

ENVIRONMENT

Welcome Break Ltd
Stretton Court Motorway Service Area
Hinckley
Air Quality Assessment

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Hinckley
Air Quality Assessment

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EXECUTIVE SUMMARY

BWB Consulting Limited was appointed by Welcome Break Ltd to undertake an air quality assessment for a proposed new Motorway Service Area at Stretton Court, Hinckley.

The Site is located within the administrative areas of Hinckley and Bosworth Borough Council and Rugby Borough Council. The Site is not located within, or in the vicinity of, any Air Quality Management Areas (AQMAs).

A qualitative construction phase dust assessment was undertaken in accordance with Institute of Air Quality Management guidance and measures were recommended to minimise emissions during construction activities. With the implementation of these mitigation measures the impact of construction phase dust emissions was considered to be 'not significant' in accordance with Institute of Air Quality Management guidance.

The proposed development was screened using the Institute of Air Quality Management and Environmental Protection UK two stage screening process. The proposed development exceeded the screening criteria in Stage 1 and therefore it was necessary to proceed to Stage 2. One road with relevant exposure was predicted to exceed the Stage 2 criteria, the A5 Watling Street, east of the Site access. Nearby monitoring indicates that concentrations of nitrogen dioxide are below the annual mean nitrogen dioxide objective. It was therefore considered unlikely that emissions from vehicles associated with the proposed development would increase concentrations at this receptor to above the current relevant annual mean nitrogen dioxide objective. The impact of the proposed development on local air quality was therefore considered to be 'not significant'. This approach was agreed with Hinckley and Bosworth Borough Council and provided to Rugby Borough Council during consultation.

Based on the assessment results, the impact of the proposed development was determined to be 'not significant' and mitigation measures are not required. However, measures included within the scheme which may be beneficial to air quality include the provision of electric vehicle charging.

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1. INTRODUCTION

- 1.1 BWB Consulting Limited (BWB) was instructed by Welcome Break Ltd (the Client) to undertake an air quality assessment for a proposed Motorway Service Area (MSA) at Stretton Court, Hinckley ('the Site').
- 1.2 The assessment considers construction phase dust impacts and operational phase road traffic emissions. A qualitative construction phase dust assessment was undertaken in accordance with relevant guidance. An operational phase road traffic emissions screening assessment was undertaken to consider the requirement for a detailed assessment of additional vehicles generated by the proposed development.
- 1.3 This report is necessarily technical in nature so to assist the reader a glossary of air quality terminology can be found in **Appendix A**.

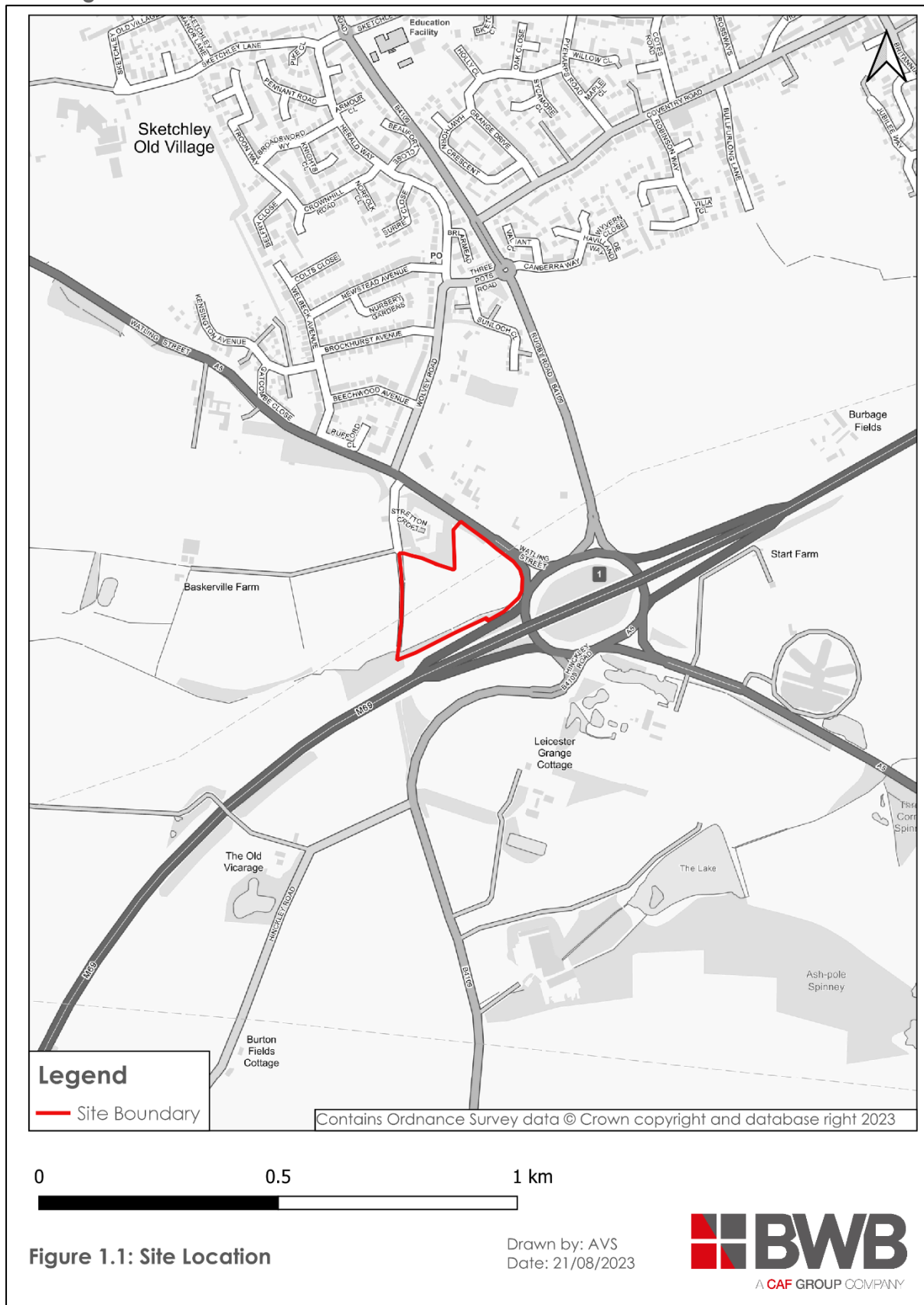
Site Setting

- 1.4 The Site is located off the A5 Watling Street, adjacent to the M69 Motorway. The Site lies within both the administrative areas of Hinckley and Bosworth Borough Council (HBBC) and Rugby Borough Council (RBC). The Site is not located within, or in the vicinity of, an Air Quality Management Area (AQMA).
- 1.5 The Site currently comprises agricultural land. The M69 motorway lies to the south of the Site, and the A5 Watling Road borders the Site to the east. Dwellings lie to the north of the Site and agricultural fields lie to the west.
- 1.6 **Figure 1.1** details the location of the proposed development.
- 1.7 Principal air pollution sources in the vicinity of the Site are likely to comprise road traffic emissions from the M69 motorway and the A5 Watling Road.

Proposed Development

- 1.8 The proposed development comprises a new Motorway Service Area including a motorway services building, drive through coffee shop, and associated parking. The proposed development masterplan is detailed in **Appendix B**.

Figure 1.1: Site Location



2. LEGISLATION, PLANNING POLICY & GUIDANCE

National Legislation and Planning Policy

2.1 The following national legislation and planning policy is relevant to air quality and was considered in the undertaking of the assessment. A summary of the relevant national legislation and planning policy is provided in **Appendix C**:

- European Parliament, EU 2008 ambient Air Quality Directive (2008)¹;
- HMSO, Air Quality (England) Regulations (2000)²;
- HMSO, Environment Act (1995)³;
- HMSO, Environment Act (2021)⁴;
- HMSO, Air Quality (England) Regulations (2002)⁵;
- HMSO, Air Quality Standards Regulations (2010)⁶;
- Department for Environment, Air Quality Strategy (1997)⁷;
- Department for the Environment, Food and Rural Affairs, Air Quality Strategy (2007)⁸;
- Department for the Environment, Food and Rural Affairs, Air Quality Strategy (2023)⁹;
- Department for the Environment, Food and Rural Affairs, The Environment (Miscellaneous Amendments) (EU Exit) Regulations (2020)¹⁰;
- HMSO, The Environmental Targets (Fine Particulate Matter) (England) Regulations (2023)¹¹;
- Ministry of Housing, Communities and Local Government, National Planning Policy Framework (NPPF) (2021)¹²; and
- Ministry for Housing, Communities and Local Government, Planning Practice Guidance (PPG) for air quality (2019)¹³.

Local Planning Policy

2.2 The following local planning policy was considered in the undertaking of the assessment and a summary is provided in **Appendix C**:

- Hinckley and Bosworth Borough Council (2009) Local Development Framework Core Strategy¹⁴; and
- Rugby Borough Council (2019) Local Plan 2011-2031¹⁵.

¹ European Parliament (2008) Council Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe

² HMSO (2000) Statutory Instrument 2000 No. 928, The Air Quality (England) Regulations 2000 (as amended), London: HMSO

³ HMSO (1995) The Environment Act 1995, London: TSO

⁴ HMSO (2021) The Environment Act 2021, London: TSO

⁵ HMSO (2002) Statutory Instruments 2002 No. 3043, The Air Quality (England) (Amendment) Regulations 2002, London: HMSO

⁶ HMSO (2010) Statutory Instruments 2010 No. 1001 Air Quality Standards Regulations 2010, London: HMSO

⁷ Department of the Environment (DoE) (1997) The UK National Air Quality Strategy, London: HMSO

⁸ Department of the Environment, Food and Rural Affairs (Defra) (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, London: HMSO

⁹ Department of the Environment, Food and Rural Affairs (Defra) (2023) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, London: HMSO

¹⁰ Department of the Environment, Food and Rural Affairs (Defra) (2020) The Environment (Miscellaneous Amendments) (EU Exit) Regulations, London: HMSO

¹¹ HMSO (2023) Statutory Instruments 2023 No. 96 The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023

¹² Ministry of Housing, Communities & Local Government (2021) National Planning Policy Framework, HMSO London

¹³ Ministry for Housing, Communities and Local Government (2019) Planning Practice Guidance Air Quality

¹⁴ Hinckley and Bosworth Borough Council (2009). Local Development Framework Core Strategy

¹⁵ Rugby Borough Council (2019) Local Plan 2011-2031

Air Quality Assessment Guidance

2.3 The following guidance was utilised in the air quality assessment:

- Defra, Local Air Quality Management Technical Guidance (LAQM.TG(22)) (2022)¹⁶;
- Institute of Air Quality Management, Guidance on the assessment of dust from demolition and construction (2023)¹⁷; and
- Institute of Air Quality Management and Environmental Protection UK, Land-Use Planning and Development Control: Planning for Air Quality (2017)¹⁸.

¹⁶ Defra (2022) Local Air Quality Management Technical Guidance LAQM.TG(22)

¹⁷ Institute of Air Quality Management (2023) Guidance on the assessment of dust from demolition and construction, Institute of Air Quality Management, London

¹⁸ Institute of Air Quality Management and Environmental Protection UK (2017) Land-Use Planning and Development Control: Planning for Air Quality

3. METHODOLOGY

Consultation with Hinckley and Bosworth Borough Council and Rugby Borough Council

- 3.1 Consultation was undertaken with the Environmental Health Officers at HBBC and RBC via email in August 2023. At the time of writing, had HBBC agreed the methodology provided but a response was not received from RBC.
- Construction Phase - A construction phase dust assessment was undertaken and relevant measures to mitigate construction phase dust emissions were recommended. The assessment was undertaken in accordance with guidance provided by the Institute of Air Quality Management (IAQM)¹⁷.
 - Operational Phase – An operational phase road traffic emissions screening assessment was undertaken in accordance with IAQM and Environmental Protection UK (EPUK) guidance¹⁸. Qualitative consideration was also given to the suitability of the Site for the proposed use.
- 3.2 Full details of the methodology used in the assessment, as provided to HBBC and RBC are given below.

Construction Phase Dust Assessment

- 3.3 An assessment of the potential impacts arising from the construction of the proposed development was undertaken in accordance with IAQM guidance¹⁷. The full assessment methodology is not reproduced within this report but a summary of the assessment steps are provided below:
- Step 1 – screen the requirement for a more detailed assessment. No assessment is required if there are no receptors within a certain distance of the works.
 - Step 2 – assess the risk of dust impacts separately for each of the four activities considered (demolition, earthworks, construction and trackout).
 - Step 2A – determine the potential dust emission magnitude for each of the four activities;
 - Step 2B – determine the sensitivity of the area;
 - Step 2C – determine the risk of dust impacts by combining the findings of steps 2A and 2B.
 - Step 3 – determine the site-specific mitigation for each of the four activities; and
 - Step 4 – examine the residual effects and determine significance.

Operational Phase Road Traffic Emissions – Screening Assessment

IAQM and EPUK

- 3.4 Guidance published by the IAQM and EPUK in 2017¹⁸ provides a two-stage approach to determine the level of assessment required in the consideration of the impact of development-generated road traffic emissions on local air quality.

Stage 1

3.5 The Stage 1 criteria requires that the assessment progress to Stage 2 if any of the following apply:

- The development comprises:
 - 10 or more residential units or a site area of more than 0.5ha; or
 - More than 1,000m² of floor space for all other uses or a site area greater than 1ha;
- Coupled with any of the following:
 - The development has more than 10 parking spaces; or
 - The development will have a centralised energy facility or other centralised combustion process.

Note: Consideration should be given to the potential impacts of neighbouring sources on the site, even if an assessment of impacts of the development on the surrounding area is screened out.

Stage 2

3.6 The IAQM and EPUK guidance¹⁸ provides the following indicative criteria to determine whether a detailed road traffic emissions assessment is required for a proposed development.

3.7 The Stage 2 criteria relevant to the proposed development are:

- A change in Light Duty Vehicles (LDV) flow of more than 500 vehicles as a 24 hour Annual Average Daily Traffic (AADT) flow within an AQMA; and
- A change in Heavy Duty Vehicles (HDV) flow of more than 100 vehicles as a 24 hour AADT flow within an AQMA.

Air Quality Standards and Objectives

3.8 Monitored concentrations undertaken by HBBC and RBC were compared to the current relevant air quality objectives for England⁷. The current relevant air quality standards and objectives are detailed in **Table 3.1**.

Table 3.1: Air Quality Standards and Objectives (England)

Pollutant	Averaging Period	Air Quality Objective (µg.m ⁻³)	Date to Achieve by
NO ₂	Annual mean	40	31 December 2005
	1-hour mean not to be exceeded more than 18 times per year	200	31 December 2005
PM ₁₀	Annual mean	40	31 December 2004
	24-hour mean not to be exceeded more than 35 times per year	50	31 December 2004

Pollutant	Averaging Period	Air Quality Objective ($\mu\text{g.m}^{-3}$)	Date to Achieve by
PM _{2.5}	Annual mean	20	1 January 2020
	<i>Annual mean interim target as detailed within the Environmental Improvement Plan¹⁹</i>	12	31 January 2028
	Annual mean	10	31 December 2040

Italics denotes future air quality objectives published by the UK Government that will come into force in the future

Limitations and Assumptions

- 3.9 The assessment is based on traffic data provided by Dynamic Transport Planning, the transport consultants for the project. As such any assumptions made by the transport consultants will also influence the air quality assessment.
- 3.10 Consideration of committed local developments that may represent sensitive receptors to dust during the construction phase was undertaken through a review of the HBBC and RBC planning portal. Any applications submitted following the review, or not present on the portal at the time of review, were not considered.

¹⁹ Defra (2023) Environmental Improvement Plan 2023, First revision of the 25 Year Environment Plan

4. CONSTRUCTION PHASE DUST ASSESSMENT

- 4.1 The construction phase of the proposed development will involve a number of activities which have the potential to impact on local air quality. These include emissions of dust generated through excavation, construction, earthworks and trackout activities, exhaust pollutant emissions from construction traffic on the local highways network, and exhaust emissions from non-road mobile machinery (NRMM) within the construction site itself.
- 4.2 The location of sensitive receptors in relation to construction activities will affect the potential for such construction activities to cause dust soiling, nuisance and local air quality impacts. Meteorological conditions and the use of control measures will also contribute to the effects experienced.

Step 1: Screen the Need for a Detailed Assessment

- 4.3 Step 1 of the IAQM guidance¹⁷ involves a screening assessment to consider whether a more detailed construction phase dust assessment is required.
- 4.4 In accordance with the guidance, a detailed assessment is required if:
- Human receptors are located within 250m of the boundary of the site or 50m of routes used by construction vehicles on the public highways, up to 250m from the site entrances; or
 - Ecological receptors are located within 50m of the boundary of the site or 50m of routes used by construction vehicles on the public highways, up to 250m from the site entrances.
- 4.5 From a review of the Multi Agency Geographic Information for the Countryside (MAGIC) website²⁰, no ecological designations were identified within the above screening distance and therefore the impact on ecological designations was not considered further. However human receptors are located within the above screening distances, with the closest of these receptors located off A5 Watling Street. A construction phase assessment was therefore undertaken.

Step 2: Assess the Risk of Dust Impacts

Step 2A: Define the Potential Dust Emission Magnitude

- 4.6 The dust emission magnitudes for the construction activities were defined using the criteria detailed in the IAQM guidance¹⁷ as detailed in **Table 4.1**. Demolition is not proposed as part of the development and therefore was not considered further in the assessment.

²⁰ Defra, Multi Agency Geographic Information for the Countryside (MAGIC) [<http://magic.defra.gov.uk/>]

Table 4.1: Dust Emission Magnitude Criteria and Definition

Activity	IAQM Dust Emission Magnitude	IAQM Dust Emission Magnitude Criteria
Earthworks	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 >6 m in height
	Medium	Total site area 18,000m ² – 110,000m ² , moderately dusty soil type (e.g. silt), 5 - 10 heavy earth moving vehicles active at any one time, formation of bunds 3m - 6m in height
	Small	Total site area <18,00m 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	Large	Total building volume >75,000m ³ , on site concrete batching, sandblasting.
	Medium	Total building volume 12,000m ³ – 75,000m ³ , potentially dusty construction material (e.g. concrete), on site concrete batching.
	Small	Total building volume <12,000m ³ , construction material with low potential for dust release (e.g. metal cladding or timber).
Trackout	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 50m – 100m.
	Small	<20 HDV (>3.5t) outward movements in any one day, surface material with low potential for dust release, unpaved road length <50m.

4.7 The following dust emissions magnitudes were defined for the proposed development:

- Earthworks – the total site area is between 18,000m² – 110,000m². Therefore, the dust emissions magnitude for earthworks was defined as **Medium**.
- Construction – The proposed development involves the construction of multiple buildings. All buildings, except for the motorway services building, are one storey high, with the motorway services being two storeys high. Therefore, the total building volume to be constructed is between 12,000m³ – 75,000m³. The dust emissions magnitude for construction was defined as **Medium**.
- Trackout – it is anticipated there will be between 10 and 50 outward HDV movements an any one day. Therefore, the dust emissions magnitude for trackout was defined as **Medium**. A trackout distance of up to 200m from the Site access was therefore used in accordance with the IAQM guidance¹⁷

4.8 A summary of the defined dust emissions magnitudes for the development are provided in **Table 4.2**.

Table 4.2: Summary of Project Defined Dust Emissions Magnitudes

Activity	Dust Emissions Magnitude
Earthworks	Medium
Construction	Medium
Trackout	Medium

Step 2B: Define the Sensitivity of the Area

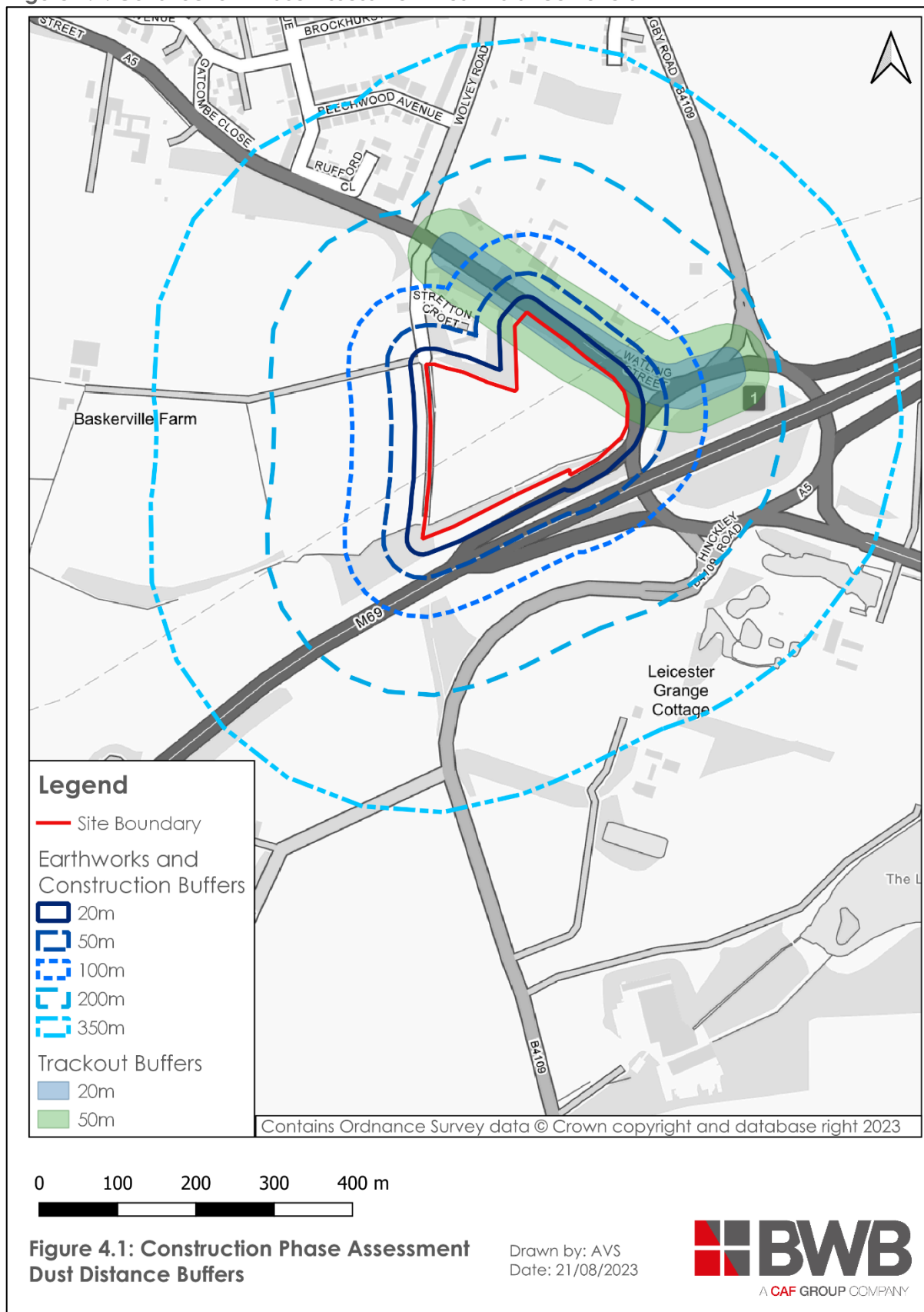
- 4.9 The assessment requires the determination of the sensitivity of the area for the purposes of dust soiling and human health. The sensitivity of the study area takes into account the specific receptors in the vicinity of the Site, the proximity and number of those receptors, the local background concentration of PM₁₀ and site-specific factors. **Figure 4.1** was utilised to determine the number of receptors located within the distance bands provided in the IAQM guidance¹⁷ for determining receptor sensitivity.
- 4.10 The sensitivity of the area is defined below, in accordance with IAQM criteria¹⁷ and summarised in **Table 4.3**.
- Dust Soiling – there is between one and 10 highly sensitive residential receptors located within 50m of the proposed Site boundary. In addition, there is a medium to long term car park with potentially more than 10 car parking spaces. There are between one and 10 highly sensitive residential receptors located within 50m of roads used by construction vehicles, and a medium to long term car park with potentially more than 10 car parking spaces within 20m of roads used by construction vehicles. The sensitivity of the area to dust soiling is therefore defined as **High**.
 - Human Health – there is between one and 10 highly sensitive residential receptors located within 50m of the proposed Site boundary. In addition, Defra background mapping²¹ shows that the background PM₁₀ concentration is less than 24µg.m⁻³. Therefore, the sensitivity of the area to human health effects is defined as **Low**.

Table 4.3: Determination of the Sensitivity of the Area

Potential Impact	Sensitivity		
	Earthworks	Construction	Trackout
Dust Soiling	High	High	High
Human Health	Low	Low	Low

²¹ Defra, Background Mapping data for local authorities <https://uk-air.defra.gov.uk/data/iaqm-background-home>

Figure 4.1: Construction Phase Assessment Dust Distance Buffers



Step 2C: Define the Risk of Impacts

- 4.11 The dust emission magnitude determined in Step 2A is then combined with the sensitivity of the area determined in Step 2B to define the risk of dust impacts with no mitigation applied. The results of this assessment are detailed in **Table 4.4**.

Table 4.4: Summary Dust Risk Table to Define Site Specific Risk

Activity	Step 2A: Dust Emission Magnitude	Step 2B: Sensitivity of the Area	Step 2C: Risk of Dust Impacts
Dust Soiling Effects on People and Property			
Earthworks	Medium	High	Medium risk
Construction	Medium	High	Medium risk
Trackout	Medium	High	Medium risk
Human Health Impacts			
Earthworks	Medium	Low	Low risk
Construction	Medium	Low	Low risk
Trackout	Medium	Low	Low risk

Step 3: Site-Specific Mitigation

- 4.12 The risk of dust impacts, defined in Step 2C of the assessment, is used to determine the mitigation measures required to minimise the emission of dust during construction phase activities. The IAQM guidance¹⁷ provides details of highly recommended and desirable mitigation measures which are commensurate with the risk of dust impacts defined in Step 2C for demolition, construction, earthworks and trackout activities. Where the mitigation measures are general in nature, the highest risk category was applied in accordance with the guidance¹⁷. The highest risk category identified was 'Medium Risk' and the recommended mitigation taken from the IAQM guidance¹⁷ is detailed in **Table 4.5** and **Table 4.6**.

Table 4.5: Mitigation Measures for a High Risk Site

Category	Mitigation Measures for a High Risk Site	
	Highly Recommended	Desirable
Communication	Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.	None
	Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may	

Category	Mitigation Measures for a High Risk Site	
	Highly Recommended	Desirable
	be the environmental manager/engineer or the site manager.	
	Display the head or regional office contact information.	
	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 in this document. The desirable measures should be included as appropriate for the site. In London additional measures may be required to ensure compliance with the Mayor of London's guidance. 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.	None
	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, and the action taken to resolve the situation in the log book.	
Monitoring	Carry out regular site inspections to monitor compliance with the DMP, record inspections results, and make an inspection log available to the local authority when asked.	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 when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100m of the site boundary, with cleaning to be provided as necessary.
	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.	
Preparing and maintaining the site	Plan the site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.	None
	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 or specific operations where there is a high potential for dust production and the site is active for an extended period.	

Category	Mitigation Measures for a High Risk Site	
	Highly Recommended	Desirable
	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 vehicle/ machinery and sustainable travel	Ensure all vehicles switch off engines when stationary – no idling vehicles.	Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on un-surfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable control measures provided, subject to the approval of the nominated undertaker with the agreement of the local authority, where appropriate).
	Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.	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.	None
	Ensure an adequate water supply on site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.	
	Used enclose chutes and conveyors 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 and dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.	
Waste Management	Avoid bonfires and burning of waste materials.	None

Table 4.6: Mitigation Measures Specific to Demolition, Earthworks, Construction and Trackout

Category	Mitigation Measures	
	Highly Recommended	Desirable
Earthworks (Medium Risk Site)	None	Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
		Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
		Only remove the cover in small areas during work and not all at once.
Construction (Medium Risk Site)	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.	Avoid scabbling (roughening of concrete surfaces) if possible.
		Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
		For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.
Trackout (Medium Risk Site)	Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any materials tracked out of the site. This may require the sweeper being continuously in use.	None
	Avoid dry sweeping of large areas.	
	Ensure vehicles entering and leaving the sites are covered to prevent escape of materials during transport.	
	Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.	
	Record all inspections of haul routes and any subsequent action in a site log book.	
	Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.	
	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).	
	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.	
	Access gates to be located at least 10m from receptors where possible.	

Step 4: Determine Significant Effects

- 4.13 In accordance with IAQM guidance¹⁷, with the implementation of the mitigation measures detailed in Step 3, the residual impacts from the construction phase are considered to be 'not significant'.

5. OPERATIONAL PHASE ROAD TRAFFIC EMISSIONS SCREENING ASSESSMENT

IAQM and EPUK Guidance

- 5.1 The trip generation for the proposed development was screened using IAQM and EPUK Stage 1 and Stage 2 criteria¹⁸ to determine whether a detailed air quality assessment was required.

Stage 1

- 5.2 The Site area is more than 0.5ha and proposes more than 10 parking spaces; it was therefore necessary to proceed to Stage 2.

Stage 2

- 5.3 The trip generation for the proposed development was provided by Dynamic Transport Planning, the Transport Consultants for the project.
- 5.4 The transport consultant has confirmed that the trips associated with the development are 1,215 LDVs and 182 HGVs as a 24 hour AADT flow. Schemes of this nature do not typically introduce new trips, and instead are diversions and pass-by trips of vehicles already on the road network. The transport consultant has confirmed that of the trips associated with the development, 70% will be from the M69 mainline, 10% will be pass-by trips from the A5 Watling Street and 20% will be diverted from Junction 1 of the M69.
- 5.5 The trip generation for the Site, on roads which are considered to be affected by the proposed development, are detailed in **Table 5.1** below.

Table 5.1: Trips Associated with the Site

Road	Trips as a 24 hour AADT		
	All Vehicles	LDVs	HDVs
A5 Watling Street (east of Site access)	1,299	1,130	169
M69 slip road eastbound	574	499	75
M69 slip road westbound	382	332	50

- 5.6 **Table 5.1** shows that the only road which results in an increase of more than 500 LDVs or 100 HDVs as a 24 hour AADT flow, as a result of the proposed development, is the A5 Watling Street, east of the Site access. In accordance with guidance, it is only likely therefore that there may be impacts from vehicle movements along this section of the A5 Watling Street. There is one sensitive receptor located along this section of road, a residential receptor adjacent to the proposed Site access, hereafter referred to as R1.
- 5.7 HBBC undertake NO₂ monitoring at diffusion tube 2, 400m to the west of the Site. The 2019 monitored NO₂ concentration at diffusion tube 2 was 27.3µg.m⁻³. Due to the

influence of the COVID-19 pandemic lockdown restrictions, 2020 and 2021 monitoring data are not considered representative of normal conditions.. The IAQM released a position statement²² in August 2021 with regard to 2020 and 2021 monitoring datasets, which recommends that until the influence of the COVID-19 pandemic is fully understood, 2019 monitoring data should be treated as the last year of typical monitoring data.

- 5.8 Diffusion tube 2 is located off the A5 Watling Street, as is R1, however R1 will also be experiencing concentrations influenced by the M69 and associated slip roads and so concentrations are likely to be higher at the receptor than those experienced at diffusion tube 2.
- 5.9 Neither HBBC nor RBC undertake monitoring in the vicinity of the M69 motorway. The neighbouring Blaby District Council undertakes NO₂ monitoring within the vicinity of the M69 motorway, 3.8km north, at diffusion tube 78. The 2019 monitored NO₂ concentration at diffusion tube 78 was 31.5µg.m⁻³. **Table 5.2** below shows the 2019 monitored concentrations at diffusion tubes 2 and 78, as well as the distance from the relevant roads. The distance of R1 to the relevant roads is also shown for comparison.

Table 5.2: Predicted NO₂ Concentrations at the Receptor of Relevant Exposure

Diffusion Tube ID	Distance from Kerb of Relevant Road		2019 Monitored NO ₂ concentration (µg.m ⁻³) Diffusion Tube
	Diffusion Tube	Distance from Receptor (R1)	
Diffusion tube 2 (HBBC)	7m (A5 Watling Street)	35m	27.3
Diffusion tube 78 (Blaby District Council)	200m (M69 Motorway)	195m	31.5

- 5.10 **Table 5.2** shows that R1 is located further from the A5 Watling Street than diffusion tube 2, and is located a similar distance from the M69 motorway as diffusion tube 78. Monitored concentrations at both of these diffusion tubes are below the annual mean NO₂ objective. The predicted NO₂ concentration at R1 is therefore also likely to be below the annual mean NO₂ concentrations.
- 5.11 R1 is located 35m from the kerb of the A5 Watling Street. At this distance, contributions of NO₂ from road traffic are expected to decrease, with increasing distance from the road. The predicted increase in trips along the A5 Watling Street as a result of the proposed development is unlikely to increase concentrations to above the annual mean objective of 40µg.m⁻³ at receptor location R1. It is therefore considered that impact of the proposed development on local air quality is 'not significant'.
- 5.12 Therefore a detailed assessment of operational phase road traffic emission impacts was not undertaken as agreed with HBBC and provided to RBC during consultation.

²² Institute of Air Quality Management (2021) Position Statement: Use of 2020 and 2021 Monitoring Datasets

Development Measures

- 5.13 Whilst the proposed development is not expected to significantly impact air quality, there are measures which are included in the design which may be beneficial to air quality. These include the provision of 36 electric vehicle charging spaces.

6. CONCLUSION

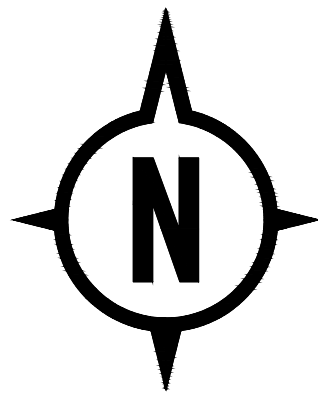
- 6.1 An air quality impact assessment was undertaken for the proposed Motorway Services Area at Stretton Court, Hinckley.
- 6.2 A qualitative construction phase assessment was undertaken and measures were recommended to minimise emissions during construction activities. With the implementation of these mitigation measures the impact of construction phase dust emissions is considered to be 'not significant' in accordance with IAQM guidance¹⁷.
- 6.3 The proposed development was screened using the IAQM and EPUK two stage screening process¹⁸. The proposed development exceeded the screening criteria in Stage 1 and therefore it was necessary to proceed to Stage 2. One road with relevant exposure was predicted to experience the Stage 2 criteria, the A5 Watling Street, east of the Site access. Nearby monitoring indicates that NO₂ concentrations within the vicinity of the Site at sensitive receptor locations will be below the annual mean objectives. It was not considered likely that emissions from vehicles associated with the proposed development would increase concentrations at this receptor to above the annual mean objectives. The impact of the proposed development on local air quality was therefore considered to be 'not significant'. This approach was agreed with HBBC council and provided to RBC during consultation.
- 6.4 Based on the assessment results, the impact of the proposed development was determined to be 'not significant' and mitigation measures are not required. However, measures included within the scheme which may be beneficial to air quality include the provision of electric vehicle charging.

APPENDICES

APPENDIX A: GLOSSARY OF TERMS

	• Definition
AADT	Annual Average Daily Traffic flow.
Air quality objective	Policy target generally expressed as a maximum ambient concentration to be achieved, either without exception or with a permitted number of exceedances within a specific timescale (see also air quality standard).
Air quality standard	The concentrations of pollutants in the atmosphere which can broadly be taken to achieve a certain level of environmental quality. The standards are based on the assessment of the effects of each pollutant on human health including the effects on sensitive sub groups (see also air quality objective).
Annual mean	The average (mean) of the concentrations measured for each pollutant for one year. Usually this is for a calendar year, but some species are reported for the period April to March, known as a pollution year. This period avoids splitting winter season between two years, which is useful for pollutants that have higher concentrations during the winter months.
AQAP	Air Quality Action Plan.
AQMA	Air Quality Management Area.
AQS	Air Quality Strategy.
Defra	Department for Environment, Food and Rural Affairs.
EPUK	Environmental Protection UK.
Exceedance	A period of time where the concentrations of a pollutant is greater than, or equal to, the appropriate air quality standard.
HDV	Heavy Duty Vehicles (HGVs + buses and coaches)
HGV	Heavy Goods Vehicles.
IAQM	Institute of Air Quality Management.
LAQM	Local Air Quality Management.
LDV	Light Duty Vehicles (motorbikes, cars, vans and small trucks)
NO	Nitrogen monoxide, a.k.a. nitric oxide.
NO ₂	Nitrogen dioxide.
NO _x	Nitrogen oxides.
Percentile	The percentage of results below a given value.
PM ₁₀	Particulate matter with an aerodynamic diameter of less than 10 micrometres.
PM _{2.5}	Particulate matter with an aerodynamic diameter of less than 2.5 micrometres.
micrograms per cubic metre (µg.m ⁻³)	A measure of concentration in terms of mass per unit volume. A concentration of 1µg.m ⁻³ means that one cubic metre of air contains one microgram (millionth of a gram) of pollutant.

APPENDIX B: PROPOSED DEVELOPMENT MASTERPLAN



Total Car Spaces - 269
inc:
DDA - 17 (inc EV)
EV- 36
Staff Parking - 11
Motorcycle Parking - 11

HGV Parking - 29
Coach Parking - 6
Caravan Parking - 8

Key

- Ownership boundary
- Site boundary
Site Area 41,940.82sqm / 10.36acres
- Bitmac road finish
- Bitmac path finish
- Concrete pavements
- Concrete
- Concrete Apron
- Concrete Apron
Double reinforced concrete to delivery stand
- Kerb
- Pin Kerb
- Trief Kerb
- DK Drop Kerb
- Stainless steel bollard
- Soft Landscaping
- Tree to be removed
- BWB Root Protection Area
- Tactile paving
- Timber knee rail
- 1.8m timber close boarded fence
- 2.0m timber acoustic fence
- Existing / proposed timber post and rail fence
- Suggested drainage route from Title Plan LT155479
- Non illuminated signage
- Non illuminated sign
NO ENTRY / GIVE WAY
- Proposed Level
- Pedestrian Route
Tactile paving and dropped kerbs at all appropriate points along the route to DDA standards within site demise

0m 10 20 30 40 50
Scale Bar

E	21.08.23	MOTORCYCLE SPACES ADDED
D	28.07.23	AREA FOR EXTERNAL COMPOUND INDICATED
C	18.07.23	PFS PUMP ISLANDS REVISED TO IMPROVE TRACKING DISTANCE BETWEEN PUMPS AND PARKING INCREASED
B	21.07.23	ADDITIONAL PFS PARKING AND HGV BAY LANDSCAPING ADDED. BUILDING UPDATED TREES TO BE REMOVED INDICATED
A	18.07.23	REVISIONS TO DT LANES AND PARKING

REVISIONS

CLIENT	WELCOME BREAK
PROJECT	WELCOME BREAK LAND OFF THE A5 HINCKLEY, LE10 3JB

TITLE

PROPOSED SITE LAYOUT

DATE 12.07.2023

SCALE 1:500 @ A1

JOB ID 1415

DWG 26e

APPENDIX C: PLANNING POLICY AND LEGISLATION

National Legislation and Planning Policy

The UK Air Quality Strategy

- C.1 European Union (EU) legislation forms the basis of air quality policy and legislation in the UK. The EU 2008 ambient Air Quality Directive¹ sets limits for ambient concentrations of air pollutants including nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}). The air quality standards and objectives are prescribed through the Air Quality (England) Regulations 2000², as amended, for the purpose of the Local Air Quality Management Framework. The Air Quality (England) Regulations were amended in 2002⁵ and again in 2010⁶, with miscellaneous amendments added in 2020¹⁰ following the UK exit from the EU. Additionally, an updated PM_{2.5} objective was published in 2023¹¹ with an interim target to be achieved by 2028¹⁹.
- C.2 The UK Government are required under the Environment Act 1995³ to produce a national Air Quality Strategy (AQS). The AQS was first published in 1997⁷ and was most recently reviewed and updated in 2007⁸ and 2023⁹. The AQS provides an overview of the Government's ambient air quality policy and sets out the air quality standards and objectives to be achieved and measures to improve air quality.
- C.3 The Environment Act 2021⁴ was granted Royal Assent in November 2021 and contains amendments to Part IV of the Environment Act 1995³ with regard to the Local Air Quality Management regime. Under the Environment Act 2021⁴, the Secretary of State must lay a statement before Parliament setting out progress made in meeting air quality objectives and standard in England and steps taken towards achieving the standards. The Environment Act 2021⁴ also places responsibility on local authorities to co-operate with air quality partners in the preparation of Air Quality Action Plans and identification of measures which should be monitored within the Plan and dates by which they should be implemented.
- C.4 Part IV of the Environment Act³ requires local authorities in the UK to review local air quality within their administrative area and, if relevant air quality standards and objectives are likely to be exceeded, designate Air Quality Management Areas (AQMA). Following the designation of an AQMA, local authorities are required to publish an Air Quality Action Plan (AQAP) detailing measures to be taken to improve local air quality and work towards meeting the relevant air quality standards and objectives.

National Planning Policy Framework

- C.5 The National Planning Policy Framework (NPPF)¹² was amended in July 2021 and sets out the Government's planning policies for England and how these are expected to be applied.
- C.6 The NPPF¹² recognises air quality within Section 15: Conserving and enhancing the natural environment, and states that:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

[...]

e) 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;

[...]

Ground conditions and pollution

[...]

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

[...]

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."

C.7 With regard to assessing cumulative effects the NPPF¹² states:

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development.

[...]"

Planning Practice Guidance

- C.8 The Planning Practice Guidance (PPG) for air quality¹³ was updated in November 2019 and provides guiding principles on how the planning process can take account of the impacts of new development on air quality.
- C.9 The PPG¹³ sets out the following with regard to air quality and planning:
- *"What air quality considerations does planning need to address;*
 - *What is the role of plan-making with regard to air quality;*
 - *Air quality concerns relevant to neighbourhood planning;*
 - *What information is available about air quality;*
 - *When could air quality considerations be relevant to the development management process;*
 - *What specific issues may need to be considered when assessing air quality impacts;*
 - *How detailed does an air quality assessment need to be; and*
 - *How can an impact on air quality be mitigated".*
- C.10 The PPG¹³ sets out the pollutants for which there are legally binding limits for concentrations and those which the UK also has national emissions reduction commitments.
- C.11 The PPG¹³ states that development plans may need to consider:
- *"what are the observed trends shown by recent air quality monitoring data and what would happen to these trends in light of proposed development and / or allocations;*
 - *the impact of point sources of air pollution (pollution that originates from one place);*
 - *the potential cumulative impact of a number of smaller developments on air quality as well as the effect of more substantial developments, including their implications for vehicle emissions;*
 - *ways in which new development could be made appropriate in locations where air quality is or is likely to be a concern, and not give rise to unacceptable risks from pollution. This could, for example, entail identifying measures for offsetting the impact on air quality arising from new development including supporting measures in an air quality action plan or low emissions strategy where applicable; and*
 - *opportunities to improve air quality or mitigate impacts, such as through traffic and travel management and green infrastructure provision and enhancement".*
- C.12 The PPG¹³ also states what may be considered relevant to determining a planning application and these include whether a development would:
- *"Lead to changes (including any potential reductions) in vehicle-related emissions in the immediate vicinity of the proposed*

development or further afield. This could be through the provision of electric vehicle charging infrastructure; altering the level of traffic congestion; significantly changing traffic volumes, vehicle speeds or both; or significantly altering the traffic composition on local roads. Other matters to consider include whether the proposal involves the development of a bus station, coach or lorry park; could add to turnover in a large car park; or involve construction sites that would generate large Heavy Goods Vehicle flows over a period of a year or more;

- *Introduce new point sources of air pollution. This could include furnaces which require prior notification to local authorities; biomass boilers or biomass-fuelled Combined Heat and Power plant; centralised boilers or plant burning other fuels within or close to an air quality management area or introduce relevant combustion within a Smoke Control Area; or extraction systems (including chimneys) which require approval or permits under pollution control legislation;*
- *Expose people to harmful concentrations of air pollutants, including dust. This could be by building new homes, schools, workplaces or other development in places with poor air quality;*
- *Give rise to potentially unacceptable impacts (such as dust) during construction for nearby sensitive locations;*
- *Have a potential adverse effect on biodiversity, especially where it would affect sites designated for their biodiversity value".*

- C.13 The PPG¹³ provides guidance regarding what should be included within an air quality assessment. Examples of potential air quality mitigation measures are also provided.

Local Planning Policy

Hinckley and Bosworth Borough Council (HBBC) Local Development Framework Core Strategy

- C.14 The HBBC Local Development Framework includes the Core Strategy which was adopted in December 2009 and provides the over-arching strategy and long term vision for HBBC up to 2026. There are no relevant policies for air quality within the current Core Strategy. However, consideration was given to the following objective included within the Core Strategy:

'THE ENVIRONMENT

Spatial Objective 12: Climate Change and Resource Efficiency

To minimise the impacts of climate change by promoting the prudent use of resources through sustainable patterns of development, investment in green infrastructure, minimising the use of resources and energy, increasing reuse and recycling of natural resources, increasing the use of renewable energy technologies and minimising pollution, including greenhouse gas emissions.

[...]

Hinckley and Bosworth Borough Council Site Allocations and Development Management Policies Development Plan Document

- C.15 In addition, the HBBC Site Allocations and Development Management Policies DPD refers to air quality in the following policies:

'DM7 Preventing Pollution and Flooding

Adverse impacts from pollution and flooding will be prevented by ensuring that development proposals demonstrate that:

[...]

f) it will not contribute to poor air quality;

[...]

Applicants will be required to demonstrate that new development should not result in adverse impacts, including cumulative impacts upon air quality. Appropriate construction design and mitigation measures, appropriate distances and screening between developments and sensitive uses will protect the amenity of residents and workers and the environment.

[...]

DM10 Development and Design

Developments will be permitted providing that the following requirements are met:

It would not have a significant adverse effect on the privacy and amenity of nearby residents and occupiers of adjacent buildings, (including odour), noise, vibration and visual intrusion;

[...]

Rugby Borough Council Local Plan 2011-2031

- C.16 In June 2019, RBC adopted Rugby Borough Council Local Plan 2011-2031 to set out the strategy for development across the Rugby Borough for the period up to 2031. The following policies relates to air quality:

'Policy ED2: Employment Development Within Rugby Urban Area

[...]

Applicants will be required to demonstrate that any potential impacts on neighbouring land uses, particularly those especially sensitive to noise, visual amenity or air quality impacts arising from industrial uses are avoided, or where this is not possible, mitigated to an acceptable level.

[...]

Policy HS5: Traffic Generation and Air Quality, Noise and Vibration Development proposals should promote a shift to the use of sustainable transport modes and low mission vehicles (including electric/hybrid cars) to minimise the impact on air quality, noise and vibration caused by traffic generation. Proposals should be located where the use of public transport, walking and cycling can be optimised. Proposals should take full account of the cumulative impact of all development including that proposed in this Local Plan on traffic generation, air quality, noise and vibration. Development proposals should complement the Air Quality Action Plan.

Development throughout the Borough of more than 1,000 sqm of floorspace or 10 or more dwellings or development within the Air Quality Management Area (see Appendix 8) that would generate any new floorspace must:

- 1. Achieve or exceed air quality neutral standards; or*
- 2. Address the impacts of poor air quality due to traffic on building occupiers, and public realm or amenity space users by reducing exposure to and mitigating their effects, proportionate to the scale of the development. This can be achieved using design solutions that include:*

Orientation and layout of buildings, taking into account building occupiers, public realm and amenity space users;

Appropriate abatement technologies; and

Urban greening appropriate for providing air quality benefits.

- 3. Where air quality neutral standards are not met, measures to offset any shortfall will be required, according to the following hierarchy:*

On-site measures; then

Off-site measures; then

Financial contributions.

[...]

