Morgan Sindall Construction Ltd

72 Northgate, Huddersfield

Air Quality Assessment

Report No.: 445798-01 (01)

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RSK GENERAL NOTES

Report No.: 445798-01 (00)

Title: Air Quality Assessment – 72 Northgate, Huddersfield

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Abbreviations

AADT	Annual Average Daily Traffic
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQS	Air Quality Standard
Defra	Department for Environment, Food and Rural Affairs
DMP	Dust Management Plan
EC	European Commission
EPUK	Environmental Protection UK
EU	European Union
HDV	Heavy Duty Vehicle
IAQM	Institute of Air Quality Management
KC	Kirklees Council
LAQM	Local Air Quality Management
LDV	Light Duty Vehicle
NPPF	National Planning Policy Framework
NO_2	Nitrogen dioxide
NO_x	Oxides of nitrogen
$PM_{2.5}$	Particulate matter of size fraction approximating to <2.5mm diameter
PM_{10}	Particulate matter of size fraction approximating to <10mm diameter
RSK	RSK Environment Limited

Contents

1 INTRODUCTION

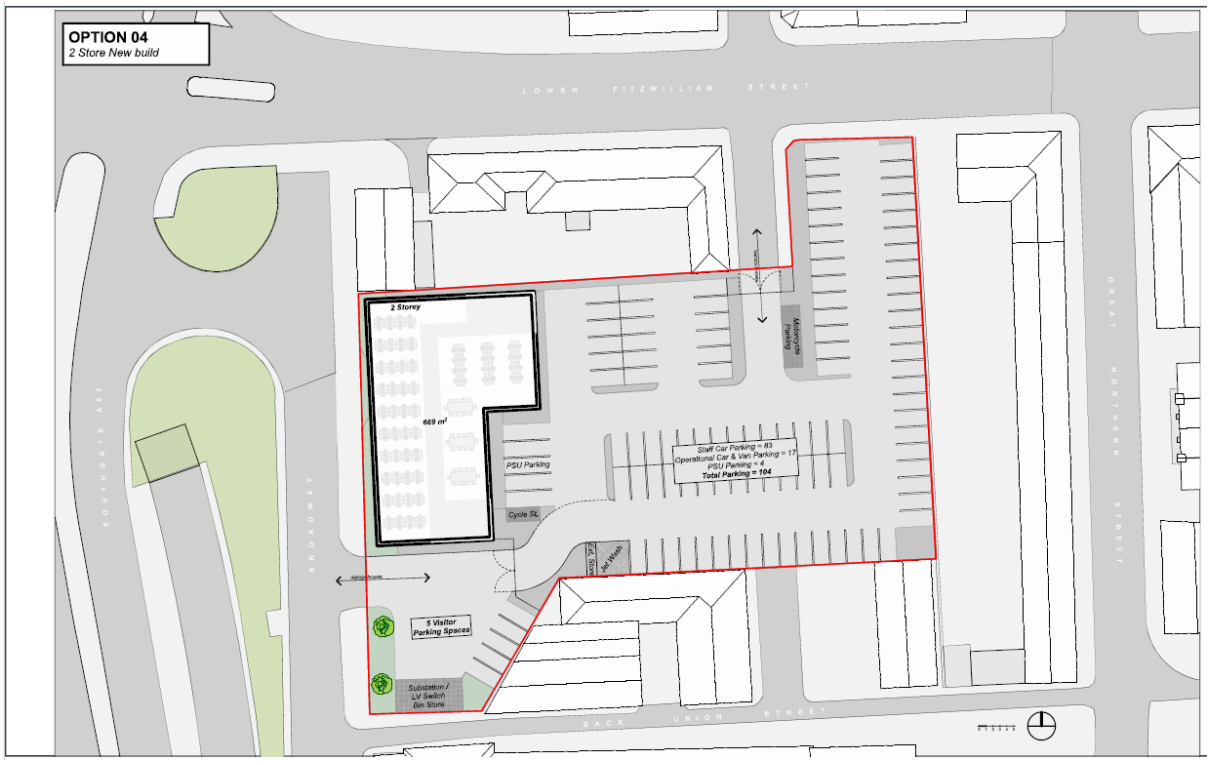
1.1 Background

RSK Environment Ltd (RSK) were commissioned to undertake an assessment of the potential air quality impacts for proposed replacement deployment station at 72 Northgate, Huddersfield HD1 6AE. Figure 1.1 shows the red line boundary.

The approximate grid reference of the centre of the site is 414660, 417147 (British National Grid)). The proposed site lies within the administrative area of Kirklees Council (KC). The proposed site location is shown in Figure 1.1, for reference.

The following report presents the findings of an assessment of relevant policy, existing/baseline air quality conditions and qualitative consideration of potential air quality impacts during both the construction and operational phase of the proposed development. The potential impacts on local air quality have been considered and, where appropriate, mitigation measures have been recommended.

Figure 1.1: Redline Boundary



2 LEGISLATION, PLANNING POLICY & GUIDANCE

2.1 Air Quality Strategy

UK air quality policy is published under the umbrella of the Environment Act 1995, Part IV and specifically Section 80, the National Air Quality Strategy. The latest *Air Quality Strategy for England, Scotland, Wales and Northern Ireland – Working Together for Clean Air*, published in July 2007 sets air quality standards and objectives for ten key air pollutants to be achieved between 2003 and 2020.

The EU (European Unit) Air Quality Framework Directive (1996) established a framework under which the European Commission (EC) could set limit or target values for specified pollutants. The directive identified several pollutants for which limit or target values have been, or will be set in subsequent 'daughter directives'. The framework and daughter directives were consolidated by Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe, which retains the existing air quality standards and introduces new objectives for fine particulates ($PM_{2.5}$).

The Clean Air Strategy 2019 supersedes the policies outlined in the 2007 strategy. This latest strategy aims to have a more joined-up approach, outlining actions the Government plans to take to reduce emissions from transport, homes, agriculture and industry. However, the air quality objectives remain as previously detailed within the 2007 strategy.

2.1.1 Air Quality Standards

The air quality standards (AQSs) in the United Kingdom are derived from EC directives and are adopted into English law via the Air Quality (England) Regulations 2000 and Air Quality (England) Amendment Regulations 2002. The Air Quality Limit Values Regulations 2003 and subsequent amendments implement the Air Quality Framework Directive into English Law. Directive 2008/50/EC was translated into UK law in 2010 via the Air Quality Standards Regulations 2010.

The relevant[1] AQS for England and Wales to protect human health are summarised in Table 2.1.

Table 2.1: Air Quality Standards (AQS) Relevant to the Proposed Development

Substance	Averaging period	Exceedances allowed per year	Ground level concentration limit (µg/m^3)
Nitrogen dioxide (NO_2)	1 calendar year	N/A	40
	1 hour	18	200
Fine particles (PM_{10})	1 calendar year	N/A	40

[1] Relevance, in this case, is defined by the scope of the assessment.

Substance	Averaging period	Exceedances allowed per year	Ground level concentration limit (µg/m^3)
	24 hours	35	50
Fine particles ($PM_{2.5}$)	1 year	N/A	20

2.1.2 The Environment Act, 1995

These objectives are to be used in the review and assessment of air quality by local authorities under Section 82 of the Environment Act (1995). If exceedances are measured or predicted through the review and assessment process, the local authority must declare an Air Quality Management Area (AQMA) under Section 83 of the Act, and produce an Air Quality Action Plan (AQAP) to outline how air quality is to be improved.

2.1.3 The Environment Act, 2021

The Environment Act (2021) amends the Environment Act (1995) to reinforce the local air quality management (LAQM) framework, in order to encourage cooperation at the local level and broaden the range of organisations that play a role in improving local air quality. Part 1 of The Environment Act requires targets to be set for fine particulate matter $PM_{2.5}$, and these were introduced in The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023, as follows:

- $PM_{2.5}$ concentration interim target, annual mean of 12µg/m^3 by 2028;
- $PM_{2.5}$ exposure reduction interim target of 22% reduction compared to 2018 by 2028;
- $PM_{2.5}$ concentration binding target of annual mean of 10µg/m^3 by 2040;
- $PM_{2.5}$ exposure reduction binding target of 35% reduction compared to 2018 by 2040.

2.2 Planning Policy

The land use planning process is a key means of improving air quality, particularly in the long term, through the strategic location and design of new developments. Any air quality concern that relates to land use and its development can, depending on the details of the proposed development, be a material consideration in the determination of planning applications.

2.2.1 National Planning Policy Framework

In February 2025, the revised National Planning Policy Framework (NPPF) was published, superseding the previous NPPF with immediate effect. The NPPF includes a presumption in favour of sustainable development.

Section 15 of the NPPF deals with Conserving and Enhancing the Natural Environment, and states that the intention is that the planning system should prevent '*preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local*

environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans .'

With specific regard to air quality, the NPPF states that:

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

2.2.2 Regional Planning Policy

West Yorkshire Low Emissions Strategy 2016 to 2021

The Kirklees Council incorporates the West Yorkshire Low Emissions Strategy which outlines what the key challenges are in relation to air quality within West Yorkshire. This plan intends to deliver cleaner air for all to create a healthier place for people to live, work and visit.

2.2.3 Local Planning Policy

Kirklees Local Air Quality Strategy

The Kirklees Local Air Quality Strategy outlines the approach Kirklees takes for:

- achieving and maintaining good air quality in Kirklees;
- informing other strategies and developing plans where air quality is a linking theme;
- identifying the responsibilities of different stakeholders;
- providing a framework for decisions about development proposals where air quality should be considered at an early stage;
- setting out the approach to development control (planning applications) where air quality is a material consideration;
- highlighting initiatives involving the Council demonstrating best practice for minimising pollution

2.3 Best Practice Guidance Documents

2.3.1 Guidance on the Assessment of Dust from Demolition and Construction

The Institute of Air Quality Management (IAQM) published a guidance document in 2014 and revised in 2024 (Stoaling et al., 2024) on the assessment of construction phase impacts (herein the 'IAQM construction dust guidance'). The guidance was produced to provide advice to developers, consultants and environmental health officers on how to

assess the impacts arising from construction activities. The emphasis of the methodology is on classifying sites according to the risk of impacts (in terms of dust nuisance, PM_{10} impacts on public exposure and impact upon sensitive ecological receptors) and to identify mitigation measure appropriate to the level of risk identified.

2.3.2 Local Air Quality Management Review and Assessment Technical Guidance

The Department for Environment, Food and Rural Affairs (Defra) has published technical guidance for use by local authorities in their air quality review and assessment work. This guidance, referred to in this document as the Local Air Quality Management Technical Guidance (Defra, 2022) ('LAQM TG.22')

2.3.3 Land-Use Planning & Development Control: Planning for Air Quality

Environmental Protection UK's (EPUK) and the IAQM jointly published a revised version of the guidance note 'Land-Use Planning & Development Control: Planning for Air Quality' in 2017 (herein the 'EPUK-IAQM guidance') to facilitate consideration of air quality within local development control processes. It provides a framework for air quality considerations, promoting a consistent approach to the treatment of air quality issues within development control decisions.

The guidance includes methods for screening the requirement for an air quality assessment, the undertaking of an air quality assessment and assessing the significance of effects. The guidance note is widely accepted as an appropriate reference method for this purpose.

3 ASSESSMENT SCOPE

3.1 Overall Approach

The approach taken for assessing the potential air quality impacts of the proposed development site may be summarised as follows:

- Review of relevant policy;
- Baseline characterisation of local air quality;
- Qualitative impact assessment of the construction phase of the development using the 2024 IAQM guidance;
- Qualitative assessment of air quality impacts during the operational phase of the proposed development using the 2017 EPUK-IAQM guidance;
- Recommendation of mitigation measures, where appropriate, to ensure any adverse effects on air quality are minimised; and
- Identification of residual impacts from the proposed development.

It is understood that no significant long-term stationary sources (for example, biomass boilers or Combined Heat and Power (CHP) plant) are proposed with the development. All space heating and hot water will be from an Air Source Heat Pump system.

3.2 Baseline Characterisation

Existing or baseline air quality refers to the concentrations of relevant substances that are already present in ambient air. These substances are emitted by various sources, including road traffic, industrial, domestic, agricultural and natural sources.

A desk based study has been undertaken including a review of monitoring data publicly available from the KC website and estimated background data from the LAQM Support website maintained by Defra. Background concentrations have been mapped by Defra at a grid resolution of 1x1km for the whole of the UK. Consideration has also been given to potential sources of air pollution and any AQMAs in the vicinity of the site.

3.3 Construction Phase Assessment

3.3.1 Construction Dust and Particulate Matter

Construction works for the proposed development have the potential to lead to the release of fugitive dust and particulate matter. An assessment of the likely significant effects of construction phase dust and particulate matter at sensitive receptors has therefore been undertaken following the IAQM's construction dust guidance.

Three separate dust impacts were considered:

- Disamenity to dust soiling;
- The risk of health effects due to an increase in exposure to PM_{10}; and
- Harm to ecological receptors.

In order to assess the potential impacts of construction, activities are divided into four types:

- Demolition;
- Earthworks;
- Construction; and
- Trackout[2].

The risk of dust and PM_{10} arising to cause disamenity and/or health or ecological impacts was based on an assessment of likely emissions magnitude and the sensitivity of the surrounding environment. The risk category may be different for each of the four 'construction' activities.

Appendix A sets out the construction dust assessment methodology in detail as per IAQM guidance. Once the level of risk has been determined, then site specific mitigation proportionate to the level of risk can be identified (as detailed in **Appendix B**).

The Magic Map application available online by Natural England was used to identify statutory ecological receptors near the proposed development site area.

3.3.2 Emissions to Air from Construction Traffic and Plant

Exhaust emissions from construction phase vehicles and plant may have an impact on local air quality adjacent to the routes used by these vehicles to access the proposed development site and in the vicinity of the proposed development site itself. Detailed information on the number of vehicles and plant associated with the construction phase is not available at this stage (and would not be until after appointment of the main construction contractors). Therefore, a qualitative impact assessment of vehicles and plant associated with the construction phase was undertaken using professional judgement and considering the following factors:

- The likely duration of the construction phase;
- The potential number and type of construction traffic and plant required; and
- The number and proximity of sensitive receptors to the proposed development sites and along the likely construction vehicle routes.

[2] Trackout is defined as the transport of dust and dirt from the construction / demolition sites onto public road network, where it may be deposited and then re-suspended by vehicles using the network.

3.4 Operational Phase Impact Assessment

3.4.1 Emissions to Air from Operational Phase Traffic

Once occupied, the proposed development will generate traffic on the surrounding road network. The emissions to air associated with this traffic have the potential to impact on nearby sensitive receptors. The EPUK-IAQM 2017 guidance provides indicative criteria for when an air quality assessment is required, if none of the criteria are exceeded, it is considered unlikely that there will be any significant impacts on air quality during the operational phase. A simple screening level assessment against these criteria has been undertaken in **Section 5.2** of this report. The screening assessment has been based on data provided by the project transport consultants (Sanderson Associates Consulting Engineers).

3.4.2 Exposure of Future Occupants to Air Pollution

The potential exposure of future users of the proposed development has been considered by reviewing the baseline conditions (Section 4) and the locations of sensitive receptors within the proposed development, as well as considering the EPUK-IAQM guidance.

4 BASELINE AIR QUALITY CHARACTERISATION

4.1 Local Emission Sources and Key Air Pollutants

The application site is located in an area where the main source of air pollution is likely to be roads therefore, the principal pollutants relevant to this assessment are considered to be NO_2, PM_{10} and $PM_{2.5}$, generally regarded as the most significant air pollutants released by vehicular combustion processes, or subsequently generated by vehicle emissions in the atmosphere through chemical reactions. Concentrations of these pollutants are more likely to exceed the relevant air quality objectives in urban areas and therefore are generally considered to have a higher risk of resulting in human health impacts.

4.2 Presence of AQMAs

As directed by the Environment Act 2021, local authorities are required to review and assess air quality with respect to the standards and objectives for the pollutants specified in the Government's National Air Quality Strategy (2007). Local Authorities are required to undertake annual reporting of the concentrations of defined pollutants in their area.

Where objectives are not predicted to be met, local authorities must declare an AQMA. In addition, local authorities are required to produce an AQAP, which outlines measures aimed at improving air quality within the designated AQMA.

Following a review of local air quality, it is noted that there are ten AQMAs declared by KC. The proposed development is within the Kirklees AQMA9.

4.3 Local Authority Air Quality Baseline Monitoring Data

According to KC's 2023 Air Quality Annual Status Reports, there are 3 automatic (continuous) monitoring station and 58 diffusion tubes location within Kirklees Council There were 11 NO_2 diffusion tubes within 1km of the proposed development site. The monitoring data from these sites are reproduced in Table 1 below. There are some exceedances of the annual mean NO_2 AQS recorded in 2018 to 2022. However, these locations are roadside monitoring station and located adjacent to the main road therefore it is not considered representative of conditions at the proposed development site.

Table 4.1: Annual Mean NO_2 Concentrations at the Diffusion Tube Location within 1km of the Proposed Development Site

Site ID	Site Type	Approx. Distance from Site (km)	Annual Mean NO_2 Concentration (µg/m^3)				
			2018	2019	2020	2021	2022
K58	Roadside	0.3	**44.9**	39.6	34.9	37.4	35.9
K57	Roadside	0.4	29.7	22.2	18.5	20.1	20.7
K28	Roadside	0.4	**43.2**	**46.4**	37.6	**41.4**	**41.0**
K7	Urban Centre	0.5	38.5	**40.8**	28.9	36.7	**40.0**
K45	Roadside	0.6	36.3	36.4	25.1	33.2	34.3
K8	Roadside	0.7	36.1	36.0	30.5	33.4	32.7
K21	Roadside	0.7	**42.5**	34.7	33.4	39.3	37.8
K46	Roadside	0.7	37.0	34.8	29.2	22.5	21.3
K2	Other	0.8	39.3	38.5	34.2	**42.4**	36.9
K56	Roadside	0.8	39.5	34.9	30.3	37.4	36.1
K11	Roadside	0.9	39.6	35.0	27.7	31.3	32.0
AQS			**40**				

4.4 LAQM Background Data

Estimated background air quality data are available from the LAQM Support website operated by Defra. The website provides estimated annual average background concentrations of NO_2, PM_{10} and $PM_{2.5}$ on a 1 km^2 grid basis.

Table 4.2 reproduces estimated annual average background NO_2, PM_{10} and $PM_{2.5}$ concentrations at the proposed development site for 2024-2026. No exceedances of the annual average AQSs for NO_2, PM_{10} or $PM_{2.5}$ have been predicted. As background concentrations are predicted to fall with time, background concentrations in future years would not be expected to exceed their respective annual mean standards after the proposed development opening year.

Table 4.2: Defra LAQM Estimated Background Annual Average NO_2, PM_{10} and $PM_{2.5}$ Concentrations at the Proposed Development Site (from 2018 base map)

Assessment Year	Estimated Annual Average Pollutant Concentrations Derived from the LAQM Support Website		
	Annual Average NO_2 ($\mu g/m^3$)	Annual Average PM_{10} ($\mu g/m^3$)	Annual Average $PM_{2.5}$ ($\mu g/m^3$)
2024	16.7	11.3	7.6
2025	16.3	11.2	7.6
2026	15.9	11.2	7.6
AQS	**40**	**40**	**20**

Note: Presented concentrations for 1 km^2 grid centred on 414500, 417500; approximate centre of development site is 414660, 417147.

5 ASSESSMENT OF IMPACTS

5.1 Construction Phase

Atmospheric emissions from construction activities will depend on a combination of the potential for emissions (the type of activity and prevailing conditions) and the effectiveness of control measures. In general terms, there are two sources of emissions that will need to be controlled to minimise the potential for adverse environmental effects:

- Exhaust emissions from site plant, equipment and vehicles; and,
- Fugitive dust emissions from site activities.

5.1.1 Fugitive Dust Emissions

Fugitive dust emissions arising from construction activities are likely to be variable in nature and will depend upon the type and extent of the activity, soil type and moisture, road surface conditions and weather conditions. Periods of dry weather combined with higher than average wind speeds have the potential to generate more dust.

Construction activities that are considered likely to be the most significant potential sources of fugitive dust emissions at the proposed development site are:

- Earth moving, due to the handling, storage and deliveries of soil and subsoil materials;
- Construction aggregate usage, due to the transport, unloading, storage and use of dry and dusty materials (such as cement and sand);
- Movement of heavy site vehicles on dry or untreated haul routes; and,
- Movement of vehicles over surfaces where muddy materials have been transferred off-site (for example, on to public highways).

Fugitive dust and emissions arising from construction activities is mainly of a particle size greater than the PM_{10} fraction (that which can potentially impact upon human health), however it is noted that construction activities may contribute to local PM_{10} concentrations. Appropriate dust control measures can be highly effective for controlling emissions from potentially dust generating activities identified above, and adverse effects can be greatly reduced or eliminated. For a conservative assessment, the potential impacts considered below are based on a pre-mitigation scenario.

5.1.2 Potential Dust Emission Magnitude

With reference to the IAQM 2024 criteria outlined in **Appendix A**, the estimation of dust emission magnitudes for demolition, earthworks, construction and trackout activities are presented in Table 5.1. Details given in the sections below have been provided by the client and where details are unknown professional judgement has been used where appropriate.

Table 5.1: Summary of Dust Emission Magnitudes (Before Mitigation)

Activity	IAQM Criteria	Dust Emission Magnitude
Demolition	- The total volume of buildings to be demolished is 4,795m^3, less than 12,000m^3 - The height of demolition activities is about 4m, less than 6m - There are potential dusty demolition materials on site, including substructure removal and crushing. - The demolition works will be undertaken late autumn and winter	**Small**
Earthworks	- Total area of the sites is 9,316m^2, less than 18,000m^2. - The are number expected to be 2 earthmoving equipments - The height of stockpiled materials is less than 3m	**Small**
Construction	- Total building volume will be 6,430m^3,less than 12,000m^3. - Assumed no on-site concrete batching or sandblasting will take place - It is assumed there will be some potentially dusty materials onsite	**Small**
Trackout	- Assumed the average number of heavy vehicles in/out of the site will be less than 20 per day - Site surface will be predominantly made ground	**Small**

5.1.3 Sensitivity of the Area

As per the IAQM Guidance, the sensitivity of the area takes into account a number of factors, including:

- The sensitivity of individual receptors in the area;
- The proximity and number of those receptors;
- For the human health assessment, the local background annual mean PM_{10} concentration (taken from the mapped estimates in Table 4.2); and,
- Site specific factors, such as whether there are natural shelters, such as trees, to reduce the risk of wind-blown dust.

Consideration is given to human and ecological receptors, where present, from the impact of the construction site boundary and routes along which Heavy Duty Vehicles (HDVs) may facilitate trackout.

Construction and trackout 'buffers' were used to identify the sensitivity of the area. Figures 5.1 and 5.2 show maps indicating the earthworks/construction and trackout buffers, respectively, for identifying the sensitivity of the area and Table 5.2 presents the

determined sensitivity of the area with the factors itemised which have helped to define this.

Earthworks and construction activities are relevant up to 350m from the proposed development site boundary whereas trackout activities are only considered relevant up to 50m from the edge of the road up to 200m from the site access (based on medium dust emission magnitude), as per the guidance. Therefore, only 20m and 50m buffers are considered for trackout activities. The site access for construction traffic will be from Lower Fitzwilliam Street.

There are no ecological receptors within 1km of the site.

Table 5.2: Sensitivity of the Area

Potential Impact		Sensitivity of the Surrounding Area	
		Demolition, Earthworks & Construction	Trackout
Dust soiling	Receptor sensitivity	High	High
	Number of receptors	10-100	10-100
	Distance from the source	<20m	<20m
	Sensitivity of the area	**High**	**High**
Human health	Receptor sensitivity	High	High
	Annual mean PM_{10} concentration	<24µg/m^3	<24µg/m^3
	Number of receptors	10-100	10-100
	Distance from the source	<20m	<20m
	Sensitivity of the area	**Low**	**Low**

5.1.4 Risk of Impacts

The dust emission magnitude summarised in Table 5.1 has been combined with the sensitivity of the area in Table 5.2 to determine the risk of impacts of construction activities before mitigation; these have been evaluated based on risk categories of each activity in **Appendix A**.

The risk of dust impacts from construction activities is identified as ranging between negligible to medium risk, as shown in Table 5.3. Site specific mitigation measures to reduce construction phase impacts are defined based on this assessment in **Section 6** and **Appendix B**.

Table 5.3: Summary of the Dust Risk from Construction Activities

Potential Impact	Demolition	Earthworks	Construction	Trackout
Dust soiling	Medium Risk	Low Risk	Low Risk	Low Risk
Human health	Negligible	Negligible	Negligible	Negligible
Ecological	N/A	N/A	N/A	N/A

5.1.5 Exhaust Emissions from Construction Plant and Vehicles

The operation of vehicles and equipment powered by internal combustion engines results in the emission of exhaust gases containing pollutants including NO_x, PM_{10}, $PM_{2.5}$, volatile organic compounds, and carbon monoxide. The quantities emitted depend on factors such as engine type, service history, pattern of usage and fuel composition.

Construction traffic will likely comprise of haulage vehicles and vehicles used for workers' trips to and from the application site. The greatest impact on air quality due to emission from construction phase vehicles will be in areas adjacent to the application site access and nearby road network. It is estimated that that there will be less than 50 HDV outward movements per day, which is considered unlikely to cause a significant impact on local air quality, in accordance with the IAQM guidance.

The operation of site equipment and machinery/plant during the construction phase will result in emissions to the atmosphere of exhaust gases, but with suitable controls and site management such emissions are unlikely to be significant (as per guidance within LAQM TG(22)).

Figure 5.1: Construction & Earthworks Buffers

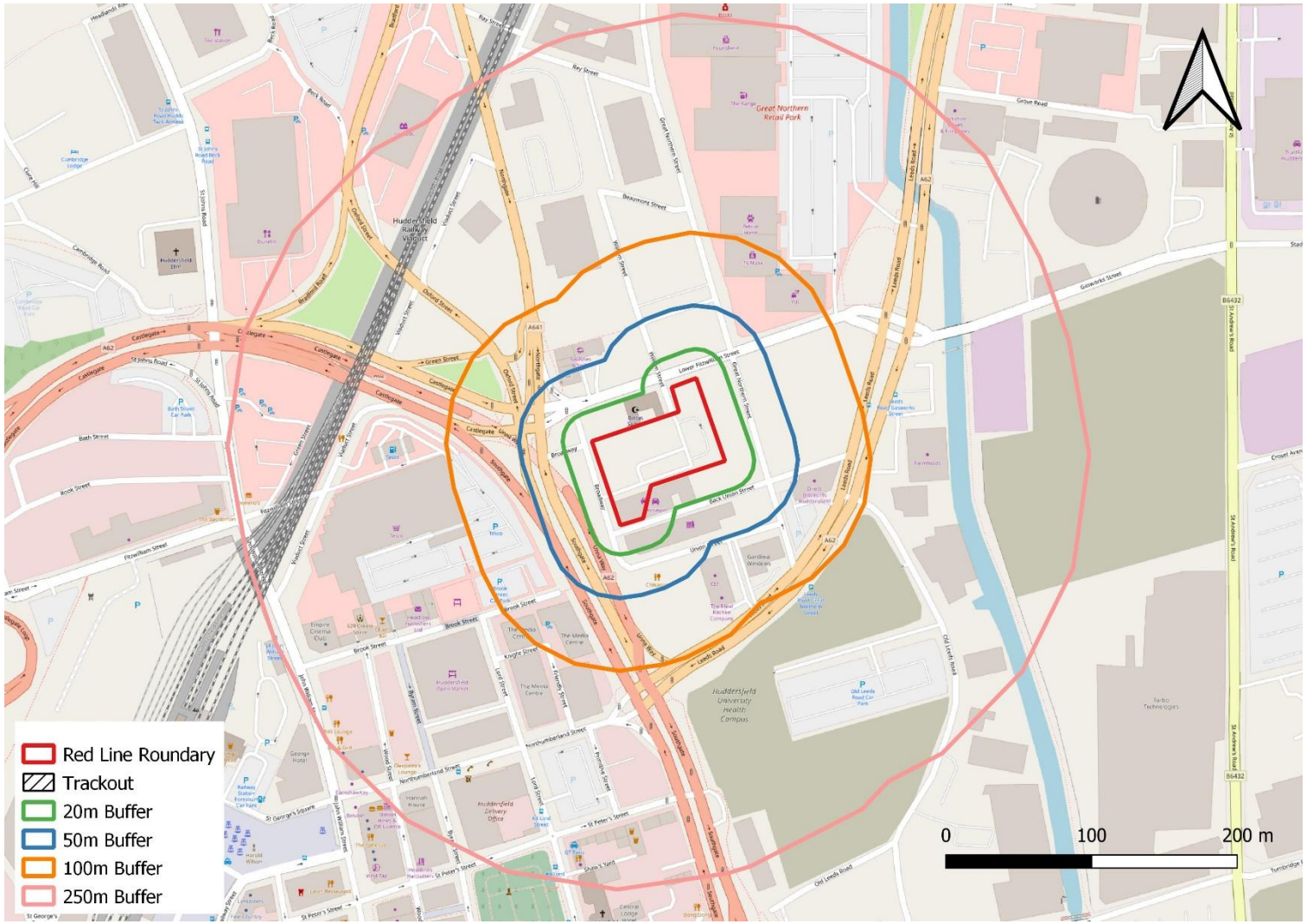


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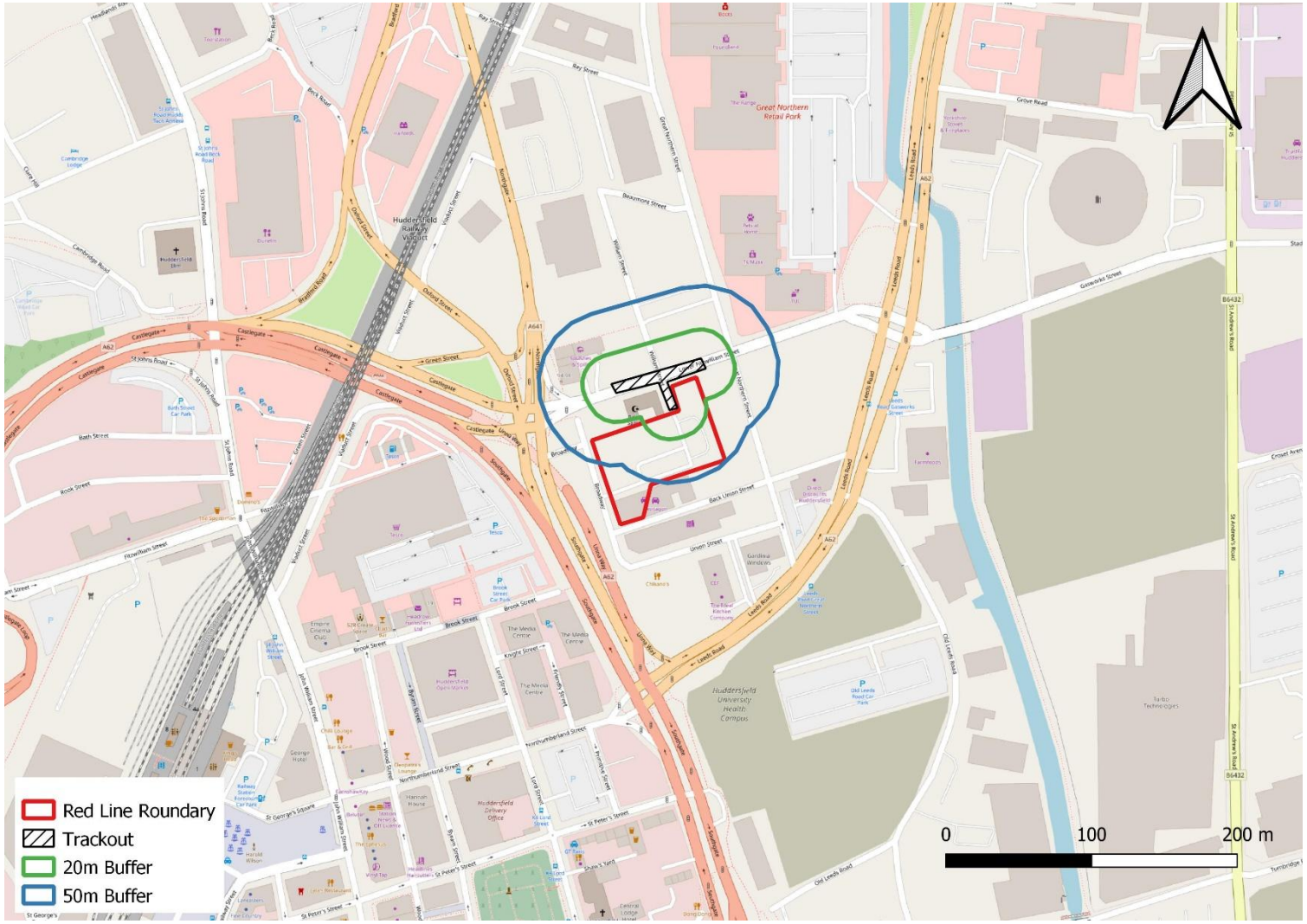
Figure 5.2 Trackout Buffers



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5.2 Operational Phase

5.2.1 Emissions to Air from Operational Phase Traffic

No significant combustion sources such as combined heat and power (CHP) plant or biomass boilers are proposed as part of the scheme. The principal operational phase air quality impact is likely to be associated with traffic emissions as a result of any changes in traffic flows or flow composition the development may bring. The EPUK-IAQM 2017 guidance provides indicative criteria to determine when an air quality assessment is likely to be required. Table 5.4 presents a comparison of the relevant EPUK-IAQM screening criteria with traffic and other information on the proposed development.

According to the project transport consultant (SCP Transport), the change of AADT from the development will be 106 AADT for LDVs, meaning the increase in light duty vehicles (LDVs) marginally exceeds the EPUK-IAQM criteria, inside an AQMA. However, as per the review of baseline conditions in Section 4, the annual mean NO_2 concentration at the development site is expected to be well below the AQO. Also, based on the Transport Assessment prepared by SCP Transport, the traffic distribution towards Lower Fitzwilliam Street (the exit point from the site access) is split equally, with 50% in each direction. As a result, the traffic flows on most affected roads are expected to be well below 100 AADT generated by the development. It is therefore considered unlikely that the additional traffic emissions, as a result of the development, will cause a significant impact on local air quality. Furthermore, the proposed development is not predicted to cause an increase of more than 25 AADT for HDVs and none of the other EPUK-IAQM criteria are exceeded. Therefore, we anticipate that the proposed development is unlikely to cause a significant impact on local air quality.

Table 5.4: Screening Criteria from EPUK-IAQM Guidance and Comparison with the Proposed Development Operational Phase

EPUK-IAQM Screening Criteria	Comparison of proposed development to screening criteria
A change of Light Duty Vehicles (LDVs) of: – More than 500 Annual Average Daily Traffic (AADT) not within an AQMA – More than 100 AADT within an AQMA	The development is expected to generate 106 AADT LDV movements. Split equally, with 50% in each direction on Lower Fitzwilliam.
A change of Heavy Duty Vehicles (HDVs) of: – More than 100 AADT not within an AQMA – More than 25 AADT within an AQMA	**Criterion not exceeded:** The development is not expected to generate more than 25 AADT HDV movements.
Road realignment, where the change is 5m or more and the road is within an AQMA.	**Criterion not exceeded:** The proposed development is not within and adjacent to AQMA.

EPUK-IAQM Screening Criteria	Comparison of proposed development to screening criteria
Introduction of a new junction or the removal of an existing junction near to relevant receptors. This applies to junctions that cause traffic to significantly change vehicle accelerate/ decelerate, e.g. traffic lights, or roundabouts.	**Criterion not exceeded:** It is understood that there is no new junction or removal of an existing junction
Introduction or change of a bus station, where bus flows will change by: - more than 25 AADT within or adjacent to an AQMA - more than 100 AADT elsewhere.	**Criterion not exceeded:** There is no bus station nearby.
Have an underground car park with extraction system, where the ventilation extract for the car park will be within 20m of a relevant receptor. Coupled with the car park having more than 100 movements per day (total in and out).	**Criterion not exceeded:** No underground car parking is proposed.
Have one or more substantial combustion processes, where there is a risk of impacts at relevant receptors.	**Criterion not exceeded:** It is understood that substantial combustion processes are not proposed.

5.2.2 Exposure of Future Development Users to Air Pollution

The potential exposure of future users of the proposed development to poor air quality has been considered by undertaking a qualitative review of the baseline conditions (Section 4) and the locations of sensitive receptors within the proposed development.

As shown in Table 4.1, there are some exceedances of the annual mean NO2 AQS recorded in 2018 to 2022. However, this location is located adjacent to the main in town therefore it is not considered representative of conditions at the proposed development site. Therefore, it is considered that NO_2 concentrations at the development site are likely to be lower.

LAQM TG.22 indicates that the annual mean NO_2 concentrations tend to be greater than 60µg/m^3 for an exceedance of the hourly mean NO_2 AQS to be likely. The EPUK-IAQM guidance indicates that the annual mean PM_{10} concentrations tend to be greater than ~31µg/m^3 for an exceedance of the daily mean PM_{10} AQS to be likely.

6 MITIGATION MEASURES & RESIDUAL IMPACTS

6.1 Construction Phase Mitigation

The dust emitting activities outlined in **Section 5.1** can be effectively controlled by appropriate dust control measures and any adverse effects can be greatly reduced or eliminated.

Prior to commencement of construction activities, it is anticipated that an agreement on the scope of a dust management plan (DMP) (this may be as part of a Construction Environmental Management Plan (CEMP), which can be secured via Condition) for the construction phase will be reached with the local authority to ensure that the potential for adverse environmental effects on local receptors is minimised. The DMP should include *inter alia* measures for controlling dust and general pollution from site construction operations, and include details of any monitoring scheme, if appropriate. Controls should be applied throughout the earthworks and construction period to ensure that emissions are mitigated.

The dust risk categories identified have been used to define appropriate, site-specific mitigation methods, which are contained in **Appendix B**.

Emissions from construction phase traffic and plant should be suitably controlled by the employment of mitigation measures appropriate to the development project such as a construction logistics plan, and the additional measures in **Appendix B** under the heading 'Operating Vehicles/Machinery and Sustainable Travel'.

With implementation of the proposed construction phase mitigation measures (detailed in **Appendix B**), the residual impacts are considered to be negligible.

Regarding the cumulative impact from other local developments during construction phase, it is assumed that they would implement a (CEMP) with appropriate mitigation measures in place, such that a significant cumulative impact on local air quality during construction phase is unlikely.

6.2 Operational Phase Mitigation

The assessment predicts that the operational phase of the proposed development will have a negligible impact on local air quality. Moreover, based on monitoring data and predicted background concentrations, future users of the proposed development are not expected to be exposed to poor air quality.

Nonetheless, best practice measures could be used to further reduce the effects of the development on local air quality where feasible. Mitigation measures such as provision of electric vehicle recharging points are proposed to minimise the operational phase impacts. The Low Emission Strategy has been provided in Appendix C, which include a calculation of the monetary damages from the development and a fully costed mitigation plan detailing the proposed low emission mitigation measures.

Regarding cumulative impacts from other local developments during the operational phase, it is noted that the Transport Assessment prepared by SCP Transport has already accounted for committed developments, as it presents a cumulative assessment of forecast traffic impacts for the 2029 scenario. Furthermore, following consultation between SCP Transport and Kirklees Highways in July 2024, Kirklees Highways did not request that any specific committed developments be considered.

On this basis, it is considered that the traffic flows assessed in Section 5.2.1 already incorporate cumulative effects from local developments during the operational phase. As such, significant cumulative air quality impacts arising from road traffic emissions during operation are unlikely.

7 CONCLUSIONS

A qualitative air quality assessment for the proposed replacement deployment station at 72 Northgate, Huddersfield has been prepared with reference to existing air quality in the area and relevant air quality legislation, policy and guidance.

The construction phase works may have the potential to impact on dust nuisance and local air quality, and this was assessed in accordance with the IAQM guidance. The potential risk of construction phase impacts, prior to mitigation, was predicted to be a maximum of 'medium risk'. Construction phase mitigation measures are recommended to reduce the risk of dust and particulate matter being generated and re-suspended. It is recommended that these are secured by a DMP. With effective implementation of the mitigation measures, no significant impacts are anticipated during the construction phase.

A qualitative assessment of the operational impacts has been undertaken by comparing the traffic data of the development against the screening criteria outlined in the EPUK-IAQM guidance. It is considered unlikely that the development will have a significant impact on local air quality. Furthermore, a review of baseline conditions found that development would not introduce additional sensitive receptors into an area of know poor air quality. Therefore, the overall air quality impact of the development is considered to be 'not significant'.

Nonetheless, best practice measures could be used to reduce the effects of the development on local air quality where feasible. Mitigation measures such as provision of electric vehicle recharging points are proposed to minimise the operational phase impacts.

Based on the results of the assessment, it is judged that with appropriate mitigation, the proposed development complies with relevant national and local planning policies and that there are no air quality constraints.

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APPENDIX A CONSTRUCTION DUST ASSESSMENT METHODOLOGY

To assess the potential impacts, construction activities are divided into demolition, earthworks, construction and trackout. The descriptors included in this section are based upon the IAQM guidance. The assessment follows the steps recommended in the guidance.

Step 1 and Step 2 methods from the IAQM guidance are described in this Appendix to assign dust risk categories for each of the construction activities.

Step 1: Screen the requirement for assessment

The first step is to screen out the requirement for a construction dust assessment, this is usually a somewhat conservative level of screening. An assessment is usually required where there is:

- a 'human receptor' within:
  - 250m of the boundary of the site; or
  - 50m of the route used by construction vehicles on the public highway, up to 250m from the site entrance(s).
- an 'ecological receptor':
  - 50m of the boundary of the site; or
  - 50m of the route(s) used by construction vehicles on the public highway, up to 250m from the site entrance(s).

Step 2A: Defining the Potential Dust Emission Magnitude

Demolition

The dust emission magnitude category for demolition is varied for each site in terms of timing, building type, duration and scale. Examples of the potential dust emission classes are provided in the guidance as follows:

- **Large**: Total building volume >75,000m^3, potentially dusty construction material (e.g. concrete), on-site crushing and screening, demolition activities >12m above ground level;
- **Medium**: Total building volume 12,000m^3 – 75,000m^3, potentially dusty construction material, demolition activities 6m – 12m above ground level; and
- **Small**: Total building volume <12,000m^3, construction material with low potential for dust release (e.g. metal cladding or timber), demolition activities <6m above ground, demolition during wetter months.

Earthworks

The dust emission magnitude category for earthworks is varied for each site in terms of timing, geology, topography and duration. Examples of the potential dust emission classes are provided in the guidance as follows:

- **Large**: Total site area >110,000m^2, potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size), >10 heavy earth moving vehicles active at any one time, formation of bunds >6m in height;

- **Medium**: Total site area 18,000 – 110,000m^2, moderately dusty soil type (e.g. silt), 5 – 10 heavy earth moving vehicles active at any one time, formation of bunds 4 – 6m in height; and
- **Small**: Total site area <18,000m^2, soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <4m in height.

Construction

The dust emission magnitude category for construction is varied for each site in terms of timing, building type, duration, and scale. Examples of the potential dust emissions classes are provided in the guidance as follows:

- **Large**: Total building volume >75,000m^3, on site concrete batching, sandblasting;
- **Medium**: Total building volume 12,000 – 75,000m^3, potentially dusty construction material (e.g. concrete), on site concrete batching; and
- **Small**: Total building volume <12,000m^3, construction material with low potential for dust release (e.g. metal cladding or timber).

Trackout

Factors which determine the dust emission magnitude class of trackout activities are vehicle size, vehicle speed, vehicle number, geology and duration. Examples of the potential dust emissions classes are provided in the guidance as follows:

- **Large**: >50 HDV (>3.5t) outward movements in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length >100m;
- **Medium**: 20 – 50 HDV (>3.5t) outward movements in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50 – 100m; and
- **Small**: <20 HDV (>3.5t) outward movements in any one day, surface material with low potential for dust release, unpaved road length <50m.

Step 2B: Defining the Sensitivity of the Area

The sensitivity of the area is defined for dust soiling, human health and ecosystems. The sensitivity of the area takes into account the following factors:

- The specific sensitivities of receptors in the area;
- The proximity and number of those receptors;
- In the case of PM_{10}, the local background concentration; and
- Site-specific factors, such as whether here are natural shelters such as trees, to reduce the risk of wind-blown dust.

Table A1 has been used to define the sensitivity of different types of receptors to dust soiling, health effects and ecological effects.

Table A1: Sensitivity of the Area Surrounding the Site

Sensitivity of Area	Dust Soiling	Human Receptors	Ecological Receptors
High	• Users can reasonably expect enjoyment of a high level of amenity. • The appearance, aesthetics or value of their property would be diminished by soiling. • The people or property would reasonably be expected to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land. • Examples include dwellings, museums and other culturally important collections, medium and long term car parks and car showrooms.	• Locations where members of the public are exposed over a time period relevant to the air quality objective for PM_{10} (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day) • Examples include residential properties, hospitals, schools and residential care homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment.	• Locations with an international or national designation *and* the designated features may be affected by dust soiling. • Locations where there is a community of a particularly dust sensitive species such as vascular species included in the Red Data List For Great Britain. • Examples include a Special Area of Conservation (SAC) designated for acid heathlands or a local site designated for lichens adjacent to the demolition of a large site containing concrete (alkali) buildings.
Medium	• Users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home. • The appearance, aesthetics or value of their property could be diminished by soiling. • The people or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land. • Examples include parks and places of work.	• Locations where the people exposed are workers and exposure is over a time period relevant to the air quality objective for PM_{10} (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day). • Examples include office and shop workers, but will generally not include workers occupationally exposed to PM_{10}, as protection is covered by Health and Safety at Work legislation.	• Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown. • Locations with a national designation where the features may be affected by dust deposition. • Example is a Site of Special Scientific Interest (SSSI) with dust sensitive features.

Sensitivity of Area	Dust Soiling	Human Receptors	Ecological Receptors
Low	• The enjoyment of amenity would not reasonably be expected. • Property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling. • There is transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land. • Examples include playing fields, farmland (unless commercially-sensitive horticultural), footpaths, short term car parks and roads.	• Locations where human exposure is transient. • Indicative examples include public footpaths, playing fields, parks and shopping streets.	• Locations with a local designation where the features may be affected by dust deposition. • Example is a local Nature Reserve with dust sensitive features.

Based on the sensitivities assigned of the different types of receptors surrounding the site and numbers of receptors within certain distances of the site, a sensitivity classification for the area can be defined for each. Tables A2 to A4 indicate the method used to determine the sensitivity of the area for dust soiling, human health and ecological impacts, respectively.

For trackout, as per the IAQM construction dust guidance, it is only considered necessary to consider trackout impacts up to 50m from the edge of the road.

Table A2: Sensitivity of the area to dust soiling effects on people and property

Receptor Sensitivity	Number of Receptors	Distances from the Source (m)			
		<20	<50	<100	<350
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Table A3: Sensitivity of the area to Human Health Impacts

Receptor Sensitivity	Annual Mean PM_{10} Conc.	Number of Receptors	Distances from the Source (m)				
			<20	<50	<100	<200	<350
High	>32μg/m^3	>100	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low
	28-32μg/m^3	>100	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low

Receptor Sensitivity	Annual Mean PM_{10} Conc.	Number of Receptors	Distances from the Source (m)				
			<20	<50	<100	<200	<350
		1-10	High	Medium	Low	Low	Low
	24-28μg/m^3	>100	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	<24 μg/m^3	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	>32μg/m^3	>10	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	28-32μg/m^3	>10	Medium	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	24-28μg/m^3	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	<24 μg/m^3	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Low	-	>1	Low	Low	Low	Low	Low

Table A4: Sensitivity of the area to Ecological Impacts

Receptor Sensitivity	Distances from the Source (m)	
	<20	<50
High	Medium	Medium
Medium	Medium	Low
Low	Low	Low

Step 2C: Defining the Risk of Impacts

The final step is to use both the dust emission magnitude classification with the sensitivity of the area, to determine a potential risk of impacts for each construction activity, before the application of mitigation. Tables A5 to A7 indicate the method used to assign the level of risk for each construction activity.

Table A5: Risk of Dust Impacts from Demolition

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible

Table A6: Risk of Dust Impacts from Earthworks/Construction

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Table A7: Risk of Dust Impacts from Trackout

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Negligible
Low	Low Risk	Low Risk	Negligible

APPENDIX B CONSTRUCTION PHASE RECOMMENDED MITIGATION MEASURES

The IAQM 2024 guidance divides site-specific mitigation measures are divided into general measures applicable to all sites, and measures specific to earthworks, construction and trackout. Depending on the level of risk assigned in relation to each type of construction activity, different mitigation is assigned. The method for assigning mitigation measures as detailed in the IAQM guidance has been used. For those 'general' mitigation measures, the greatest risk category assigned to the assessed construction activities should be applied. Therefore, in this case, the 'medium risk' 'general' site mitigation measures have been recommended.

There are two categories of mitigation measure – 'highly recommended' and 'desirable', which are indicated according to the dust risk level identified in Table 5.3. Desirable measures are presented in *italics*.

Communications

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- Display the name and contact details of people accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.
- Display the head or regional office contact information.

Dust Management

- Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures. The desirable measures should be included as appropriate for the site. The DMP may include monitoring of dust deposition, dust flux, real-time PM_{10} continuous monitoring and/or visual inspections.

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site or the action taken to resolve the situation in the log book.

Monitoring

- *Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority if asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100m of site boundary, with cleaning to be provided if necessary.*

- Carry out regular site inspections to monitor compliance with any dust management plan, record inspection results, and make an inspection log available to the local authority when asked.
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
- Agree dust deposition, dust flux, or real-time PM_{10} continuous monitoring locations with the Council (if deemed appropriate upon consultation).

Preparing and maintaining the site

- Plan site layout so that machinery and dust causing activities are located away from receptors as far as possible.
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
- Fully enclose site specific operations where there is a high potential for dust production and the site is active for an extensive period.
- Avoid site runoff of water or mud.
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.
- Cover, seed or fence stockpiles to prevent wind whipping.

Operating Vehicles/Machinery

- Ensure all NRMM meet the required emission standards.
- Ensure all vehicles switch off engines when stationary - no idling vehicles.
- Avoid the use of diesel or petrol-powered generators and use mains electricity or battery powered equipment where practicable.
- *Impose and signpost a maximum-speed-limit of 15mph on surfaced and 10mph on unsurfaced haul roads and work areas.*
- Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.
- *Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking and car-sharing).*

Operations

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- Use enclosed chutes and covered skips.

- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- *Ensure equipment is readily available on site to clean any dry spillages and clean up as soon as reasonably practicable after the event using wet clean methods.*

Waste Management

- Avoid bonfires or burning of waste materials.

Measures Specific to Demolition

- *Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust.*
- Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
- Avoid explosive blasting, using appropriate manual or mechanical alternatives.
- Bag and remove any biological debris or damp down such material before demolition

Measures Specific to Construction

- *Avoid scabbling (roughening of concrete surfaces) if possible.*
- *Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.*

Measures Specific to Trackout

- *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 any dry sweeping of large areas.*
- *Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.*
- *Record all inspections of haul routes and any subsequent action in a site log book.*
- *Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).*

APPENDIX C LOW EMISSION STRATEGY

Morgan Sindall Construction Ltd

72 Northgate, Huddersfield

Low Emissions Strategy

Project No. 445798-02(00)

DECEMBER 2025

RSK air quality
MODELLING · MONITORING · PERMITTING

RSK GENERAL NOTES

Report No.: 445798-02(00)

Title: 72 Northgate, Huddersfield– Low Emissions Strategy

Client: Morgan Sindall Construction Ltd

Date: 14th January 2026

Status: Final

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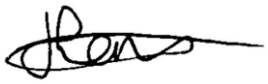
Signature		Signature	
Date:	14th January 2026	Date:	14th January 2026

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Group Limited.

Contents

1 INTRODUCTION

RSK Environment Limited (RSK) has been commissioned to prepare a low emissions strategy for the proposed replacement deployment station at 72 Northgate, Huddersfield HD1 6AE. The approximate grid reference of the centre of the site is 414660, 417147. The site is located within the jurisdiction of Kirklees Council (KC). A plan showing the proposed development masterplan submitted with the planning application is shown in Figure 1.1 below.

An air quality assessment (AQA) was prepared by RSK Environment Limited in January 2026 for the proposed development, which was submitted with the planning application for the site. The AQA concluded that the development would have a 'negligible' impact to human health on existing sensitive receptors and none of the Air Quality Standards (AQSs) for nitrogen dioxide (NO_2) or fine particulate matter (PM_{10} or $PM_{2.5}$) exceeded within the AQA study area.

In response to the AQA, the planning officer at KC requires the discharge of Condition 12 of which states that:

"Include a calculation of the monetary damages from the development and a fully costed mitigation plan detailing the proposed low emission mitigation measures. The monetary value of the damages should be reflected in money spent on the low emission mitigation measures."

The Institute of Air Quality Management (IAQM) guidance for 'Land-Use Planning and Development Control: Planning for Air Quality' 2017 was produced to ensure that air quality is considered in the land-use planning and development control processes, by suggesting a framework for the assessment of the impacts of developments on local air quality. The National Planning Policy Framework (NPPF) sets out planning policy in favour of sustainable development stating that planning should *'contribute to reducing pollution'.* Therefore the effects of pollution on health and sensitivity of the area should be considered during development.

With regard to the above, this report presents the findings of a damage cost assessment and recommendations of additional mitigation measures which can be used to offset air quality impacts, as outlined in guidance.

This low emissions strategy therefore calculates the financial cost of the contribution which would be required to reduce emissions of relevant pollutants (NO_2 and PM_{10}) generated by the development and sets out some initial suggestions for mitigation and offsetting the air quality effects associated with the development.

Figure 1.1: Proposed development location plan

2 CALCULATED DAMAGE COSTS

This section follows the steps presented in the Defra Air Quality damage cost (2025) guidance to assess the costs associated with the increased traffic levels resulting from the proposed development. This calculation inputs the additional number of trips generated by the development into the latest DEFRA Emissions Factor Toolkit (EFT).

Damage costs are calculated for the proposed development site using the following method:

1. identify the trips/annum generated by the proposed development (this information will be available in the Transport Assessment, Transport Statement or TRICS database);
2. assume an average distance travelled of 10km/trip;
3. calculate the emissions of NOx and $PM_{2.5}$ (tonnes/annum) using the Emissions Factor Toolkit, and an assumption of an average speed of 50km/h;
4. multiply the calculated emissions health damage values by 5, to quantify emissions over a five-year period; and
5. sum the NOx and $PM_{2.5}$ costs to provide a total health damage value.

RSK have used the Emissions Factor Toolkit (EFT, v13.1) to estimate NOx emissions generated by the development during the proposed development opening year (2027).

The guidance advises the use of the latest IGCB Damage costs; released during December 2025 for NOx and $PM_{2.5}$. The 'road transport' factors for each have been used within this assessment (NOx and $PM_{2.5}$ costs during 2022: £10,193 and £114,411 per tonne respectively).

The calculations are shown below:

EFT output x Damage costs x 5 years = 5-year exposure cost value.

- EFT V13.1 input factors:
- 2027 (opening year),
- Pollutants NOx and $PM_{2.5}$
- Road type: urban not London
- 106 AADT (additional vehicle movements generated by the development) (urban not London)
- 50 kph (average speed)
- 10km link length travelled.

Table 2.1 Damage Costs Calculations for the years 2027-2031

		2027
NOx	Kg/annum	56.513
	Tonnes/annum	0.057
	X Damage cost (£10,193)	£576. 04
	X 5 years	£2,880.4
$PM_{2.5}$	Kg/annum	6.72
	Tonnes/Annum	0.0067
	X Damage Cost (£114,411)	£768.94
	X 5 years	£3,844.7
Total damage cost value		**£6725** (to the nearest pound)

3 MITIGATION MEASURES

3.1 Strategy to Mitigate Construction Phase Impacts

The AQA included an assessment of fugitive dust and particulate matter (PM) emissions generated by construction related activities on existing sensitive receptors. The maximum risk of impacts was identified as medium risk (regarding the effects of demolition activities), and low risk (for earthworks, construction and trackout activities) (following the assessment mechanism identified within the 'Guidance on the Assessment of Dust from Demolition and Construction' (Institute of Air Quality Management (IAQM), 2024) ('the IAQM 2024 guidance').

The AQA therefore recommended mitigation measures identified as proportionate for a medium risk site within the IAQM 2024 guidance, of which the following would reduce transport related air pollution associated with transport related air quality effects:

- Ensure all NRMM meet the required emission standards;
- Ensure all vehicles switch off engines when stationary – no idling vehicles; and
- Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable.

In our professional opinion, we can reasonably assume that additional local developments would implement a Construction Environmental Management Plan (CEMP), or similar document, with appropriate mitigation measures in place such that significant dust impacts are unlikely.

SCP Transport Planning (SCP) prepared a Transport Assessment for the site in May 2024. The assessment demonstrates measures to reduce personal vehicle movements by the development, including the encouragement of using public transport such as rail services.

3.2 Operation phase mitigation measures

This section recommends a range of mitigation and/or offsetting measures which will be implemented as far as reasonably practicable when the development enters the operational phase.

Travel Planning

The Transport Plan (SCP Transport Planning, 2024) sets out key measures to reduce the number of vehicular trips generated by this development. The travel plan focuses on the greater use of sustainable travel (public transport, cycling, walking) by staff travelling to and from site and to promote the sustainable travel links available. Measures to facilitate a 'modal shift' towards sustainable travel include:

- Cycling accessibility. 16 secure cycle spaces will be provided by the development, and an additional two cycle stands accommodating 4 bicycles

available within the visitor car park. Cycle lanes are available on the A62 Leeds Road, and a traffic-free cycle route along the Huddersfield Borad Canal.

- Public transport. The closest bus stops to the site are located on the A62 Leeds Road with frequent and convenient access between Huddersfield, Leeds and surrounding suburbs and villages. The approximate journey time from areas such as Leeds, Bradford and Manchester is 60 minutes.
- Rail services. Huddersfield train station is approximately 580m from the site. The station provides transport to Leeds, Manchester, Sheffield, Hull, Bradford and Newcastle, with approximately 9 services running per hour.

Low NOx boilers

It is anticipated that the development will be heated via air source heat pumps, therefore no gas boilers are to be used on site.

Electric vehicle charging points

It is anticipated that a total of 6 electric charging points will be provided within the proposed 96 parking spaces. Equipment will be installed for an additional 13 chargers depending on future demand. These charging point should be maintained in good condition.

Table 3-1 labels the mitigation type proposed by this development, the value of the mitigation and the calculated damage cost. As demonstrated, the value of mitigation is vastly greater than that of the calculated damage cost.

Table 3-1: Mitigation Value

Mitigation Type		Mitigation Target: £6,725
Mitigation		
	£/item	**Value**
Delivery of EV chargers	£8,000	**£23,750** (to the nearest pound)
Installation of EV chargers & final connections	£1,182.02	
Installation of EV charger cabling	£14,568.12	

4 CONCLUSION

This Low Emissions Strategy sets out a commitment to the measures that will be implemented during the operational phase of the development to minimise emissions associated with the development.

It is considered that this assessment meets the requirement of planning condition 23, which should be discharged.