating projects in areas of lowest flood risk. The Secretary of State should not consent development in flood risk areas (including flood zones 2 and 3 and locations at risk of flooding from local watercourses, surface water, groundwater or reservoirs) accounting for the predicted impacts of*

climate change unless they are satisfied that the sequential test requirements have been met. The Secretary of State should not consent development in Flood Zone 3 unless they are satisfied that the Sequential and Exception Test requirements have been met. All projects should apply the sequential approach to locating development within the site.

- *Paragraph 5.129: If, following application of the Sequential Test, it is not possible, consistent with wider sustainability objectives, for the project to be located in zones of lower probability of flooding than Flood Zone 3a, the Exception Test can be applied. Flood Zone 3a applies when land has a 1 in 100 or greater annual probability of river flooding. The Exception Test provides a method of managing flood risk while still allowing necessary development to occur.*
- *Paragraph 5.130: The Exception Test should only be applied once the Sequential Test has been satisfactorily applied.*
- *Paragraph 5.131: Both elements of the test will have to be passed for development to be consented. For the Exception Test to be passed:*
 - *it must be demonstrated that the project provides wider sustainability benefits to the community that outweigh flood risk*
 - *a Flood Risk Assessment must demonstrate that the project will be safe for its lifetime, without increasing flood risk elsewhere and, where possible, will reduce flood risk overall*
- *Paragraph 5.132: In addition, any project that is classified as 'essential infrastructure' and proposed to be located in Flood Zone 3a or b should be designed and constructed to remain operational and safe for users in times of flood; and any project in Flood Zone 3b should result in no net loss of floodplain storage and not impede water flows.*
- *Paragraph 5.133: To satisfactorily manage flood risk and the impact of the natural water cycle on people, property and ecosystems, good design and infrastructure may need to be secured using requirements or planning obligations. This may include the use of Sustainable Drainage Systems but could also include vegetation to help to slow runoff, hold back peak flows and make landscapes more able to absorb the impact of severe weather events.*
- *Paragraph 5.134: Site layout and surface water drainage systems should cope with events that exceed the design capacity of the system, so that excess water can be safely stored on or conveyed from the site without adverse impacts.*
- *Paragraph 5.135: The surface water drainage arrangements for any project should be such that the volumes and peak flow rates of surface water leaving the site are no greater than the rates prior to the*

proposed project unless specific off-site arrangements are made and result in the same net effect.

- *Paragraph 5.136: If there are no viable Sustainable Drainage Systems options available, it may be necessary to provide surface water storage and infiltration to limit and reduce both the peak rate of discharge from the site and the total volume discharged from the site. There may be circumstances where it is appropriate for infiltration attenuation storage to be provided outside the project site, if necessary, through the use of a planning obligation.*
- *Paragraph 5.137: The sequential approach should be applied to the layout and design of the project. Vulnerable uses should be located on parts of the site at lower probability and residual risk of flooding. Applicants should seek opportunities to use open space for multiple purposes such as amenity, wildlife habitat and flood storage uses. Opportunities can be taken to lower flood risk by improving flow routes, flood storage capacity and using Sustainable Drainage Systems.*
- *Paragraph 5.138: Where flood risk is a factor in determining an application for development consent, the Secretary of State should be satisfied that, where relevant:*
 - *the application is supported by an appropriate Flood Risk Assessment*
 - *the Sequential Test has been satisfactorily applied as part of site selection and, if required, the Exception Test*
- *Paragraph 5.139: When determining an application, 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*
 - *development is appropriately flood resilient and resistant, 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 5.140: The term Sustainable Drainage Systems is taken to cover the whole range of sustainable approaches to surface water drainage management including:*
 - *source control measures including rainwater recycling and drainage*

- *use of Sustainable Drainage Systems Management Trains to improve water quality*
- *infiltration devices to allow water to soak into the ground, that can include individual soakaways and communal facilities*
- *filter strips and swales, which are vegetated features that hold and drain water downhill mimicking natural drainage patterns*
- *filter drains and porous pavements to allow rainwater and run-off to infiltrate into permeable material below ground and provide storage if needed*
- *basins and ponds to hold excess water after rain and allow controlled discharge that avoids flooding*
- *flood routes to carry and direct excess water through developments to minimise the impact of severe rainfall flooding*
- *Paragraph 5.141: For construction work which has drainage implications, approval for the project's drainage system will form part of any development consent issued by the Secretary of State. The Secretary of State will therefore need to be satisfied that the proposed drainage system complies with Technical Standards published by Ministers. In addition, the Development Consent Order, or any associated planning obligations, will need to make provision for the adoption and maintenance of any Sustainable Drainage Systems, including any necessary access rights to property. Sustainable Drainage Systems should deliver multifunctional benefits and help to achieve Biodiversity net gain. The Secretary of State should be satisfied that the most appropriate body is being given the responsibility for maintaining any Sustainable Drainage Systems, taking into account the nature and security of the infrastructure on the proposed site. The responsible body could include, for example, the applicant, the landowner, the relevant local authority and the relevant Sustainable Drainage Systems Approval Body or another body such as the Internal Drainage Board. Where infiltration type Sustainable Drainage Systems are proposed, pre-applications with the Environment Agency are recommended to ensure they do not cause pollution to surface and groundwater quality and applicants should consider the role of Sustainable Drainage Systems management trains to control and treat run-off.*
- *Paragraph 5.142: If the Environment Agency continues to have concerns and objects to the grant of development consent on the grounds of flood risk, the Secretary of State can grant consent, but would need to be satisfied before deciding whether or not to do so that all reasonable steps have been taken by the applicant and the Environment Agency to try and resolve the concerns.*
- *Paragraph 5.143: The Secretary of State should expect that reasonable steps have been taken to avoid, limit and reduce the risk of*

flooding to the proposed infrastructure and others. However, the nature of linear infrastructure means that there will be cases where:

- *upgrades are made to existing infrastructure in an area at risk of flooding*
 - *infrastructure in a flood risk area is being replaced*
 - *infrastructure is being provided to serve a flood risk area*
 - *infrastructure is being provided connecting two points that are not in flood risk areas, but where the most viable route between the two passes through such an area*
- *Paragraph 5.144: The design of linear infrastructure and the use of embankments in particular, may mean that linear infrastructure can reduce the risk of flooding for the surrounding area while also offering opportunities to enhance biodiversity. It should be demonstrated that there is no increase in flood risk elsewhere. In such cases the Secretary of State should take account of any positive benefit to placing linear infrastructure in a flood-risk area.*
 - *Paragraph 5.145: Where linear infrastructure has been proposed in a flood risk area, the Secretary of State should expect reasonable mitigation measures to have been made, to ensure that the infrastructure remains functional in the event of predicted flooding.*

Accordance with the NPS NN and the draft NPS NN

Flood Risk

6.16.3 In accordance with paragraph 5.124 of the draft NPS NN, a Flood Risk Assessment (FRA) has been undertaken and can be found at Appendix 13.6 of the ES Appendices (TR010064/APP/6.3) and the conclusions summarised in Chapter 13, Road Drainage and the Water Environment of the ES, (TR010064/APP/6.1). The main findings are:

- The Scheme is located within Flood Zone 1 and therefore at low risk of flooding from Main Rivers.
- The overall flood risk from Ordinary Watercourses (OW) to the Scheme is considered to be moderate due to the areas of surface water flood risk shown on the Risk of Flooding from Surface Water ("RoFSW") map that could be due to OW flooding.
- The overall flood risk from surface water flooding is considered to be moderate.
- There are areas within the Scheme, around the Northern Loop, that have potential for groundwater flooding to occur at the surface. However, after implementing mitigation measures groundwater flood risk is considered to be low.
- There is low risk of flooding from water-retaining infrastructure.

- Flood risk from sewers and artificial drainage systems to the Scheme is low.
- As the Scheme is at a low risk of flooding and will not increase the risk of flooding elsewhere, the sequential test (which seeks to locate development in low flood risk areas) is met.
- The exceptions test, which is applied to development in high risk flood areas, does not need to be applied to the Scheme.

Sustainable Urban Drainage (SUDS) including Resilience to Climate Change

- 6.16.4 The drainage design has been developed taking into account future potential increases in flooding. The Environment Agency's guidance on climate change allowances has been used (Environment Agency, 2022).
- 6.16.5 The Scheme design has considered a variety of options for the mitigation of potential surface water drainage and flood risk impacts. It consists of six separate road drainage catchments for road runoff (although note only four attenuation ponds and one treatment pond are required). Attenuation storage will be provided in the form of attenuation ponds, swales, and oversized pipes depending on the site constraints. As required by paragraph 5.140 of the draft NPS NN, where practicable, SuDS, flow conveyance and attenuation features (attenuation ponds, swales, filter drains, etc.) have been used to reduce the impact of surface water runoff being discharged on the natural environment, thereby reducing flood risk and improving water quality.
- 6.16.6 Where required, discharge rates during operation will be restricted to achieve the allowable discharge rates and ensure no increase in flood risk. The associated attenuation storage will be sized for the 1% (1 in 100) Annual Exceedance Probability (AEP) storm event. As required by paragraph 5.120 of the draft NPS NN this includes an allowance for climate change as described in Appendix 13.7, the Drainage Strategy Report of the ES Appendices (TR010064/APP/6.3).
- 6.16.7 Where practicable, ponds are the preferred method of attenuation storage. An additional permanent water depth of 0.3m is to be designed at the bottom of the attenuation ponds (below the attenuation pond outlet pipe invert level) to create a permanently wet pond. This will provide water quality treatment and biodiversity benefits. SuDS drainage will have a service life of 60 years and sufficient capacity to accommodate additional runoff associated with an increase in rainfall intensity due to climate change of 30%. However, there will be no increase in discharge rate from the SuDS as the additional runoff will be managed through the implementation of attenuation solutions, coupled with flow controls within all drainage networks.

Protecting the Water Environment

- 6.16.8 The impact of the Scheme on the Water Framework Directive (WFD) has been assessed under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017. This is set out in Appendix 13.1, WFD Compliance Assessment of the ES Appendices (TR010064/APP/6.3).
- 6.16.9 As required by paragraph 4.42 of the draft NPS NN, measures to minimise the risk of pollution to the water environment are set out below:
- The Applicant's Highways England Water Risk Assessment Tool (HEWRAT) assessments have been undertaken at each design iteration with the results of the assessments informing the need and extent of further mitigation. This has then been incorporated into subsequent design iterations.
 - Appendix 13.2, the Water Quality Assessment Report and Appendix 13.7, the Drainage Strategy Report of the ES Appendices (TR010064/APP/6.3) set out the treatment train specifications for drainage catchment within the extent of the Scheme.
 - Sediment forebays are to be provided at the inlet of all attenuation ponds which will provide effective pre-treatment (removal of coarse sediments) and ensure ease of maintenance during the removal of any such collected coarse sediments. The main storage compartment, after the sediment forebay, for all of the attenuation ponds would be a 0.3m depth permanent water pool which will act as the main surface water treatment zone. Where required the attenuation ponds can also be cascaded (contains multiple storage compartments) to increase the residence time and enable the additional sedimentation of particulate matter to occur. In addition, attenuation ponds will be planted with vegetation sufficiently robust to withstand the potential pollutants suspended in the surface water runoff which would provide additional water quality treatment benefits. Perennial ryegrass and fescues are typical for this purpose.
 - The vegetation in swales / vegetated ditches will slow the surface water flow rate provided the flow is at or below the level of the vegetation. This will increase water residence time in the swale and force sediments and other potential pollutants to settle out. Check dams can also be provided to maximise the level of treatment. Check dam provision will be assessed at the detailed design stage. Where feasible swales / vegetated ditches are provided from some proposed attenuation ponds (where practicable) as an added level of treatment prior to the surface water discharging to the receiving watercourse.
 - Filter drains will filter out some fine sediments, metals, hydrocarbons and other pollutants as the surface water percolates down through the trench fill material overlying the perforated filter drain. Silt traps in chambers and gullies will provide suspended particulate matter retention with regular maintenance.

- Appendix 13.2: the Water Quality Assessment Report of the ES Appendices (TR10064/APP/6.3) also includes an assessment of spillage risk. This assessment has concluded that the risk of a serious chemical spillage from all road catchments is low. Isolation chambers fitted with penstock valves will; be located at the downstream end of the proposed highway drainage systems. This will allow isolation of the pollutants within the highway drainage system thereby avoiding pollution to receiving watercourses.
- In terms of managing the risk of surface and groundwater pollution during construction, Appendix H, Outline Surface and Groundwater Management Plan is contained in the First Iteration EMP (TR010064/APP/6.5). This will be developed into a Second Iteration EMP to be implemented during construction and secured by Requirement 4 of the draft DCO (TR010064/APP/3.1).
- The Environment Agency does not require the Applicant to apply for consent for normal routine maintenance operations.

6.16.10 The Scheme does not require an Environmental Permit that will need to be applied for in parallel to the DCO. The Consents and Agreements Position Statement (TR010064/APP/3.3) sets out the Applicant's intended strategy for obtaining the consents and associated agreements needed to implement the Scheme if the draft DCO is granted. For the water environment, this includes:

- Agreement to use herbicide in or near water.
- S106 Foul sewer connection.
- Trade effluent consent.
- Environmental Permit Flood Risk Activity (FRAP).
- Ordinary Watercourse Consent (temporary or permanent)
- Water Abstraction (Temporary / Permanent).
- Water Abstraction – Passive dewatering.
- Water Transfer (during construction or operation).
- Environmental Permit for Water Discharges.

Concluding Assessment

6.16.11 As required by paragraph 5.127 of the draft NPS NN, appropriate SUDs drainage attenuation to manage surface water run off has been designed to the most recent climate change standards to ensure it encourages biodiversity and allows for predicted increases in rainfall intensity.

- 6.16.12 In accordance with paragraph 5.128 of the draft NPS NN, the Order Limits are entirely in Flood Zone 1 which means the risk of flooding is low. It will not cause an increase in flood risk elsewhere. The Sequential Test is met and the Exceptions Test does not apply.
- 6.16.13 Extensive measures to minimise the risk of pollution to the water environment have been incorporated and the Scheme is compliant with the Water Framework Directive. This accords with paragraph 4.42 of the draft NPS NN.
- 6.16.14 As set out in the Consultation Report (TR010064/APP/5.1), consultation and engagement with the Environment Agency has taken place during development of the Scheme. This has included engagement on technical matters such as flood risk, drainage and groundwater.
- 6.16.15 A Statement of Common Ground is being developed with the Environment Agency to record the matters agreed between both parties and identify any matters which still need to be agreed. The Statement of Common Ground will be submitted to the ExA during the course of the examination of the application for development consent.

6.17 Landscape and Visual Impact and Arboricultural

Key Policies of the NPS NN and the draft NPS NN

- 6.17.1 The NPS NN covers the need to minimise the visual and landscape impact of the Scheme and where possible to provide enhanced landscaping.
- *Paragraph 5.143: The landscape and visual effects of proposed projects will vary on a case by case basis according to the type of development, its location and the landscape setting of the proposed development. In this context, references to landscape should be taken as covering seascape and townscape, where appropriate.*
 - *Paragraph 5.144: 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. A number of guides have been produced to assist in addressing landscape issues. The landscape and visual assessment should include reference to any landscape character assessment and associated studies, as a means of assessing landscape impacts relevant to the proposed project. The applicant's assessment should also take account of any relevant policies based on these assessments in local development documents in England.*
 - *Paragraph 5.145: The applicant's assessment should include any significant effects during construction of the project and/or the significant effects of the completed development and its operation on landscape components and landscape character (including historic landscape characterisation).*

- *Paragraph 5.146: The assessment 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, tranquility and nature conservation.*
- *Paragraph 5.147: Any statutory undertaker commissioning or undertaking works in relation to, or so as to affect land in a National Park or Areas of Outstanding Natural Beauty, would need to comply with the respective duties in section 11A of the National Parks and Access to Countryside Act 1949 and section 85 of the Countryside and Rights of Way Act 2000*
- *Paragraph 5.148: For significant road widening or the building of new roads in National Parks and the Broads applicants also need to fulfil the requirements set out in Defra's English national parks and the broads: UK government vision and circular 2010 or successor documents. These requirements should also be complied with for significant road widening or the building of new roads in Areas of Outstanding Natural Beauty.*
- *Paragraph 5.149: Landscape effects depend on the nature of the existing landscape likely to be affected and nature of the effect likely to occur. Both of these factors need to be considered in judging the impact of a project on landscape. Projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints, the aim should be to avoid or minimise harm to the landscape, providing reasonable mitigation where possible and appropriate.*
- *Paragraph 5.150: Great weight should be given to conserving landscape and scenic beauty in nationally designated areas. National Parks, the Broads and Areas of Outstanding Natural Beauty have the highest status of protection in relation to landscape and scenic beauty. Each of these designated areas has specific statutory purposes which help ensure their continued protection and which the Secretary of State has a statutory duty to have regard to in decisions.*
- *Paragraph 5.151: The Secretary of State should refuse development consent in these areas except in exceptional circumstances and where it can be demonstrated that it is in the public interest. Consideration of such applications should include an assessment of:*
 - *the need for the development, including in terms of any national considerations, and the impact of consenting, or not consenting it, upon the local economy;*
 - *the cost of, and scope for, developing elsewhere, outside the designated area, or meeting the need for it in some other way;*
and

- *any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.*
- *Paragraph 5.152: There is a strong presumption against any significant road widening or the building of new roads and strategic rail freight interchanges in a National Park, the Broads and Areas of Outstanding Natural Beauty, unless it can be shown there are compelling reasons for the new or enhanced capacity and with any benefits outweighing the costs very significantly. Planning of the Strategic Road Network should encourage routes that avoid National Parks, the Broads and Areas of Outstanding Natural Beauty.*
- *Paragraph 5.153: Where consent is given in these areas, the Secretary of State should be satisfied that the applicant has ensured that the project will be carried out to high environmental standards and where possible includes measures to enhance other aspects of the environment. Where necessary, the Secretary of State should consider the imposition of appropriate requirements to ensure these standards are delivered.*
- *Paragraph 5.154: The duty to have regard to the purposes of nationally designated areas also applies when considering applications for projects outside the boundaries of these areas which may have impacts within them. The aim should be to avoid compromising the purposes of designation and such projects should be designed sensitively given the various siting, operational, and other relevant constraints. This should include projects in England which may have impacts on designated areas in Wales or on National Scenic Areas in Scotland.*
- *Paragraph 5.155: The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent.*
- *Paragraph 5.156: Outside nationally designated areas, there are local landscapes that may be highly valued locally and protected by local designation. Where a local development document in England has policies based on landscape character assessment, these should be given particular consideration. However, local landscape designations should not be used in themselves as reasons to refuse consent, as this may unduly restrict acceptable development.*
- *Paragraph 5.157: In taking decisions, the Secretary of State should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to avoid adverse effects on landscape or to minimise harm to the landscape, including by reasonable mitigation.*

- *Paragraph 5.158: The Secretary of State will have to judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the development. Coastal areas are particularly vulnerable to visual intrusion because of the potential high visibility of development on the foreshore, on the skyline and affecting views along stretches of undeveloped coast, especially those defined as Heritage Coast.*
- *Paragraph 5.159: Reducing the scale of a project or making changes to its operation can help to avoid or mitigate the visual and landscape effects of a proposed project. However, reducing the scale or otherwise amending the design or changing the operation of a proposed development may result in a significant operational constraint and reduction in function. There may, be exceptional circumstances, where mitigation could have a very significant benefit and warrant a small reduction in scale or function. In these circumstances, the Secretary of State may decide that the benefits of the mitigation to reduce the landscape effects outweigh the marginal loss of scale or function.*
- *Paragraph 5.160: Adverse landscape and visual effects may be minimised through appropriate siting of infrastructure, design (including choice of materials), and landscaping schemes, depending on the size and type of proposed project. Materials and designs for infrastructure should always be given careful consideration.*
- *Paragraph 5.161: Depending on the topography of the surrounding terrain and areas of population it may be appropriate to undertake landscaping off site, although if such landscaping was proposed to be consented by the development consent order, it would have to be included within the order limits for that application. For example, filling in gaps in existing tree and hedge lines would mitigate the impact when viewed from a more distant vista’.*

6.17.2 This is also contained in the draft NN NPS.

- *‘Paragraph 5.152: The landscape and visual effects of proposed projects will vary on a case-by-case basis according to the type of development, its location and the landscape setting of the proposed development. In this context, references to landscape should be taken as also covering all landscape including seascape and townscape, where appropriate.*
- *Paragraph 5.153: The applicant should carry out a landscape and visual impact assessment. A number of guides have been produced to assist in addressing landscape issues. The landscape and visual assessment for the proposed project should include the impacts during construction and operation, and reference to any operational landscape character assessment and associated studies. The*

applicant's assessment should also take account of any relevant policies based on these assessments in local development documents in England. For seascapes, applicants should consult the Seascape Character Assessment and the Marine Plan Seascape Character Assessments, and any successors to them.

- *Paragraph 5.154: The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project, potential impacts on views (including protected views) and visual amenity. This should include any noise and light pollution effects, including on local amenity, tranquility, and nature conservation. The assessment should also demonstrate how noise and light pollution from construction and operational activities on residential amenity and on sensitive locations, receptors, and views will be minimised.*
- *Paragraph 5.155: Any statutory undertaker commissioning or undertaking works in relation to, or so as to affect land in England's National Parks and the Broads, or Area of Outstanding Natural Beauty, would need to comply with the respective duties in section 11A of the National Parks and Access to Countryside Act 1949, and section 85 of the Countryside and Rights of Way Act 2000. The policy paper titled English national parks and the broads: UK government vision and circular 2010 states that major development in or adjacent to the boundary of a National Park, Area of Outstanding Natural Beauty or the Broads can have a significant impact on the qualities for which they were designated. Government planning policy advises that major development should not take place within them apart from exceptional circumstances. For significant road widening or the building of new roads or railways in England's National Parks and the Broads or Area of Outstanding Natural Beauty, applicants also need to fulfil the requirements set out in circular 2010 or successor documents. Management Plans should also be considered for National Parks and Area of Outstanding Natural Beauty, especially on identified special qualities of the area and any proposals for enhancement.*
- *Paragraph 5.156: The scale of a project should be minimised to avoid or mitigate the visual and landscape effects, during construction and operation, so far as is possible while maintaining the operational requirements of the scheme. In exceptional circumstances a reduction in operational requirements might be warranted, and the Secretary of State may decide that the benefits to reduce the landscape effects outweigh the marginal loss of scale or function.*
- *Paragraph 5.157: Projects need to be designed carefully, taking account of the potential impact on the landscape.*
- *Paragraph 5.158: Adverse landscape and visual effects may be minimised through appropriate siting of infrastructure, design (including choice of materials), and topographical interventions (for*

example, creation of bunds or lowering of ground level). Also, landscaping schemes (including screening options and design elements that soften the built form such as green or brown roofs, or living walls), depending on the size and type of the proposed project. Materials and designs for infrastructure should always be given careful consideration in terms of environmental standards.

- *Paragraph 5.159: Depending on the topography of the surrounding terrain and areas of population, it may be appropriate to undertake landscaping off-site, although if such landscaping was proposed to be consented by the Development Consent Order, it would have to be included within the order limits for that application. For example, filling in gaps in existing tree and hedge lines would mitigate the impact when viewed from a more distant vista.*
- *Paragraph 5.160: Applicants should consider how landscapes can be enhanced using landscape management plans, as this will help to enhance environmental assets where they contribute to landscape and townscape quality, and can reinforce or enhance landscape features and character.*
- *Paragraph 5.161: Landscape effects of the project depend on the existing character of the local landscape, its capacity to accommodate change and nature of the effect likely to occur. All of these factors need to be considered in judging the impact of a project on landscape. Projects need to have regard to siting, orientation, height operational and other relevant constraints. The aim should be to avoid or minimise harm to the landscape, providing reasonable mitigation and opportunities for enhancement where possible and appropriate.*
- *Paragraph 5.162: England's National Parks, the Broads and Areas of Outstanding Natural Beauty have been confirmed by the government as having the highest status of protection in relation to landscape and scenic beauty. Each of these designated areas has specific statutory purposes which help ensure their continued protection and which the Secretary of State should have regard to in their decisions. The conservation and enhancement of the natural beauty of the landscape and countryside should be given great weight by the Secretary of State in deciding on applications for development consent in these areas.*
- *Paragraph 5.163: The Secretary of State should refuse development consent in these areas unless there are exceptional circumstances, where the benefits outweigh the harm and where it can be demonstrated that it is in the public interest. Consideration of such applications should include an assessment of:*
 - *the need for the development, including in terms of any national considerations, and the impact of consenting, or not consenting it, upon the local economy;*

- *the cost of, and scope for, developing elsewhere, outside the designated area, or meeting the need for it in some other way, taking account of the policy on alternatives set out in paragraph 4.17 to 4.19; and*
- *any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.*
- *Paragraph 5.164: There is a strong presumption against any significant road widening or the building of new roads and strategic rail freight interchanges in a National Park, the Broads and Areas of Outstanding Natural Beauty, unless it can be shown there are exceptional circumstances for the new or enhanced capacity and with any benefits very significantly outweighing the harm. Planning of the Strategic Road Network should encourage routes that avoid impacts to National Parks, the Broads and Areas of Outstanding Natural Beauty.*
- *Paragraph 5.165: Where consent is given in these areas, the Secretary of State should be satisfied that the applicant has ensured that the project will be carried out to high environmental and design standards and where possible includes measures to enhance the landscape and other aspects of the environment. Where necessary, the Secretary of State should consider the imposition of appropriate requirements to ensure these standards are delivered.*
- *Paragraph 5.166: The duty to have regard to the purposes of nationally designated landscapes also applies when considering applications for projects outside the boundaries of these areas (in their 'setting') which may have impacts within them. The aim should be to avoid compromising the purposes of designation and such projects should be located and designed sensitively, to avoid or minimise impacts. This should include projects in England which may have impacts on designated areas in Wales or on National Scenic Areas in Scotland. The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent.*
- *Paragraph 5.167: Outside nationally designated landscapes, there are local landscapes that may be highly valued locally and protected by local designation. Where a local development plan in England has policies based on landscape character assessment, these should be given particular consideration. However, local landscape designations should not be used in and of themselves as reasons to refuse consent, as this may unduly restrict acceptable development.*
- *Paragraph 5.168: Within areas defined as Heritage Coast that are not already within one of the nationally designated landscape areas, planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major*

development within a Heritage Coast is unlikely to be appropriate unless it is compatible with its special character.

- *Paragraph 5.169: In taking decisions, the Secretary of State should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to avoid adverse effects on landscape or to minimise harm to the landscape, including by appropriate mitigation.*
- *Paragraph 5.170: The Secretary of State will have to judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the development. Coastal areas are particularly vulnerable to visual intrusion because of the potential high visibility of development on the foreshore, on the skyline and affecting views along stretches of undeveloped coast, especially those defined as Heritage Coast. Within areas defined as Heritage Coast, planning policies and decisions should be consistent with the special character of the area and the importance of its conservation.*
- *Paragraph 5.187: Existing trees and woodlands should be retained where possible. The applicant should assess the impacts on, and loss of, all trees and woodlands within the project boundary and develop mitigation measures to minimise adverse impacts and any risk of net deforestation as a result of the scheme. Mitigation may include the use of buffers to enhance resilience, improvements to connectivity, and improved woodland management. Where woodland loss is unavoidable, compensation schemes will be required, and the long-term management and maintenance of newly planted trees should be secured'*

Accordance with the NPS NN and the draft NPS NN

Landscape and Visual

- 6.17.3 As required by paragraph 5.153 of the draft NPS NN, Chapter 7, Landscape and Visual of the ES (TR010064/APP/6.1) provides a Landscape and Visual Impact Assessment (LVIA). The assessment of landscape effects has been made on LCAs defined within the Greater Manchester Landscape Character and Sensitivity Assessment. (Greater Manchester Combined Authority, 2018).
- 6.17.4 An assessment of townscape effects has been made on townscape areas defined by the competent expert for landscape and visual assessment following the Landscape Institute's 'Townscape Character Assessment Technical Information Note 05/2017'.
- 6.17.5 BMBC and Rochdale Metropolitan Borough Council (RMBC) have produced Landscape Character Assessments which comprise a framework of landscape character types (LCT) and their component LCA. However, the Greater Manchester Landscape Character and Sensitivity

Assessment (produced for Greater Manchester Combined Authority by Land Use Consultants (“LUC”), 2018) covers the whole of the GMCA. It consolidates previously published Landscape Character Assessments into a single assessment with continuity across district boundaries which provides a baseline to inform the analysis of landscape. Greater Manchester Landscape Character and Sensitivity Assessment divides the Greater Manchester area into a series of LCTs, and within these are smaller and recognisable units of character described as LCAs.

Construction Effects

- 6.17.6 There will be a significant adverse effect on LCA 26: Prettywood, Pilsworth and Unsworth Moss during construction due to the partial loss of existing landscape features and addition of new noticeable features.
- 6.17.7 Viewpoints are shown on Figure 7.5, Representative Viewpoints and Photomontages Locations and 7.6, Representative Viewpoint photosheets of the Environmental Statement Figures (TR010064/APP/6.2). The assessment has concluded that significant adverse visual effects will occur at 17 of the 29 representative viewpoints. These are VP3, VP5, VP6, VP7, VP12, VP14, VP15, VP16, VP17, VP18, VP19, VP20, VP21, VP23, VP26, VP27 and VP28 as the Scheme would become the dominant feature or would form a noticeable feature of the view.
- 6.17.8 For the remaining receptors the effects on the landscape and visual aspect are likely to be not significant after the application of mitigation measures outlined within the First Iteration EMP (TR010064/APP/6.5).

Year 1 (2029 Opening year)

- 6.17.9 The assessment has concluded that significant adverse visual effects will occur at 16 of the 29 representative viewpoints. These are VP3, VP5, VP7, VP12, VP14, VP15, VP16, VP17, VP18, VP19, VP20, VP21, VP23, VP26, VP27 and VP28 as the Scheme would continue to be the dominant feature or would form a noticeable feature of the view.
- 6.17.10 For the remaining landscape and visual receptors, the effects are likely to be not significant after the application of mitigation measures outlined in Chapter 7, Landscape and Visual of the ES (TR010064/APP/6.1) and included in the REAC contained in the First Iteration of the EMP (TR010064/APP/6.5).

Year 15 (2044 Design year)

- 6.17.11 The assessment has concluded that significant adverse residual significant effects will remain by year 15 for residential receptors at Warwick Close, Kenilworth Avenue and Barnard Avenue (VP287) as open views across the M60 will remain from upper storeys. It is not possible to reinstate tall vegetation which will be removed along the M60 verge and adjoining the M60 boundary on Warwick Close although shrub planting to provide amenity value will be provided. Easements for utilities and the narrowing of the M60 verge mean that sufficient space is not available for replacement tall landscaping.

6.17.12 For the remaining receptors, landscape and visual impacts are likely to remain at a slight adverse effect or slight beneficial effect after the implementation of mitigation measures. Overall, this will result in no significant effects.

Impact on the Special Landscape Area

6.17.13 The Bury UDP includes Policy EN9/1 Special Landscape Area. The policy recognises the sensitivity of this local landscape area stating:

- *'any development which is permitted will be strictly controlled and required to be sympathetic to its surroundings in terms of its visual impact. High standards of design, siting and landscaping will be expected. Unduly obtrusive development will not be permitted in such areas.'*

6.17.14 The Scheme is within the Special Landscape Area where it extends north-eastwards from M60 Junction 18. The Special Landscape Area is within LCA 26: Prettywood, Pilsworth and Unsworth Moss.

6.17.15 Particular attention has been given to avoid, reduce or remediate (offset) potential effects on the Special Landscape Area, mitigation measures and enhancement measures have been developed as presented within the Landscape and Visual Chapter of the ES (TR010064/APP/6.1) and Figure 2.3, The Environmental Masterplan of the ES Figures (TR010064/APP/6.2). These are also described in the paragraphs below.

Arboricultural

6.17.16 Details relating to the impacts on trees are included within Appendix 7.5, Arboricultural Impact Assessment of the ES Appendices (TR010064/APP/6.3).

6.17.17 The survey recorded five woodlands, 13 hedgerows, 143 tree groups and 69 individual trees. None of the trees are protected by a Tree Preservation Order (TPO). The site is not located within a Conservation Area. The site contains no veteran trees, or registered ancient trees and none have been identified by this survey.

6.17.18 The construction of the Scheme will require the following as shown on Appendix 7.5, Figure 7.5.2, Tree Removal Plan of the ES Appendices: (TR010064/APP/6.3):

- The removal of 18 individual trees consisting of five B category trees (Category B is trees of moderate quality with an estimated remaining life expectancy of at least 20 years) and 13 C category trees (Category C is trees of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm).
- The complete removal of 39 groups of trees, 23 B category groups and 16 C category groups.

- The partial removal of 19 Groups of trees, 15 B category partial groups and 4 C category partial groups.
- The partial removal of one C category hedgerow.
- The complete removal of one B category woodland.
- The partial removal of two woodlands, one B category and one C category.

6.17.19 As required by paragraph 5.160 and paragraph 5.187 of the draft NPS NN, the following measures included in the REAC, contained within the First Iteration EMP (TR010064/APP/6.5) to enhance the landscape and to mitigate against the impact of the loss of trees, vegetation and hedgerows include:

- Commitment LV1 – The Northern Loop eastern embankment is constructed in accordance with the preliminary design.
- Commitment LV2 – The ponds will be designed to provide landscape integration and planting opportunities.
- Commitment LV3 – Existing vegetation clearance within the temporary works areas will be minimised as far as practicable. Particular attention will be given to the retention of mature vegetation including individual trees, linear tree belts and woodlands.
- Commitment LV4 – All planting and seeding using native species as appropriate to the location and design to reflect the distinctive local character and to be of a similar or improved species mix, overseen by Ecologists and Arboriculturists.
- Commitment LV5 – Hedgerow planting will be delivered in areas adjacent to the ecological areas, along the new highway boundaries and around ponds.
- Commitment LV6 – Hedgerow tree planting will be delivered to strengthen new and existing hedgerows and further help integrate the motorway infrastructure into the local landscape.
- Commitment LV7 – Planting will be delivered to link existing field boundary vegetation with other areas of existing vegetation in areas around the Northern Loop to improve habitat links and strengthen the local landscape pattern and character.
- Commitment LV8 – Aquatic and marginal planting will be delivered at the ponds and swales to improve landscape integration and biodiversity.
- Commitment LV9 – Planting along the Simister Pike Fold Viaduct embankment west of the M66 for landscape integration, and visual

screening or filtering for viewers within nearby residential areas of Whitefield.

- Commitment LV10 – Planting on the Simister Pike Fold Bridge embankments and Northern Loop embankments and within the Northern Loop will be delivered for landscape and visual integration; and visual screening or filtering for viewers along Pole Lane footpath and to break up the scale of the Scheme elements for motorway travellers.
- Commitment LV11 – Planting will be delivered along Pole Lane to strengthen the existing hedgerow, and along the nearby northbound M66 verge, to provide visual screening or filtering of traffic, the Simister Pike Fold Bridge and Northern Loop from within Whitefield and from Footpath 12WHI along Pole Lane.
- Commitment LV12 – Planting of linear tree belts will be delivered along the M60 northbound to M60 westbound on-slip to provide landscape and visual integration; and screening or filtering for viewers on Heywood Road and Simister Lane.
- Commitment LV13 – Existing linear tree belts necessitating removal for carriageway widening will be reinstated with a higher percentage of feathered trees and evergreen species to improve visual screening in the early years.
- Commitment LV14 – Planting will be delivered along the eastbound and westbound M60 mainline verges and embankments between M60 Junction 17 and M60 Junction 18 to provide townscape and visual integration; and screening and filtering for adjacent residential areas.
- Commitment LV15 – Planting of trees and shrubs, and species rich grassland creation, will be delivered within land east of the Northern Loop to provide landscape and visual integration; and screen views from footpaths 8WHI and 9WHI.
- Commitment LV16 – Planting of shrubs will be delivered along Warwick Close to provide amenity value.
- Commitment LV17 – Provision of temporary arboricultural mitigation and fencing for the protection of retained vegetation during construction.
- An Environmental Clerk of Works will ensure the Scheme's construction is delivered in accordance with the measures set out within the REAC contained in the First Iteration EMP (TR010064/APP/6.5). This will ensure implementation of environmentally protective measures.

- 6.17.20 In addition, establishment of appropriate vegetation protection measures and areas for removal will be inspected by an Environmental Clerk of Works to ensure compliance with the Arboricultural Method Statement (to be produced at the detailed design stage) and the Tree Constraints Plans included as part of Appendix 7.5, Arboricultural Impact Assessment of the ES Appendices (TR010064/APP/6.3).
- 6.17.21 The Specification for Highways Works Series 3000, Landscape and Ecology (Highways Agency, 2001) to be developed at detailed design stage will set out requirements for overseeing the first five years of vegetation establishment and replacement of any failed stock within the establishment aftercare period. This is secured by Requirement 5 of the draft DCO (TR010064/APP/3.1).
- 6.17.22 During the establishment aftercare period and beyond, environmental features (including soft landscape features) will be routinely monitored and inspected in accordance with the requirements stipulated in the Specification for Highways Works Series 3000, Landscape and Ecology (Highways Agency, 2001). This is secured by Requirement 5 of the draft DCO (TR010064/APP/3.1).

Concluding Assessment

- 6.17.23 Figure 7.7 (Photomontages) of the ES Figures (TR010064/APP/6.2) provides photomontages to visualise the Scheme. Viewpoints have been agreed through the Environmental Scoping Report of the Environmental Statement (TR010064/APP/6.6) to reflect a broad range of views from four locations around the study area. The figures show the existing views and then the views with the Scheme in place to allow direct comparison. The landscape planting shown in the photomontages is included on Figure 2.3, the Environmental Masterplan of the ES Figures (TR010064/APP/6.2). The photomontages reflect two scenarios in different seasons:
- The worst-case scenario (on the first photomontage, sheet 1) shown in winter in the first year of opening of the scheme (Year 1, 2029) where the mitigation has only just been completed. More of the earthworks, structures, signage, as well as traffic would be visible in these views, therefore, reflecting views when the Scheme would be most visible.
 - The design year (on the second photomontage, sheet 2) is shown in summer, 15 years after completion (Year 15, 2044). This reflects the mitigation establishment. Native woodland, trees and shrubs new hedgerows with hedgerow tree planting will have sufficiently established to help integrate the Scheme into the surrounding landscape and also provide screening for much of the Scheme.
- 6.17.24 The Scheme is not located in a National Park or an Area of Outstanding Natural Beauty (AONB) (now referred to as a National Landscape).

- 6.17.25 Overall, it is considered that the mitigation identified as part of the LVIA and as illustrated on the photomontages demonstrates compliance with paragraph 5.169 of the draft NPS NN.
- 6.17.26 Particular attention has been given to avoid, reduce or remediate (offset) potential effects on the Special Landscape Area. In accordance with paragraph 5.160 and 5.187 of the draft NPS NN, mitigation measures and enhancement measures have been developed as presented on Figure 2.3 Environmental Masterplan of the ES Figures (TR010064/APP/6.2).

6.18 Geology and Soils

Key Policies of the NPS NN and the draft NPS NN

- 6.18.1 Paragraphs 5.116 to 5.119 of the NPS NN cover land stability.
- *Paragraph 5.116: The effects of land instability may result in landslides, subsidence or ground heave. Failing to deal with this issue could cause harm to human health, local property and associated infrastructure, and the wider environment. They occur in different circumstances for different reasons and vary in their predictability and in their effect on development.*
 - *Paragraph 5.117: Where necessary, land stability should be considered in respect of new development, as set out in the National Planning Policy Framework and supporting planning guidance. Specifically, proposals should be appropriate for the location, including preventing unacceptable risks from land instability. If land stability could be an issue, applicants should seek appropriate technical and environmental expert advice to assess the likely consequences of proposed developments on sites where subsidence, landslides and ground compression is known or suspected. Applicants should liaise with the Coal Authority if necessary.*
 - *Paragraph 5.118: A preliminary assessment of ground instability should be carried out at the earliest possible stage before a detailed application for development consent is prepared. Applicants should ensure that any necessary investigations are undertaken to ascertain that their sites are and will remain stable or can be made so as part of the development. The site needs to be assessed in context of surrounding areas where subsidence, landslides and land compression could threaten the development during its anticipated life or damage neighbouring land or property. This could be in the form of a land stability or slope stability risk assessment report.*
 - *Paragraph 5.119: Applicants have a range of mechanisms available to mitigate and minimise risks of land instability. These include:*
 - *Establishing the principle and layout of new development, for example avoiding mine entries and other hazards.*

- *Ensuring proper design of structures to cope with any movement expected, and other hazards such as mine and/or ground gases; or*
- *Requiring ground improvement techniques, usually involving the removal of poor material and its replacement with suitable inert and stable material. For development on land previously affected by mining activity, this may mean prior extraction of any remaining mineral resource’.*

3.0.0 Paragraphs 5.148 - paragraph 5.151, 5,180 and 5.181 of the draft NPS NN cover soils, agricultural land and the potential for ground contamination:

- *‘Paragraph 5.148: Where necessary, land contamination and stability should be considered in respect of new development. Specifically, proposals should be appropriate for the location, including preventing unacceptable risks from land contamination or instability. If land stability could be an issue, applicants should seek appropriate technical and environmental expert advice from a competent person to assess the likely consequences of proposed developments on sites where subsidence, landslides and ground compression is known or suspected. Applicants should liaise with the Coal Authority, Environment Agency and Local Authority if necessary.*
- *Paragraph 5.149: For developments on previously developed land, applicants should ensure and demonstrate that they have considered the risk posed by land contamination, through engagement in pre-application discussions, and how it is proposed to address these. A preliminary assessment for land and groundwater contamination to determine the rendition and mitigation is needed under Land Contamination Risk Management. A preliminary assessment of land contamination and ground instability should be carried out at the earliest possible stage before a detailed application for development consent is prepared. Applicants should ensure that any necessary investigations are undertaken to ascertain that their sites are, and will, remain stable or can be made so as part of the development. The site needs to be assessed in the context of surrounding areas where subsidence, landslides and land compression could threaten the development during its anticipated life or damage neighbouring land or property. This could be in the form of a land stability or slope stability risk assessment report.*
- *Paragraph 5.150: Applicants have a range of mechanisms available to mitigate and minimise risks of land instability. These include:*
 - *Establishing the principle and layout of new development, for example avoiding mine entries and other hazards.*
 - *Ensuring proper design of structures to cope with any movement expected, and other hazards such as mine and/or ground gases.*

- *Requiring ground improvement techniques, usually involving the removal of poor material and its replacement with suitable inert and stable material. For development on land previously affected by mining activity, this may mean prior extraction of any remaining mineral resource.*
- *Paragraph 5.151: Applicants should submit a coal mining risk assessment as part of their application in specific Development High Risk areas.*
- *Paragraph 5.180: Applicants should take into account the economic and other benefits of the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification). Where significant development of agricultural land is demonstrated to be necessary, applicants should seek to use areas of poorer quality land in preference to that of a higher quality. Applicants should also identify any effects, and seek to minimise impacts, on soil health and protect and improve soils, taking into account any mitigation measures proposed. Soil is an important natural capital resource, providing many essential services such as storing carbon (also known as a carbon sink), reducing the risk of flooding, providing wildlife habitats and delivering global food supplies. Guidance on sustainable soil management can be found in Defra's Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. As a first principle, developments should be on previously developed (brownfield) sites provided that it is not of high environmental value (see paragraphs 5.146 to 5.151).*
- *Paragraph 5.181: The Agricultural Land Classification¹ is the only approved system for grading agricultural quality in England and Wales. If necessary, field surveys should be used to establish the Agricultural Land Classification grades in accordance with the current grading criteria, or any successor to it and identify the soil types to inform soil management at the construction, operation and decommissioning phases in line with the Defra Construction Code¹¹⁰. Applicants are encouraged to develop and implement a Soil Resources and Management Plan which could help to use and manage soils sustainably and minimise adverse impacts on soil health and potential land contamination. This is to be in line with the ambition set out in the 25 Year Environment Plan to manage all of England's soils sustainably by 2030'.*

Accordance with the NPS NN and the draft NPS NN

Permanent Loss of Agricultural Land

- 6.18.2 Chapter 9 Geology and Soils of the ES (TR010064/APP/6.1) provides an assessment of the likely significant effects of the Scheme with respect to soil resources (mostly agricultural). This includes the predicted areas of permanent and temporary land-take by Agricultural Land Classification grade.

- 6.18.3 Agricultural land is present within the Order Limits. Agricultural land is graded using the ALC system as set out in paragraph 5.181 of the draft NPS NN. This system classifies land into five grades according to the extent to which physical or chemical characteristics impose long term limitations on the agricultural use of a site for food production.
- 6.18.4 Within the Order Limits the land classification is:
- 0.4 hectares (0.5% of the Order Limits) of agricultural land is classified as Grade 2.
 - 4.5 hectares (5.3% of the Order Limits) is classified as Grade 3a.
 - 26.2 hectares (30.6% of the Order Limits) is classified as Grade 3b.
 - 2.22 hectares (2.6 hectares of the Order Limit) is classified as grade 4.
 - Land that could not be surveyed is 4.1ha (4.8%) of the Order Limits.
 - Non-agricultural land is 48.54 hectares (56.4% of the Order Limits).
 - The total area of the Order Limits is 85.69 ha.
- 6.18.5 Most agricultural land and the associated agricultural land holdings is located on the land surrounding M60 Junction 18. Figure 9.3, Agricultural Land Classification and Figure 12.2, Agricultural Land Holdings of the in the ES Figures (TR010064/APP/6.2) shows this land.
- 6.18.6 It is anticipated that approximately 21.3 ha (27% of the Order Limits) of agricultural land, including 2.3 ha (2.7% of the Scheme area) of Best Most Versatile (BMV) land (this is land classified as Grade 2 and 3a) will be permanently developed or otherwise lost to agricultural production as a result of the Scheme. An additional 10ha of agricultural land (no BMV land) is anticipated to be temporarily acquired for the Scheme but will be reinstated following completion.

Soil Handling

- 6.18.7 The permanent sealing or wastage of topsoil will be avoided as far as practicable via stripping and sustainable reuse elsewhere. In addition, by following best practice soil management measures, degradation during stripping, handling and storage will either be avoided, or will only be temporary in nature. Measures to ensure the sustainable use of soils are highlighted in Chapter 9, Geology and Soils of the ES (TR010064/APP/6.1).
- 6.18.8 Appendix G, Outline Materials Management Plan and Appendix J, Outline of Contaminated Land Management Plan of the First Iteration EMP (TR010064/APP/6.5) outlines the management of soils including the completion of a soil resource survey prior to construction and stripping of top soil for re-use.

Land Stability

- 6.18.9 As required by paragraph 5.150 of the draft NPS NN, where low strength soils are present underlying the Scheme footprint, these may potentially have an impact on slope stability. Consideration will be made at detailed design stage to mitigate any stability risks associated with earthworks slope and is likely to include the need for ground improvement techniques.
- 6.18.10 Earthwork designs should consider the findings of the main ground investigation to determine appropriate slope gradients considering the geology, hydrogeology, pore pressure ratio, earthwork height, available land take boundary and all the constraints including but not limited to the requirements for variable road signage, drainage and maintenance access. The ground investigation is provided as Appendix 9.3, Ground Investigation Report of the ES Appendices (TR010064/APP/6.3).
- 6.18.11 Mitigation in relation to ground stability will be documented in the Geotechnical Design Report which will be produced during the detailed design stage. This is included in the REAC of the First Iteration EMP (TR010064/APP/6.5).

Land Quality and Pollution Risk

- 6.18.12 Chapter 9, Geology and Soils of the ES (TR010064/APP/6.1) provides an assessment of the likely significant effects of the Scheme with respect to geology (bedrock geology and superficial deposits, including geological designations and valuable non-designated features), soil resources (mostly agricultural) and land contamination (effects on human health, surface water and groundwater).

Construction

- 6.18.13 The updated Common Safety Method (CSM) and human health risk assessment has confirmed that there is no widespread soil contamination within the Order Limits that poses a risk to human health. However, loose Chrysotile and Amosite asbestos fibres were recorded locally in Made Ground (this is land that has been built up using material brought onto the site), which poses a risk to construction workers and adjacent residents and land users during construction.
- 6.18.14 As required by paragraph 5.148 and paragraph 5.149 of the draft NPS NN, Chapter 9 Geology and Soils of the ES (TR010064/APP/6.1) assesses the potential for contamination as:
- The risk to construction workers associated with asbestos has been assessed as Moderate.
 - The risk to adjacent residents and land users has been assessed as Moderate/Low. The risk will need to be mitigated through the development of working methods and risk assessments in accordance with the Control of Asbestos Regulations (“CAR”) 2012 (Health and Safety Executive).
 - The potential impact on controlled waters from soil leachate and groundwater contaminant exceedances is not considered significant.

- The risk to Secondary aquifers in the superficial deposits, and surface water bodies, associated with elevated soil leachate, has been assessed as Moderate/Low,
- The risk to the Secondary A and Principal aquifers in bedrock (Pennine Coal Measures and Chester Formation, respectively) has been assessed as Low.
- The risk to surface water bodies, associated with elevated groundwater contaminants in the Made Ground and superficial deposits, has been assessed as Moderate/Low.
- The risk to bedrock aquifers has been assessed as Low.
- The risk to licensed groundwater abstractions, associated with elevated groundwater contaminants in the Made Ground and superficial deposits, has been assessed as Moderate/Low. It does not warrant any remediation.

Operation

- 6.18.15 It is anticipated that asbestos contaminated soils will have been removed during construction, therefore exposure of maintenance workers and adjacent residents / land users to asbestos during operation is unlikely to occur. As such, the operational impact on human health from asbestos has been scoped out of further assessment.
- 6.18.16 Based on the findings of the controlled waters risk assessment, the operational impacts on groundwater and surface water have been scoped out of further assessment as any impacts during construction would have been remediated and there are not likely to be any additional impacts during operation, the operational impacts on groundwater and surface water have been scoped out of further assessment.

Concluding Assessment

- 6.18.17 In terms of paragraph 5.180 of the draft NPS NN, due to the permanence of the Scheme and that there are no other alternative locations where it could be constructed, the loss of BMV land is unavoidable. This loss has been kept to a minimum and represents less than 5% of the total Order Limits.
- 6.18.18 The design has taken into account the ground conditions. This is included as Appendix 9.3, Ground Investigation Report of the ES Appendices (TR010064/APP/6.3).
- 6.18.19 As required by paragraph 5.180 of the draft NPS NN, the methods for soil handling will preserve this for repurposing and reuse elsewhere in the Scheme.
- 6.18.20 The potential for contaminated land has been assessed to meet the requirements of paragraph 5.148 and paragraphs 5.149 of the draft NPS

NN. Overall, the risks from contaminated land are low to moderate and mainly during construction.

6.19 Cultural Heritage

Key Policies of the NPS NN and the draft NPS NN

6.19.1 Paragraphs 5.120 to 5.142 of the NPS NN cover the historic environment.

- *Paragraph 5.120: The construction and operation of national networks infrastructure has the potential to result in adverse impacts on the historic environment.*
- *Paragraph 5.121: The historic environment includes all aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.*
- *Paragraph 5.122: Those elements of the historic environment that hold value to this and future generations because of their historic, archaeological, architectural or artistic interest are called 'heritage assets'. Heritage assets may be buildings, monuments, sites, places, areas or landscapes. The sum of the heritage interests that a heritage asset holds is referred to as its significance. Significance derives not only from a heritage asset's physical presence, but also from its setting.*
- *Paragraph 5.123: Some heritage assets have a level of significance that justifies official designation. Categories of designated heritage assets are: World Heritage Sites; Scheduled Monuments; Listed Buildings; Protected Wreck Sites; Protected Military Remains; Registered Parks and Gardens; and Registered Battlefields; Conservation Areas.*
- *Paragraph 5.124: Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to Scheduled Monuments, should be considered subject to the policies for designated heritage assets. The absence of designation for such heritage assets does not indicate lower significance.*
- *Paragraph 5.125: The Secretary of State should also consider the impacts on other non-designated heritage assets (as identified either through the development plan process by local authorities, including 'local listing', or through the nationally significant infrastructure project examination and decision making process) on the basis of clear evidence that the assets have a significance that merit consideration in that process, even though those assets are of lesser value than designated heritage assets.*

- *Paragraph 5.126: Where the development is subject to EIA the applicant should undertake an assessment of any likely significant heritage impacts of the proposed project as part of the Environmental Impact Assessment and describe these in the environmental statement.*
- *Paragraph 5.127: The applicant should describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the asset's importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant Historic Environment Record should have been consulted and the heritage assets assessed using appropriate expertise. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, the applicant should include an appropriate desk-based assessment and, where necessary, a field evaluation.*
- *Paragraph 5.128: In determining applications, the Secretary of State should seek to identify and assess the particular significance of any heritage asset that may be affected by the proposed development (including by development affecting the setting of a heritage asset), taking account of the available evidence and any necessary expertise from:
 - *relevant information provided with the application and, where applicable, relevant information submitted during examination of the application;*
 - *any designation records;*
 - *the relevant Historic Environment Record(s), and similar sources of information;*
 - *representations made by interested parties during the examination; and*
 - *expert advice, where appropriate, and when the need to understand the significance of the heritage asset demands it.**
- *Paragraph 5.129: In considering the impact of a proposed development on any heritage assets, the Secretary of State should take into account the particular nature of the significance of the heritage asset and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between their conservation and any aspect of the proposal.*
- *Paragraph 5.130: The Secretary of State should take into account the desirability of sustaining and, where appropriate, enhancing the significance of heritage assets, the contribution of their settings and the positive contribution that their conservation can make to sustainable communities – including their economic vitality. The*

Secretary of State should also take into account the desirability of new development making a positive contribution to the character and local distinctiveness of the historic environment. The consideration of design should include scale, height, massing, alignment, materials, use and landscaping (for example, screen planting).

- *Paragraph 5.131: When considering the impact of a proposed development on the significance of a designated heritage asset, the Secretary of State should give great weight to the asset's conservation. The more important the asset, the greater the weight should be. Once lost, heritage assets cannot be replaced and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Given that heritage assets are irreplaceable, 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 a grade II Registered Park or Garden should be exceptional. Substantial harm to or loss of designated assets of the highest significance, including World Heritage Sites, Scheduled Monuments, grade I and II* Listed Buildings, Registered Battlefields, and grade I and II* Registered Parks and Gardens should be wholly exceptional.*
- *Paragraph 5.132: Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of development, recognising that the greater the harm to the significance of the heritage asset, the greater the justification that will be needed for any loss.*
- *Paragraph 5.133: Where the proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, the Secretary of State should refuse consent unless it can be demonstrated that the substantial harm or loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm, or alternatively that all of the following apply:*
 - *the nature of the heritage asset prevents all reasonable uses of the site; and*
 - *no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and*
 - *conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible; and*
 - *the harm or loss is outweighed by the benefit of bringing the site back into use.*

- *Paragraph 5.134: Where the proposed development will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.*
- *Paragraph 5.135: Not all elements of a World Heritage Site or Conservation Area will necessarily contribute to its significance. The Secretary of State should treat the loss of a building (or other element) that makes a positive contribution to the site's significance either as substantial harm or less than substantial harm, as appropriate, taking into account the relative significance of the elements affected and their contribution to the significance of the Conservation Area or World Heritage Site as a whole.*
- *Paragraph 5.136: Where the loss of significance of any heritage asset has been justified by the applicant based on the merits of the new development and the significance of the asset in question, the Secretary of State should consider imposing a requirement that the applicant will prevent the loss occurring until the relevant development or part of development has commenced.*
- *Paragraph 5.137: Applicants should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably.*
- *Paragraph 5.138: Where there is evidence of deliberate neglect of or damage to a heritage asset the Secretary of State should not take its deteriorated state into account in any decision.*
- *Paragraph 5.139: A documentary record of our past is not as valuable as retaining the heritage asset and therefore the ability to record evidence of the asset should not be a factor in deciding whether consent should be given.*
- *Paragraph 5.140: Where the loss of the whole or part of a heritage asset's significance is justified, the Secretary of State should require the applicant to record and advance understanding of the significance of the heritage asset before it is lost (wholly or in part). The extent of the requirement should be proportionate to the importance and the impact. Applicants should be required to deposit copies of the reports with the relevant Historic Environment Record. They should also be required to deposit the archive generated in a local museum or other public depository willing to receive it.*
- *Paragraph 5.141: The Secretary of State may add requirements to the development consent order to ensure that this is undertaken in a timely manner in accordance with a written scheme of investigation*

that meets the requirements of this section and has been agreed in writing with the relevant Local Authority (or, where the development is in English waters, with the Marine Management Organisation and English Heritage) and that the completion of the exercise is properly secured.

- *Paragraph 5.142: Where there is a high probability that a development site may include as yet undiscovered heritage assets with archaeological interest, the Secretary of State should consider requirements to ensure that appropriate procedures are in place for the identification and treatment of such assets discovered during construction’.*

6.19.2 This is also covered by paragraphs 5.196 to 5.218 in the draft NPS NN.

- *‘Paragraph 5.196: The construction and operation of national networks infrastructure has the potential to result in adverse impacts on the historic environment.*
- *Paragraph 5.197: The historic environment includes all aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.*
- *Paragraph 5.198: Those elements of the historic environment that hold value to this and future generations because of their historic, archaeological, architectural or artistic interest are called ‘heritage assets’. Heritage assets may be buildings, monuments, sites, places, areas or landscapes. The sum of the heritage interests that a heritage asset holds is referred to as its significance. Significance derives not only from a heritage asset’s physical presence, but also from its setting.*
- *Paragraph 5.199: Some heritage assets have a level of significance that justifies official designation. Categories of designated heritage assets are: World Heritage Sites (natural and cultural); Scheduled Monuments; Listed Buildings; Protected Wreck Sites; Protected Military Remains; Registered Parks and Gardens; Registered Battlefields; and Conservation Areas.*
- *Paragraph 5.200: Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to Scheduled Monuments, should be considered subject to the policies for designated heritage assets. The absence of designation for such heritage assets does not indicate lower significance.*
- *Paragraph 5.201: The Secretary of State should also consider the impacts on other non-designated heritage assets (as identified either through the development plan process by local authorities, including ‘local listing’, or through the nationally significant infrastructure project*

examination and decision-making process), on the basis of clear evidence that the assets have a significance that merit consideration in that process.

- *Paragraph 5.202: The applicant should undertake an assessment of any significant heritage impacts of the proposed project and should describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the asset's importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum, the relevant Historic Environment Records should have been consulted and the heritage assets assessed using appropriate expertise. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, the applicant should include an appropriate desk-based assessment and, where necessary, a field evaluation.*
- *Paragraph 5.203: The discovery of heritage assets has potential to have a significant delay on scheme development, and applicants should ensure that protection of the historic environment is considered early in the development process.*
- *Paragraph 5.204: A documentary record of our past is not as valuable as retaining the heritage asset and therefore the ability to record evidence of the asset should not be a factor in deciding whether consent should be given.*
- *Paragraph 5.205: Where the loss of the whole or part of a heritage asset's significance is justified, the Secretary of State should require the applicant to record and advance understanding of the significance of the heritage asset before it is lost (wholly or in part). The extent of the requirement should be proportionate to the importance and the impact. Applicants should be required to deposit copies of the reports with the relevant Historic Environment Record. They should also be required to deposit the archive generated in a local museum or other public depository willing to receive it.*
- *Paragraph 5.206: The Secretary of State may add requirements to the Development Consent Order to ensure that this is undertaken in a timely manner in accordance with a written scheme of investigation that meets the requirements of this section, and has been agreed in writing with the relevant Local Authority (or, where the development is in English waters, with the Marine Management Organisation, English Heritage and/or Historic England) and that the completion of the exercise is properly secured .*
- *Paragraph 5.207: Where there is a high probability that a development site may include as yet undiscovered heritage assets with archaeological interest, the Secretary of State should consider requirements to ensure that appropriate procedures are in place for*

the identification and treatment of such assets discovered during construction.

- *Paragraph 5.208: In determining applications, the Secretary of State should seek to identify and assess the particular significance of any heritage asset that may be affected by the proposed development (including by development affecting the setting of a heritage asset). The Secretary of State should take account of the available evidence and any necessary expertise from:*
 - *relevant information provided with the application and, where applicable, relevant information submitted during examination of the application*
 - *any designation records*
 - *the relevant Historic Environment Record(s), and similar sources of information;*
 - *representations made by interested parties during the examination*
 - *expert advice, where appropriate, and when the need to understand the significance of the heritage asset demands it*
- *Paragraph 5.209: In considering the impact of a proposed development on any heritage assets, the Secretary of State should take into account the particular nature of the significance of the heritage asset, and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between their conservation and any aspect of the proposal.*
- *Paragraph 5.210: The Secretary of State should take into account the desirability of sustaining and, where appropriate, enhancing the significance of heritage assets, the contribution of their settings and the positive contribution that their conservation can make to sustainable communities – including their economic vitality. The Secretary of State should also take into account the desirability of new development making a positive contribution to the character and local distinctiveness of the historic environment. The consideration of design should include scale, height, massing, alignment, materials, use and landscaping (for example, screen planting).*
- *Paragraph 5.211: When considering the impact of a proposed development on the significance of a designated heritage asset, the Secretary of State should give great weight to the asset's conservation. The more important the asset, the greater the weight should be. Once lost, heritage assets cannot be replaced, and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Given that heritage assets are irreplaceable, 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 a grade II Registered Park or Garden should be exceptional. Substantial harm to, or loss of, designated assets of the highest significance, including World Heritage Sites, Scheduled Monuments, grade I and II Listed Buildings, Registered Battlefields, and grade I and II* Registered Parks and Gardens should be wholly exceptional.*

- *Paragraph 5.212: Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of development, recognising that the greater the harm to the significance of the heritage asset, the greater the justification that will be needed for any loss.*
- *Paragraph 5.213: Where the proposed development will lead to substantial harm to, or total loss of, significance of a designated heritage asset, the Secretary of State should refuse consent unless it can be demonstrated that it is necessary to deliver substantial public benefits that outweigh that loss or harm. Alternatively, that all of the following apply:*
 - *the nature of the heritage asset prevents all reasonable uses of the site*
 - *no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation*
 - *conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible*
 - *the harm or loss is outweighed by the benefit of bringing the site back into use*
- *Paragraph 5.214: Where the proposed development will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.*
- *Paragraph 5.215: Not all elements of a World Heritage Site or Conservation Area will necessarily contribute to its significance. The Secretary of State should treat the loss of a building (or other element) that makes a positive contribution to the site's significance either as substantial harm or less than substantial harm, as appropriate. This should take into account the relative significance of the elements affected and their contribution to the significance of the Conservation Area or World Heritage Site as a whole.*
- *Paragraph 5.216: Where the loss of significance of any heritage asset has been justified by the applicant based on the merits of the new development and the significance of the asset in question, the Secretary of State should consider imposing a requirement that the*

applicant will prevent the loss occurring, until the relevant development or part of development has commenced.

- *Paragraph 5.217: Applicants should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to, or better reveal, the significance of the asset should be treated favourably.*
- *Paragraph 5.218: Where there is evidence of deliberate neglect of, or damage to, a heritage asset the Secretary of State should not take its deteriorated state into account in any decision’.*

Accordance with the NPS NN and the draft NPS NN

- 3.0.0 As required by paragraph 5.202 of the draft NPS NN an assessment of heritage assets has been undertaken as set out in Chapter 6, Cultural Heritage of the ES (TR010064/APP/6.1).

Archaeology

- 3.0.1 The conclusions from Appendix 6.1: Cultural Heritage Desk-Based Assessment from the ES (TR010064/APP/6.3) are set out below.

Construction

- 6.19.3 Locations of archaeological assets are shown on Figure 6.1, Archaeological Assets of the ES Figures (TR010064/APP/6.2). There are seven known archaeological sites which have been identified as being potentially affected by construction. Ground truthing the archaeological remains would establish the presence, extents and significance of the buried resource and thereby establish the need for, and scope of, an approach to mitigation.

- 6.19.4 The exact scope of the investigation work required above will be agreed with the Greater Manchester Archaeological Advisory Service in advance of fieldwork and would be subject to approved Written Schemes of Investigation (WSI) which are detailed method statements prepared by an archaeological contractor. This will commence at the beginning of the construction phase once the DCO is made by the Secretary of State for Transport . The WSI will be secured by Requirement 9 of the draft DCO (TR010064/APP/3.1), as referenced in paragraph 5.206 of the draft NPS NN.

Operation

- 6.19.5 The impacts to archaeological remains have been identified as occurring during the construction phase, therefore no significant effects on archaeological remains have been identified during operation.

Built Heritage

Construction

- 6.19.6 An assessment of built heritage has been undertaken in accordance with the draft NPS NN. Figure 6.2, Built Heritage Assets of the ES Figures (TR010064/APP/6.2) show the locations of the assets referred to below. The determination of asset significance is central to understanding to what degree the historic assets will be affected by the changes arising from the Scheme. Appendix 6.1, Cultural Heritage Desk-Based Assessment of the ES Appendices (TR010064/APP/6.3) sets out the detail about the heritage assets affected and has determined their value through a series of processes including the extent to which setting contributes to the assets in question. The desk-based assessment has been compiled in accordance with the Standard and Guidance provided by the Chartered Institute for Archaeologists (CIfA).
- 6.19.7 Temporary slight adverse effects have been identified on Brick Farmhouse (National Heritage List for England (NHLE)1067266), which is Grade II Listed, during construction because of the additional visual intrusion brought about by construction activity within view (to the west) of the property in the area of attenuation pond creation. This effect would be not significant.
- 6.19.8 Cold Gate Farm (Historic Environment Record (HER) 3918.1.0) and Droughts Farm (HER 3934.1.0) have been identified as historic properties which will undergo change from the Scheme brought about by temporary, construction-related work. Construction noise levels will negatively affect the setting of the house during some of the construction phase, amounting to slight adverse effects (refer to Chapter 11, Noise and Vibration of the ES (TR010064/APP/6.1)).
- Operation*
- 6.19.9 Brick Farmhouse (NHLE 1067266) would not experience any adverse impacts during operation given as the design will not impact the historic setting, warranting a neutral effect.
- 6.19.10 Permanent land take within the Order Limits affect the setting of Cold Gate Farm more than Droughts Farm, given the extent to which the highways boundary would be closer to the former than the latter. Cold Gate Farm will experience a slight adverse effect whilst the effect on Droughts Farm would be neutral. These levels of effect are not significant.
- 6.19.11 Landscaping mitigation will reduce the visual effects of the Scheme. Whilst the visual setting change during operation will affect the properties negatively, this is within the context of the extent to which their setting has already been changed by the existing motorway infrastructure.
- Historic landscapes*
- Construction*
- 6.19.12 The potential impacts to the Heaton Park Registered Park and Garden (NHLE 1000854) from the construction phase relate to temporary changes of visual setting from the construction activity to the south-west of M60 Junction 18. The effect of the construction work will be temporary visual

intrusion that would only affect views from the northern area of Heaton Park.

Operation

- 6.19.13 The additional road infrastructure associated with the operation of the Scheme will result in small negative changes to the setting of Heaton Park Registered Park and Garden (NHLE 1000854) in historical and visual setting terms, resulting in a slight adverse effect. This effect will be not significant.
- 6.19.14 Unsworth Moss historic landscape character unit (HGM7712) will undergo the greatest degree of change owing to the Northern Loop. The magnitude of impact will be neutral during operation of the Scheme, given this part of the Moss has no significant peat remains and therefore a negligible archaeological potential. On the other parcels of land adjacent to the motorway, small scale impacts will be experienced amounting to negligible adverse, resulting in a neutral effect. This is due to the fact that the minimal land take will be on land already disturbed by previous construction activity.
- 6.19.15 A programme of archaeological trial trench investigation has been agreed with the Greater Manchester Archaeological Advisory Service to understand the presence, extent, significance and survival of buried archaeological remains within the Order Limits. This will inform the need for and scope of archaeological mitigation. The archaeological trial trench investigation will be preceded by a WSI approved by the Greater Manchester Archaeological Advisory Service. The WSI will be secured by Requirement 9 of the draft DCO (TR010064/APP/3.1).

Concluding Assessment

- 6.19.16 The archaeological resource will not suffer any adverse effects during operation, as any negative effects have been identified during construction only.
- 6.19.17 Temporary slight adverse effects have been identified on Brick Farmhouse during construction of the Scheme due to adverse changes in setting. This effect will be not significant. During operation of the Scheme Brick Farmhouse will not experience any adverse effects.
- 6.19.18 Cold Gate Farm and Droughts Farm have been identified as non-listed historic properties where construction noise levels will negatively affect the setting of the houses during some of the construction phase, amounting to slight adverse effects. These effects will not be significant given the changes to setting already present from the existing road layout and whilst the changes will be adverse, they will stop short of being significant. No other historic properties, listed or non-listed, have been identified as experiencing adverse operational effects.
- 6.19.19 Permanent land take to construct the Scheme on the north side of Junction 18 to enable the junction improvements will affect the setting of Cold Gate Farm more than Droughts Farm, during operation, given the

extent to which the highway boundary will be brought closer to the former than the latter. Cold Gate Farm will experience a slight adverse effect whilst the effect on Drouchts Farm will be neutral. These levels of effect would be not significant.

- 6.19.20 Landscaping mitigation will reduce the visual effects of the Scheme. Whilst the visual setting change during operation will affect the two non-designated properties negatively, the Scheme has to be considered in the context of the great extents to which their setting has already been changed by the existing motorway infrastructure.
- 6.19.21 Impacts on Heaton Park Registered Park and Garden during construction will be temporary visual intrusion which will affect views from the northern part of the designated park. During operation of the Scheme the additional road infrastructure will result in small negative changes to the setting of Heaton Park Registered Park and Garden resulting in a slight adverse effect. This effect will be not significant.
- 6.19.22 Unsworth Moss will undergo the greatest degree of change owing to the Northern Loop. The magnitude of impact will be minor adverse resulting in a slight adverse effect. The other parcels of land adjacent to the motorway will experience small scale impacts amounting to negligible adverse, resulting in an overall neutral effect, which would not be significant.
- 6.19.23 Overall, only minor effects are anticipated on heritage as a result of the Scheme and it is considered that the Scheme accords with paragraphs 5.208 – 5.211 of the draft NPS NN.

6.20 Materials and Waste

Key Policies of the NPS NN and the draft NPS NN

- 6.20.1 Paragraphs 5.39 to paragraph 5.45 of the NPS NN set out the approach to sustainable waste management and the use of sustainable materials.
- *‘Paragraph 5.39: Government policy on hazardous and non-hazardous waste is intended to protect human health and the environment by producing less waste and by using it as a resource wherever possible. Where this is not possible, waste management regulation ensures that waste is disposed of in a way that is least damaging to the environment and to human health.*
 - *Paragraph 5.40: Sustainable waste management is implemented through the “waste hierarchy”:*
 - *prevention;*
 - *preparing for reuse;*
 - *recycling;*
 - *other recovery, including energy recovery; and*
 - *disposal*

- *Paragraph 5.41: Large infrastructure projects may generate hazardous and nonhazardous waste during the construction and operation. The Environment Agency’s environmental permitting regime incorporates operational waste management requirements for certain activities. When an applicant applies to the Environment Agency for an environmental permit, the Agency will require the application to demonstrate that processes are in place to meet all relevant permit requirements.*
- *Paragraph 5.42: The applicant should set out the arrangements that are proposed for managing any waste produced. The arrangements described should include information on the proposed waste recovery and disposal system for all waste generated by the development. The applicant should seek to minimise the volume of waste produced and the volume of waste sent for disposal unless it can be demonstrated that the alternative is the best overall environmental outcome.*
- *Paragraph 5.43: The Secretary of State should consider the extent to which the applicant has proposed an effective process that will be followed to ensure effective management of hazardous and non-hazardous waste arising from the construction and operation of the proposed development. The Secretary of State should be satisfied that the process sets out:*
 - *any such waste will be properly managed, both on-site and off-site;*
 - *the waste from the proposed facility can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available. Such waste arisings should not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arisings in the area; and*
 - *adequate steps have been taken to minimise the volume of waste arisings, and of the volume of waste arisings sent to disposal, except where an alternative is the most sustainable outcome overall.*
- *Paragraph 5.44: Where necessary, the Secretary of State should use requirements or planning obligations to ensure that appropriate measures for waste management are applied.*
- *Paragraph 5.45: Where the project will be subject to the Environment Agency’s environmental permitting regime, waste management arrangements during operations will be covered by the permit and the considerations set out in paragraphs 4.48 to 4.56 will apply’.*

3.0.0

The draft NPS NN covers waste prevention and minimisation and emphasises the need for resources to be managed sustainably:

- *‘Paragraph 5.65: Government policy on resource and waste management is intended to protect human health and the environment*

by preventing or reducing the use of resources and favouring the practical application of the waste hierarchy by maximising its reuse as a resource and recycling wherever possible. Improving the efficiency of such use is crucial for the transition to a circular economy.

- *Paragraph 5.66: The applicant should demonstrate that they will adhere to the waste hierarchy, minimising the volume of waste produced and maximising reuse and recycling for waste that cannot be avoided. Where possible, applicants are encouraged to use low carbon materials, sustainable sources, and local suppliers. Consideration should be given to circular economy principles wherever practicable, for example by using longer lasting materials efficiently, optimising the use of secondary materials and how the development will be maintained and decommissioned. Applicants should consider and take into account emerging government policy, including the Waste Prevention Programme for England and Defra's Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, which provides practical guidance on how to improve appropriate soil reuse on construction sites and reducing the volume that is sent to landfill.*
- *Paragraph 5.67: Sustainable waste management is implemented through the waste hierarchy:*
 - *prevention*
 - *preparing for reuse*
 - *recycling*
 - *other recovery, including energy recovery*
 - *disposal*
- *Paragraph 5.68: Waste management beyond the waste hierarchy is also encouraged, such as adopting a circular approach from the offset, for example, sustainable procurement exercises.*
- *Paragraph 5.69: Large infrastructure projects may generate hazardous and non-hazardous waste during construction and operation. The Environmental Permitting regime, regulated by the Environment Agency in England, incorporates operational waste management requirements for certain activities. Applicants should therefore give consideration to the Environmental Permitting regime and whether this applies to their development.*
- *Paragraph 5.70: Infrastructure projects should look to use legal and sustainable timber and other Modern Methods of Construction where possible.*
- *Paragraph 5.71: The Secretary of State should consider the extent to which the applicant has proposed an effective process that will be*

followed to ensure safe and effective management of waste arising from the construction and operation of the proposed development. It is advised that this is detailed in the dedicated plans summarising the sustainable use of resources and waste for both construction and operation as part of the application documentation. The Secretary of State should be satisfied that the process sets out:

- *how waste will be managed, both on-site and off-site*
- *that consideration has been given to available waste management infrastructure capacity to manage wastes arising from the development*
- *adequate steps have been taken to minimise the volume of waste arising and maximise opportunities for reuse and recycling*
- *‘Paragraph 5.183: Applicants should safeguard any mineral resources on the proposed site as far as possible. Taking into account the policies of the Minerals Planning Authority, applicants should consider whether prior extraction of the minerals would be appropriate’.*

Accordance with the NPS NN and the draft NPS NN

- 6.20.2 As required by paragraph 5.67 of the draft NPS NN, Chapter 10: Material Assets and Waste of the ES (TR010064/APP/6.1) sets out how waste will be managed during construction and operation including how the Scheme will deliver sustainable waste management that adheres to the waste hierarchy and supports the transition to a circular economy. Where practicable, the design of the Scheme will work towards the ambition of zero avoidable waste in construction. This means preventing waste being generated at every stage of the Scheme’s lifecycle, from the manufacture of materials and products, the design, specification, procurement and assembly of infrastructure through to deconstruction.
- 6.20.3 The objective for zero avoidable waste is through prevention. This is measures taken before a substance, material or product has become waste. This objective also aims to reduce:
- The quantity of waste, including through the re-use of products or the extension of the life span of products.
 - The adverse impacts of the generated waste on the environment and human health.
 - The content of harmful substances in materials and products.
- 6.20.4 Appendix C, Outline Site Waste Management Plan (“SWMP”) of the First Iteration EMP (TR010064/APP/6.5). sets out how the Scheme construction will plan, implement, monitor and review waste reduction and management during design and construction of the Scheme. The SWMP is a live document, updated on a regular basis during the design and construction phase. It will be used to forecast waste arisings and enable practical decisions to be taken at the detailed design and construction

stage regarding waste prevention and the segregation of materials on-site for reuse, recycling, recovery or disposal, as well as for the layout of site waste management storage and treatment facilities. The SWMP would:

- Be prepared using either the good practice resources developed by Waste Resources Action Programme (WRAP) or the Principal Contractor's own SWMP tools and resources.
- Include targets or key performance indicators for waste recovery in line with prevailing Government and the Applicant's targets.
- Document the methods to be used to measure and record the quantity of waste generated during construction.
- Be accompanied by appropriate communication between the Applicant, Designer and Principal Contractor as well as subcontractors and other members of the supply chain.

6.20.5 Paragraph 5.68 of the draft NPS NN supports the use of sustainably sourced materials during construction. This includes consideration of how materials can be designed to be more easily adapted over the asset's lifetime and how de-constructability of elements can be increased at end of first life.

6.20.6 A Sustainable Procurement Plan (SPP) would be prepared as part of the REAC along with Appendix G, Outline Materials Management Plan within the first iteration EMP (TR010064/APP/6.5). The SPP will set out the policies employed by the Principal Contractor and its subcontractors to evaluate and specify the responsible sourcing of construction materials and products, and the procedures that are to be put in place to check and verify that the SPP is being implemented and adhered to during construction. This will include setting out any measurement criteria, methodology and performance indicators to assess progress and demonstrate success; and how the chain of custody of materials will be audited and evidenced during procurement.

6.20.7 Chapter 14, Climate of the ES (TR010064/APP/6.1) also sets out the framework to increase the procurement and use of sustainably and responsibly sourced low carbon construction materials and products. This includes secondary materials. Appendix K, Outline Energy and Resources Plan is included as part of the First Iteration EMP (TR010064/APP/6.5).

6.20.8 As required by paragraph 5.183 of the draft NPS NN, Chapter 10: Material Assets and Waste of the ES (TR010064/APP/6.1) sets out that although the Order Limits include areas safeguarded for MSAs, notwithstanding this, both mineral safeguarding sites and peat resources have been scoped out of this assessment on the basis that they are not resources that could be worked/extracted as confirmed by the Scoping Opinion (TR010064/APP/6.7).

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- 6.20.9 As required by the NPS NN and the draft NPS NN, the construction of the Scheme aligns with the waste hierarchy and commits to sourcing sustainably construction materials. Where practicable, the design of the Scheme incorporates the ambition of zero avoidable waste in construction. This means preventing waste being generated at every stage of the project's lifecycle, from the manufacture of materials and products, the design, specification, procurement and assembly of infrastructure through to deconstruction.
- 6.20.10 Overall, there would be no significant adverse effects for material assets and waste.

6.21 Population and Human Health including Walkers, Cyclists and Horses (WCH)

Key Policies of the NPS NN and the draft NPS NN

- 6.21.1 The NPS NN, seeks to protect human health and to maintain and enhance green infrastructure and recreational uses.
- *Paragraph 4.81: As described in the relevant sections of this NPS, where the proposed project has likely significant environmental impacts that would have an effect on human beings, any environmental statement should identify and set out the assessment of any likely significant adverse health impacts.*
 - *Paragraph 4.82: The applicant should identify measures to avoid, reduce or compensate for adverse health impacts as appropriate. These impacts may affect people simultaneously, so the applicant, and the Secretary of State (in determining an application for development consent) should consider the cumulative impact on health.*
 - *Paragraph 5.84: Where the development is subject to an Environmental Impact Assessment, the applicant should assess any likely significant effects on amenity from emissions of odour, dust, steam, smoke and artificial light and describe these in the Environmental Statement.*
 - *Paragraph 5.85: In particular, the assessment provided by the applicant should describe:*
 - *the type and quantity of emissions;*
 - *aspects of the development which may give rise to emissions during construction, operation and decommissioning;*
 - *premises or locations that may be affected by the emissions;*
 - *effects of the emission on identified premises or locations; and*
 - *measures to be employed in preventing or mitigating the emissions.*

- *Paragraph 5.89: The Secretary of State should ensure the applicant has provided sufficient information to show that any necessary mitigation will be put into place. In particular, the Secretary of State should consider whether to require the applicant to abide by a scheme of management and mitigation concerning emissions of odour, dust, steam, smoke, artificial light from the development to reduce any loss to amenity which might arise during the construction and operation of the development. A construction management plan may help codify mitigation.*
- *Paragraph 5.180: Where green infrastructure is affected, applicants should aim to ensure the functionality and connectivity of the green infrastructure network is maintained and any necessary works are undertaken, where possible, to mitigate any adverse impact and, where appropriate, to improve that network and other areas of open space, including appropriate access to new coastal access routes, National Trails and other public rights of way.*
- *Paragraph 5.181: The Secretary of State should also consider whether mitigation of any adverse effects on green infrastructure or open space is adequately provided for by means of any planning obligations, for example, to provide exchange land and provide for appropriate management and maintenance agreements. Any exchange land should be at least as good in terms of size, usefulness, attractiveness, quality and accessibility. Alternatively, where Sections 131 and 132 of the Planning Act 2008 apply, any replacement land provided under those sections will need to conform to the requirements of those sections.*
- *Paragraph 5.184: 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 effects on coastal access, National Trails, other 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 an applicant are acceptable and whether requirements in respect of these measures might be attached to any grant of development consent.*

6.21.2 This is also covered in the draft NPS NN.

- *'Paragraph 4.70: National road and rail networks and strategic rail freight interchanges have the potential to affect the health, well-being and quality of life of the population. New or enhanced national network infrastructure may have direct impacts on health because of traffic, noise, vibration, air quality and emissions, light pollution, community*

severance, dust, odour, polluting water, hazardous waste and pests. They may also have indirect health impacts: for example, if they affect access to key public services, local transport, opportunities for walking, cycling and wheeling, or the use of open space for recreation and physical activity.

- *Paragraph 4.71: As described in the relevant sections of this NPS, where the proposed project has an effect on human beings, the applicant should assess these effects, identifying any potential adverse health impacts, and identify measures to avoid, reduce or compensate for adverse health impacts as appropriate. Enhancement opportunities should be identified by promoting local improvements for active travel and horse riders driven by the principles of good design to create safe and attractive routes to encourage health and wellbeing; this includes potential impacts on vulnerable groups within society, i.e. those groups within society which may be differentially impacted by a development compared to wider society as a whole*
- *Paragraph 4.72: The government is committed to creating a more accessible and inclusive transport network that provides a range of opportunities and choices for people to connect with jobs, services and friends and family.*
- *Paragraph 4.73: The government's strategy for achieving equal access for disabled people is set out in the Inclusive Transport Strategy. The government expects applicants to improve access, wherever possible, on and around the national networks by designing and delivering schemes that take account of the accessibility requirements of all those who use, or are affected by, national networks infrastructure, including disabled users.*
- *Paragraph 4.74: Applicants must comply with any obligations under the Equality Act 2010. Public authority applicants are reminded of their duty to promote equality and to consider the needs of disabled people as part of their normal practice. The Public Sector Equality Duty requires that public authorities have due regard to the need to:*
 - *eliminate discrimination, harassment, victimisation and any other conduct prohibited by the Equality Act*
 - *advance equality of opportunity between people who share a protected characteristic and people who do not share it*
 - *foster good relations between people who share a protected characteristic and people who do not share it.*
- *Paragraph 4.77: Applicants should demonstrate the following where relevant:*
 - *All reasonable opportunities to deliver improvements in accessibility on and to the existing national road network should be taken, including improvements for non-motorised users*

- *Severance can be a problem in some locations; where appropriate, applicants should seek to deliver improvements that reduce community severance and improve accessibility*
- *National Network infrastructure should incorporate good design, as expanded on in paragraphs 4.24 to 4.29, which includes improving accessibility of infrastructure for users and inclusive design.*
- *Paragraph 5.71: The Secretary of State should consider the extent to which the applicant has proposed an effective process that will be followed to ensure safe and effective management of waste arising from the construction and operation of the proposed development. It is advised that this is detailed in the dedicated plans summarising the sustainable use of resources and waste for both construction and operation as part of the application documentation. The Secretary of State should be satisfied that the process sets out:*
 - *how waste will be managed, both on-site and off-site*
 - *that consideration has been given to available waste management infrastructure capacity to manage wastes arising from the development*
 - *adequate steps have been taken to minimise the volume of waste arising and maximise opportunities for reuse and recycling*
- *Paragraph 5.190: Public rights of way, National Trails, and other rights of access to land (for example, open access land) are important recreational facilities for walkers, wheelers, cyclists and equestrians. Applicants are expected to take appropriate mitigation measures to address adverse effects on coastal access, National Trails, other public rights of way and open access land, and to consider what opportunities there may be to improve access and connectivity. 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 an applicant are acceptable and whether requirements in respect of these measures might be attached to any grant of development consent.*
- *Paragraph 5.191: Public rights of way can be extinguished under section 136 of the Planning Act if the Secretary of State is satisfied that an alternative has been or will be provided or is not required.*

Accordance with the NPS NN and the draft NPS NN

National Trails and Public Rights of Way

- 6.21.3 National Cycle Network (NCN) Route 6 is outside of the study area of the Scheme. However, it is likely to be a destination for cyclists crossing the study area. The NCN passes through Prestwich Forest Park and passes over the M60 via a foot/cycle bridge to the west of the Scheme. There are

further TfGM Cycle Network links on Bury New Road, between Thatch Beach Lane and Albert Road near Whitefield Community Primary School and Ribble Road near two further primary schools in Whitefield, as well as along Heywood Road, Prestwich linking St Margaret's Church of England Primary School and Parrenthorn High School with Simister and Castle Road and Aviation Road in Unsworth. There are also a variety of mountain bike trails within Prestwich Forest Park and along the River Irwell. These routes also provide access to open space to the north.

- 6.21.4 Chapter 12, Population and Human Health of the ES (TR010064/APP/6.1) outlines effects on WCH including mitigation measures to be provided.
- 6.21.5 In accordance with paragraph 5.190 of the draft NPS NN, effects on WCH during operation have been assessed as not significant. The Scheme includes a modest enhancement for recreational walkers through the inclusion of a new route through an area of ecological mitigation as shown on Figure 2.3, the Environmental Masterplan and Figure 2.2 Scheme Design of the ES Figures (TR010064/APP/6.1). There will be some temporary effects on PRoW experienced during construction.
- 6.21.6 Replacement routes will be provided for the existing PRoW affected by the Scheme, including any Public Footpaths where they are affected by new drainage ponds, wetlands or swales. These are shown on the Streets, Rights of Way and Access Plans (TR010064/APP/2.5) that show streets and Public Rights of Way, Figure 2.3, the Environmental Masterplan and Figure 2.2 Scheme Design of the ES Figures (TR010064/APP/6.1).
- 6.21.7 As set out in paragraph 5.91 of the draft NPS NN which allows PRoW to be extinguished, a replacement PRoW is being included where the Northern Loop footprint will impact on an existing PRoW and is being realigned around the Northern Loop. There are also two PRoW south of the M60 Junction 18 which are being extinguished and a replacement route through the biodiversity mitigation area provides a better quality route to the extinguished path.

Severance

- 6.21.8 The Scheme will not cause any new severance. The magnitude of health impacts related to community severance is assessed as negligible negative.
- 6.21.9 No physical obstruction of access to employment, services, facilities and leisure is anticipated during construction outside of the changes in 'access to the natural environment and outdoor recreation' and 'accessibility by walking and cycling'.
- 6.21.10 There is potential for traffic management to impact on the reliability of journey times during the construction period. This will also include night closures of the motorway which will be required for some construction activities when diversion routes will be in place. However, these impacts will not reduce overall connectivity to employment, services, facilities and leisure. No change to tram and train networks is anticipated. The

magnitude of impact during construction will be minor reflecting that changes to connections will be occasional events and affect a small minority of the population. There will be a rapid reversal of impacts on completion of construction health severity will relate to a moderate change in quality of life for those affected.

- 6.21.11 With regard to paragraph 4.77 of the draft NPS NN, the key Scheme objectives includes to reduce peak congestion; delivering journey time reliability and improving safety on this motorway section of the SRN. There are already several formal crossing points of the M60 and M66 within the Order Limits (Sandgate Road, Castle Road, Hills Lane, and Simister Lane) as well as Old Hall Lane Footbridge just south of the Order Limits. Therefore, providing further pedestrian, cyclist and equestrian infrastructure is not a key objective for the Scheme and will provide limited benefits.
- 6.21.12 The Scheme includes reprovisioning for any side roads or PRoW that will be permanently affected by the footprint of the Scheme, as set out in the Streets, Rights of Way and Access Plans (TR010064/APP/2.5).

Equalities Act

- 6.21.13 As required by paragraphs 4.72 and 4.73 of the draft NPS NN, the design of the Scheme has been developed in accordance with the Equalities Act 2010 and the needs of people with protected characteristics. The Equality Impact Assessment (TR010064/APP/7.7) discusses how the requirements of the Equalities Act 2010 have been embedded in the Schemes development, including design, communication and engagement strategy and mitigation strategies.

Impact on Human Health from Emissions and Lighting

- 6.21.14 Paragraph 4.70 and paragraph 4.71 of the draft NPS NN seeks to protect human health. As set out in Chapter 5, Air Quality of the Environmental Statement (TR010064/APP/6.1), the effect of the construction of the Scheme on air quality at human health receptors and on Limits Value/target compliance receptors is considered to be not significant.
- 6.21.15 Effects on aesthetic and perceptual qualities from light pollution effects, including effects on dark skies, local amenity and tranquillity, are acknowledged within the assessment of landscape and visual effects. The replacement lighting strategy will cover the same extents as the existing lighting and be similar in height but will be of a modern design. It will use light-emitting diode (LED) lighting with G4 luminous intensity class to reduce glare and light spill. To further reduce impact of the lighting strategy, especially during the night-time, central management system (CMS) has been used. This allows, not only to reduce the light spill, but also greatly decreases the carbon footprint and energy usage for the lighting, while reducing maintenance costs and reaction time for any potential failures.
- 6.21.16 Chapter 12, Population and Human Health of the ES (TR010064/APP/6.1) considers the impact of lighting on Human Health. The significance of

effect is assessed as slight negative (not significant). This is on the basis that lighting is of limited relevance to the health priorities of the study area and the lack of health evidence attributing changes in health outcomes to lighting. The lighting design is not likely to significantly affect concerns of the public around artificial lighting in the local environment.

Benefits to Human Health

6.21.17 Table 6.1 below summarises the overall impact on human health in terms of the quality of the human and natural environment. This shows that any impacts would be temporary and there is an overall benefit in terms of reduction to traffic noise.

Table 6.1 - Summary of effects for human health

Determinant of human health	Summary of residual significant effects	
	Construction	Operation
Access to the natural environment and outdoor recreation	Temporary negative (moderate) significant effect for residents in Besses ward	No significant effects identified
Accessibility for walking and cycling	No significant effects identified	No significant effects identified
Connections to employment, services, facilities and leisure	No significant effects identified	No significant effects identified
Community severance	No significant effects identified	No significant effects identified
Employment opportunities including training opportunities	No significant effects identified	No significant effects identified
Quality of urban and natural environments	Temporary negative (large) significant effect on quality of life in all wards in study area due to construction related noise	Permanent positive (large) significant effect on health outcomes (morbidity and mortality) in all wards in study area due to overall reductions in long-term exposure to traffic noise
Interaction of construction impacts	Medium-term negative (moderate) significant effect on quality of life in Besses, Unsworth and Holyrood wards	N/A

6.21.18 Quantified and monetised results of predicted noise impacts on the health outcomes of ‘annoyance’, ‘sleep disturbance’ and ‘heart attack’ have been obtained from work undertaken to inform the monetised benefits from noise reduction as reported in Chapter 5 of this Case for the Scheme. The results in Table 6.2 below, relate to the expected impact on these

population health outcomes fifteen years after the Scheme commences operation.

Table 6.2 - Quantitative noise results

Quantitative results (year 15)	
No. of households experiencing increased daytime noise in forecast year	74
No. of households experiencing reduced daytime noise in forecast year	1166
No. of households experiencing increased night-time noise in forecast year	84
No. of households experiencing reduced night-time noise in forecast year	911

6.21.19 The calculation of health impact takes account of the numbers of households to experience an increase and decrease of impact, the magnitude of increase and decrease of noise level, together with exposure-response function for each health outcome.

Table 6.3 - Monetised health outcomes due to noise

Monetised health outcomes (year 15)		Effect
Net present value of impact on sleep disturbance (£)	5,020,187	Positive
Net present value of amenity ('annoyance') (£)	3,070,460	Positive
Net present value of impact on heart attacks (£)	737,992	Positive

6.21.20 The results show positive health effects for all three health outcomes, as shown in Table 6.3, above.

Mitigation measures

6.21.21 The following mitigation measures will be put in place during construction to ensure impacts to the local population are minimised, as set out in the REAC in the First Iteration of the EMP (TR010064/APP/6.5):

- A Community Liaison Manager shall be appointed whose responsibility will include to ensure clear communication over construction activities and phasing to allow individuals to make necessary plans and better cope with any potential disruption and create opportunities for individual residents, landowners and for other sensitive receptors such as schools to discuss their specific needs.
- For residential properties, businesses, development land, community assets and agricultural landholdings where access will be directly affected during construction, an appropriate alternative temporary or permanent access will be provided where practicable.
- Construction activities will be planned to limit requirements for temporary PRoW, footway and cycleway closures or diversions, and banksmen will be used to facilitate safe access in preference to closing routes where practicable. Essential diversions for Health and Safety requirements are identified in the Outline Traffic Management Plan (TR010064/APP/7.5). Temporary diversion routes will be well-signed and will be suitable for all potential users of the existing

provision (for example, where closure of a bridleway is required, the diversion route provided will be suitable for WCH).

- Access and egress for construction plant and vehicles at the point of access from Sandgate Road would be managed by banksmen.
- A record of condition of land to be temporarily used will be undertaken preconstruction to provide a baseline against which appropriate reinstatement would be measured.
- All land acquired on a temporary basis will be fully reinstated to its previous condition in agreement with the landowner.
- To protect agricultural assets, the Principal Contractor will prepare method statements for i) biosecurity, ii) protection of farm assets, and iii) soil management, prior to construction, and follow the agreed method statements during construction. The method statements will make reference to the controls set out in the First Iteration EMP (TR010064/APP/6.5). The First Iteration EMP will be developed into the Second Iteration EMP for implementation during construction and secured by Requirement 4 of the draft DCO (TR10064/APP/3.1).
- Liaison with landowners/operators of Pike Fold Golf Club during detailed design and pre-construction stages to limit impacts associated with land take within the Order Limits during construction.
- Works will be planned to avoid temporary closure of the permissive path through Haweswater Underpass during school term times as far as practicable, with particular consideration for busy periods around school opening and closing times.

Concluding Assessment

6.21.22 Chapter 12 Population and Human Health of the ES (TR010064/APP/6.1) assesses the impacts on WCH. Effects on WCH during operation of the Scheme have been assessed as not significant. The Scheme includes a modest enhancement for recreational walkers through the inclusion of a new route through an area of ecological mitigation. It will not cause any severance of existing routes for WCH. There will be some temporary effects on PRoW experienced during construction, but suitable temporary diversion routes will be put in place. These routes are shown on the Streets, Rights of Way and Access Plans (TR010064/APP.7.1).

6.21.23 The NPS NN and the draft NPS NN seeks to maintain and enhance the opportunities for WCH, ensure that national networks are designed to be equitable and protect human health. The Scheme meets these objectives through:

- All affected parts of the PRoW Network will be reinstated following Scheme completion, including betterment where PRoW will be extinguished.

- The Scheme will not cause any new severance. A number of existing bridges and underpasses already cross the SRN.
- The Scheme will provide some human health benefits as more properties will benefit from noise reduction, than will experience an overall increase in noise.

6.22 Cumulative Impacts

Key Policies of the NPS NN and the draft NPS NN

6.22.1 The NPS NN covers the cumulative impact of transport schemes with other developments.

- *‘Paragraph 4.16: When considering significant cumulative effects, any environmental statement should provide information on how the effects of the applicant’s proposal would combine and interact with the effects of other development (including projects for which consent has been granted, as well as those already in existence). The Examining Authority may also have other evidence before it, for example from a Transport Business Case, appraisals of sustainability of relevant NPSs or development plans, on such effects and potential interactions. Any such information may assist the Secretary of State in reaching decisions on proposals and on mitigation measures that may be required. 4*
- *Paragraph 4.17: The Examining Authority should consider how significant cumulative effects and the interrelationship between effects might as a whole affect the environment, even though they may be acceptable when considered on an individual basis with mitigation measures in place.’*
- *Paragraph 5.165: The applicant should identify existing and proposed land uses near the project, 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. Applicants should also assess any effects of precluding a new development or use proposed in the development plan. The assessment should be proportionate.*
- *Paragraph 5.167: During any pre-application discussions with the applicant, the local planning authority should identify any concerns it has about the impacts of the application on land-use, having regard to the development plan and relevant applications, and including, where relevant, whether it agrees with any independent assessment that the land is surplus to requirements. These are also matters that local authorities may wish to include in their Local Impact Report which can be submitted after an application for development consent has been accepted.*

6.22.2 This is also covered by paragraph 4.11 of the draft NPS NN.

- *'Paragraph 4.11: A key part of environmental assessment is the consideration of cumulative effects. The applicant should provide information on how the effects of the proposal would combine and interact with the effects of other development, where relevant. For most practical purposes this means that the applicant should consider the impact of other existing and committed developments within an appropriate geographical area and assess the additional impact of their own development. Other evidence for example, from a Transport Business Case, appraisals of sustainability of relevant NPSs or strategic environmental assessment of development plans, may assist the Secretary of State in reaching decisions on proposals and on mitigation measures that may be required. The Secretary of State should consider how the accumulation of, and interrelationship between, effects identified in the environmental assessment might affect the environment, economy, or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place.'*

Accordance with the NPS NN and the draft NPS NN

6.22.3 The most relevant strategic land allocation in the emerging PfE is the Northern Gateway allocation at Heywood/Pilsworth. This is located to the north and east of the M60, M62 and M66 motorways and is within Bury Metropolitan Borough and Rochdale Borough. The emerging PfE allocation for this land is repeated below:

- *'Policy JP Allocation 1.1 Heywood / Pilsworth:*

'i. Deliver a total of around 1,200,000 sqm of industrial and warehousing space (with around 700,000 sqm being delivered within the plan period). This should comprise a mix of high quality employment premises in an attractive business park setting in order to appeal to a wide range of business sectors including the development of an Advanced Manufacturing Park;

ii. Deliver around 1,000 additional homes along with a new primary school in the eastern part of the allocation to support the early delivery of the infrastructure and provide a buffer between existing housing and the new employment development;

iii. Deliver around 200 new homes, which includes an appropriate mix of house types and sizes and the provision of plots for custom and self-build housing, in the west of the allocation off Castle Road ensuring that an appropriate buffer is incorporated to separate this part of the allocation from the wider employment area and that appropriate highways measures are in place to prevent the use of residential roads by traffic associated with the wider employment area; and

iv. An appropriate range of supporting and ancillary services and facilities.'

6.22.4 In addition, land further south of the Scheme is also proposed as a strategic allocation in PfE.

- *'Policy JP Allocation 1.2 Simister and Bowlee:*

Deliver a broad mix of around 1,550 homes to diversify the type of accommodation across the Simister, Bowlee and Birch and Langley areas. This should include an appropriate mix of house types and sizes, accommodation for older people, plots for custom and self-build and a mix of housing densities with higher densities in areas of good accessibility and potential for improved public transport connectivity and lower densities adjacent to existing villages where development will require sensitive design to respond to its context.'

6.22.5 Figure 12.1, Population and Human Health Context in the ES Figures (TR010064/APP/6.2) provides the location of these two strategic allocations.

Cumulative Assessment

6.22.6 A cumulative assessment which assesses the impact of the Scheme in combination with other developments can be found in Chapter 15, Assessment of Cumulative Effects of the ES (TR010064/APP/6.1). This is supported by Appendix 15.1, Inter Project Cumulative Effects of the ES Appendices (TR010064/APP/6.3). This assessment has been carried out in accordance with the Inspectorate's (2019) Advice Note Seventeen: Cumulative Effects Assessment. The assessment sets out how the effects of the Scheme will combine and interact with the effects of other development projects, whether existing, awaiting consent, already consented or otherwise reasonably foreseeable. This includes any land with full or outline planning permission, local plan allocations and other NSIPs.

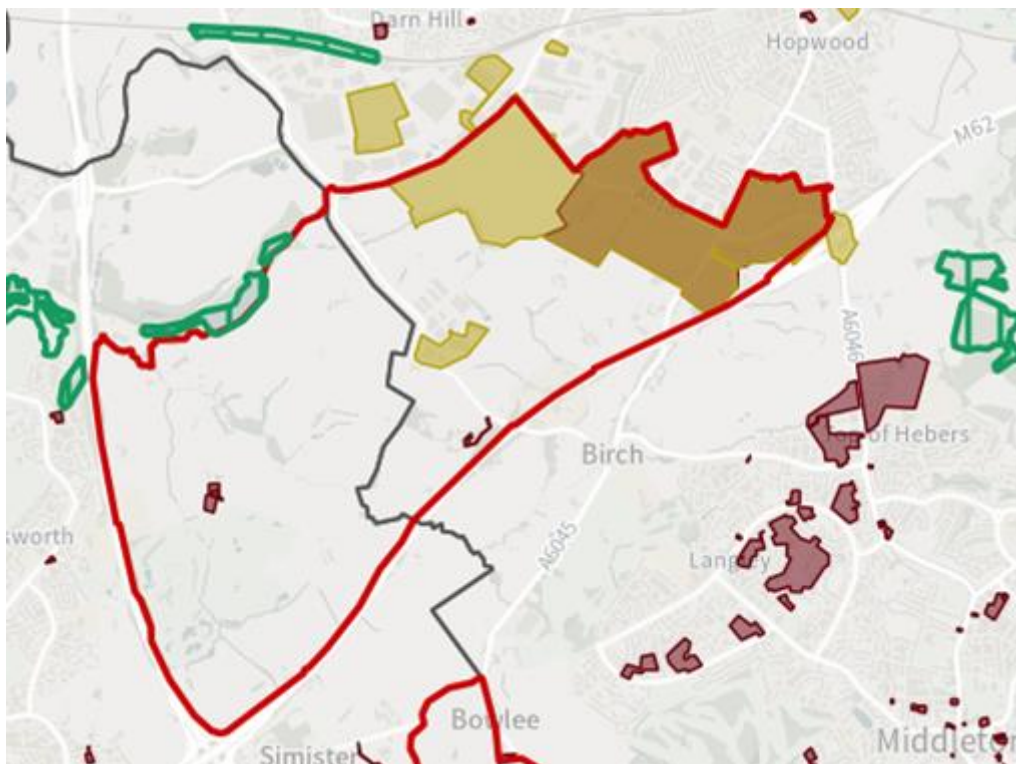
6.22.7 Approximately 19ha of the proposed JP allocation 1.1 for Heywood/Pilsworth is within the Order Limits where construction of the Northern Loop will take place. This overlap has been discussed with BMBC including representative from the planning, legal, highways and land and property departments. A Statement of Common Ground will be agreed with BMBC and submitted to the ExA during the course of the examination, to confirm the Scheme does not compromise the delivery of the Northern Gateway.

6.22.8 It should be noted that the Northern Gateway will be accessed from the LRFN and there are alterations to the SRN that will provide new access arrangements.

6.22.9 The part of the strategic allocation 1.1 within Rochdale, west of Junction 19, already has planning permission under reference 16/01399/HYBR for: *part full/part outline planning application for the development of land at South Heywood, including the demolition of a number of existing on-site buildings and structures. Full consent sought for the construction of a new link road between Junction 19 of the M62 and Pilsworth Road and the*

widening of part of Pilsworth Road, together with associated works. Outline consent (all matters reserved for except access) for a major mixed-use development comprising up to 1000 dwellings; employment uses (Classes B2/B8); a new primary school; employment land; associated landscaping, open space and sports pitches, drainage, ecological enhancements, cycleway and footpath linkages, infrastructure and other ancillary works.

Figure 6.2 - Extract from Places for Everyone to Show the Part of Allocation JP Allocation 1.1, Heywood/Pilsworth with Planning Permission (area shaded in brown)



- 6.22.10 This permission has been implemented with numerous subsequent consents for non-material amendments, reserved matters and discharging conditions. The general direction of development of Heywood/Pilsworth will be from north to south with some plots after the current plan period for PfE (the modifications propose the plan period is up to 2039).
- 6.22.11 The Core Scenario used for modelling future traffic in the Transport Assessment (TR010064/APP/7.4) takes into account land which has planning permission. This includes the part of the Northern Gateway Allocation JP 1.1 in Rochdale under reference 16/01399/HYBR including the new link road which connects to the M60/M62 Junction 19. This is shown on Figures 2.10, Large Housing Sites and Figure 2.12, Highway Infrastructure Schemes Included in the description of the Traffic Model in the Transport Assessment .
- 6.22.12 The other aspects of the Northern Gateway in PfE are not included in the model and as they do not have planning permission are included in an

'*uncertainty log*'. However, the implementation of the Scheme will provide sufficient additional SRN capacity to accommodate this should planning permission be granted in the future.

Concluding Assessment

- 6.22.13 As required by paragraph 5.165 of the NPS NN and paragraph 4.11 of the draft NPS NN, an assessment of cumulative effects with other developments has been undertaken. The conclusion from the assessment of cumulative impacts between the Scheme and other planned developments, including the Northern Gateway, is that no significant effects are anticipated.
- 6.22.14 In accordance with paragraph 5.167 of the NPS NN, the impacts of the Scheme on the Northern Gateway have been discussed with BMBC including the planning team, highways, legal and land and property. The Scheme is considered by BMBC as a vital component of the overall strategy for the Borough to facilitate growth, including for the Northern Gateway. The Applicant will prepare a Statement of Common Ground with BMBC that will be submitted to the ExA during the course of the examination.

6.23 Local Policy Assessment

Bury UDP

- 6.23.1 Many of the saved Bury UDP policies are superseded as set out in Annex A, Table A.3 of Places for Everyone. However, the following UDP Policies are retained and remain relevant as set out in Table 6.5 below:
- EN3 (Archaeology),
 - Policy OL2 (Other Protected Land).
 - OL1/5 (Other Development in the Green Belt),
 - H2/9 (Highways Agency Road Schemes),
 - EN2/4 (Historic Parks),
 - EN6/1 (Sites of Nature Conservation Interest (Sites of Special Scientific Interest, National Nature Reserves and Grade A Sites of Biological Importance)).
 - EN6/2 - Sites of Nature Conservation Interest (Local Nature Reserves and Grade B and C Sites of Biological Importance).
 - EN6/3 - Features of Ecological Value.
 - EN6/4 - Wildlife Links and Corridors.
 - EN7/2 - Noise Pollution
 - EN7/4 - Groundwater Protection

- EN7/5 - Waste Water Management
- EN8/1 - Tree Preservation Orders
- EN8/2 - Woodland and Tree Planting

Table 6.4 - Superseded Bury UDP Policies

Bury UDP (adopted 1997)		
Policy Reference	Relevant Policy Text	Assessment
GENERAL POLICIES		
EN1 – Built Environment	<i>The Council will seek to protect, preserve and enhance the character, appearance and amenity of the Borough's built environment.</i>	Superseded
EN2 – Conservation and Listed Buildings	<i>The Council will seek to preserve the Borough's built heritage through the control of development, especially that affecting Conservation Areas, Listed Buildings and areas of local historical importance.</i>	Superseded
EN3 – Archaeology	<i>The Council recognises the importance of archaeological remains as part of the Borough's heritage and will seek the protection of sites of archaeological importance as and where they are found.</i>	<p>The archaeological resource will not suffer any adverse effects during operation, as any negative effects have been identified during construction only.</p> <p>A programme of archaeological trial trench investigation has been agreed with the Greater Manchester Archaeological Advisory Service to understand the presence, extent, significance and survival of buried archaeological remains within the Order Limits. This will inform the need for and scope of archaeological mitigation. A WSI will be secured by Requirement 9 of the draft DCO (TR010064/APP/3.1).</p> <p>There will also be minimal impacts at Droughts Farm (HER 3934.1.0) and the listed Brick Farmhouse (NHLE 1067266).</p>

Bury UDP (adopted 1997)		
EN5 – Flood protection and defence	<i>The Council will seek to control development in a manner consistent with flood protection and the maintenance of flood defence systems.</i>	Superseded
EN6 – Conservation of the natural environment	<i>The Council will retain, protect and enhance the natural environment of the Borough, particularly in relation to areas of ecological, wildlife and geological importance.</i>	Superseded
EN7 – Pollution Control	<i>The Council will seek to control environmental nuisance and minimise pollution levels associated with development by limiting the environmental impact of pollution, wherever possible, in conformity with current legislation and prescribed standards.</i>	Superseded
EN8 – Woodland and Trees	<i>The Council will support the retention of trees, woods, copses and hedgerows and encourage natural regeneration and new and replacement tree planting throughout the Borough.</i>	Superseded
EN9 - Landscape	<i>The Council will seek to protect, conserve and improve the landscape quality of the Borough, and will encourage the enhancement of landscapes, where appropriate.</i>	Superseded
OL1 Green Belt	<i>The Council will maintain a Green Belt, ensuring that it fulfils the following strategic purposes:</i>	Superseded

Bury UDP (adopted 1997)		
	<ul style="list-style-type: none"> • <i>to check the unrestricted sprawl of large built-up areas;</i> • <i>to prevent neighbouring towns from merging into one another;</i> • <i>to assist in safeguarding the countryside from further encroachment;</i> • <i>to preserve the setting and special character of historic towns;</i> • <i>to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.</i> 	
OL2 - Other protected open land	<i>On open land outside the urban area, but not within the Green Belt and/or the river valleys, the Council will seek to retain the existing predominant use and character and will expect the land to remain for the most part undisturbed.</i>	The Order Limits do not impact on this land.
OL3 – Urban Open Space	The Council will seek to ensure that valuable areas of urban open space are retained wherever possible for their amenity value.	Superseded
OL1/1 Designation of Green Belt	<p><i>The Council will operate development control policies over a Green Belt as delineated on the Proposals Map. The Green Belt includes the following broad open land areas:</i></p> <ul style="list-style-type: none"> • <i>that part of the open land area within the</i> 	Superseded

Bury UDP (adopted 1997)		
	<p><i>Borough between Bolton and Bury from the Greater Manchester boundary in the north to Little Lever and Radcliffe in the south and incorporating the settlements of Hawkshaw and Ainsworth;</i></p> <ul style="list-style-type: none"> • <i>the Irwell Valley between Bury and Ramsbottom and the Greater Manchester boundary;</i> • <i>that part of the Roch Valley within the Borough between Bury and Rochdale and north west and north of Rochdale;</i> • <i>that part of the Croal/Irwell Valley within the Borough between Darcy Lever, Blackford Bridge and Rainsough;</i> • <i>that part of the open land area within the Borough which lies between Bury and Heywood, Middleton and generally south of Rochdale.</i> 	
<p>OI1/5 Mineral Extraction and Other Development in the Green Belt</p>	<p><i>Within the Green Belt other development, not including buildings, will be inappropriate unless:</i></p> <ul style="list-style-type: none"> • <i>it maintains openness and does not conflict with the purposes of including land in the Green Belt; or</i> • <i>in the case of mineral extraction, it does not conflict with the</i> 	<p>The Scheme could be considered as inappropriate development. If so, it is considered that other considerations (in the form of the very special circumstances which include the national benefits of the Scheme) outweigh any harm to the Green Belt. We consider the very special circumstances to include:</p> <p>The Need for the Scheme.</p> <p>This is to improve national infrastructure and is part of a national investment strategy for the SRN in England. This is consistent with the overall</p>

Bury UDP (adopted 1997)		
	<p><i>purposes of including land in the Green Belt, and high environmental standards will be maintained and the site well restored. Proposals for other development not falling into one of the above categories is inappropriate development and is, by definition, harmful to the Green Belt.</i></p> <p>Any development proposal considered to involve inappropriate development will only be permitted in very special circumstances.</p>	<p>objectives for the SRN set out in the NPS NN and the Draft NPS NN.</p> <p>The Benefits of the Scheme:</p> <p>The Scheme provides future capacity for the forecast growth in traffic to deliver national networks which are resilient and meet the long-term needs. A key objective of the Scheme is to address the problem of congestion, which causes slow and unreliable journeys and reduces economic efficiency.</p> <p>As set out in Section 4, Transport Case for the Scheme of this Case for the Scheme, the most significant benefit of the Scheme is due to travel time savings. The Scheme would alleviate congestion that would otherwise worsen without the Scheme. As a result of the Scheme, this part of the SRN would operate within capacity up to and beyond 2044 and traffic using M60 Junction 18 would save up to 1.5 minutes compared to current journey times during normal traffic conditions.</p> <p>As set out in Section 5 of this Case for the Scheme, the overall economic benefits of the Scheme provide a Present Value of Benefits of £137.5 million.</p> <p>The lack of alternatives with less impact on the Green Belt:</p> <p>Given that the purpose of the Scheme is to improve an existing section of the SRN, it is not possible to pursue an option which is outside the Green Belt, unless the surrounding motorway network is relocated entirely.</p>
<p>HT2/9 Highways Agency Road Schemes (Now National Highways).</p>	<p><i>Highways Agency Road Schemes: The Highways Agency has identified a number of major highway schemes as part of the national trunk road programme. The following scheme has been identified within the Borough: HT2/9/1 - M60 improvement between Junctions 12 to 18. Justification It is a</i></p>	<p>This provides broad support for the principal of upgrading the M60.</p>

Bury UDP (adopted 1997)		
	<p><i>requirement of PPG12 "Development Plans and Regional Planning Guidance" that all major highway schemes listed in the national trunk road programme should be included in the Plan. The scheme referred to is the responsibility of the Highways Agency.</i></p>	
<p>EN1/1 - Visual Amenity</p>	<p><i>Development will not be permitted where proposals would have a detrimental effect on:</i></p> <ul style="list-style-type: none"> • <i>public views of prominent or important buildings, especially those in areas of architectural or historic interest;</i> • <i>the visual amenity both within, or viewed from, areas of environmental interest such as the Green Belt, Special Landscape Areas or the river valleys.</i> 	<p>Superseded</p>
<p>EN2/4 - Historic Parks</p>	<p><i>The Council will ensure the protection of Phillips Park as a registered park of historic interest, together with any other parks and gardens which may be identified in the future as being of historic interest. In considering proposals for development in Historic Parks, regard will be had to the following factors:</i></p> <ul style="list-style-type: none"> • <i>the need to preserve and enhance the special character and appearance of the park;</i> 	<p>Although it is within 400m of the Order Limits, the Scheme has no impact on Phillips Park.</p>

Bury UDP (adopted 1997)		
	<ul style="list-style-type: none"> • <i>the need to ensure sympathetic design and the use of appropriate materials.</i> 	
<p>EN6/1 - Sites of Nature Conservation Interest (Sites of Special Scientific Interest, National Nature Reserves and Grade A Sites of Biological Importance)</p>	<p><i>Planning permission will not be granted for development in or in the vicinity of a designated or proposed site of national or county/regional importance (Site of Special Scientific Interest or National Nature Reserve or Site of Biological Importance which has been identified as of national or county/regional importance i.e. Grade A) which would destroy or adversely affect, either directly or indirectly, the nature conservation interest of the site, unless it can be demonstrated that other material considerations outweigh the special interest of the site.</i></p>	<p>There are no SSSI within 2km of the Scheme, however, Rochdale Canal SSSI is located within 200m of the ARN. Rochdale Canal SAC and SSSI. However, there will be no change due to the potential for Nitrogen deposition from the Scheme. This is confirmed by Appendix 8.13, Habitats Regulation Assessment of the Environmental Statement Appendices (TR010064/APP/6.3).</p> <p>Note this is the adjoining Local Authority Rochdale Borough.</p> <p>The location of this SAC is shown on Figure 8.13.1, Location of European Sites of Appendix 8.13 of the ES Appendices (TR010064/APP/6.3).</p> <p>As shown on Figure 8.1.2, Statutory and Non Designated Sites of Appendix 8.1 of the ES Appendices (TR010064/APP/6.3, due to their hydrological connectivity to the Scheme via the Rivers Irwell and Roch and associated tributaries, there is potential for adverse effects on Ashclough SSSI, Nob End SSSI and Local Nature Reserve and Moses Gate LNR due to pollution of surface water during construction.</p> <p>There are no other significant potential effects for these receptors during construction.</p>
<p>EN6/2 - Sites of Nature Conservation Interest (Local Nature Reserves and Grade B and C Sites of Biological Importance)</p>	<p><i>Planning permission will not be granted for development which would damage either directly or indirectly, the nature conservation interests of sites of particular ecological significance (Local Nature Reserves or Grade B and C Sites of Biological Importance) unless conditions can be imposed that would acceptably mitigate those impacts.</i></p>	<p>Castle Brook runs adjacent to the Order Limits, before merging with Hollins Brook which flows through Hollins Vale LNR and SBI (but not Hollins Plantation SBI which also overlaps Hollins Vale LNR). There is potential for adverse effects on these sites if pollution of surface water occurred during construction.</p> <p>As shown on Figure 8.12.2, BNG Metric 3.1 Rivers and Streams Arrangements of Appendix 8.12.2 of the ES Appendices (TR010064/APP/6.3), the watercourse 'Blackfish' is located partially within the Order Limits. Blackfish merges with the River Irk which flows through Blackley Forest LNR. There is hydrological connectivity between the Scheme</p>

Bury UDP (adopted 1997)		
		<p>and local nature conservation sites and therefore the potential for adverse effects if surface water became contaminated.</p> <p>As such, extensive measures to minimise the risk of pollution to the water environment have been incorporated and the Scheme is compliant with the WFD. Appendix H, Outline Surface and Ground Water Management Plan in the First Iteration EMP (TR010064/APP/6.5) contains a series of measures to prevent pollution to the water environment.</p> <p>Hazlitt Wood SBI is within 50m of the Order Limits so is also assessed as being at high risk of dust deposition.</p> <p>Appendix A, Outline Air Quality and Dust Management Plan in the First Iteration EMP (TR010064/APP/6.5) contains a series of dust mitigation measures. With mitigation in place, it is unlikely there would be significant adverse air quality effects resulting from construction dust, and so Hazlitt Wood SBI would not be impacted</p> <p>All other local nature conservation areas in the surrounding area do not have any potential effects due to their distance from the Scheme.</p>
<p>EN6/3 - Features of Ecological Value</p>	<p><i>The effect of land use changes on existing features of ecological or wildlife value will be taken into account when assessing development proposals. Any proposal should seek to retain such features and incorporate them into the development.</i></p>	<p>The Applicant has sought to provide biodiversity delivery although this is not yet a statutory requirement for NSIPs (see below). Specific areas of enhancement include:</p> <ul style="list-style-type: none"> -Particular attention has been given to the retention of existing vegetation. -Hedgerows and woodland in the vicinity of the Northern Loop. -Linear tree belts adjacent to Prestwich Heys Football Club sports ground. -Hedgerows and vegetation along Mode Hill Lane, Egypt Lane and Corday Lane. -Linear tree belts along the verge of the M60 northbound to westbound diverge. -An important hedgerow and highways woodland belt west of Pond 5, near Heaton Park.

Bury UDP (adopted 1997)		
		-A narrow belt of trees and shrubs along the M60 verge adjoining Kenilworth Road.
EN6/4 - Wildlife Links and Corridors	<p><i>The Council will seek to consolidate and, where appropriate, strengthen wildlife links and corridors, and will not permit development which would adversely affect identified areas. In particular, the Council will seek to ensure that new development within or adjacent to identified links or corridors contributes to their effectiveness through the design, landscaping and siting of development proposals and mitigation works, where appropriate.</i></p> <p><i>Supporting text defines the M60/M62/M66 corridors as a wildlife link.</i></p>	<p>The Environment Act 2021 was given Royal Assent on 9 November 2021. This Act contains provisions for the protection and improvement of the environment, including biodiversity. The BNG objective is that the biodiversity value attributable to a scheme must exceed the pre-development value by at least 10%. This post-scheme biodiversity value may comprise onsite habitat, any offsite biodiversity gain and any biodiversity credits. The overall effect has to be a net gain offset against any harm to biodiversity.</p> <p>The Government intends that the 10% BNG mandatory requirement should apply to all NSIPs accepted for examination by November 2025. NSIPs accepted for examination before the commencement date are not required to deliver mandatory BNG.</p> <p>The Applicant has sought to provide a forecast overall net gain of 3.68% for habitats and 58.5% for hedgerows. This includes habitat retention, creation and enhancement to woodland and grassland habitats.</p>
EN7/2 - Noise Pollution	<p><i>In seeking to Limits noise pollution the Council will not permit:</i></p> <ul style="list-style-type: none"> • <i>development which could lead to an unacceptable noise nuisance to nearby occupiers and/or amenity users;</i> • <i>development close to a permanent source of noise.</i> 	<p>Night time working will be required over a period of up to 3 years. This will be kept to a minimum and impacts mitigated and reduced as far as practicable. As there are so many properties in the surrounding area of the Order Limits, the Applicant will work closely with the community during construction. The location of noise sensitive receptors is shown on Figure 11.2, Noise Sensitive Receptors in the ES Figures (TR010064/APP/6.2).</p> <p>Once the Scheme is operational, the road surface between Junction 17 and Junction 18 will be better in terms of noise reducing properties than a conventional Low Noise Surface. This reduces road traffic noise at source therefore reducing the effects for all receptors, reducing where significant effects may have otherwise been predicted. The NIAs are shown on Figure 11.1a, Noise Study Areas, Noise Important Area and Existing Noise Barriers of the ES Appendices (TR010064/APP/6.3) and predicted levels of noise change presented in the Chapter 11, Noise</p>

Bury UDP (adopted 1997)		
		<p>and Vibration of the ES (TR010064/APP/6.1). There are five NIA's within 600m of the Order Limits. Three of them are directly adjacent to the motorway network, and the remaining two located adjacent to the local road network on Bury New Road and Higher Lane.</p> <p>There are predicted reductions of up to 5.1dB in road traffic noise levels for some receptors within the NIA 1671 (which is adjacent to the M60 between Junction 17 and Junction 18) that, in the short-term, would be noticeable and considered to be a likely significant beneficial effect. There are no other changes in road traffic noise of greater than 1dB predicted within other NIAs.</p>
EN7/4 - Groundwater Protection	<i>The Council will not permit development proposals which would have an unacceptable adverse effect on groundwater resources, particularly in terms of their quality and/or supply.</i>	<p>Overall, the risks from contaminated land are low to moderate and mainly during construction. Extensive measures to minimise the risk of pollution to the water environment have been incorporated and the Scheme is compliant with the WFD. Appendix H, Outline Surface and Ground Water Management Plan in the First Iteration EMP (TR010064/APP/6.5) contains a series of measures to prevent pollution to the water environment.</p>
EN7/5 - Waste Water Management	<p><i>In seeking to Limits surface water pollution the Council will not permit development which:</i></p> <ul style="list-style-type: none"> • <i>does not have satisfactory arrangements for the disposal of foul sewage, trade effluent and contaminated surface water;</i> • <i>will exacerbate existing problems, such as premature or increased frequency of discharges through storm sewer overflows due to inadequate infrastructure or lack of sewer capacity;</i> 	<p>Extensive measures to minimise the risk of pollution to the water environment have been incorporated and the Scheme is compliant with the WFD. This includes:</p> <ul style="list-style-type: none"> -Highways England Water Risk Assessment Tool (HEWRAT) assessments have been undertaken at each design iteration with the results of the assessments informing the need and extent of further mitigation. This has then been incorporated into subsequent design iterations. - Appendix 13.7, the Drainage Strategy Report and Appendix 13.2 the Water Quality Assessment Report of the ES Appendices (TR010064/APP/6.3) set out the treatment train specifications for drainage catchment within the extent of the Scheme. - Sediment forebays will be provided at the inlet of all proposed attenuation ponds which will provide effective pre-treatment (i.e. removal of coarse sediments) and ensure ease of maintenance during the removal of any such collected coarse

Bury UDP (adopted 1997)

	<ul style="list-style-type: none"> • <i>would present an unacceptable risk of spillage or leakage of stored oils/chemicals or other potentially polluting substances.</i> 	<p>sediments. The main storage compartment, after the sediment forebay, for all of the attenuation ponds would be a 0.3m depth permanent water pool which will act as the main surface water treatment zone. Where required the attenuation ponds can also be cascaded (i.e. contain multiple storage compartments) to increase the residence time and enable the additional sedimentation of particulate matter to occur. In addition, attenuation ponds will be planted with vegetation sufficiently robust to withstand the potential pollutants suspended in the surface water runoff which will provide additional water quality treatment benefits. Perennial ryegrass and fescues are typical for this purpose.</p> <p>- The vegetation in swales / vegetated ditches will slow the surface water flow rate provided the flow is at or below the level of the vegetation. This will increase water residence time in the swale and force sediments and other potential pollutants to settle out. Check dams can also be provided to maximise the level of treatment. Check dam provision will be assessed at the detailed design stage. Where feasible swales / vegetated ditches are provided from some attenuation ponds (where practicable) as an added level of treatment prior to the surface water discharging to the receiving watercourse.</p> <p>- Filter drains will filter out some fine sediments, metals, hydrocarbons and other pollutants as the surface water percolates down through the trench fill material overlying the perforated filter drain. Silt traps in chambers and gullies will provide suspended particulate matter retention with regular maintenance.</p> <p>- Appendix 13.2: the Water Quality Assessment Report of the ES Appendices (TR10064/APP/6.3) also includes an assessment of spillage risk. This assessment has concluded that the risk of a serious chemical spillage from all road catchments is low. Isolation chambers fitted with penstock valves will be located at the downstream end of the highway drainage systems. This will allow isolation of the pollutants within the highway drainage system thereby avoiding pollution to receiving watercourses.</p>
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EN8/1 - Tree Preservation Orders	<i>The Council will make Tree Preservation Orders where they are needed to protect trees and woodlands.</i>	The Scheme does not directly impact any Tree Preservation Orders.
EN8/2 - Woodland and Tree Planting	<i>The Council will support and encourage new woodland and tree planting in the Borough. In considering development proposals, the Council will encourage the planting of hedges, trees and woodlands using locally native species.</i>	<p>Some trees and hedgerows will be removed during construction. These will be replaced with hedgerows and trees that encourage biodiversity as well as strengthening existing hedgerows. the following measures included in the REAC, contained within the First Iteration EMP (TR010064/APP/6.5) to enhance the landscape and to mitigate against the impact of the loss of trees, vegetation and hedgerows include:</p> <ul style="list-style-type: none"> - Commitment LV1 – The Northern Loop eastern embankment is constructed in accordance with the preliminary design. - Commitment LV2 – The ponds will be designed to provide landscape integration and planting opportunities. - Commitment LV3 – Existing vegetation clearance within the temporary works areas will be minimised as far as practicable. Particular attention will be given to the retention of mature vegetation including individual trees, linear tree belts and woodlands. - Commitment LV4 – All planting and seeding using native species as appropriate to the location and design to reflect the distinctive local character and to be of a similar or improved species mix, overseen by Ecologists and Arboriculturists. - Commitment LV5 – Hedgerow planting will be delivered in areas adjacent to the ecological areas, along the new highway boundaries and around ponds. - Commitment LV6 – Hedgerow tree planting will be delivered to strengthen new and existing hedgerows and further help integrate the motorway infrastructure into the local landscape. - Commitment LV7 – Planting will be delivered to link existing field boundary vegetation with other areas of existing vegetation in areas around the Northern Loop to improve habitat links and

Bury UDP (adopted 1997)

		<p>strengthen the local landscape pattern and character.</p> <ul style="list-style-type: none"> - Commitment LV8 – Aquatic and marginal planting will be delivered at the ponds and swales to improve landscape integration and biodiversity. - Commitment LV9 – Planting along the Simister Pike Fold Viaduct embankment west of the M66 for landscape integration, and visual screening or filtering for viewers within nearby residential areas of Whitefield. - Commitment LV10 – Planting on the Simister Pike Fold Bridge embankments and Northern Loop embankments and within the Northern Loop will be delivered for landscape and visual integration; and visual screening or filtering for viewers along Pole Lane footpath and to break up the scale of the Scheme elements for motorway travelers. - Commitment LV11 – Planting will be delivered along Pole Lane to strengthen the existing hedgerow, and along the nearby northbound M66 verge, to provide visual screening or filtering of traffic, the Simister Pike Fold Bridge and Northern Loop from within Whitefield and from Footpath 12WHI along Pole Lane. - Commitment LV12 – Planting of linear tree belts will be delivered along the M60 northbound to M60 westbound on-slip to provide landscape and visual integration; and screening or filtering for viewers on Heywood Road and Simister Lane. - Commitment LV13 – Existing linear tree belts necessitating removal for carriageway widening will be reinstated with a higher percentage of feathered trees and evergreen species to improve visual screening in the early years. - Commitment LV14 – Planting will be delivered along the eastbound and westbound M60 mainline verges and embankments between M60 Junction 17 and M60 Junction 18 to provide townscape and visual integration; and screening and filtering for adjacent residential areas.
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Bury UDP (adopted 1997)		
		<p>- Commitment LV15 – Planting of trees and shrubs, and species rich grassland creation, will be delivered within land east of the Northern Loop to provide landscape and visual integration; and screen views from footpaths 8WHI and 9WHI.</p> <p>- Commitment LV16 – Planting of shrubs will be delivered along Warwick Close to provide amenity value.</p> <p>- Commitment LV17 – Provision of temporary arboricultural mitigation and fencing for the protection of retained vegetation during construction.</p> <p>An Environmental Clerk of Works will ensure the Scheme’s construction is delivered in accordance with the measures set out within the REAC contained in the First Iteration EMP (TR010064/APP/6.5). This will ensure implementation of environmentally protective measures.</p>
EN9/1 - Special Landscape Areas	<i>In those areas identified on the Proposals Map as Special Landscape Areas, any development which is permitted will be strictly controlled and required to be sympathetic to its surroundings in terms of its visual impact. High standards of design, siting and landscaping will be expected. Unduly obtrusive development will not be permitted in such areas.</i>	Superseded

6.23.2 From the assessment set out above, it is considered that the Scheme meets the policies of the Bury UDP. The Scheme design provides both mitigation and enhancement where practicable. Whilst the construction of the Scheme will cause some disbenefits through the impact on amenity, this should be considered against the overall longer term strategic benefits of the Scheme.

Places for Everyone

6.23.3 The table below assesses the compliance of the Scheme with PfE.

Table 6.5 - Assessment Against Places for Everyone

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Policy Reference	Relevant Policy Text	Assessment
Policy JP-Strat 6 Northern Areas	<p><i>A significant increase in the competitiveness of the northern areas will be sought. There will be a strong focus on making as much use as possible of suitable previously-developed (brownfield) land through urban regeneration, enhancing the role of the town centres and diversifying the residential offer. This will be complemented by the allocation of sites for development identified in Chapter 11 of this plan, that will help to boost economic opportunities and diversify housing provision. Improving transport connections and accessibility by public transport, cycling and walking will be a priority to ensure access to key employment opportunities. In supporting the principles of inclusive growth, the significant increases in economic growth in this location will help to reduce deprivation.</i></p> <p><i>The most significant proposed intervention in the northern areas is focused on the M62 corridor from Junction 18 (the confluence with the M60 and M66) to Junction 21 (Milnrow), extending across parts of Bury, Rochdale and Oldham (JP-Strat7). The scale of this initiative is considered necessary in order to transform</i></p>	<p>Section 1 of this Case for the Scheme sets out that if the capacity constraints on the northern section of the M60/M62 are not addressed, its impact on the wider transport network in the north could hold back growth across the region. Some of the busiest stretches of road in the UK are located on the M60 between Junction 8 and Junction 18, and the combination of local and strategic traffic, coupled with the design of the road, further exacerbates congestion and environmental problems. The specific objectives of the Scheme encompass rebalancing of the Greater Manchester economy and to boost northern competitiveness through:</p> <ul style="list-style-type: none"> - Improving the journey experience for users of this section of our network by: <ul style="list-style-type: none"> • Reducing congestion at peak times • Reducing journey times • Delivering more reliable journey times • Providing a scheme that is safe for all road users. • Minimising the impact of the Scheme on the surrounding environment including within Noise Important Areas (NIA) and Air Quality Management Areas (AQMA). - Supporting future economic growth across the Greater Manchester area by delivering against local aspirations set out in regional and local authorities' transport strategies and local plans. <p>Section 5 of this Case for the Scheme further confirms that, with the Scheme in place ("do something"), the wider economic aspirations of the Mayor for Greater Manchester, including those relating to the Northern Gateway and the Atom Valley MDZ, will benefit from journey time savings that would otherwise get worse without the Scheme ("do nothing").</p>

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	<p><i>perceptions of, and opportunities within, the north of Greater Manchester. There are three major sites where land is removed from the Green Belt through this Plan, as well as significant development on land outside the Green Belt through the completion of the Kingsway Business Park. Developments in this location are not reliant on each other. The Northern Gateway site is of a transformative scale in its own right, but collectively they have the potential to significantly change the economic growth potential of the wider area</i></p>	<p>The design of the Scheme would not compromise the ongoing delivery of the wider Northern Gateway which is a key part of the overall strategy for the Northern Areas set out in Policy JP-Strat 6 and JP-Strat 7.</p>
<p>Policy JP-Strat 7 North East Corridor</p>	<p><i>Lying within the area and policy framework covered by policy JP-Strat6, the North East Growth Corridor, which extends eastwards from Junction 18 of the M62 and incorporates the Atom Valley MDZ, will deliver a nationally-significant area of economic activity. This will be supported by a significant increase in the residential offer, thereby delivering truly inclusive growth over the lifetime of the Plan. Specifically this Plan allocates three major sites within the area, as identified in Chapter 11, to support this growth: <input type="checkbox"/> Policy JP Allocation 1.1 'Heywood / Pilsworth (Northern Gateway)' <input type="checkbox"/> Policy JP Allocation 1.2 'Simister and Bowlee (Northern Gateway)' <input type="checkbox"/></i></p>	

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	<i>Policy JP Allocation 2 'Stakehill'</i>	
Policy JP-S4 Flood Risk and the Water Environment	<p><i>An integrated catchment-based approach will be taken to protect the quantity and quality of water bodies with reference to the North West River Basin Management Plan and managing flood risk, by:</i></p> <ol style="list-style-type: none"> <i>1. Returning rivers to a more natural state, where practicable;</i> <i>2. Working with natural processes and adopting a natural flood management approach to slow the speed of water drainage and intercept water pollutants;</i> <i>3. Locating and designing development so as to minimise the impacts of current and future flood risk, including retrofitting or relocating existing developments, infrastructure and places to increase resilience to flooding;</i> <i>4. Expecting developments to manage surface water run-off through sustainable drainage systems and as close to source as possible. Development should achieve greenfield run-off rates unless it is demonstrated to be impracticable. District local plans should consider setting more detailed surface water drainage policies to reflect local circumstances, including alternative surface water</i> 	<p>The Scheme Order Limits is located entirely in Flood Zone 1 and the risk of flooding is low. It would not cause an increase in flood risk elsewhere.</p> <p>Appropriate SuDS attenuation to manage surface water run-off has been designed to the most recent climate change standards to ensure it encourages biodiversity and allows for predicted increases in rainfall intensity. The drainage system for the Scheme will be managed by the Applicant.</p>

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	<p><i>discharge rates, such as in areas with critical drainage issues</i></p> <p><i>5. Ensuring that sustainable drainage systems:</i></p> <ul style="list-style-type: none"> <i>-Are designed to provide multifunctional benefits wherever possible, including for water quality, nature conservation and recreation;</i> <i>-Avoid adverse impacts on water quality and any possibility of discharging hazardous substances to ground;</i> <i>-Are delivered in a holistic and integrated manner, including on larger sites split into different phases; and</i> <i>-Are managed and maintained appropriately to ensure their proper functioning over the lifetime of the development.</i> <p><i>6. Securing the remediation of contaminated land and the careful design of developments to minimise the potential for urban diffuse pollution to affect the water environment; and</i></p> <p><i>7. As a minimum, residential development should meet the mandatory water efficiency standard of 125 litres/person/day as set out in Building Regulations. District local plans may and should consider setting a tighter water efficiency standard of 110 litres/person/day where</i></p>	
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	<i>there is a clear local need with reference to national guidance on housing optional technical standards</i>	
Policy JP-S5 Clean Air	<p><i>A comprehensive range of measures will be taken to support improvements in air quality, focusing particularly on locations where people live, where children learn and play, where there are impacts on the green infrastructure network and where air quality targets are not being met, including:</i></p> <ol style="list-style-type: none"> <i>1. Locating and designing development, and focusing transport investment, so as to reduce reliance on forms of transport that generate air pollution;</i> <i>2. Determining planning applications having regard to the most recent development and planning control guidance published jointly by the Institute of Air Quality Management (IAQM) and Environmental Protection UK (EPUK), and the most recent IAQM Guidance on the Assessment of Dust from Demolition and Construction, or relevant successor guidance, including the requirement for developers to submit construction management plans as appropriate;</i> <i>3. Requiring applications for developments that could have an adverse impact on air quality to submit relevant air pollution data so that adverse impacts on air</i> 	<p>Taking each numbered element of JP-S5:</p> <ol style="list-style-type: none"> 1. The location and designing development is most relevant to place making and is intended to ensure development such as commercial, domestic and industrial developments are located in locations in sustainable places to encourage the use of public transport to help with clean air objectives. The Scheme is not suitable as the aim of this point is to reduce congestion at a busy motorway interchange which is not accessible by public transport. 2. IAQM Guidance etc.: The Scheme is a National Highways Scheme and as set out in Chapter 5 Air Quality of the Environmental Statement [APP-044] the assessment is based on National Highways' Design Manual for Roads and Bridges LA105 (Air quality) Standard not guidance. However, the mitigation does use the IAQM mitigation for dust. 3. The impact of the Scheme and the air pollution data are contained and discussed within Chapter 5 Air quality of the Environmental Statement [APP-044]. 4. There are no point sources (industrial discharge/boilers) associated with this Scheme 5. It is not operationally feasible to locate charging points on a live motorway. 6. The Clean Air Plan is not yet completed. 7. The sustainable distribution of goods is about locating logistics and other operations associated with this in sustainable locations and shifting from the use of fossil fuels. It is not relevant to this Scheme.

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	<p><i>quality can be fully assessed and development only permitted where they are acceptable and/or suitable mitigation can be provided;</i></p> <p><i>4. Restricting developments that would generate significant point source pollution such as some types of industrial activity and energy generation;</i></p> <p><i>5. Significantly expanding the existing commercial network of electric vehicle charging points, both for public and private use, including as part of new developments;</i></p> <p><i>6. Implementing the Clean Air Plan and associated measures;</i></p> <p><i>7. Facilitating the more sustainable distribution of goods within the urban area, including through accommodating urban consolidation centres and urban distribution centres that use ultra-low-emission vehicles, and local delivery facilities to reduce repeat delivery attempts;</i></p> <p><i>8. Designing streets to avoid trapping air pollution at ground level, including through the appropriate location and scale of buildings and trees;</i></p> <p><i>9. Controlling traffic and parking within and around schools, early years sites and other locations that are</i></p>	<p>8 .Street design is not required for the Scheme.</p> <p>9. Controlling of traffic in and around schools is not relevant to the Scheme (though the impact on schools and similar locations within 200m of the affected roads have been assessed).</p> <p>10. The Scheme has sought to replace and enhance Green Infrastructure such as through replacing and upgrading Public Rights of Way within the Order Limits as well as providing several areas of environmental mitigation and enhancement, as shown on the Work Plans [AS-006].</p> <p>11. This is covered in the response to Point 1 above.</p> <p>Based on the above, the Applicant considers that the limited number of points of relevant sections of PfE JP-S5 which may be relevant to the Scheme have been complied with,</p>
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	<p><i>particularly sensitive to air quality;</i></p> <p><i>10. Promoting actions that help remove pollutants from the air, such as enhancing the green infrastructure network and using innovative building materials that capture air pollutants; and</i></p> <p><i>11. Development should be located in areas that maximise the use of sustainable travel modes and be designed to minimise exposure to high levels of air pollution, particularly for vulnerable users.</i></p>	
<p>Policy JP-G1 Landscape Character</p>	<p><i>Development within a Landscape Character Type, as shown on Figure 8.1 and the Policies Map, should reflect and respond to the special qualities and sensitivities of the key landscape characteristics of its location, including having regard to:</i></p> <ul style="list-style-type: none"> • <i>Topography,</i> • <i>geology and drainage;</i> • <i>Land use and field patterns;</i> • <i>Semi-natural habitats and woodland cover;</i> • <i>Archaeology and cultural heritage;</i> • <i>Settlement, road pattern and rights of way; and</i> 	<p>Figure 7.7 Photomontages of the ES Figures (TR010064/APP/6.2) is provided to visualise the Scheme. Viewpoints reflect a broad range of views from four locations around the study area. The figures show the existing views and then the views with the Scheme in place to allow direct comparison. The landscape planting included in the photomontages is shown on Figure 2.3, The Environmental Masterplan of the Environmental Statement Figures (TR010064/APP/6.2).</p> <p>The photomontages reflect two scenarios in different seasons:</p> <ul style="list-style-type: none"> • The worst case scenario (sheet1) shown in winter in the first year of opening of the Scheme (Year 1, 2029) where the mitigation has only just been completed. More of the earthworks, structures, signage, as well as traffic would be visible in these views, therefore, reflecting views when the Scheme will be most visible. • The design year (sheet 2) is shown in summer, 15 years after

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	<ul style="list-style-type: none"> • <i>Views and perceptual qualities.</i> 	<p>completion (Year 15, 2044). This reflects the mitigation establishment. Native woodland, trees and shrubs new hedgerows with hedgerow tree planting will be would have sufficiently established to help integrate the Scheme into the surrounding landscape and also provide screening for much of the Scheme.</p>
<p>Policy JP-G2 Green Infrastructure Network</p>	<p><i>A strategic approach will be taken to the protection, management and enhancement of our Green Infrastructure in order to protect and enhance the ecosystem services which the Green Infrastructure Network provides, including flood management, climate change mitigation and adaptation. Alongside this primary function an enhanced Green Infrastructure network will support wider public health benefits, including promotion of active travel, food growing and recreational opportunities.</i></p> <p><i>(note the plan also identifies green infrastructure opportunity areas, the nearest to the Scheme is the Roch Valley in Rochdale).</i></p>	<p>Effects on WCH users during operation have been assessed as not significant. The Scheme includes a modest enhancement for recreational walkers through the inclusion of a new route through an area of ecological mitigation as shown on Figure 2.3, the Environmental Masterplan and Figure 2.2 Scheme Design of the Environmental Statement Figures (TR010064/APP/6.1). There would be some temporary effects on PRow experienced during construction.</p> <p>Replacement routes will be provided for the existing PRow affected by the Scheme, including any Public Footpaths where they are affected by new drainage ponds, wetlands or swales. These are shown on the Streets, Rights of Way and Access Plans (TR010064/APP/2.5) that show streets and Public Rights of Way, Figure 2.3, the Environmental Masterplan and Figure 2.2 Scheme Design of the Environmental Statement Figures (TR010064/APP/6.1).</p> <p>As set out in paragraph 5.91 of the draft NPS NN which allows PRow to be extinguished, a replacement PRow is being included where the Northern Loop footprint will impact on an existing PRow and is being realigned around the Northern Loop. There are also two PRow south of the M60 Junction 18 which are being extinguished and a replacement route through the biodiversity mitigation area provides a better quality route to the extinguished path.</p> <p>The Scheme will not cause any new severance. The magnitude of health</p>

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		impacts related to community severance is assessed as negligible negative.
Policy JP-G3: River Valleys and Waterways	<i>River valleys and waterways will be protected and improved as central components of our Green Infrastructure Network and a vital part of a Nature Recovery Network, making a major contribution to local identity, quality of life and the natural environment.</i>	The Scheme does not negatively impact any waterways.
Policy JP-G6: Urban Green Space	<p><i>To ensure there is an appropriate scale, type, quality and distribution of accessible urban green space that can support a high quality of life and other important green infrastructure functions:</i></p> <ul style="list-style-type: none"> • <i>existing urban green space will be protected and enhanced in balance with other considerations; and</i> • <i>we will work with developers and other stakeholders to deliver new high quality urban green spaces.</i> <p><i>Development should be designed to support the positive use of nearby green spaces, such as by offering a high-quality setting, providing natural surveillance, and facilitating easy access by walking and cycling.</i></p>	<p>There will be no permanent loss of any open space land which would mean that sections 131 and 132 of the 2008 Act would become applicable. This defines certain types of land as Special Category Land where replacement land would need to be provided if it is lost.</p> <p>The Scheme has no direct impact on either Phillips Park or Heaton Park, although the setting of Phillips Park will be altered slightly.</p>
Policy JP-G7: Trees and Woodland	<i>We will work to deliver the aims and objectives of the Greater Manchester Tree and Woodland Strategy, aiming to significantly increase tree cover, protect</i>	Some trees and hedgerows will be removed during construction. These will be replaced with hedgerows and trees that encourage biodiversity as well as strengthening existing hedgerows. More

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	<i>and enhance woodland, and connect people to the trees and woodland around them.</i>	information is set out above in response to Policy EN/8 of the Bury UDP.
<p>Policy JP-G8: A Net Enhancement of Biodiversity and Geodiversity</p>	<p><i>Through local planning and associated activities a net enhancement of biodiversity resources will be sought where relevant</i></p> <p><i>(Note the policy becomes detailed after this point and is too long to paraphrase and repeat)</i></p>	<p>The Environment Act 2021 was given Royal Assent on 9 November 2021. This Act contains provisions for the protection and improvement of the environment, including biodiversity. The BNG objective is that the biodiversity value attributable to a scheme must exceed the pre-development value by at least 10%. This post-scheme biodiversity value may comprise onsite habitat, any offsite biodiversity gain and any biodiversity credits. The overall effect has to be a net gain offset against any harm to biodiversity.</p> <p>The government intends that the BNG requirement should apply to all NSIPs accepted for examination by November 2025. NSIPs accepted for examination before the commencement date are not required to deliver mandatory BNG.</p> <p>The Applicant has forecast an overall net gain of 3.68% for habitats and 58.5% for hedgerows. This includes habitat retention, creation and enhancement to woodland and grassland habitats.</p>
<p>Policy JP-G9: The Green Belt</p>	<p><i>The Green Belt is as defined on the Policies Map and illustrated on Figure 8.6.</i></p> <p><i>The policy repeats the five purposes of the Green Belt from the National Planning Policy Framework.</i></p>	<p>The Scheme could be considered as inappropriate development. If so, it is considered that other considerations (in the form of the VSC which include the national benefits of the Scheme) outweigh any harm to the Green Belt. We consider these to include:</p> <p>The Need for the Scheme.</p> <p>This is to improve national infrastructure and is part of a national investment strategy for the SRN in England. This is consistent with the overall objectives for the SRN set out in the NPS NN and the Draft NPS NN.</p> <p>The Benefits of the Scheme:</p>

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		<p>The Scheme provides future capacity for the forecast growth in traffic to deliver national networks which are resilient and meet long-term needs. A key objective of the Scheme is to address the problem of congestion, which causes slow and unreliable journeys and reduces economic efficiency.</p> <p>As set out in Section 4 of this Case for the Scheme, the most significant benefit of the Scheme is due to travel time savings. The Scheme would alleviate congestion that would otherwise worsen without the Scheme. As a result of the Scheme, this part of the SRN would operate within capacity up to and beyond 2044 and traffic using Junction 18 would save up to 1.5 minutes compared to current journey times during normal traffic conditions.</p> <p>As set out in Section 5 of this Case for the Scheme, the overall economic benefits of the Scheme provide a Present Value of Benefits of £137.5 million.</p> <p>The lack of alternatives with less impact on the Green Belt:</p> <p>Given that the purpose of the Scheme is to improve an existing section of the SRN, it is not possible to pursue an option which is outside the Green Belt, unless the surrounding motorway network is relocated entirely.</p>
<p>Policy JP-P2: Heritage</p>	<p><i>We will proactively manage and work with partners to positively conserve, sustain and enhance our historic environment and heritage assets and their settings. Opportunities will be pursued to aid the promotion, enjoyment, understanding and interpretation of heritage assets, as a means of maximising wider public benefits and reinforcing Greater Manchester's</i></p>	<p>No significant effects have been identified during construction on any historic environment asset.</p> <p>No significant effects have been identified during operation on any historic environment asset.</p> <p>The non-designated historic building Cold Gate Farm (HER 3918.1.0) would be adversely affected during operation with the encroachment of the highways estate closer to the property changing its setting and value. This slight adverse effect would be not significant given the existing setting of the property. There will also be minimal impacts at Drouchts Farm (HER 3934.1.0)</p>

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	<i>distinct character, identity and sense of place.</i>	<p>and the listed Brick Farmhouse (NHLE 1067266).</p> <p>The archaeological resource will not suffer any adverse effects during operation, as any negative effects have been identified during construction only.</p> <p>A programme of archaeological trial trench investigation has been agreed with the Greater Manchester Archaeological Advisory Service to understand the presence, extent, significance and survival of buried archaeological remains within the Order Limits. This will inform the need for and scope of archaeological mitigation. A WSI will be secured by Requirement 9 of the draft DCO (TR010064/APP/3.1).</p>
Policy JP-P6: Health	<p><i>To help tackle health inequality new development will be required, as far as practicable, to:</i></p> <ul style="list-style-type: none"> • <i>A. Maximise its positive contribution to health and wellbeing, whilst avoiding any potential negative impacts of new development;</i> • <i>B. Support healthy lifestyles, including through the use of active design principles making physical activity an easy, practical and attractive choice; and</i> • <i>C. Be supported by a Health Impact Assessment for all developments which require to be screened for an Environmental Impact Assessment, and other proposals which, due to their</i> 	<p>Night time working will be required over a period of up to 3 years. This will be kept to a minimum and impacts mitigated and reduced as far as practicable. As there are so many properties in the surrounding area of the Order Limits, then the applicant will work closely with the community during construction. The location of noise sensitive receptors is shown on Figure 11.2, Noise Sensitive Receptors in the ES Figures (TR010064/APP/6.2).</p> <p>Once the Scheme is operational, the road surface will be better in terms of noise reducing properties than a conventional Low Noise Surface. This reduces road traffic noise at source therefore reducing the effects for all receptors, reducing where significant effects may have otherwise been predicted. The NIA's are shown on Figure 11.1a, Noise Study Areas, Noise Important Area and Existing Noise Barriers of the ES Appendices (TR010064/APP/6.3) and predicted levels of noise change presented in the Chapter 11, Noise and Vibration of the ES (TR010064/APP/6.1). There are five NIA's within 600m of the Order Limits. Three of them are directly adjacent to the motorway network, and the remaining two located adjacent to the local road network on Bury New Road and Higher Lane.</p>

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	<p><i>location, nature or proximity to sensitive receptors, are likely to have a notable impact on health and wellbeing.</i></p>	<p>There are predicted reductions of up to 5.1dB in road traffic noise levels for some receptors within the NIA 1671 (which is adjacent to the M60 between J17 and J18) that, in the short-term, will be noticeable and considered to be a likely significant beneficial effect. There are no other changes in road traffic noise of greater than 1dB predicted within other NIAs.</p> <p>The Scheme does provide some long term benefits as during operation, more properties will experience a decrease in noise below existing levels than will experience an increase in noise above existing levels.</p> <p>Overall, the Scheme does not lead to any worsening of existing air quality or compromise the proposed Clean Air Zone for Greater Manchester.</p> <p>For dust, there are no significant effects resulting from construction dust with the mitigation measures in place in the First Iteration EMP (TR010064/APP/6.5).</p>
<p>Policy JP-P7: Sport and Recreation</p>	<p><i>A network of high quality and accessible sports and recreation facilities will be protected and enhanced, supporting greater levels of activity for all ages.</i></p>	<p>No open space or recreational facilities would be permanently lost to the Scheme.</p> <p>Part of Pike Fold Golf Club is within the Order Limits. Discussions have taken place with Pike Fold Golf Club to ensure that the continued operation of the golf course has been taken into account in the construction and operation of the Scheme as referenced in the Consultation Report (TR010064/APP/5.1).</p> <p>Prestwich Heys Football Club is located to the south of the Order Limits. No impact on the ability to use the pitches at Prestwich Heys Football Club is anticipated and access will be maintained during construction.</p> <p>Education facilities with playing fields include St Margarets Church of England Primary School and Unsworth academy. Temporary acquisition of an area of approximately 2 ha which falls between two pitches on Unsworth Academy playing fields would be required to facilitate</p>

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		<p>drainage improvement works. This land will not be required on a permanent basis. The works will not directly impact on St Margarets Primary School but appropriate liaison with the school would take place during construction.</p> <p>Access to Simister Allotments and Eden Gardens Allotments will be maintained throughout.</p>
<p>Policy JP-C1: An Integrated Network</p>	<p><i>In order to help deliver an accessible, low carbon Greater Manchester with worldclass connectivity, we will support a range of measures, including:</i></p> <p><i>-Ensuring that development and transport investment fully considers the needs of all people and those modes which make most efficient and sustainable use of limited road space, by following the hierarchy set out below (highest priority first):</i></p> <ul style="list-style-type: none"> • <i>a. Pedestrians (and people using mobility aids);</i> • <i>b. Cyclists, powered two-wheelers, and public transport users;</i> • <i>c. People doing business or providing services (such as taxis/private hire, deliveries or waste collection)</i> • <i>d. People in personal motorised vehicles</i> 	<p>The key objectives of Scheme includes to reduce peak congestion; delivering journey time reliability and improving safety on this motorway section of the SRN. There are already several formal crossing points of the M60 and M66 within the Order Limits (Sandgate Road, Castle Road, Hills Lane, and Simister Lane) as well as Old Hall Lane Footbridge just south of the Order Limits. Therefore, providing further pedestrian, cyclist and equestrian infrastructure would provide limited benefits.</p>
<p>Policy JP-C4: The Strategic Road Network</p>	<p><i>We will work with Department for Transport, National Highways, Transport for the North and</i></p>	<p>The Scheme is a major upgrade of the Simister Island Interchange. It is promoted by the Applicant.</p>

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	<p><i>TfGM to ensure a co-ordinated approach to the planning and delivery of potential interventions on the SRN and at interfaces with the local street network, as Local Plans, site Masterplans and planning applications come forward in accordance with Department for Transport, National Highways, and other UK Government policy and guidance as applicable.</i></p>	
<p>Policy JP-C6: Walking and Cycling</p>	<p><i>In order to help deliver a higher proportion of journeys made by walking and cycling, we will support a range of measures, including:</i></p> <p><i>(the policy lists a range of measures to increase walking and cycling).</i></p>	<p>Effects on WCH Users during operation have been assessed as not significant. The Scheme includes a modest enhancement for recreational walkers through the inclusion of a new route through an area of ecological mitigation as shown on Figure 2.3, the Environmental Masterplan and Figure 2.2 Scheme Design of the Environmental Statement Figures (TR010064/APP/6.1). There will be some temporary effects on Public Rights of Way experienced during construction.</p> <p>Replacement routes will be provided for the existing PRoW affected by the Scheme, including any Public Footpaths where they are affected by new drainage ponds, wetlands or swales. These are shown on the Streets, Rights of Way and Access Plans (TR010064/APP/2.5) that show streets and Public Rights of Way, Figure 2.3, the Environmental Masterplan and Figure 2.2 Scheme Design of the Environmental Statement Figures (TR010064/APP/6.1).</p> <p>As set out in paragraph 5.91 of the draft NPS NN which allows PRoW to be extinguished, a replacement PRoW is being included where the Northern Loop footprint will impact on an existing PRoW and is being realigned around the Northern Loop. There are also two PRoW south of Junction 18 which are being</p>

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		<p>extinguished and a replacement route through the biodiversity mitigation area provides a better quality route to the extinguished path.</p> <p>The Scheme will not cause any new severance. The effects on community severance is assessed as negligible negative.</p>
<p>Policy JP Allocation 1.1 Heywood / Pilsworth (Northern Gateway)</p> <p>Policy JP Allocation 1.2 Simister and Bowlee (Northern Gateway)</p>	<p><i>The Northern Gateway straddles the districts of Bury and Rochdale and is positioned at a strategically important intersection around the M60, M62 and M66 motorways. As such, it represents a highly accessible opportunity for growth in Greater Manchester with wider benefits on a regional and national level. The central theme of the spatial strategy for the Places for Everyone joint plan is to deliver inclusive growth across the city region complemented by a key aim to boost the competitiveness of the northern parts of Greater Manchester. The Northern Gateway is one of the key growth locations that will help to deliver these fundamental objectives.</i></p> <p>Policy JP Allocation 1.1 Heywood / Pilsworth:</p> <p><i>i. Deliver a total of around 1,200,000 sqm of industrial and warehousing space (with around 950,000 sqm being delivered within the plan period). This should comprise a mix of high quality employment premises in an attractive business park setting in order to appeal to a wide</i></p>	<p>A cumulative assessment which assesses the impact of the Scheme in combination with other developments can be found in Chapter 15: Assessment of Cumulative Effects of the ES (TR010064/APP/6.1). This is supported by Appendix 15.1 Inter Project Cumulative Effects of the ES Appendices (TR010064/APP/6.3). This assessment has been carried out in accordance with the Planning Inspectorate's (2019) Advice Note Seventeen: Cumulative Effects Assessment. The assessment sets out how the effects of the Scheme will combine and interact with the effects of other development projects, whether existing, awaiting consent, already consented or otherwise reasonably foreseeable. This includes any land with full or outline planning permission, local plan allocations and other NSIPs.</p> <p>Part of the proposed JP allocation 1.1 for Heywood/Pilsworth falls within the Order Limit where construction of the "Northern Loop" will take place. This overlap has been discussed with BMBC including representative from the planning, legal, highways and land and property departments. It does not compromise the delivery of the Northern Gateway.</p> <p>It should be noted that the Northern Gateway will be accessed from the LRN and there are alterations to the SRN that will provide new access arrangements.</p> <p>The part of the strategic allocation within Rochdale, west of M60/M62 J19, already has planning permission under reference 16/01399/HYBR for: <i>part full/part outline planning application for the development</i></p>

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	<p><i>range of business sectors including the development of an Advanced Manufacturing Park;</i></p> <p><i>ii. Deliver around 1,000 additional homes along with a new primary school in the eastern part of the allocation to support the early delivery of the infrastructure and provide a buffer between existing housing and the new employment development;</i></p> <p><i>iii. Deliver around 200 new homes in the west of the allocation off Castle Road ensuring that an appropriate buffer is incorporated to separate this part of the allocation from the wider employment area and that appropriate highways measures are in place to prevent the use of residential roads by traffic associated with the wider employment area; and</i></p> <p><i>iv. Deliver an appropriate range of supporting and ancillary services and facilities, such as a new local centre, hotel, leisure and conference facilities. These should be in accessible locations and of a genuinely ancillary scale that is appropriate to the main employment use of the allocation.</i></p> <p>Policy JP Allocation 1.2 Simister and Bowlee:</p> <p><i>1. Deliver a broad mix of around 1,550 homes to diversify the type of accommodation across the</i></p>	<p><i>of land at South Heywood, including the demolition of a number of existing on-site buildings and structures. Full consent sought for the construction of a new link road between Junction 19 of the M62 and Pilsworth Road and the widening of part of Pilsworth Road, together with associated works. Outline consent (all matters reserved for except access) for a major mixed-use development comprising up to 1000 dwellings; employment uses (Classes B2/B8); a new primary school; employment land; associated landscaping, open space and sports pitches, drainage, ecological enhancements, cycleway and footpath linkages, infrastructure and other ancillary works.</i></p> <p>This permission has been triggered with numerous subsequent permissions for non-material amendments, reserved matters and discharging conditions. The general direction of development of Heywood/Pilsworth will be from north to south with some plots developed beyond the current plan period for PfE (the proposed modifications would take the plan to 2039).</p> <p>The Core Scenario used for modelling future traffic in the Transport Assessment (TR010064/APP/7.4) takes into account land which has planning permission. This includes the part of the Northern Gateway in Rochdale under reference 16/01399/HYBR including the new link road which connects to M60/M62 Junction 19. This is shown on Figures 2.10, Large Housing Sites Included in the Traffic Model and Figure 2.12, Highway Infrastructure Schemes Included in the Traffic Model of the Transport Assessment (TR010064/APP/7.4).</p> <p>The other aspects of the Northern Gateway currently under consideration in PfE are not included in the model. However, the implementation of the Scheme will provide sufficient additional SRN capacity to accommodate this should</p>
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	<p><i>Simister, Bowlee and Birch and Langley areas.</i></p>	<p>planning permission be granted in the future.</p>
<p>JP D1 – Infrastructure Implementation</p>	<p><i>To ensure the effective development and implementation of the infrastructure needed to deliver the vision and objectives of the Plan: We will:</i></p> <p><i>1. Take a long term, strategic, holistic and integrated approach to place shaping, supported by devolved resources and powers. Utilising the spatial locations set out in this Plan a place-based approach will be undertaken to overcome barriers, achieving prosperity and opportunity;</i></p> <p><i>We will work with infrastructure providers to:</i></p> <p><i>2. Promote collaboration and synchronisation of investment plans. Key infrastructure providers include NHS Greater Manchester Integrated Care Partnership (formerly Clinical Commissioning Groups), the NHS, National Highways, Network Rail, Transport for Greater Manchester, United Utilities, the Environment Agency, National Grid, Cadent, United Utilities and digital/telecommunication providers;</i></p> <p><i>3. Ensure that future investment plans have regard to this Plan. The involvement of regulators (including Ofcom, Ofwat and Ofgem) will be critical in this regard;</i></p>	<p>Each point is addressed in turn:</p> <p>1. The Scheme will provide long term benefits in terms of journey time benefits as set out in Sections 4 and 5 of the Case for the Scheme [APP-146].</p> <p>2. As set out in the Consultation Report [APP-021] and associated Annex’s [APP-035], the Applicant has engaged with other infrastructure providers as listed in the Policy.</p> <p>3. The Scheme has been developed through the appropriate National Highways Project Control Framework (PCF) which requires stage gate reviews and sign offs reporting to the Department for Transport.</p> <p>4. The Scheme is working alongside infrastructure providers to minimize the impact on existing utilities. Should existing infrastructure require diverting to facilitate the construction of the scheme then the Scheme will work with providers to ensure that disruption is minimized.</p> <p>5. The Applicant will promote the provision and use of shared routing, trenching and programming particularly in areas where there is extreme pipe and cable congestion under the streets to reduce disruption. The Applicant will work with utility providers to agree the routes of any diverted assets and coordinate discussions between infrastructure providers to find efficiencies in shared routing, where possible.</p> <p>6. The Applicant has had ongoing engagement with infrastructure providers throughout preliminary design. The Applicant has undertaken preliminary enquiries which were responded to by all infrastructure providers. The Applicant will continue to share design information during the detailed design of the Scheme.</p> <p>7. The Applicant has had and continues to have regular engagement with BMBC as part of the development of the M60</p>

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	<p><i>4. Minimise disruption to highways and businesses during major infrastructure upgrades and pipe subway construction;</i></p> <p><i>5. Promote the provision and use of shared routing, trenching and programming particularly in areas where there is extreme pipe and cable congestion under the streets to reduce disruption. We will, through local plans, other local planning documents and development management decisions:</i></p> <p><i>6. Encourage early dialogue between developers and infrastructure providers to identify the infrastructure needs arising from new development and ensuring that these are addressed through building design, utility networks and connections in time to serve the proposed development;</i></p> <p><i>7. Require applicants to prepare an infrastructure phasing and delivery strategy to be agreed by the local planning authority for sites where build out will be delivered by different developers or in phases. This strategy must outline what needs to be provided by when and who will fund and deliver it; and</i></p> <p><i>8. Ensure that development does not lead to capacity or reliability problems in the surrounding area by requiring applicants to demonstrate that there will be adequate utility capacity to support the delivery and</i></p>	<p>Scheme including the First Iteration Environmental Management Plan [REP1-010] and the Outline Traffic Management Plan [APP-150] produced as part of the dDCO application. Broader than this, the Applicant has wider engagement with Greater Manchester and other local authorities given that the delivery plan for assets owned and operated by the Applicant is broader than the M60 Scheme. Post consent, the Applicant has duties to consult BMBC on the Second Iteration of the Environmental Management Plan and the final version of the Traffic Management Plan.</p> <p>8. No capacity or reliability problems in the surrounding area have been highlighted currently. The Applicant will continue to discuss capacity of the existing network with infrastructure providers.</p>
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	<p><i>occupation of their proposed development. Where potential capacity problems are identified and no improvements are programmed by the relevant infrastructure provider, we will require the developer to contribute to and/or facilitate necessary</i></p>	
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6.23.4 From the assessment set out above, it is considered that the Scheme meets the policies of PfE. The Scheme design provides both mitigation and enhancement where practicable. Whilst the construction of the Scheme would cause will disbenefits through the impact on amenity, this has to be considered against the overall longer term strategic benefits of the Scheme.

6.23.5 The Scheme will not compromise the delivery of the Northern Gateway even though the Order Limits encroach into the JP Allocation 1.1. The benefits of the Scheme, in terms of providing additional capacity on the SRN, will mean that the SRN can accommodate future additional development proposed by Places for Everyone.

The Greater Manchester Joint Mineral Plan

6.23.6 The Greater Manchester Joint Minerals Plan (GMJMP) forms part of Bury's statutory development plan. Map 21 (Bury) of the Plan shows that there are Minerals Safeguarding Areas for both Brick Clay and Sandstone within the Order Limits.

6.23.7 The construction of the Scheme necessitates the permanent acquisition and use of land within the Order Limits, beyond the existing highway boundary. This would result in the partial sterilisation of Mineral Safeguarding Areas for Sand and Gravel, Brick Clay, and Coal; a Mineral Area of Search for Sand; and superficial peaty soils / horizons. Despite this, these areas have been scoped out of the environmental assessment on the basis that no substantial sterilisation of the mineral resource is likely to occur. Additionally, these areas are neither operational extraction sites or mineral sites specifically identified / allocated in strategic planning documents as those that will be mined or extracted, nor are they existing or potential peat extraction sites. The above determination is supported by comment references 4.6.1 and 4.6.2 in Appendix 4.1: Scoping Planning Inspectorate [TR010064/APP/7.20]

Policy 8 of the Greater Manchester Joint Minerals Plan relates to the prior extraction of mineral resources within Mineral Safeguarding Areas and

states that all non-mineral development proposals within the Mineral Safeguarding Area should extract any viable mineral resources present in advance of construction. This matter is considered in paragraph 6.20.8 of this Case for the Scheme which states that although the Order Limits include areas safeguarded for Minerals Safeguarding Areas, notwithstanding this, both mineral safeguarding sites and peat resources have been scoped out of this assessment on the basis that they are not resources that could be worked/extracted.

7 Planning Balance and Conclusions

7.1 Government Road Investment Strategy

7.1.1 The Scheme is identified in the Governments Road Investment Strategy 2 (2020–2025) (RIS 2) and corresponding delivery plan which sets out a long-term vision for the strategic highway network in the UK. RIS2 sets Key Performance Indicators (KPIs) and which reflect the Governments objectives for National Networks as set out in the NPS NN and the draft NPS NN. This Case for the Scheme has demonstrated that the indicators set out below are met:

- Improving safety for all
- Providing fast and reliable journeys
- A well maintained and resilient network
- Delivering better environmental outcomes
- Meeting the needs of all road users
- Achieving efficient delivery.

7.2 National Objectives for National Networks

7.2.1 The NPS NN is the primary policy document which will be used by the ExA to assess the Scheme. This supports the delivery of national networks that meet the country's long-term needs, while helping to facilitate a prosperous and competitive economy and improving the quality of life for all. It states that there is a critical need to improve national networks.

7.2.2 The objectives for the future of National Networks are:

- The Government will deliver national networks that meet the country's long-term needs; supporting a prosperous and competitive economy and improving overall quality of life, as part of a wider transport system.
- Networks with the capacity, connectivity and resilience to support national and local economic activity and facilitate growth and create jobs.
- Networks which support and improve journey quality, reliability and safety.
- Networks which support the delivery of environmental goals and the move to a low carbon economy.
- Networks which join up our communities and link effectively to each other.

7.2.3 The draft NPS NN contains the following objectives that have similar aims to those in the NPS NN:

- Maintaining network performance and meeting customer needs.
- Supporting economic growth.
- Ensuring resilience in networks.
- Supporting the Government's environment and net zero policies.
- Maintaining and enhancing the safety of national networks.

7.2.4 This Case for the Scheme has set out how the Schemes objectives align with the objectives of the NPS NN and the draft NPS NN as well as the KPI's for RIS 2.

7.3 Conformity with the Bury UDP and the emerging Places for Everyone

7.3.1 The Scheme has taken into account the requirements of the local development plan, which is the Bury UDP and the emerging PfE. Overall, the Scheme is consistent with the objectives of both and aligns with the policy requirements including providing mitigation to reduce or eliminate any potential adverse effects.

7.4 Compliance with the National Planning Statement for National Networks

7.4.1 The 2008 Act requires that applications for development consent be decided in accordance with relevant NPS (Section 104(3)).

7.4.2 The NPS NN is the primary policy document which will be used by the ExA to assess the Scheme. This supports the delivery of national networks that meet the country's long-term needs, while helping to facilitate a prosperous and competitive economy and improving the quality of life for all. It states that there is a critical need to improve national networks.

7.4.3 It is considered that as set out in this Case for the Scheme, there are not any adverse effects which would be significant enough to outweigh the benefits of the Scheme.

Acronyms

Abbreviation	
PLANNING TERMS	
Case for the Scheme	Case for the Scheme
DCO	Development Consent Order
NSIP	Nationally Significant Infrastructure Project
NPS NN	National Policy Statement for National Networks
NPS	National Policy Statement
NPPF	National Planning Policy Framework
2008 Act	Planning Act 2008
PfE	Places for Everyone
SoS	Secretary of State
VSC	Very Special Circumstances
UPD	Unitary Development Plan
LOCAL AUTHORITIES AND TRANSPORT DEPARTMENTS	
BMBC	Bury Metropolitan Borough Council
DfT	Department for Transport
GMCA	Greater Manchester Combined Authority
MCC	Manchester City Council
OMBC	Oldham Metropolitan Borough Council
RMBC	Rochdale Metropolitan Borough Council
SCC	Salford City Council
TfGM	Transport for Greater Manchester
TRANSPORT AND ECONOMIC TERMS	
AADT	Annual Average Daily Traffic
ANPR	Automatic Number Figure Recognition
BCR	Benefit to Cost Ratio
DS-DM	Do Something – Do Minimum
EB	Eastbound

Abbreviation	
IP	Inter Peak
LRN	Local Road Network
MS	Motorway Signal
NB	Northbound
PIA	Personal Injury Accident
RIS2	Road Investment Strategy 2
SB	Southbound
SOS	Secretary of State for Transport
SRN	Strategic Road Network
WB	Westbound
ENVIRONMENTAL	
AQMA	Air Quality Management Area
AQOs	Air Quality Objectives
ARN	Affected Road Network
AWI	Ancient Woodland Inventory
BCR	Benefit to Cost Ratio
CAZ	Clean Air Zone
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ES	Environmental Statement
GHG	Greenhouse Gas
GM CAP	Greater Manchester Clean Air Plan
HER	Historic Environment Record
HLC	Historic Landscape Characterisation
LNR	Local Nature Reserve
NCN	National Cycle Network
NHLE	National Historic List for England
NIAs	Noise Important Areas
REAC	Register of Environmental Actions and Commitments

Abbreviation	
RC	Reinforced Concrete
SAC	Special Area of Conservation
SBI	Site of Biological Interest
SLA	Special Landscape Area
SOAEL	Significant Observed Adverse Effect Level
SoSEFRA	Secretary of State for Environment, Food and Rural Affairs of the United Kingdom
SSSI	Site of Special Scientific Interest
TPO	Tree Preservation Order
WCH	Walking, Cycling and Horse-Riding

Glossary

Term	Definition
Advice note	The Planning Inspectorate has published a series of advice notes that are intended to inform applicants, consultees, the public and others about a range of process matters in relation to the 2008 Act.
Aggregate	An umbrella term for bulk raw particulate materials used in infrastructure construction
Agricultural Land Classification	The Agricultural Land Classification system forms part of the planning system in England and Wales. It classifies agricultural land into five categories according to versatility and suitability for growing crops.
Application Document	A document submitted to the Planning Inspectorate as part of the application for development consent.
Benefit to Cost Ratio	The ratio of benefits to costs
Bridleway	A route along which the general public has rights to travel on foot or horseback. Cyclists may use a bridleway but are obliged to give way to other users on foot or horseback.
Construction	Activity on and/or offsite required to implement the Proposed Scheme. The construction phase is considered to commence with the first activity on site (eg creation of site access), and ends with demobilisation.
Construction compound	A compound used during construction for the storage of material, assembly of components or for other construction related activities.
Department for Levelling Up, Housing and Communities	In supporting and advising the Minister, the Department's main functions include: the promotion of a healthy housing and the provision of decent, affordable, sustainable homes and housing support services. a social welfare system including focused support to the most disadvantaged areas.
Department for Transport	The government department responsible (alongside agencies and partners) for the English transport network and a limited number of transport matters in Scotland, Wales and Northern Ireland that have not been devolved.
Development Consent Order	Introduced by the Planning Act in 2008, a DCO is the means of obtaining permission for developments categorised as Nationally Significant Infrastructure Proposed Schemes (NSIP).
Development Consent Order Application	The Scheme Application Documents, collectively known as the 'DCO application'.

Term	Definition
Do-Minimum	The scenario that represents the situation that would occur without the project in operation, which includes permitted developments.
Do-Something	The scenario that represents the situation that would occur with the project in operation, which includes permitted developments.
Embedded mitigation	Design principles and features integrated into the Scheme design to reduce adverse environmental effects
Equality Act 2010	The Equality Act 2010 legally protects people from discrimination in the workplace and in wider society. Protected characteristics under the Equality Act 2010 are age, disability, gender reassignment, race, religion or belief, sex, sexual orientation, marriage and civil partnership, and pregnancy and maternity.
Examination	Statutory process in where the Secretary of State will appoint an Inspector to carry out an independent examination
Examining Authority	The Examining Authority is appointed by the Secretary of State to examine an application for a Development Consent Order and make a recommendation.
Gross Domestic Product	Total value of all goods and services produced within an economy in one year
Ground Investigation	Several levels of investigation from desk-based research to onsite sampling to evaluate challenges related to soil/ground.
Habitats Regulation Assessment	A HRA refers to the several distinct stages of assessment which must be undertaken in accordance with the Conservation of Habitats and Species Regulations 2017 (as amended) if a plan or project may affect the protected features of a habitats site, before a decision can be made on whether to authorise it.
Landscape Character Areas	These are single unique areas which are the discrete geographical areas of a particular landscape type.
Land use	The purpose that land is used for, based on broad categories of functional land cover, such as urban and industrial use and the different types of agriculture and forestry.
Land take	The temporary acquisition or permanent loss of land within the Order Limits as a result of the construction and/or operation of the Scheme.
Limits of deviation	The tolerances, both laterally and vertically, that any parts of the Scheme can be constructed as defined in Article 6 of the draft DCO (TR010064/APP/3.1) and explained within paragraphs 5.17-5.19 of the Explanatory Memorandum (TR010064/APP/3.2).
Local planning authority	The local authority or Council that is empowered by law to exercise planning functions for a particular area.

Term	Definition
Local Road Network	The Local Road Network is that portion of the road network for which a local highway authority is responsible.
Minerals Consultation Area	Geographical area, based on a mineral safeguarding area, where the district or borough council should consult the mineral planning authority for any proposals for non-minerals development.
Minerals Safeguarding Area	An area designated by Minerals Planning Authorities which covers known deposits of minerals which are desired to be kept safeguarded from unnecessary sterilisation by non-mineral development.
Ministry of Housing, Communities and Local Government	Ministerial department supported by 12 agencies and public bodies, responsible for driving housing supply, increasing home ownership, boosting local growth and supporting communities with public services
National Character Area	A National Character Area is a natural subdivision of England based on a combination of landscape, biodiversity, geodiversity and economic activity. There are 159 National Character Areas and they follow natural, rather than administrative, boundaries.
National Cycle Network	A series of traffic-free paths and quiet, on-road cycling and walking routes that connect to every major town and city. These routes are promoted for both recreational and active travel purposes.
National Cycle Route	A cycle route part of the National Cycle Network created by Sustrans to encourage cycling throughout Britain.
National Infrastructure Delivery Plan	Document published by the UK Government, setting out its strategy for meeting the infrastructure needs of the UK economy.
National Planning Policy Framework	The National Planning Policy Framework was published in March 2012 by the UK's Department of Communities and Local Government, consolidating previously issued Planning Policy Statements (PPS) and Planning Policy Guidance Notes (PPG) for use in England. The NPPF was last updated in December 2023, by the Department for Levelling Up, Housing and Communities.
National Policy Statement for National Networks	The NPSNN sets out the need for, and Government's policies to deliver, development of Nationally Significant Infrastructure Projects on the national road and rail networks in England. It provides planning guidance and the basis for the examination by the Examining Authority and decisions by the Secretary of State.
Noise Important Areas	Areas identified with respect to noise from major roads and from roads within agglomerations where the 1% of the population that are affected by the highest noise levels from major roads are located according to the results of the strategic noise mapping.

Term	Definition
Operation	Describes the operational phase of a completed development and is considered to commence at the end of the construction phase, after demobilisation.
Order Limits	The Order limits” means the limits of land to be acquired or used permanently or temporarily shown on the land plans and works plans within which the authorised development may be carried out.
Particulate Matter	Particulate matter (PM) is everything in the air that is not a gas and therefore consists of a huge variety of chemical compounds and materials, some of which can be toxic. Particulate matter is classified according to its size and this classification is used in concentration measurements. For example, PM ₁₀ is the concentration of particles that are less than or equal to 10 µm in diameter; similarly PM _{2.5} describes the concentration of particles that are less than or equal to 2.5 µm in diameter.
Planning Act 2008	The primary legislation that establishes the legal framework for applying for, examining and determining Development Consent Order applications for Nationally Significant Infrastructure Proposed Schemes.
Preferred Route Announcement	Preferred Route Announcement by government of the preferred route for a new road or crossing.
Present Value	Present value (PV) is the current value of a future sum of money or stream of cash flows given a specified rate of return.
Public Right of Way	A right to cross land owned by another person is known as a 'right of way'. If this is a right exercisable by the public at large, it is a 'public right of way'.
Representative Viewpoints	Representative selection of viewpoints where large numbers of viewpoints cannot all be included individually. Representative viewpoints were selected based on a range of factors including their high sensitivity, their location at recognised and important viewpoints or on scenic routes and their proximity to the Proposed Scheme and the likely change in existing view.
RIS 2 Period	Road Investment Strategy, financial years 2020/21 to 2024/25
RIS 3 Period	Road Investment Strategy, financial years 2025/26 to 2029/30
Scoping Opinion	The relevant authority’s formal view on the issues an Environmental Statement should address. For the Proposed Scheme, the Scoping Opinion was given by the Planning Inspectorate on behalf of the Secretary of State.
Scoping Report	A report produced before the Environmental Statement to outline the key issues associated with a Proposed Scheme and assist the relevant regulator in providing a Scoping Opinion.

Term	Definition
Secretary of State	The Secretary of State for Transport has overall responsibility for the policies of the Department for Transport, including for Nationally Significant Infrastructure Projects which are related to transport. The Secretary of State for Department for Levelling Up, Housing and Communities is generally responsible for social welfare, including the town planning system.
Severance	Severance is used to refer to a change in ease of access for walkers, cyclists and horse riders due to, for example, a change in travel distance or travel time or a change in traffic levels on a route that makes it harder for walkers, cyclists and horse riders to cross. A reference to severance does not necessarily imply a route is closed to access.
Side road	A side road is a road that crosses or enters a trunk road scheme.
Significance of effect	A measure of the importance, or gravity, of the environmental effect, defined by significance criteria specific to the environmental aspect.
Sustainable Drainage Systems	Sustainable drainage systems are a natural approach to managing drainage in and around properties and other developments. They work by slowing and holding back the water that runs off from a site, allowing natural processes to break down pollutants.

References

Bury Council (1997), The Bury Unitary Development Plan.

Department for Transport (2014). National Policy Statement for National Networks.

Department for Transport (2023). Draft National Policy Statement for National Networks.

Department for Transport and Highways England (2020). Road Investment Strategy 2 (RIS2) 2020 to 2025.

Greater Manchester Combined Authority (2023): Places for Everyone, Composite Version (September 2023).

Highways England; The Road to Good Design (2018).

Planning Inspectorate (2020). Advice Note Six: Preparation and Submission of Application Documents. Version 10.

Also refer to the Environmental Statement (TR0100064/APP/6.1) for additional references.